



Ramsar Information Sheet

Published on 11 April 2023

China

Gansu Dunhuang Xihu Wetlands



Designation date	28 October 2022
Site number	2511
Coordinates	40°14'56"N 93°18'42"E
Area	192 287,00 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

The Site is located in Dunhuang City at the western end of the Hexi Corridor in Northwest China, in the transition zone between Central Asia, East Asia and the Qinghai-Tibet Plateau. It is adjacent to the Kumtag Desert and the Lop Nur in Xinjiang to the west, surrounded by desert areas, including the Gobi Desert. It is one of the largest inland wetlands in the arid zone of Northwest China and Central Asian Plateau and is dominated by permanent freshwater herbaceous marshes and salt marshes.

The site is adjacent to the Arjinshan and Qilian Mountains. In summer, a large amount of snowmelt from the mountains infiltrates to form underground runoff, which serves as the primary water source for the site. In the low-lying areas of the Site, water flows out of the ground in the form of springs and merges with some of the tailwater from inland rivers such as the Shule River and the Dang River, forming a composite ecosystem dominated by marshes that coexists with deserts. The Site is a representative of subterranean shallow outflow wetlands in the extreme arid desert region in Northwest China and unique to the biogeographic region. The wetland vegetation has a typical succession from saline marsh to freshwater herbaceous marsh, which is unique in the northern hemisphere at the same latitude.

The complex topography, the intermingling of wetlands areas and deserts, and the minimal human activities in the Site have maintained the originality and integrity of the wetland ecosystem. It provides ideal conditions for the survival of wildlife and acts as an important stopover for birds such as the black stork (*Ciconia nigra*), Eurasian spoonbill (*Platalea leucorodia*), Demoiselle crane (*Anthropoides virgo*), whooper swan (*Cygnus cygnus*) and common crane (*Grus grus*) on their migration routes. It is also an important water source and refuge for mammals such as bactrian camel (*Camelus bactrianus*), Przewalski's Horse (*Equus ferus*) and goitered gazelle (*Gazella subgutturosa*).

As an inland wetland and desert ecosystem located in the ecological fragile zone, the Site is a strong natural ecological barrier to the eastward expansion of the Kumtag Desert and an important source of groundwater recharge in the arid desert region. It is also of great significance for ensuring ecological security in the region and plays an important role in improving the regional climate and preserving soil and water.

2 - Data & location

2.1 - Formal data

2.1.1 - Name and address of the compiler of this RIS

Responsible compiler

Institution/agency	Gansu Dunhuang Xihu National Nature Reserve Management and Conservation Centre
Postal address	472 Runzi Avenue Yueyaquan Town 736299 Dunhuang City Gansu province P.R. China

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	2008
To year	2021

2.1.3 - Name of the Ramsar Site

Official name (in English, French or Spanish)	Gansu Dunhuang Xihu Wetlands
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2.2 - Site location

2.2.1 - Defining the Site boundaries

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

Former maps	0
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Boundaries description

The Site is located in the core protection area of Gansu Dunhuang Xihu National Nature Reserve, accounting for 29% of the reserve, which extends from the administrative boundary of the Xinjiang Uyghur Autonomous Region adjacent to the Kumtag Desert and Lop Nur in the west, to the Houkeng Poplar Forest adjacent to the ruins of Yumen Pass and Yangguan Pass in the east, from Shule River in the north, to the scrub wetlands near Wanyao Mound in the south. Other directions are bounded by the intersection of swamps and gobi deserts.

2.2.2 - General location

a) In which large administrative region does the site lie?	Dunhuang City, Gansu Province, People's Republic of China
b) What is the nearest town or population centre?	Yangguang Town and Akqi Town

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):	192287
Area, in hectares (ha) as calculated from GIS boundaries	192282.782

2.2.5 - Biogeography

Biogeographic regions

Regionalisation scheme(s)	Biogeographic region
Udvardy's Biogeographical Provinces	Cold-winter (continental) deserts and semideserts, Takla-Makan-Gobi Desert Biogeographic Province, Palaearctic Realm

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

The unique wetland types to the biogeographic region are 'shrub dominated wetlands' and 'Permanent Freshwater Pools/Marshes'. With subsurface runoff formed by the infiltration of meltwater from glaciers and snow-capped mountains as the main source of water, the Xihu Wetlands is significantly different from wetland ecosystems of the major desert areas at the same latitude. When water flows from the wetland areas into the subsurface aquifer system, it recharges the aquifer and converts the surface water to shallow groundwater, and which in turn provides water for other the surrounding area and maintains the water table at the Site. In addition, the shallow groundwater can also flow into the deep groundwater system and become a long-term water source. The total annual runoff in the site is 1156 million cubic meters and water accumulation is 17.4 thousand square meters. The Site has become an important "water reservoir" for Dunhuang, an extremely arid desert area and plays an important role in regulating the local climate, maintaining soil and water, and preventing wind and sand erosion.

Other ecosystem services provided

Dunhuang Xihu Wetlands has little human disturbance. The Site is close to the Hexi Corridor and Arjinshan and Qilian Mountains, in the transition zone between Central Asia, East Asia, and the Qinghai-Tibet Plateau. It has a complex topography, intertwined saline and freshwater environments, and well preserved vegetation such as poplar, pokeweed and red willow forests, swamp vegetation and meadow vegetation that are spread out in successive patches. This helps in supporting 93 species of vascular plants and 198 species of vertebrates inhabiting here, making it an ideal natural laboratory for studying the formation, development and evolution of wetland and desert ecosystems in extremely arid regions of China. The surface water and marshes provide water resources for wildlife in the hyper-arid region and thus supports the regional biodiversity.

The open water surface (447 hectares) formed by underground springs is stable all year round, and the shrubs and herbaceous swamps cover an area of over 30,000 hectares. The vegetation in the Site and the surrounding desert vegetation play an important role in blocking the wind and sand from the Kumtag and Taklamakan deserts, making it an essential natural ecological barrier for Dunhuang and even the Hexi Corridor.

Criterion 2 : Rare species and threatened ecological communities

The Xihu Wetlands is inhabited by rare and threaten plant species such as desert-broomrape (*Cistanche deserticola*, EN) and *Cynomorium songaricum* (VU), as well as common pochard (*Aythya ferina*, VU), steppe eagle (*Aquila nipalensis*, EN), saker falcon (*Falco cherrug*, EN), great bustard (*Otis tarda*, VU), asian houbara (*Chlamydotis macqueenii*, VU), black-legged kittiwake (*Rissa tridactyla*, VU), rustic bunting (*Emberiza rustica*, VU), Przewalski's horse (*Equus ferus*, EN), marbled polecat (*Vormela peregusna*, VU), Chinese mountain cat (*Felis bieti*, VU), Bactrian camel (*Camelus bactrianus*, CR), goitered gazelle (*Gazella subgutturosa*, VU) and other rare and threaten animal species. See 3.2 and 3.3 for details.

Optional text box to provide further information

The Site is distributed with salt marsh, marsh, meadow, desert, broad-leaved forest and other vegetation types. The desert plant Black Saxaul (*Haloxylon ammodendron*) is an important host of desert-broomrape (*Cistanche deserticola*), providing necessary conditions for its survival. The desert-broomrape (*Cistanche deserticola*) is a valuable traditional Chinese medicine and an ancient Mediterranean remain. It has scientific value for the study of the desert flora in central Asia. The marshes in the site with *Nitraria tangutorum* growth habitat, is the main distribution area of *Cynomorium songaricum*. These rare and threatened plants are important plant genetic resources.

The good desert vegetation and sufficient water resources in the site provide protection for the survival and reproduction of rare and threatened animals such as great bustard (*Otis tarda*, VU), common pochard (*Aythya ferina*, VU), goitered gazelle (*Gazella subgutturosa*, VU) and wild camels. With the drying up of the Lop Nur and the degradation of the surrounding ecological environment, the site has become an important habitat for wild camels.

Criterion 3 : Biological diversity

Dunhuang Xihu Wetlands is located in the transition zone between Central Asia, East Asia and the Qinghai-Tibet Plateau. Its flora has desert flora of Central Asia, dry heat flora dominated by the southern coast of the ancient Mediterranean, and the Mongolian flora of the east, making it an important region for floral diversity in Central Asian desert zone. There are 93 species of wild seed plants, including one gymnosperm species and 92 angiosperm species.

Justification

The vegetation types of the site are mainly wetland and desert vegetation. In wetland vegetation, the reed community (Form. *Phragmites australis*) takes the largest and most typical type. Reed saline meadow community with main companion species of *Halostachys caspica*, *Apocynum venetum* and *Glycyrrhiza inflata*, provide habitat and foraging places for geese and ducks such as whooper swan (*Cygnus cygnus*), ruddy shelduck (*Tadorna ferruginea*) and common shelduck (*Tadorna tadorna*), as well as common redshank (*Tringa totanus*), black-winged stilt (*Himantopus himantopus*) and other shorebirds. The desert vegetation is dominated by super-arid and arid shrubs, semi-shrubs and small semi-shrubs, such as *Ephedra przewalskii*, *Nitraria sphaerocarpa* and *Gymnocarpus przewalskii*, providing habitat and foraging sites for isabelline shrike (*Lanius isabellinus*), desert wheatear (*Oenanthe deserti*) isabelline wheatear (*Oenanthe isabelline*) and other finches.

The area is also rich in wildlife resources, with vertebrate 198 species, including eight fish species, two amphibian species, 13 reptilia species, 142 bird species, and 33 mammal species. It has also become a valuable habitat reserve for desert animals in the arid zone and a habitat and refuge for wildlife such as wild camels and goitered gazelle (*Gazella subgutturosa*) in the surrounding area.

The wetland vegetation supports the wetland and desert ecosystem and services through wind break and sand fixation, water conservation, and provides an ideal habitat for a rich variety of wildlife. The taxonomic diversity and genetic diversity in the reserve are typical to the arid regions of West China. The intact ecosystem of the reserve is of great importance in maintaining the biodiversity of the region, and plays an essential role in maintaining the regional ecological balance.

Criterion 4 : Support during critical life cycle stage or in adverse conditions

Optional text box to provide further information

The Site is located in the middle of the migratory route of migratory birds in Central Asia, providing habitats for 85 species to roost and breed, such as the black storks (*Ciconia nigra*), whooper swans (*Cygnus cygnus*), Eurasian spoonbills (*Platalea leucorodia*), black-legged kittiwake (*Rissa tridactyla*), common crane (*Grus grus*), black-winged stilt (*Himantopus himantopus*), ruddy shelduck (*Tadorna ferruginea*) and other birds. The site provides them with abundant food and good habitat. See Appendix 1 of 6.1.2 for bird residence types.

The Site is also a refugia for wildlife at the boundary of Gansu, Xinjiang and Qinghai provinces. As the Lop Nor dries up and the surrounding ecology deteriorates, the growing vegetation, abundant water and food in the Site provide for the survival and reproduction of rare and threaten mammals such as the Bactrian camel (*Camelus ferus*) and the goitered gazelle (*Gazella subgutturosa*) at the boundary.

Criterion 9 : >1% non-avian animal population

Optional text box to provide further information

The Bactrian camel (*Camelus ferus*) is the only extant wild species of camel in the genus *Camelus* and survives in very small numbers. According to the IUCN Red List of Threatened Species, the number of mature individuals of Bactrian camel in the world is 960 peaks. Dunhuang Xihu Wetlands is one of the main concentration areas of Bactrian camels, with an average recorded population of about 120 (119 in 2019, 129 in 2020, and 110 in 2021), accounting for 12.5% of its global population.

The Przewalski's horse (*Equus ferus*), the only remaining wild horse in the world, is one of the two large flagship species that are protected in the Dunhuang Xihu National Nature Reserve. As stated on the IUCN Red List, the total number of all Przewalski's horses in the world is 1,988 animals, including 1101 females, 883 males as well as 4 individuals whose gender is unknown. In 2010, with the permission of the State Forestry and Grass Administration and the Gansu Provincial Forestry and Grass Administration, the Conservation Centre actively implemented the "Wild Horse Release Program". On 25 September 2010 and 6 September 2012, 28 Przewalski's horses from the Gansu Threaten Animal Protection Research Centre were released into the Xihu National Nature Reserve, establishing the second Przewalski's horse release base in China. From 2019 to 2021, 65, 70 and 76 horses were released respectively. After years of natural breeding in the wild, the population of Przewalski's horses in the Dunhuang Xihu Wetlands reaches 87 in 2022, accounting for 4.4% of the global population.

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

Phylum	Scientific name	Criterion 2	Criterion 3	Criterion 4	IUCN Red List	CITES Appendix I	Other status	Justification
Plantae								
TRACHEOPHYTA/ MAGNOLIOPSIDA	<i>Apocynum cannabinum</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>		Main associated species of marsh wetland in the site
TRACHEOPHYTA/ MAGNOLIOPSIDA	<i>Cistanche deserticola</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	National Protection Class II	Rare species and endemic species
TRACHEOPHYTA/ MAGNOLIOPSIDA	<i>Cynomorium coccineum songaricum</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	VU	<input type="checkbox"/>	National Protection Class II	Rare species and endemic species
TRACHEOPHYTA/ GNETOPSIDA	<i>Ephedra przewalskii</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	LC	<input type="checkbox"/>		Main desert plants in the site
TRACHEOPHYTA/ MAGNOLIOPSIDA	<i>Glycyrrhiza inflata</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	National Protection Class II	Main associated species of marsh wetland in the site
TRACHEOPHYTA/ MAGNOLIOPSIDA	<i>Halostachys caspica</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>		Main associated species of marsh wetland in the site
TRACHEOPHYTA/ MAGNOLIOPSIDA	<i>Nitraria sphaerocarpa</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>		Main desert plants in the site
TRACHEOPHYTA/ MAGNOLIOPSIDA	<i>Paronychia przewalskii</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	National Protection Class II	Rare residual species in the desert region of central Asia, one of the important building species of desert vegetation

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								
Others																	
CHORDATA/MAMMALIA	<i>Camelus bactrianus</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	120	2019-2021	12.5		<input type="checkbox"/>	<input checked="" type="checkbox"/>		Crit3: Rare species; Crit4:Breeding in this site
CHORDATA/MAMMALIA	<i>Equus ferus</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	87	2022	4.4	EN	<input type="checkbox"/>	<input type="checkbox"/>	National Protection Class I	Crit3: Rare species; Crit4: Breeding and inhabiting in the site
CHORDATA/MAMMALIA	<i>Felis bieti</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				VU	<input type="checkbox"/>	<input type="checkbox"/>	National Protection Class I	Crit3: Rare species;
CHORDATA/MAMMALIA	<i>Gazella subgutturosa</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				VU	<input type="checkbox"/>	<input type="checkbox"/>	National Protection Class II	Crit3: Rare species; Crit4:Breeding in this site
CHORDATA/MAMMALIA	<i>Vormela peregusna</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				VU	<input type="checkbox"/>	<input type="checkbox"/>		Crit3: Rare species;
Birds																	
CHORDATA/AVES	<i>Aquila nipalensis</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				EN	<input type="checkbox"/>	<input checked="" type="checkbox"/>		Crit3: Rare species; Crit4:Overwintering in this site
CHORDATA/AVES	<i>Aythya ferina</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				VU	<input type="checkbox"/>	<input type="checkbox"/>		Crit3: Rare species;
CHORDATA/AVES	<i>Chlamydotis macqueenii</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				VU	<input checked="" type="checkbox"/>	<input type="checkbox"/>	National Protection Class I	Crit3: Rare species;
CHORDATA/AVES	<i>Ciconia nigra</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				LC	<input type="checkbox"/>	<input type="checkbox"/>	National Protection Class I	Crit3: Rare species; Crit4:Breeding in this site
CHORDATA/AVES	<i>Cygnus cygnus</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				LC	<input type="checkbox"/>	<input type="checkbox"/>	National Protection Class II	Crit3: Rare species;
CHORDATA/AVES	<i>Emberiza rustica</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				VU	<input type="checkbox"/>	<input type="checkbox"/>		Crit3: Rare species;
CHORDATA/AVES	<i>Falco cherrug</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				EN	<input type="checkbox"/>	<input checked="" type="checkbox"/>	National Protection Class I	Crit3: Rare species; Crit4:Living in this site
CHORDATA/AVES	<i>Grus grus</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				LC	<input type="checkbox"/>	<input type="checkbox"/>		Crit3: Rare species; Crit4:Breeding in this site
CHORDATA/AVES	<i>Himantopus himantopus</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				LC	<input type="checkbox"/>	<input type="checkbox"/>		Crit 3: Dominant species; Crit 4: Breeding and inhabiting in the site
CHORDATA/AVES	<i>Lanius isabellinus</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				LC	<input type="checkbox"/>	<input type="checkbox"/>		Crit3: Representative species
CHORDATA/AVES	<i>Oenanthe isabellina</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				LC	<input type="checkbox"/>	<input type="checkbox"/>		Crit3: Representative species
CHORDATA/AVES	<i>Otis tarda</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				VU	<input type="checkbox"/>	<input checked="" type="checkbox"/>	National Protection Class I	Crit3: Rare species;
CHORDATA/AVES	<i>Platalea leucorodia</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				LC	<input type="checkbox"/>	<input type="checkbox"/>	National Protection Class II	Crit3: Rare species; Crit4:Breeding in this site
CHORDATA/AVES	<i>Rissa tridactyla</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				VU	<input type="checkbox"/>	<input type="checkbox"/>		Crit3: Rare species;
CHORDATA/AVES	<i>Tadorna ferruginea</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				LC	<input type="checkbox"/>	<input type="checkbox"/>		Crit 3: Dominant species; Crit 4: Breeding and inhabiting in the site
CHORDATA/AVES	<i>Tadorna tadorna</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				LC	<input type="checkbox"/>	<input type="checkbox"/>		Crit 3: Dominant species; Crit 4: Breeding and inhabiting in the site
CHORDATA/AVES	<i>Tringa totanus</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				LC	<input type="checkbox"/>	<input type="checkbox"/>		Crit 3: Crit 3: Dominant species; Crit 4: Breeding and inhabiting in the site

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

Dunhuang Xihu Wetlands is located in the continental deserts and semideserts biome of the Takla-Makan-Gobi Desert Biogeographic Province in the Palaearctic Realm. With a Mid-latitude desert climate, the site is cold in winter, hot in summer and cool in autumn. The altitude is 820~1900 m. The soil types mainly include brown desert soils, meadow soils, bog soils and solonchaks.

The site is surrounded by deserts, including Gobi desert, with a flat, low-lying terrain, rich in water, grass and biodiversity, acting as an oasis set in the middle of the desert. In spring and summer, large areas of seasonal water accumulate in the lowlands, making it a typical swampy wetland in inland arid areas, consisting of permanent freshwater herbaceous swamps, scrub wetlands, permanent brackish swamps and seasonal brackish swamps.

The vegetation in the site is divided into five vegetation type groups: broadleaf forest, desert, salt marsh, meadow and bog. The region has an arid climate and the vegetation is dominated by hyper-arid and arid plant species. The wetland vegetation communities are mainly marsh vegetation and meadow vegetation, with the Form. *Phragmites australis* taking the largest vegetation type, providing habitat, refuge and rich food resources for birds such as black stork (*Ciconia nigra*), eurasian spoonbill (*Platalea leucorodia*), common crane (*Grus grus*), demoiselle crane (*Anthropoides virgo*), whooper swan (*Cygnus cygnus*), great egret (*Ardea alba*), bar-headed goose (*Anser indicus*), ruddy shelduck (*Tadorna ferruginea*) and for mammals such as Bactrian camel (*Camelus ferus*) and goitered gazelle (*Gazella subgutturosa*).

Located along the eastern edge of the Kumtag Desert, adjacent to the Xinjiang Lop Nor, the site is a composite ecosystem of wetlands and deserts, which has a strategic importance in maintaining the biodiversity of the northwest arid zone and in the construction of the western ecological environment. The wetland and vegetation in the Site play an important role in blocking the eastward encroachment of wind and sand as a valuable natural ecological barrier for Dunhuang. It is an important "water reservoir" for the extremely arid desert region of Dunhuang and is of great significance in water supply, improving the regional microclimate and maintaining the ecological securing of the region's agriculture and habitat.

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
Saline, brackish or alkaline water > Marshes & pools >> Sp: Permanent saline/brackish/alkaline marshes/pools		3	1704	
Saline, brackish or alkaline water > Marshes & pools >> Ss: Seasonal/intermittent saline/brackish/alkaline marshes/pools		4	220	
Fresh water > Marshes on inorganic soils >> Tp: Permanent freshwater marshes/pools		1	21544	Unique
Fresh water > Marshes on inorganic soils >> W: Shrub-dominated wetlands		2	8599	Unique

Other non-wetland habitat

Other non-wetland habitats within the site	Area (ha) if known
Desert	108620
Grassland	33000
Woodland	18600

4.3 - Biological components

4.3.1 - Plant species

Other noteworthy plant species

Phylum	Scientific name	Position in range / endemism / other
TRACHEOPHYTALILIOPSIDA	<i>Phragmites australis</i>	Dominant species and constructive species

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	<i>Accipiter gentilis</i>				National Protection Class II

Phylum	Scientific name	Pop. size	Period of pop. est.	% occurrence	Position in range /endemism/other
CHORDATA/AVES	<i>Accipiter nisus</i>				National Protection Class II
CHORDATA/AVES	<i>Aegolius funereus</i>				National Protection Class II
CHORDATA/AVES	<i>Aegyptius monachus</i>				National Protection Class I
CHORDATA/AVES	<i>Alauda arvensis</i>				National Protection Class II
CHORDATA/AVES	<i>Anthropoides virgo</i>				National Protection Class II
CHORDATA/AVES	<i>Aquila chrysaetos</i>				National Protection Class I
CHORDATA/AVES	<i>Ardea alba</i>				Dominant species
CHORDATA/AVES	<i>Asio flammeus</i>				National Protection Class II
CHORDATA/AVES	<i>Asio otus</i>				National Protection Class II
CHORDATA/AVES	<i>Athene noctua</i>				National Protection Class II
CHORDATA/AVES	<i>Bubo bubo</i>				National Protection Class II
CHORDATA/AVES	<i>Buteo hemilasius</i>				National Protection Class II
CHORDATA/AVES	<i>Buteo lagopus</i>				National Protection Class II
CHORDATA/AVES	<i>Buteo rufinus</i>				National Protection Class II
CHORDATA/MAMMALIA	<i>Canis lupus</i>				National Protection Class II
CHORDATA/AVES	<i>Circus cyaneus</i>				National Protection Class II
CHORDATA/AVES	<i>Egretta sacra</i>				National Protection Class II
CHORDATA/REPTILIA	<i>Eryx miliaris</i>				National Protection Class II
CHORDATA/AVES	<i>Falco amurensis</i>				National Protection Class II
CHORDATA/AVES	<i>Falco columbarius</i>				National Protection Class II
CHORDATA/AVES	<i>Falco peregrinus</i>				National Protection Class II
CHORDATA/AVES	<i>Falco subbuteo</i>				National Protection Class II
CHORDATA/AVES	<i>Falco tinnunculus</i>				National Protection Class II
CHORDATA/MAMMALIA	<i>Felis manul</i>				National Protection Class II
CHORDATA/MAMMALIA	<i>Felis silvestris</i>				National Protection Class II
CHORDATA/AVES	<i>Gypaetus barbatus</i>				National Protection Class I
CHORDATA/AVES	<i>Gyps himalayensis</i>				National Protection Class II
CHORDATA/AVES	<i>Luscinia svecica</i>				National Protection Class II

Phylum	Scientific name	Pop. size	Period of pop. est.	% occurrence	Position in range /endemism/other
CHORDATA/MAMMALIA	<i>Lynx lynx</i>				National Protection Class II
CHORDATA/AVES	<i>Mergellus albellus</i>				National Protection Class II
CHORDATA/AVES	<i>Milvus migrans</i>				National Protection Class II
CHORDATA/AVES	<i>Numenius arquata</i>				National Protection Class II
CHORDATA/AVES	<i>Pandion haliaetus</i>				National Protection Class II
CHORDATA/AVES	<i>Podiceps grisegena</i>				National Protection Class II
CHORDATA/AVES	<i>Podiceps nigricollis</i>				National Protection Class II
CHORDATA/AVES	<i>Podoces biddulphi</i>				National Protection Class II
CHORDATA/AVES	<i>Podoces hendersoni</i>				National Protection Class II
CHORDATA/REPTILIA	<i>Teratoscincus scincus</i>				National Protection Class II
CHORDATA/AVES	<i>Tetrax tetrax</i>				National Protection Class I
CHORDATA/MAMMALIA	<i>Vulpes corsac</i>				National Protection Class II
CHORDATA/MAMMALIA	<i>Vulpes vulpes</i>				National Protection Class II

Optional text box to provide further information

Wild animals have important ecological value. The State Council of the People's Republic of China has approved and issued the list of rare and endangered wild animals under national key protection, and the protection of these wild animals has been raised to the legal level.

4.4 - Physical components

4.4.1 - Climate

Climatic region	Subregion
B: Dry climate	BWk: Mid-latitude desert (Mid-latitude desert)

4.4.2 - Geomorphic setting

a) Minimum elevation above sea level (in metres)

a) Maximum elevation above sea level (in metres)

- 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.

The Shule River basin. The Shule River is an inland river in northwestern China.

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)

The soil types of the site mainly include brown desert soils, meadow soils, bog soils and solonchaks.

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	<input type="checkbox"/>	No change
Water inputs from surface water	<input type="checkbox"/>	No change
Water inputs from groundwater	<input checked="" type="checkbox"/>	No change

Water destination

Presence?	
Feeds groundwater	No change

Stability of water regime

Presence?	
Water levels fluctuating (including tidal)	No change

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

Dunhuang Xihu Wetlands is located in an extreme arid zone in the northwest, with limit precipitation, averaging only 39.9mm per year, and underground runoff formed by the infiltration of meltwater from glacial snow-capped mountains as the main source of water. A large amount of melting snow water from the western Qilian Mountains and eastern Aejin Moutains in the south seeps into the ground, after underground runoff, seeps out at low altitudes in Dunhuang, releasing water in the form of springs, creating large seasonal swampy wetlands with water depths of about 2 m in April and May, leaving only puddles in the autumn when the water recedes. The main rivers near the Dunhuang Xihu Wetlands are the Shule River and the Dang River, both of which are inland rivers with tail water flowing into the DunhuangXihu Wetlands.

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

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 value of the main stream of the Dang River is 7.9~8.5.

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

Please provide further information on salinity (optional):

The pH value of the main stream of the Dang River is 7.9~8.5.

4.4.8 - Dissolved or suspended nutrients in water

- Eutrophic
- Mesotrophic
- Oligotrophic
- Dystrophic
- Unknown

Please provide further information on dissolved or suspended nutrients (optional):

The mineralization degree of river water in the Subei section of the Dang River was 0.5~1 g/L; The mineralization degree of river water in the downstream Dunhuang section is 0.3~0.5 g/L, which is good fresh water and meets Class II water quality standards.

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 i) broadly similar ii) significantly different site itself.

4.5 - Ecosystem services

4.5.1 - Ecosystem services/benefits

Provisioning Services

Ecosystem service	Examples	Importance/Extent/Significance
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
Climate regulation	Local climate regulation/buffering of change	High
Climate regulation	Regulation of greenhouse gases, temperature, precipitation and other climactic processes	Medium

Cultural Services

Ecosystem service	Examples	Importance/Extent/Significance
Recreation and tourism	Nature observation and nature-based tourism	Low
Spiritual and inspirational	Inspiration	Medium
Spiritual and inspirational	Cultural heritage (historical and archaeological)	Low
Spiritual and inspirational	Contemporary cultural significance, including for arts and creative inspiration, and including existence values	High
Spiritual and inspirational	Aesthetic and sense of place values	High
Scientific and educational	Educational activities and opportunities	High
Scientific and educational	Important knowledge systems, importance for research (scientific reference area or site)	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 microorganisms, the genes they contain, and the ecosystems of which they form a part	High
Nutrient cycling	Carbon storage/sequestration	High

Within the site:

Outside the site:

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

<no data available>

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
National/Federal government	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

5.1.2 - Management authority

Please list the local office / offices of any agency or organization responsible for managing the site:

Gansu Dunhuang Xihu National Nature Reserve Management and Conservation Center

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

Zhenming Zhang, Director

Postal address:

472 Runzi Avenue
Yueyaquan Town 736299
Dunhuang City
Gansu province
P.R. China

E-mail address:

429867496@qq.com

5.2 - Ecological character threats and responses (Management)

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

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		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Climate change and severe weather

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Habitat shifting and alteration	Low impact		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Temperature extremes	Medium impact		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

5.2.2 - Legal conservation status

National legal designations

Designation type	Name of area	Online information url	Overlap with Ramsar Site
National nature reserve	Gansu Dunhuang Xihu National Nature Reserve	http://www.dhxhglj.cn	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
Catchment management initiatives/controls	Implemented
Re-vegetation	Implemented

Species

Measures	Status
Threatened/rare species management programmes	Implemented
Reintroductions	Implemented

Human Activities

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

Other:

In February 1992, the provincial government approved the establishment of a provincial nature reserve, originally named "Gansu Dunhuang Wanyaodun Nature Reserve".
 In 2001, the name was changed to "Gansu Dunhuang Xihu Nature Reserve", as confirmed by the provincial government.
 In June 2003, it was promoted to a national nature reserve by the State Council.
 Since the establishment of the reserve, it has completed the "Reserve Development Plan", the "Reserve Phase I and Phase II Master Plan", and organized and implemented the reserve infrastructure construction project, wetland protection and construction project, wetland compensation pilot project, national ecological public welfare forest benefit compensation, sand control and other projects, and achieved remarkable results in wetland ecological environmental protection.
 It was established that more than four grassroots protection stations, including Yumenguan, Luchaojing, Tuliangdao and Cuimutu, and one wildlife rescue centre. An information and communication network covering key areas was established, automating office work and monitoring. Strengthened cooperation with universities and research institutes, the reserve has cooperated with Beijing Forestry University, Lanzhou University, Gansu Forestry Research Institute, Chinese Academy of Forestry and other universities and research institutes, and completed a number of research topics. More than 40 academic papers have been published. In 2009, the reserve was listed as one of the first ecological civilization education bases in Gansu Province, and in 2010, it was identified as a wild horse release base in China by the State Forestry Administration, and in 2013, it was listed as a forestry science base in Gansu Province and a national forestry science base.
 Over the years, the reserve administration has persistently conducted publicity and education activities such as "Love Birds Week" and "Wildlife Protection Publicity Month", making full use of media publicity, issuing publicity materials, posting publicity slogans and other forms to promote the reserve, protecting natural forests, protecting natural wetlands and protecting wildlife resources.

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, the site has already been restored

5.2.7 - Monitoring implemented or proposed

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

The reserve has established collaborative relationships with 12 research institutes, including the Chinese Academy of Forestry, Beijing Forestry University and the Provincial Academy of Forestry, and carried out monitoring and research projects focusing on wetland, desert, desertification, wildlife and environmental monitoring research; built the Dunhuang Xihu Wetland Ecosystem Positioning Research Station and the Dunhuang Station of the Kumtag Desert Positioning Research Station; completed a comprehensive scientific survey, continuous inventory of forest resources, wetland field survey and other basic technical work; established two wildlife rescue centers, six automatic meteorological monitoring stations, four wetland environmental monitoring points, twelve groundwater level monitoring points and flow weir water observation points, more than 50 vegetation fixed monitoring sample plots, and one provincial-level wildlife epidemic and disease monitoring station. And monitoring of public welfare forests and forest resources efficiency was launched, resource files and databases were established, and the process of building a digital forestry management system was promoted.

6 - Additional material

6.1 - Additional reports and documents

6.1.1 - Bibliographical references

Ma Chao & Chen Xu. Vegetation composition and characteristics in Gansu Xihu National Nature Reserve [J]. Gansu Agriculture, 2021(09):51-54

Yuan H F, Chen W Y et al. The current situation of the wetland and the construction of drinking water source for wildlife in the west lake of Dunhuang, Gansu Province [J]. Wetland Science & Management, 2020,16(02):42-44.

Qi D C, Chen W Y, Zhang J Q et al. Status, degraded causes and comprehensive treatment of Dunhuang Xihu wetland ecosystem [J]. Acta Prataculturae Sinica, 2010,19(04):194-203

Qiu Guanhua. Wetland birds and their habitats importance evaluation in Dunhuang West Lake Area [D]. Beijing Forestry University, 2009

Yuan H F, Pang X Y, Li Y H. Analysis of functions and existing problems of the West Lake Nation Nature Reserve in Dunhuang, Gansu [J]. Wetland Science & Management, 2009,5(01):21-23.

Liu M X, Yao X J. Study on the expolitation of eco-tourism of wetland on the basis of protecting biodiversity — A case of Xihu Nature Reserve, Dunhuang, Gansu Province. [J]. Journal of Arid Land Resources and Environment, 2008(11):132-137.

Udvardy M. 1975. Classification of the Biogeographical Provinces of the World. IUCN Occasional Paper No. 18.

Catalog of Wildlife under Key State Protection. 2021. http://www.gov.cn/xinwen/2021-02/09/content_5586227.htm.

List of Wild Plants under Key State Protection. 2021. http://www.gov.cn/zhengce/zhengceku/2021-09/09/content_5636409.htm.

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:



The migrant birds (Zhenning Zhang, 06-10-2019)



The whooper Swan (Cygnus cygnus) (Laqi Ha, 28-11-2019)



The black-winged stilt (Himantopus himantopus) (Shoushi Ma, 20-05-2020)



Xihu Reed Swamp (Zhicheng Sun, 19-06-2017)



Seasonal Salicornia Europe (Zhicheng Sun, 08-10-2020)

6.1.4 - Designation letter and related data

Designation letter

<1 file(s) uploaded>

Date of Designation 2022-10-28