



Ramsar Information Sheet

Published on 11 April 2023

China

Yunnan Huize Nianhu Wetlands



Designation date	28 October 2022
Site number	2515
Coordinates	26°39'09"N 103°27'15"E
Area	2 260,75 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

Located in the central part of the Wumeng Mountains on the Yunnan-Guizhou Plateau in Southwest China, the Site lies in the Niulan River basin, a tributary of the Jinsha River on the upper reaches of the Yangtze River. It contains two subareas, Nianhu and Changhaizi, where the main conservation components are black-necked crane (*Grus nigricollis*) and the wetland ecosystems that they inhabit. The karst landforms and seasonal hydrological processes have eroded the Site, forming crisscross gullies and a large swampy meadow. One of the major wetland types is the Nianhu Reservoir which after more than 60 years of ecological succession, has attained features similar to a natural wetland.

The biodiversity is rich, with distribution of rare and threatened species such as black-necked crane (*Grus nigricollis*), Siberian crane (*Grus leucogeranus*), and scaly-sided Merganser (*Mergus squamatus*), which are extremely important for maintaining biodiversity of the biogeographic region. The Site also provides essential food resources, resting places, and overwintering grounds for migratory birds in West China. It is one of the three main wintering places for the eastern population of black-necked crane (*Grus nigricollis*) in China which is the only crane species that lives on the plateau all year round. For a water-scarce region of Northeast Yunnan, the Site plays a vital role in providing drinking water, regulating regional climate, and maintaining soil and air quality. Around the reservoirs, there are marshy meadows that provide plant roots and insects for the common crane (*Grus grus*) and black-necked crane (*Grus nigricollis*). Similarly, there are also agricultural lands which are seasonally flooded and provide the common crane (*Grus grus*) and black-necked crane (*Grus nigricollis*) with high-quality food such as cereal crops and tubers, portraying a symbiotic relationship between humans and birds.

2 - Data & location

2.1 - Formal data

2.1.1 - Name and address of the compiler of this RIS

Responsible compiler

Institution/agency	National Plateau Wetland Research Center
Postal address	300#, Bailong Temple anlong District Kunming 650224 Yunnan 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	<input type="text" value="2020"/>
To year	<input type="text" value="2022"/>

2.1.3 - Name of the Ramsar Site

Official name (in English, French or Spanish)	<input type="text" value="Yunnan Huize Nianhu 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	<input type="text" value="0"/>
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Boundaries description

Located within the Yunnan Huize Black-necked Crane Nature (*Grus nigricollis*) Reserve, the site contains the most significant wetland features of the reserve, accounting for 17.5% of the reserve area, including two subareas, Nianhu and Changhaizi. The boundary of the Nianhu subarea is as follows: northwest to the village near Bajia Village, east to the dam body of Nianhu, south and southeast to the first layers of the ridge line and southwest to Shuimo Village. The boundary of Changhaizi subarea is north to the northern road of Changhaizi, east and south to the first layer of the ridge line and west to the dam and the eastern side of Changhaizi Road.

2.2.2 - General location

a) In which large administrative region does the site lie?	<input type="text" value="Qujing City, Yunnan Province, People's Republic of China"/>
b) What is the nearest town or population centre?	<input type="text" value="Daqiao Town and Zhehai 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):	<input type="text" value="2260.75"/>
Area, in hectares (ha) as calculated from GIS boundaries	<input type="text" value="2259.665"/>

2.2.5 - Biogeography

Biogeographic regions

Regionalisation scheme(s)	Biogeographic region
Udvardy's Biogeographical Provinces	Subtropical and temperate rain forests or woodlands, Chinese Subtropical Forest Biogeographic Province, Palearctic Realm.

3 - Why is the Site important?

3.1 - Ramsar Criteria and their justification

<no data available>

Criterion 2 : Rare species and threatened ecological communities

Optional text box to provide further information

Many rare and threatened species such as *Pedicularis macrorhyncha* (VU), swan goose (*Anser cygnoid*, VU), lesser white-fronted goose (*Anser erythropus*, VU), common pochard (*Aythya ferina*, VU), scaly-sided merganser (*Mergus squamatus*, EN), Siberian crane (*Grus leucogeranus*, CR), collared crow (*Corvus pectoralis*, VU), hog badger (*Arctonyx collaris*, VU), and Chinese cobra (*Naja atra*, VU) are found in the site. More information is detailed in Chapter 3.2 & 3.3.

The Site supports the ecological community of black-necked cranes (*Grus nigricollis*), which is one of the major species being protected by the Site. Black-necked cranes (*Grus nigricollis*), swan goose (*Anser cygnoid*, VU), lesser white-fronted goose (*Anser erythropus*, VU), Siberian crane (*Grus leucogeranus*, CR), collared crow (*Corvus pectoralis*, VU) and other waterfowls also live in the marsh at the end of the reservoir. The grey crane and black-necked crane also feed on cereal crops and tubers around the marsh wetland, forming a complex ecological relationship with human society.

Criterion 3 : Biological diversity

Justification

Located at the northern edge of the subtropics, the Site belongs to the East Asian flora of the China-Himalayan Forest flora subregion, in the Yunnan plateau region and the Central Yunnan plateau subregion. The complex zonal composition and variety of wetland types provide essential habitats for wildlife. It is the hotspot of species diversity in Southwest China and the biogeographic region, playing a vital role in maintaining biodiversity in the biogeographic region.

There are 884 plant species in the Nianhu Wetlands, particularly marsh plants, such as Buckwheat (*Polygonum nepalense*), *Pedicularis macrorhyncha*, common watercress (*Nasturtium officinale*), and *Potamogeton tepperi*. There are 251 species of terrestrial vertebrates recorded in the site, including 33 mammal species, 193 bird species, 16 reptile species, and nine amphibian species. The periodic hydrological rhythm changes foster abundant aquatic organisms, some of which are prey for birds that are often active in the marshes of the reservoir heads, such as black-necked Crane (*Grus nigricollis*), swan goose (*Anser cygnoid*), lesser white-fronted goose (*Anser erythropus*), common pochard (*Aythya ferina*), scaly-sided merganser (*Mergus squamatus*), and Siberian crane (*Grus leucogeranus*). The relatively stable wetland ecosystem formed by the long-term succession of the reservoir strongly supports the black-necked crane (*Grus nigricollis*) which number has increased from 750 in 2018 to 1124 in 2022.

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

Optional text box to provide further information

The site provides shelter for many breeding birds in the north and the Qinghai-Tibet Plateau to move south in winter. In winter, the temperature in the north and the Qinghai-Tibet Plateau is lower, the rivers and lakes are frozen, the food is reduced, and the foraging time is shorter, which is not ideal for waterfowls. When the water level drops by about two meters in the dry winter, extensive shallows swamps and marshy meadows form at the Site, that supports more than 1,000 species of plants and animals and providing an ideal habitats for migratory birds to overwinter. There are other 164 bird species wintering and inhabiting in this site, such as black-necked Crane (*Grus nigricollis*), black stork (*Ciconia nigra*), scaly-sided merganser (*Mergus squamatus*), Siberian crane (*Grus leucogeranus*), Eurasian spoonbill (*Platalea leucorodia*), and Mandarin duck (*Aix galericulata*), which are essential for maintaining regional biodiversity. The Site is one of the three main overwintering grounds for the eastern population of black-necked Crane (*Grus nigricollis*). See Appendix 1 of 6.1.2 for bird residence types.

Criterion 5 : >20,000 waterbirds

Overall waterbird numbers

Start year

End year

Source of data:

Optional text box to provide further information

The site is an important stopover on the migratory route of migratory birds. According to the multi-year monitoring of the reserve, the total number of waterbirds wintering and resting in the site from 2020 to 2022 is 20022, 20180 and 20128 respectively. The number of waterbirds is shown in Appendix 2 of 6.1.2.

Criterion 6 : >1% waterbird population

Optional text box to provide further information

According to the 2020-2022 bird monitoring data for the reserve, three species of waterfowls in the Site meet the standard of >1% regional population: black-necked crane (*Grus nigricollis*), bar-headed goose (*Anser indicus*), and ruddy shelduck (*Tadorna ferruginea*). See more information in Chapter 3.3.

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>Fagopyrum esculentum</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>		Crit 3: Representative species. the synonyms of <i>Polygonum nepalense</i>
TRACHEOPHYTA / MAGNOLIOPSIDA	<i>Nasturtium officinale</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	LC	<input type="checkbox"/>		Crit 3: Representative species.
TRACHEOPHYTA / MAGNOLIOPSIDA	<i>Pedicularis macrorhyncha</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	VU	<input type="checkbox"/>		Crit 3: Rare species
TRACHEOPHYTA / LILIOPSIDA	<i>Potamogeton tepperi</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>		Crit 3: Representative species.

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>Arctonyx collaris</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"/>		Crit 3: Rare species;
CHORDATA/REPTILIA	<i>Naja atra</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"/>		Crit 3: Rare species;
Birds																	
CHORDATA/AVES	<i>Anser cygnoid</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 checked="" type="checkbox"/>	National Protection Class II	Crit 3: Rare species; Crit4:Overwintering in this site
CHORDATA/AVES	<i>Anser erythropus</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3	2021-2022		VU	<input type="checkbox"/>	<input checked="" type="checkbox"/>	National Protection Class II	Crit 3: Rare species; Crit4:Overwintering in this site ;
CHORDATA/AVES	<i>Anser indicus</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2065	2020-2022	3.69	LC	<input type="checkbox"/>	<input type="checkbox"/>		Crit 3: Representative species; Crit4:Overwintering in this site; Crit6:1% threshold for the population of C, S & SE Asia is 560 as of 2002.
CHORDATA/AVES	<i>Aythya ferina</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	834	2020-2022		VU	<input type="checkbox"/>	<input type="checkbox"/>		Crit 3: Rare species; Crit4:Overwintering in this site
CHORDATA/AVES	<i>Corvus pectoralis</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"/>		Crit 3: Rare species; Crit4:Breeding in this site
CHORDATA/AVES	<i>Grus leucogeranus</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"/>				CR	<input checked="" type="checkbox"/>	<input type="checkbox"/>	National Protection Class I	Crit 3: Rare species and representative species; Crit4:Overwintering in this site
CHORDATA/AVES	<i>Grus nigricollis</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	982	2020-2022	9.82	NT	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	National Protection Class I	Crit 3: Rare species and representative species; Crit4:Overwintering in this site ; Crit6:1% threshold for the population of C & S Asia is 100 as of 2012.
CHORDATA/AVES	<i>Mergus squamatus</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 type="checkbox"/>	National Protection Class I	Crit 3: Rare species; Crit4:Overwintering in this site
CHORDATA/AVES	<i>Tadorna ferruginea</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1121	2020-2022	1.58	LC	<input type="checkbox"/>	<input type="checkbox"/>		Crit 3: Representative species; Crit4:Overwintering in this site; Crit6:1% threshold for the population of S & SE Asia (non-bre) is 710 as of 2012.

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

The Site is located in the subtropical and temperate rain forests or woodlands biome in the Chinese Subtropical Forest Biogeographic Province in the Palaeartic Realm. It has a humid continental climate, which is cold and dry in winter and warm in summer. The altitude is 2348~2665 m. The soil of the Site is mainly red soil.

The Site lies in the north-eastern part of the Yunnan-Guizhou Plateau in Southwest China, with typical karst geomorphological features. After more than 60 years of ecological succession, the formerly named Yuejin Reservoir, now the Nianhu Reservoir, has the characteristics of a near-natural lake wetland, and includes marshes. The storage capacity of Nianhu Reservoir is 53 million cubic meters and eight streams directly flow into the reservoir with a runoff area of 13550 hectares. Changhaizi Reservoir is in the basin of Leye River, a secondary tributary of Jinsha River and has a capacity of 3.7 million cubic meters, a runoff area of 313 hectares, and a basin water yield of 3.5 million cubic meters. Changhaizi forms a deep water region near the dam, and many shallow water ponds and large swampy meadow wetland types along the valley of Leye River.

As the Site is affected by monsoonal climate, the hydrological conditions and biodiversity of the Site changes with it. The seasonal changes influences the features of the various wetland type such as permanent rivers, permanent freshwater herbaceous marshes, and seasonal freshwater lakes. Permanent rivers are the primary wetlands in the Site. The natural and near-natural wetlands formed in the two reservoirs have an important function of water regulation and storage. They can regulate river runoff and recharge groundwater and are the water source for surrounding residents. They are essential in maintaining regional water balance, regulating regional microclimate, maintaining water quality, and promoting regional water security.

The Site contains seven vegetation types including, warm temperate coniferous forests and sparse scrubs which are dominated by Yunnan pine (*Pinus yunnanensis*) and *Imperata cylindrica*. They provide suitable habitat and nesting grounds for forest birds such as black-winged kite (*Elanus caeruleus*) and white-tailed sea-eagle (*Haliaeetus albicilla*). The meadows are mainly composed of *Trifolium repens*, *Cirsium eriophoroides* and *Inula helianthus-aquatica*, which provide suitable habitats for birds such as demoiselle crane (*Anthropoides virgo*) and common crane (*Grus grus*). Open waters of rivers, lakes, reservoirs, and swamps are mainly distributed with plants such as *Azolla imbricata*, Buckwheat (*Polygonum nepalense*) and *Pedicularis macrorhyncha*, which are staple diet for black-necked crane (*Grus nigricollis*), red-crested pochard (*Netta rufina*), common pochard (*Aythya ferina*) and other rare water birds. These geese and ducks occupy different niches in the wetlands and share the same 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
Fresh water > Flowing water >> M: Permanent rivers/ streams/ creeks		3	11.55	
Fresh water > Lakes and pools >> P: Seasonal/ intermittent freshwater lakes		4	0.77	
Fresh water > Marshes on inorganic soils >> Tp: Permanent freshwater marshes/ pools		4	1.62	

Human-made wetlands

Wetland types (code and name)	Local name	Ranking of extent (1: greatest - 4: least)	Area (ha) of wetland type
4: Seasonally flooded agricultural land		1	891.3
6: Water storage areas/Reservoirs	Nianhu (Yuejin Reservoir), Changhaizi	2	609.76
9: Canals and drainage channels or ditches		4	1.15

Other non-wetland habitat

Other non-wetland habitats within the site	Area (ha) if known
Tree woodland	509.77
Shrubland	16.32
Other grassland	161.56
Other woodland	21.02
Road land	9.85
Hydraulic construction land	1.17
Bare land	5.1
Special land	0.4
Rural residential land	3.35

4.3 - Biological components

4.3.1 - Plant species

Other noteworthy plant species

Phylum	Scientific name	Position in range / endemism / other
TRACHEOPHYTA/POLYPODIOPSIDA	<i>Azolla pinnata asiatica</i>	Dominant species, and the <i>Azolla pinnata asiatica</i> is Synonyms of <i>Azolla imbricata</i>
TRACHEOPHYTA/MAGNOLIOPSIDA	<i>Cirsium eriophoroides</i>	Dominant species
TRACHEOPHYTA/LILIOPSIDA	<i>Imperata cylindrica</i>	Dominant species
TRACHEOPHYTA/PINOPSIDA	<i>Pinus yunnanensis</i>	Dominant species
TRACHEOPHYTA/MAGNOLIOPSIDA	<i>Trifolium repens</i>	Dominant 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 nisus</i>				National Protection Class II
CHORDATA/AVES	<i>Accipiter trivirgatus</i>				National Protection Class II
CHORDATA/AVES	<i>Accipiter virgatus</i>				National Protection Class II
CHORDATA/AVES	<i>Aix galericulata</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>Buteo hemilasius</i>				National Protection Class II
CHORDATA/AVES	<i>Buteo japonicus</i>				National Protection Class II
CHORDATA/AVES	<i>Chrysolophus amherstiae</i>				National Protection Class II
CHORDATA/AVES	<i>Ciconia nigra</i>				National Protection Class I
CHORDATA/AVES	<i>Circus cyaneus</i>				National Protection Class II
CHORDATA/AVES	<i>Circus melanoleucos</i>				National Protection Class II

Phylum	Scientific name	Pop. size	Period of pop. est.	% occurrence	Position in range /endemism/other
CHORDATA/AVES	<i>Circus spilonotus</i>				National Protection Class II
CHORDATA/AVES	<i>Elanus caeruleus</i>				National Protection Class II
CHORDATA/AVES	<i>Falco peregrinus</i>				National Protection Class II
CHORDATA/AVES	<i>Falco tinnunculus</i>				National Protection Class II
CHORDATA/AVES	<i>Garrulax canorus</i>				National Protection Class II
CHORDATA/AVES	<i>Glaucidium cuculoides</i>				National Protection Class II
CHORDATA/AVES	<i>Grus grus</i>				National Protection Class II
CHORDATA/AVES	<i>Halcyon smyrnensis</i>				National Protection Class II
CHORDATA/AVES	<i>Haliaeetus albicilla</i>				National Protection Class I
CHORDATA/AVES	<i>Haliastur indus</i>				National Protection Class II
CHORDATA/AVES	<i>Leiothrix lutea</i>				National Protection Class II
CHORDATA/AVES	<i>Lophura nycthemera</i>				National Protection Class II
CHORDATA/AVES	<i>Luscinia calliope</i>				National Protection Class II
CHORDATA/MAMMALIA	<i>Naemoredus griseus</i>				National Protection Class II
CHORDATA/AVES	<i>Platalea leucorodia</i>				National Protection Class II
CHORDATA/AVES	<i>Podiceps nigricollis</i>				National Protection Class II
CHORDATA/MAMMALIA	<i>Prionailurus bengalensis</i>				National Protection Class II
CHORDATA/AVES	<i>Trochalopteron elliotii</i>				National Protection Class II
CHORDATA/MAMMALIA	<i>Viverricula indica</i>				National Protection Class I
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
D: Moist Mid-Latitude climate with cold winters	Dwb: Humid continental (Humid with severe, dry winter, warm summer)

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.

Jinsha River system in the upper Yangtze River basin

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 soils in the Nianhu and Changhaizi areas are mainly Red earths, and very small amounts of Paddy soil, Meadow soil and Bog 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	<input checked="" 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
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.

The site is in the watershed of the Niulan River, a first tributary of the Jinsha River system in the upper reaches of the Yangtze River. The Yuejin Reservoir in the Nianhu subarea is located on Yangmeishan Creek, a third tributary of the lower right bank of the Jinsha River, with a basin area of 13,550 hectares. The Changhaizi Reservoir in the Changhaizi subarea is located in the Leye River basin, with a basin area of 313 hectares. The maximum control level of Changhaizi Reservoir is 2414 m, and the minimum 2398 m. The typical storage capacity is 3.7 million cubic meters, and the production and living water consumption is 1.8 million cubic meters. The groundwater type in the site is mainly fractured water of ejected rock type (basalt), fracture water of clastic rock type, and pore water of loose rock. Yuejin Reservoir and Changhaizi Reservoir are respectively the primary discharge areas of groundwater in the two subareas.

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 Nianhu reservoir is from 6.27 to 8.54, and the pH value of the Changhaizi reservoir is from 8.38 to 8.74.

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

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 water quality of the two reservoirs in the reserve is excellent, and according to the monitoring data analysis from the environmental monitoring station in Huize County, it meets the requirements of Class I and Class II water quality standards in Environmental Quality Standards for Surface Water (GB3838-2002).

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:

- 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:

There are mainly agricultural land and woodland surrounding the site, which provide a certain source of food for migratory birds such as *Grus nigricollis*, *Grus grus* and *Anser indicus*.

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)	Medium
Fresh water	Water for irrigated agriculture	Medium
Fresh water	Drinking water for humans and/or livestock	Medium

Regulating Services

Ecosystem service	Examples	Importance/Extent/Significance
Maintenance of hydrological regimes	Storage and delivery of water as part of water supply systems for agriculture and industry	High
Maintenance of hydrological regimes	Groundwater recharge and discharge	High
Pollution control and detoxification	Water purification/waste treatment or dilution	High
Climate regulation	Local climate regulation/buffering of change	High
Climate regulation	Regulation of greenhouse gases, temperature, precipitation and other climactic processes	Medium
Hazard reduction	Flood control, flood storage	High

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	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
Soil formation	Sediment retention	High
Soil formation	Accumulation of organic matter	Medium
Nutrient cycling	Storage, recycling, processing and acquisition of nutrients	High
Nutrient cycling	Carbon storage/sequestration	Medium

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"/>

Private ownership

Category	Within the Ramsar Site	In the surrounding area
Cooperative/collective (e.g., farmers cooperative)	<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:

Management Bureau of Huize Black-necked Crane National Nature Reserve

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

Liangkai Xiao Director

Postal address:

5F Government Affairs Center
No.744 Tongbao Road 654299
Huize County
Yunnan Province
P.R. China

E-mail address:

hzxsbb@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
Housing and urban areas	Low impact		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Water regulation

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Drainage	Low impact		<input checked="" type="checkbox"/>	<input type="checkbox"/>
Water abstraction	Low impact		<input checked="" type="checkbox"/>	<input type="checkbox"/>

Agriculture and aquaculture

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Annual and perennial non-timber crops	Low impact		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Transportation and service corridors

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Roads and railroads		Low impact	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

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 type="checkbox"/>

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

Climate change and severe weather

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Droughts	Low impact		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Storms and flooding	Low 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	Yunnan Huize Black-necked Crane Nature Reserve		partly

Non-statutory designations

Designation type	Name of area	Online information url	Overlap with Ramsar Site
Important Bird Area	Huize Black-necked Crane Nature Reserve	http://datazone.birdlife.org/site/factsheet/huize-black-necked-crane-nature-reserve-iba-china-(mainland)	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
Improvement of water quality	Implemented
Habitat manipulation/enhancement	Partially implemented
Hydrology management/restoration	Partially implemented
Re-vegetation	Implemented
Soil management	Proposed
Land conversion controls	Implemented
Faunal corridors/passage	Proposed

Species

Measures	Status
Threatened/rare species management programmes	Proposed

Human Activities

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

Other:

In 1990, the Black-necked Crane Nature Reserve of Huize was established. In March 1994, it was upgraded to a provincial nature reserve with the approval of the People's Government of Yunnan Province. In February 2006, Yunnan Huize Black necked Crane National Nature Reserve was established with the approval of the State Council.

Since the establishment of the reserve, the Administrative Measures for Yunnan Huize Black necked Crane National Nature Reserve has been promulgated and implemented and various management systems have been improved. Circuit courts, police offices and circuit procuratorial offices have been set up in the reserve, and " Qujing City Demonstration Base for Biodiversity Protection Public Interest Litigation" has been established to improve the Reserve's management level according to laws. Detailed rules for the monitoring, prevention and control of wildlife foci and epidemics and emergency plan for major wildlife epidemics have been formulated. The Reserve also implemented projects for video monitoring and restoring wild food sources and habitats.

Media tools such as publications, images, songs, and feature films have been used for publicity. Essay and public speaking contests on "Care for the Environment, Protect the Black-necked Crane" was organized for primary and secondary schools for wetland and environmental protection awareness.

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

In accordance with the ecological monitoring and patrol system, the Reserve management authorities have been actively working on regular monitoring of wintering waterbirds such as *Grus nigricollis* during the wintering period and other activities such as community co-management and emergency rescue of injured wildlife. Electronic fence alarm system and an advanced information platform for scientific research monitoring was built in the Reserve. The first pilot video monitoring demonstration project in the province was carried out. Video surveillance cameras have been deployed in the main foraging places and nocturnal habitats of the black necked crane, and in the main entrance, exit channels, and blind spots of the Reserve, thereby improving the monitoring efficiency.

Research activities such as biodiversity surveys and crane monitoring, and quantitative statistical analyses were conducted in cooperation with the Kunming Zoology Institute of Chinese Academy of Sciences, Northwest Plateau Biological Research Institute, and Yunnan University. Tracking on the migration routes of black necked cranes, gray cranes, and green winged ducks has been implemented to study the population status, food and habitat conditions, and migration processes of these species. In addition, researchers have collected blood samples and faeces of wintering migratory birds every year to monitor the epidemic situation of avian influenza. Some migratory birds are tracked and by the ring satellite to understand their migration dynamics in real time.

6 - Additional material

6.1 - Additional reports and documents

6.1.1 - Bibliographical references

Li Xiwen. 1995. Seed Plant Flora in Yunnan Plateau. Acta Botanica Yunnanica, 17 (1): 1-14.
Nanjing Environmental Science Institute of Ecology and Environment Ministry, Administration Bureau of Yunnan Huize Black-necked Crane National Nature Reserve. 2022. General Plan of Huize Black-necked Crane National Nature Reserve, Yunnan (2022-2031).
Yunnan Academy of Environmental Sciences, Kunming Zoology Institute of Chinese Academy of Sciences, etc. 2011. Scientific Research Report on Huize Black-necked Crane National Nature Reserve, Yunnan.
Udvardy,M.1975. A Classification of the Biogeographical Provinces of the World. IUCN Occasional Paper No. 18.

6.1.2 - Additional reports and documents

i. taxonomic lists of plant and animal species occurring in the site (see section 4.3)

<3 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:



Wetland landscape (Changhui Fu, 05-11-2020)



Wetland landscape (Tao Jiang, 06-10-2022)



Wetland landscape (Gaoxiang Wang, 07-06-2021)



Grus nigricollis (The Black-necked Crane Nature Reserve of Huize Management Bureau, 19-02-2020)



Grus nigricollis (Gaoxiang Wang, 08-03-2020)

6.1.4 - Designation letter and related data

Designation letter

<1 file(s) uploaded>

Date of Designation 2022-10-28