Information Sheet on Ramsar Wetlands (RIS)

2006-2008 version

Categories approved by Recommendation 4.7 (1990), as amended by Resolution VIII.13 of the 8th Conference of the Contracting Parties (2002) and Resolutions IX.1 Annex B, IX.6, IX.21 and IX. 22 of the 9th Conference of the Contracting Parties (2005).

Notes for compilers:

1. The RIS should be completed in accordance with the attached Explanatory Notes and Guidelines for completing the Information Sheet on Ramsar Wetlands. Compilers are strongly advised to read this guidance before filling in the RIS.

2. Further information and guidance in support of Ramsar site designations are provided in the Strategic Framework and guidelines for the future development of the List of Wetlands of International Importance (Ramsar Wise Use Handbook 7, 2nd edition, as amended by COP9 Resolution IX.1 Annex B). A 3rd edition of the Handbook, incorporating these amendments, is in preparation and will be available in 2006.

3. Once completed, the RIS (and accompanying map(s)) should be submitted to the Ramsar Secretariat. Compilers should provide an electronic (MS Word) copy of the RIS and, where possible, digital copies of all maps.

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DD MM YY

Designation date | Site Reference Number

1. Name and address of the compiler of this form:

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2. Date this sheet was completed/updated:

October 9, 2007

3. Country:

The People's Republic of China

4. Name of the Ramsar site:

The precise name of the designated site in one of the three official languages (English, French or Spanish) of the Convention. Alternative names, including in local language(s), should be given in parentheses after the precise name.

Sichuan Ruoergai Wetland National Nature Reserve

5. Designation of new Ramsar site or update of existing site:

This RIS is for (tick one box only):

√ **a) Designation of a new Ramsar site; or**

b) Updated information on an existing Ramsar site

6. For RIS updates only, changes to the site since its designation or earlier update:

a) Site boundary and area

The Ramsar site boundary and site area are unchanged:

or

If the site boundary has changed:

i) the boundary has been delineated more accurately; or

ii) the boundary has been extended; or

iii) the boundary has been restricted**

and/or

If the site area has changed:

i) the area has been measured more accurately; or

ii) the area has been extended; or

iii) the area has been reduced**

** **Important note**: If the boundary and/or area of the designated site is being restricted/reduced, the Contracting Party should have followed the procedures established by the Conference of the Parties in the Annex to COP9 Resolution IX.6 and provided a report in line with paragraph 28 of that Annex, prior to the submission of an updated RIS.

b) Describe briefly any major changes to the ecological character of the Ramsar site, including in the application of the Criteria, since the previous RIS for the site:

7. Map of site:

Refer to Annex III of the Explanatory Note and Guidelines, for detailed guidance on provision of suitable maps, including digital maps.

a) A map of the site, with clearly delineated boundaries, is included as:

i) **a hard copy** (required for inclusion of site in the Ramsar List):

ii) **an electronic format** (e.g. a JPEG or ArcView image) ";

iii) **a GIS file providing geo-referenced site boundary vectors and attribute tables.** √

b) Describe briefly the type of boundary delineation applied:
e.g. the boundary is the same as an existing protected area (nature reserve, national park, etc.), or follows a catchment boundary, or follows a geopolitical boundary such as a local government jurisdiction, follows physical boundaries such as roads, follows the shoreline of a waterbody, etc.

The boundary of the wetland is the same as the boundary of current nature reserve. The north edge of the reserve is Tangke-Hongxing Road, the south edge is Tangke-Ruoergai county road, the east edge is Ruoergai-Diebu National Road (No.213), and the Che'niya River, Hei River, Tangke-hongxing National Road (No.213) forms the west edge of the reserve.

8. Geographical coordinates (latitude/longitude, in degrees and minutes):
Provide the coordinates of the approximate centre of the site and/or the limits of the site. If the site is composed of more than one separate area, provide coordinates for each of these areas.

102°29′ E - 102°59′E , 33°25′N - 34°00′N.

9. General location:
Include in which part of the country and which large administrative region(s) the site lies and the location of the nearest large town.

Sichuan Ruoergai Wetland National Nature Reserve is located at the northeast edge of Qinghai-Tibet Plateau and southwest of Sichuan province. It is 5 km far away from Ruoergai Town, 596 km southeast to Chengdu (the capital city of Sichuan province). Till the end of 2005, the population of Ruoergai County is 69 882, among which the agricultural population is 60 596. There are 5 475 people living in 6 towns and 2 state owned pastures around the reserve, along with 865 thousand livestock.

10. Elevation: (in meter: average and/or maximum & minimum)

Minimum: 3,422 m / Maximum: 3,704 m / Average: 3,500 m

11. Area: (in hectares)

166,570 ha

12. General overview of the site:
Provide a short paragraph giving a summary description of the principal ecological characteristics and importance of the wetland.

The Ruoergai wetland is a type of lowland herbaceous marsh evolving from Himalayan orogenic movement in the Quaternary Period. The nature reserve mainly protects alpine peat

marsh ecosystems and rare wild species such as *Grus nigricollis* (black neck crane). The geomorphology here belongs to the type of alpine low-hill marsh. There are plenty of bended rivers and oxbow lakes here. Marshes spread here and there in the site, forming large continuous patches.

As the largest alpine peat marsh in the world, the Rouergai wetland has a water-hold capability of nearly 10 billion m^3. This wetland is also an important area in water sources conservation. The Yellow River flows through this area, increasing the runoff by nearly 30% in rainy seasons and about 40% in dry seasons, because of which, it is well known as the “water tower of China” and the “kidney of the west plateau of China”.

The site holds a rich biodiversity. There are totally 362 species of plants and 196 species of animals, among which 8 species are under the national first-class protection, 25 species are under the national second-class protection and 7 species are endemic in China. This wetland is one of the most mainly distributed area as well as the most important breeding ground of black neck crane, an exclusive alpine crane species in the world, and because of which, it is called the “hometown of Chinese black neck crane (*Grus nigricollis*)”.

Rouergai Nature Reserve is appraised to be one of the six most beautiful wetlands of China for its amazing landscapes: widely distributing alpine lakes, diverse climate scenes, lofty and divine mountains, plentiful alpine meadows, abundant Tibetan culture (festivals, clothing, architectures and temples), a variety of widely spreading wetlands, serpentine rivers, and rich wildlife biodiversity. All the above are both valuable tourism resources and of high aesthetic and cultural value. In addition, it is an important herding base.

13. Ramsar Criteria:

Tick the box under each Criterion applied to the designation of the Ramsar site. See Annex II of the *Explanatory Notes and Guidelines* for the Criteria and guidelines for their application (adopted by Resolution VII.11). All Criteria which apply should be ticked.

☐ 1	☐ 2	☐ 3	☐ 4	5	☐ 6	☐ 7	8	9

14. Justification for the application of each Criterion listed in 13 above:

Provide justification for each Criterion in turn, clearly identifying to which Criterion the justification applies (see Annex II for guidance on acceptable forms of justification).

Criterion 1:

The Rouergai wetland is located in the upstream area of the Yellow River and the northeast of Qinghai-Tibet Plateau. It is the largest plateau marsh wetland of China as well as the largest plateau peat marsh in the world. It is regarded as a representative of Qinghai-Tibet Plateau’s alpine wetland ecosystems with a total water content of 1.73×10^9 m^3, and plays an importance role in conserving and supplying water sources and maintaining ecosystem balance in the upstream area of the Yellow River. The site is called as water tower of china which serves as the most important water supply area of the upper Yangtze River and Yellow River. (peat storage of 7 billion m^3. It is of great importance in regulating local climate, conserving water and soil, and reducing greenhouse effects.)

Criterion 2:

There are 3 species in the site included in IUCN Red List:

Species Latin name	Chinese name	Category in the IUCN Red List	CITES Appendix	CMS Appendix	Class of national protected animal
Cuon alpinus	Chai	EN	II		II
Haliaeetus leucoryphus	Yudaihaidiao	VU		I	I
Grus nigricollis	Heijinghe	VU	I	I/II	I

Criterion 3:

Due to lots of well conserved marsh meadows and marsh vegetations, this site is regarded to be a critical region for biodiversity conservation in China as well in the world. Totally, there are 362 wild plant species and 196 vertebrate species, among which there are 38 species of animals, 137 species of birds, 3 species of amphibians and 15 species of fishes. Lots of Chinese endemic species can be found, such as *Sinocarum coloratum* (referred as Zijingxiaoqin in Chinese), *Rheum palmatum* (referred as Zhangyedahuang in Chinese) and *Scrophularia chinensis* (referred as Xisuixuanshen in Chinese). Morover, there are 15 species that only exist in Tibetan Plateau including *Gymnodiptychus pachycheilus* (referred as Houchunluochongchunyu in Chinese), *Schizopygopsis pylzovi* (referred as Huangheluoliekaoyu in Chinese), *Gymnocypris eckloni* (referred as Huabanluoli in Chinese), *Chuanchia labiosa* (referred as Guchunhuangheyu in Chinese) and *Platypharodon extremus* (referred as Jibianbianyanchiyu in Chinese).

Criterion 4:

The unique geographic environment provides ideal roosting and breeding ground for waterfowls, because of which, the wetland becomes the most important habitat for birds' inhabiting and breeding in western China. Currently there are 65 species of resident birds, 19 species of summer migratory birds, 25 species of winter migratory birds and 28 species of passing birds. There are totally 85 species of birds living within this area, accounting for 62.04% of the all bird species.

Criterion 6:

This site is a main breeding ground for rare wild animals such as Black necked crane (*Grus nigricollis*). According to investigations, there were about 496 individuals, covering 6.2% of the total amount in the world (1% equals to 80 individuals) before 2006 winter's migration.

Criterion 7:

Fish here belong to the water system of the Yellow River, with the main fauna type of Tibetan plateau fish of the Central Asian plateau-mountain compound. According to the investigations, there are 15 species of fishes belonging to 1 order's 2 families. There are 5 genus of Schizothoracinae (totally 5 species), which are Gymnoliptychus Herzenstein, Gymnocypris

Gŭther, Schizopygopsis Steindachner, Chuanchia Herzenstein, Platypharodon Herzenstein, respectively. Fishes of Schizothoracinae and plateau loaches are the dominant species.

15. Biogeography (required when Criteria 1 and/or 3 and /or certain applications of Criterion 2 are applied to the designation):
Name the relevant biogeographic region that includes the Ramsar site, and identify the biogeographic regionalisation system that has been applied.

a) biogeographic region:

Qinghai-South Tibet sub-region, Qinghai-Tibet region, Palaearctic realm

b) biogeographic regionalisation scheme (include reference citation):

Zoogeography of China, Zhang Rongzu, 1999.

16. Physical features of the site:
Describe, as appropriate, the geology, geomorphology; origins - natural or artificial; hydrology; soil type; water quality; water depth, water permanence; fluctuations in water level; tidal variations; downstream area; general climate, etc.

Geography and Geomorphology:

The site has a geomorphology of alpine low-hill marsh. Hills are discontinuously located within this area, with the relative height of round knaps generally below 100 m. Wide and flat lands exist among the hills with openness of over 2 km (normally 5 to 6 km, the largest value of over 20 km). Because of widely distributed ravines and rivers, the water flow here is not straightway, thus result in large-scale marshes and lots of oxbow lakes. The geomorphology showed a pattern of high in the southeast and low in the northwest, with the maximal altitude of 3 704 m (Jiage in the west), the minimal altitude of 3 422 m (The confluence area of Saitangkuoze and Heihe) and the relative altitude difference of 282 m. Hills generally have altitudes between 3 500 m and 3 600 m.

The reserve is located at the trigonal-shaped confluent area formed by north-east tectonic line of Longmen mountain. north-west tectonic line of Daxueshan and east-west tectonic line of Qinling. It belongs to the transition area that locates between Qinling (east-west conformation) and Minjiang (south-north conformation). It has no apparent drape with the hidden rupture mainly of east-south and west-north bearing, and locally of south-north and west-east bearing. It is a kind of lowland herbaceous marsh evolving from Himalaya orogenic movement of the Quaternary Period.

Soil: Soil mainly consists of triassic slate, shiver, phyllite and quarternary deposits. The parent materials mainly include lacustrine sediments, alluvial deposits, diluvial deposits, slope deposits and residual deposits, which evolved to bog soil, sub-mountain meadow soil, mountain meadow soil, alluvial soil and aeolian soil.

Hydrography: This reserve belongs to the Yellow River basin. It is about 30 km far away from Yellow River in the west. Rivers of this area mainly includes Heihe River (another name is

Moqu) and its branch, Dashuiqu River. Heihe River has a total length of more than 600 km, a water flux of 33.5 m^3/s, and an average river slope of about 0.2‰. Its riverbed is wide and flat with bended channels. Heihe River has a weak water releasing ability. The general speed of water flow is 0.2-0.3 m^3/s.The estuary of Heihe River has an average annual water flux of 474 m^3/s. There are many oxbow lakes within this area. Relatively larger ones include Haqiu Lake, Cuolajian Lake and Nalongcuo Lake, with areas of 628.13 ha, 260 ha and 150 ha, respectively.

Large marshes are formed because of flat and low land surfaces and bad water fluidity. Underground water is mainly pore-water of quarternary period's incompact deposits, and there is no deep pressed water. Hidden water also mostly exist in quartermary's loosen layers including alluvial, diluvial and slope hidden water. Lands along No. 317 road (north to the reserve) belong to overflow region where the underground water level approaches or is higher than the ground surface. Some hidden water directly flow into marshes while others flow out of the land surface and then into marshes after inter-confluence.

Water level: Except the Heihe River, other rivers' water level vary less than 1 m. Close water bodies and valley water bodies mostly consist of large perennial water. Even hidden water that are distributed at two sides of those valleys have low water level of only 0.5-1 m. Hidden water in marshes is normally less than 1 meters away from the ground surface and the hidden water level would rise to the ground in rainy seasons.

Water quality: The water environment here is alkalescent. The pH value varies from 8.0 to 8.8 with a maximum value of 9.0. Water quality here is not very good. The bacteria content cannot match Chinese national standard on drinking water. But the underground water quality is relatively fine.

Lower stream area: Ruoergai wetland is a nature water reservoir which conserves water flowing from Yellow River. According to an investigation, after flowing passing this area, the runoff of Yellow River adds by 30% in rainy seasons and 40% in dry seasons.

Climate: The site is located in plateau cool-temperate humid climate zone. In spring the temperature increases slowly with frequent late spring coldness and a long thaw period. In autumn the rain comes with high temperatures. In winter it is cold, dry and windy with strong sunlight, little snow and great temperature difference between day and night. From May to October it is humid and rich in thunder storm and hailstone. The annual average temperature is 0.7^{0}C. The hottest month is July with an average temperature of 10.7 □. The coldest month is November with an average temperature of -10.7^{0}C. The annual temperature difference is 21.4^{0}C. The extremely high temperature recorded is 24.6^{0}C and the extremely low temperature is -33.7^{0}C. The accumulated temperature (≥ 5^{0}C) is 1014.6 ^{0}C and the accumulated temperature (≥10^{0}C) is 311.8 ^{0}C. The annual rainfall is between 493.6 mm to 836.7 mm with a relatively humidity of 78%. This area has long hour of sunshine with strong radiation. Gale days in a year totally reach to over 70 days with the highest wind speed of 40m/s. Disaster weathers mainly include drought, hailstone and gale.

17. Physical features of the catchment area:

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

The related catchment area of this wetland is about 5,000 km^2. Primary rivers include Heihe

River and Dashuiqu River. The catchment exhibits an alpine geomorphology. Soil types include bog soil, sub-mountain meadow soil, mountain meadow soil, sward alluvial soil and aeolian soil. The climate belongs to plateau cool-temperate humid type. It is cold, dry and windy with strong sunshine in winter. From May to October it is humid and rich in thunder storm and hailstone. The annual average temperature is 0.7^0C. The annual average rainfall is 656.8 mm and the annual average evaporation is over 1,200 mm. The main vegetation is alpine meadow, most of which are nature grasslands. Stock-raising is the main industry.

18. Hydrological values:

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

The reserve has a large area of wetlands. According the evaluation of China Wetland Monitoring Center, the total water conservation ability of this reserve reaches up to 1.9 billion m^3. Thus, it is called the water tower of China which serves as the most important water supply area of the upper Yangtze River and Yellow River. According to an investigation, water compensated to the upper Yellow River in drying season covers about 40% of its total water mass each year, while in rainy seasons it covers 30%.

19. Wetland Types

a) presence:

Circle or underline the applicable codes for the wetland types of the Ramsar "Classification System for Wetland Type" present in the Ramsar site. Descriptions of each wetland type code are provided in Annex I of the *Explanatory Notes & Guidelines*.

Marine/coastal:

A	B	C	D	E	F	G	H	I	J	K	Zk(a)

Inland:

L	M	N	O	P	Q	R	Sp	Ss	Tp	Ts	U	Va	Vt	W	Xf	Xp	Y	Zg	Zk(b)

Human-made:

1	2	3	4	5	6	7	8	9	Zk(c)

b) dominance:

List the wetland types identified in a) above in order of their dominance (by area) in the Ramsar site, starting with the wetland type with the largest area.

Vt: Tundra wetlands, with an area of 69 959 ha, covering 42% of the entire reserve

U: Non-forested peatlands, with an area of 54 341 ha, covering 32.6% of the entire reserve

Tp: Permanent freshwater marshes/pools, with an area of 19 988 ha, covering 12.0% of the entire reserve

O: Permanent freshwater lakes (over 8 ha), including several large oxbow lakes, with a total area of 1 247 ha, covering 0.75% of the entire reserve

M: Permanent rivers, with an area of 1 175 ha, covering 0.7% of the entire reserve

N: Seasonal/intermittent/irregular rivers/streams/creeks, with an area of 1 025 ha, covering 0.6% of the entire reserve

20. General ecological features:

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

According to the vegetation and bird distribution within this reserve, wildlife's habitat could be divided into three main types: marsh wetland, meadow and shrub, along with the variation of which, the flora and fauna show an obvious regular vertically distribution.

The major vegetation type is alpine meadow which usually has a distribution at hills, wide valleys and terraces. Its habitat usually has a characteristic of flat land, small slope and fine water drainage condition.Alpine shrubs usually distribute at the edge of wetlands or form mosaics with alpine meadows producing a steady vegetation type. Alpine shrubs are habitats of raptors and herbivorous birds. It could also provide forage to local farmers for grazing.

The plants of alpine meadow have rich species diversity. There are 20 species of noteworthy rare birds in this habitat, such as *Aquila chrysaetos*, *Gypaetus barbatus* and *Bonasa seweraowi*.

It is the inhabiting and breeding place of insectivorous bird and accipiter (Accipitridae, Falconidae, Motacillidae, Corvidae, Fringillidae, Strigidae, Phasianidae, etc.). It is also of great importance for local stock raising.

Wetland plant in the site mainly consists of marsh vegetations, accompanied by intrazonal vegetation type of aquatic plants. Marsh vegetation usually has a distribution at the riparian areas of the lakes on the valley bottoms.It serves as an important habitat for rare bird species such as black neck crane (*Grus nigricollis*) . Also, it provides local residents abundant fish resources. There also live 61 species of insects in the wetland which provides birds plenty of food.

21. Noteworthy flora:

Provide additional information on particular species and why they are noteworthy (expanding as necessary on information provided in 14, Justification for the application of the Criteria) indicating, e.g., which species/communities are unique, rare, endangered or biogeographically important, etc. ***Do not include here taxonomic lists of species present - these may be supplied as supplementary information to the RIS.***

According to Chinese flora division, the plant flora here belongs to Tibetan Plateau Alpine zone, Holarctic realm. There are 362 species (of 50 families' 165 genera) within this area. Main plant species include *Gramineae*, *Cyperaceae*, *Polygonaceae*, *Scrophulariaceae, Leguminosae* and *Cruciferae*.

The main plant type is Cyperaceae, dominated by *Carex muliensis* besides which there also live species of Ranunculaceae, Umbelliferae and Compositae. On the top of hills there usually exist deciduous alpine shrubs dominated by *Potentilla fruticossa* and *Lonicera tibetica*. Herbaceous plant type is of relatively abundance in shrub communities, the vegetation coverage of which is mostly less than 50% and there is no obvious dominating species.

The high vegetation coverage and mainly the reeds and shrubs in the plant communities give

animals divers habitats and ample food, help the wetlands to keep a relatively higher biodiversity and support the hydrological value.

22. Noteworthy fauna:

Provide additional information on particular species and why they are noteworthy (expanding as necessary on information provided in 12. Justification for the application of the Criteria) indicating, e.g., which species/communities are unique, rare, endangered or biogeographically important, etc., including count data. ***Do not include here taxonomic lists of species present - these may be supplied as supplementary information to the RIS.***

According to Chinese fauna division, the animal fauna here belongs to Qinghai-South Tibet sub-region, Qinghai-Tibet Plateau region, Palaearctic realm. The zoogeography type belongs to alpine meadow-grassland association. There are 7 species of wild mammals that under the second-class of national protection including otter, desert cat (*Felis bleti*), lynx and Tibetan antelope, among which otter and Tibetan antelope are of relatively abundance.

While bird fauna has the characteristics of typical Tibetan Plateau, such as *Grus nigricollis* (referred as Heijinghe in Chinese), *Larus brunnicephalus* (referred as Zongtou'ou in Chinese), *Columba leuconota* (referred as Xuege in Chinese), *Melanocrypha maxima* (referred as Changzuibailing in Chinese), *Pseudopodoces humilis* (referred as Hebeinidiya in Chinese) and *Montifringilla taczanowskii* (referred as Baiyaoxueque in Chinese). There are 7 species under the first-class of national protection, 20 species under the second-class of national protection.

23. Social and cultural values:

a) Describe if the site has any general social and/or cultural values e.g., fisheries production, forestry, religious importance, archaeological sites, social relations with the wetland, etc. Distinguish between historical/archaeological/religious significance and current socio-economic values:

The unique ecosystems, colorful Tibetan culture, sinuous rivers and abundant wildlife resources together form the beautiful and amazing plateau landscape. They are not only tourism resources, but also of great aesthetic value and culture value, which together make them of high ecotourism value. According to the census, the number of tourists that came to the wetland from 2005 to 2006 was nearly 300,000.

Rouergai is one of the five largest pasturing areas in China. The grassfield area per person is 23.39 ha. The land use type here is simple pasture land. The natural vegetation composed the main primary production and does a great deal to the local economy.

b) Is the site considered of international importance for holding, in addition to relevant ecological values, examples of significant cultural values, whether material or non-material, linked to its origin, conservation and/or ecological functioning?

NO

If Yes, tick the box and describe this importance under one or more of the following categories:

i) sites which provide a model of wetland wise use, demonstrating the application of traditional knowledge and methods of management and use that maintain the ecological character of the wetland:
ii) sites which have exceptional cultural traditions or records of former civilizations that have influenced the ecological character of the wetland:
iii) sites where the ecological character of the wetland depends on the interaction with local communities or indigenous peoples:
iv) sites where relevant non-material values such as sacred sites are present and their existence is strongly linked with the maintenance of the ecological character of the wetland:

24. Land tenure/ownership:

a) within the Ramsar site:

State ownership, local government and the reserve have the right to use.

b) in the surrounding area:

State ownership, local government has the right to use.

25. Current land (including water) use:

a) within the Ramsar site:

All the lands within the site belong to the Ruoergai National Nature Reserve.

Core area: 65,051 ha, accounting for 39% of the total reserve. This region mainly consists of marshes and lakes where human and animals cannot pass through. It is the inhabiting and breeding ground for the rare birds such as back neck crane, as well as the main scientific monitoring site.

Buffer area: 64,389 ha, accounting for 39% of the total reserve. This region mainly consists of marshes and grassland. It is the main feeding ground for the rare birds back neck crane. The main human activity is seasonal stocking under control.

Experiment area: 37,130 ha, accounting for 22% of the total reserve. This region mainly consists of marshes and grasslands. The main activity here is stocking.

b) in the surroundings/catchment:

The surroundings mainly consist of semi-wet marshes and grasslands. The main activity is stocking. There lies Kaha’erqiao County wetland reserve, Hongyuan-Riganqiao provincial wetland reserve and Maqu provincial wetland reserve in the surroundings. Seldom direct human activities could be found.

26. Factors (past, present or potential) adversely affecting the site's ecological character, including changes in land (including water) use and development projects:

a) within the Ramsar site:

Due to several natural reasons (global warming, rainfall reducing, etc), the wetland in the

reserve has been shrinking, and there exists land desertification. The reserve and its surroundings experienced drainage to increase grassland areas, which resulted in the decreasing of marsh areas and the loss of some marshes' function of waterfowls' habitats. The nature reserve held the trends of degradation after its foundation.

b) in the surrounding area:

Due to over-stocking on marshes and meadows in part of the surrounding area, the environment has been harmed and the land has been becoming desertification, which result in negative influences on wildlife's food seeking and breeding.

27. Conservation measures taken:

a) List national and/or international category and legal status of protected areas, including boundary relationships with the Ramsar site:
In particular, if the site is partly or wholly a World Heritage Site and/or a UNESCO Biosphere Reserve, please give the names of the site under these designations.

In 1994, Ruoergai County Nature Reserve was founded. In 1998, it was promoted to a national reserve and had a new name of Ruoergai Wetland National Nature Reserve. In 2001, Management Bureau of Ruoergai Wetland National Nature Reserve was set up.

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

Ia; Ib; II; III; IV; V; VI

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

In 2002, the State Forestry Administration (SFA) authorized the first stage construction of this reserve, and 7.3 million RMB were invested, 5 protection stations, bird banding stations, mere stones, propaganda boards and necessary facilities for the restoration of 10000 ha's wetlands.

In 2006, the National Development and Reform Commission (NDRC) authorized the wetland protection construction. The goal of this construction includes: comprehensive treatment of 430 ha sandy lands, construction of fence of 3000 ha around the core region, construction of 27 km's fence around the reserve's boundary, construction of a wetland education and communication center and a protection center for wildlife, construction of microclimate monitoring station, purchase of official vehicles, etc.

Management measures mainly are as the following: firstly, considering the large area of this site, a vertical management system (management bureau-protection sites) was established and entire reserve was divided the into three management regions (core region, buffer region, experiment region); secondly, a regular protection system and annual work plans were set up, more emphasis was placed on the protection of the key areas; thirdly, co-protection measure was take with local government and residents, with whom a no-stocking agreement was made during every march to June.

d) Describe any other current management practices:

To limit exploitive activities towards wetland resources, Ruoergai County government announced a law against fishing in Ruoergai Wetland National Nature Reserve in 2007.

An experiment of wetland restoration was conducted, and 10000 ha of wetland have been restored.

By taking advantage of the inter-restricting relationship between predatory and herbivore animal populations, man-made nests for Accipiters were constructed to increase their numbers, control the population of rodents, and prevent the grasslands from degradation.

28. Conservation measures proposed but not yet implemented:

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

The Municipal People's Congress of Aba autonomous Prefecture is working to constitute "Wetland Protection Rule of Sichuan Aba Autonomous Prefecture".

The ecological migration project of Ruoergai wetland's core region is under preparation.

29. Current scientific research and facilities:

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

In collaboration with Chengdu Institute of Biology, CAS, the reserve successfully established Ruoergai Alphine Wetland Monitoring Station in 2000. Annually 300,000 to 500,000 RMB were invested.

In collaboration with Chinese Academy of Science (CAS), the reserve successfully established Ruoergai Alpine Wetland Research Station in 2003 and 3.2 million RMB were invested.

In collaboration with Chengdu Institute of Biology, CAS the reserve successfully finished the field monitoring in 100 plots in 2005, and enhanced monitoring for amphibian animals and wetland monitoring after restoration.

Since 2000, the Reserve cooperated with Bird Banding Center of State Forestry Administration, International Crane Foundation, Kunming Institute of Zoology.CAS to promote monitoring and research towards *G. nigricollis*' living habits within the reserve.

Since 2006, China began to promote national epidemic disease monitoring system and established a disease monitoring center in the reserve. Facilities of field sampling, protection, testing and monitoring, including moto vehicles, telescopes, etc., have been purchased. Three monitoring towers, 6 permanent publicizing boards and 24-km field roads have been constructed.

30. Current communications, education and public awareness (CEPA) activities related to or benefiting the site:
e.g. visitors' centre, observation hides and nature trails, information booklets, facilities for school visits, etc.

To set up a platform for national and international communication and enhance people's awareness of environmental protection, 1.8 million RMB (approximately 300,000 Swiss Francs) were invested to construct Ruoergai Wetland Education and Communication Center (1,300 m^2), 1.2 million RMB (approximately 200,000 Swiss Francs) were invested to construct the Wildlife Protection Center (900 m^2) in 2007. Over 3,000 copies of propaganda brochure and CD were produced in 2006. Annually, over 3,000 copies of propaganda materials (in both Chinese and Tibetan) would be published.

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

Led by local government, seasonal tourism activities with the main form of bird watching and wetland landscape view have been developed in the experiment region, under the condition that the wetland ecological environment and bird habitats are well protected. Beside the national street 213 which is located at the north edge of the reserve, the reserve built tourism facilities. The number of tourists coming to the Reserve reached to 300 thousand each year in 2005 and 2006, respectively. Moreover, this site is also a research and education base of many research institutes and universities such as Chinese Academy of Forestry Science, Chengdu Institute of Biology, CAS, Sichuan Academy of Forestry Science, Kunming Institute of Zoology, CAS, Sichuan Agricultural University and Sichuan Normal University.

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

Territorial: Ruoergai County Government.
Functional: Sichuan Forestry Agency under the superior of State Forestry Administration.

33. Management authority:
Provide the name and address of the local office(s) of the agency(ies) or organisation(s) directly responsible for managing the wetland. Wherever possible provide also the title and/or name of the person or persons in this office with responsibility for the wetland.

Institution: Bureau of Sichuan Ruoergai Wetland National Nature Reserve
Principal: Zhake (director general)
Address: Maixi Road, Dazhasi Town, Ruoergai County, Aba Autonomous Prefecture, Sichuan Province.
Tel: +86-837-2292822
Fax: +86-837-2292822

34. Bibliographical references:

Scientific/technical references only. If biogeographic regionalisation scheme applied (see 15 above), list full reference citation for the scheme.

[1] Zeng Zhaowen, Hu Yonghai, Guo Dongxu, Li Xiaomin. 2003. The status and conservation of Cranes in China. Territory & Natural Resource Study, 2: 79-81.

[2] Li Fengshan, Ma Jianzhang. 2003. Behavioral ecology of Black Necked Crane during winter at Caohai, Guizhou, China. ACTA ECOLOGICA SINICA, 3: 293-298.

[3] Zhao Zhengjie. 1995.Chinese Birds (first half). Changchun: Jilin Science & Technology Press.

[4] Zhao Zhengjie. 2001.Chinese Birds (second half). Changchun: Jilin Science & Technology Press.

[5] Zhang Rongzu, etc. 1997. Chinese Mammal Distribution. Beijing: China Forestry Press.

[6] Zhang Rongzu. 1999. Zoogeography of China. Beijing: Scienc Press.