

Information Sheet on Ramsar Wetlands

(RIS)

Name of the Site: Dashanbao Wetland

Information Sheet on Ramsar Wetlands (RIS)

Categories approved by Recommendation 4.7, as amended by Resolution VIII.13 of the Conference of the Contracting Parties.

Note 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. Once completed, the RIS (and accompanying map(s)) should be submitted to the Ramsar Bureau. Compilers are strongly urged to provide an electronic (MS Word) copy of the RIS and, where possible, digital copies of maps.

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

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Designation date Site Reference Number

2. Date this sheet was completed/updated:

October 5, 2004

3. Country:

The People's Republic of China

4. Name of the Ramsar site:

Dashanbao Wetland

5. Map of site included:

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

a) **hard copy** (required for inclusion of site in the Ramsar List): yes -or- no

b) **digital (electronic) format** (optional): yes -or- no

6. Geographical coordinates (latitude/longitude):

N 27°18'-27°29', E 103°15'-103°24'

7. General location:

Include in which part of the country and which large administrative region(s), and the location of the nearest large town.

Dashanbao Wetland is in the Dashanbao Township of Zhaoyang District, Zhaotong City of Yunnan Province. The wetland is situated with Longshu Township of Ludian County to the east, Shuimo Township and Suoshan Township of Ludian County to the south, Yanshan Township of

Zhaoyang District in the west and Dazhai Township of Zhaoyang District in the north. It is 79 km. to the urban district of Zhaoyang District, Zhaotong City.

8. Elevation: (average and/or max. & min.)

Average: 3,200m;

max.: 3,364m; min.: 2,210m;

9. Area: (in hectares) 5,958 ha

10. Overview:

Provide a short paragraph giving a summary description of the principal ecological characteristics and importance of the wetland.

Dashanbao Wetland is at the junction between Jiansha River and its tributary Niulan River integrating water, swamp and meadow. It is a unique wetland in China as well as an important ecologic barrier of the Yangtze River system. It is also a habitat for the protected and national Grade-I rare and endangered species, Black-necked Crane *Grus nigricollis*. The population of this species represents one fifth of the total world population. The wetland is a sub-alpine swamp meadow and an important wintering habitat of *Grus nigricollis* on Yunnan-Guizhou Plateau.

11. Ramsar Criteria:

Circle or underline 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).

1 • 2 • 3 • 4 • 5 • 6 • 7 • 8

12. Justification for the application of each Criterion listed in 11. 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 2: Dashanbao Nature Reserve is a natural sub-alpine meadow ecosystem and a wintering habitat for the Black-necked Crane *Grus nigricollis*.

Grus nigricollis is a national Grade-I species for protection and only crane living on plateau among the 15 kinds of cranes. In 1994, it was rated as a species easy to be endangered (V) by IUCN; in 1995, it was listed in Annex I of the CITES; and in 1996, it was included in the "Red Book on China's Endangered Animals" by the Endangered Species Scientific Committee of the P. R. China.

Criterion 3: According to the survey made on January 8, 2000, total 732 *Grus nigricollis* were found, i.e. 402 adults (54.92 % of the total), 305 juveniles (41.6% of the total) and 25 old or isolated ones (3.41% of the total). The composition shows that this is a growing species group. The wintering stage at Dashanbao starts from October to next April, about 176-202 days. In 2002, the number of *Grus nigricollis* wintering at Dashanbao Wetland was 930 increasing to 1,051 in 2003 and 1,176 in 2004.

Criterion 4: Dashanbao Wetland is situated at the migration route and is a roosting and wintering site for many migratory birds, such as *Mergus squamatus*, *Ciconia nigra*, *Grus grus*, *Cygnus* *Cygnus* wintering or staging here.

Criterion 6: Dashanbao nature reserve has the highest concentration of *Grus nigricollis* in unit area than other regions in China. There are totally 6,000 *Grus nigricollis* in the world, 96% in China. In January, 2003, Yunnan Provincial Forestry Department, International Crane Foundation and Guizhou Provincial Environmental Protection Bureau investigated random 45 spots in accordance with "Agreement on Cooperative Survey of Cranes and Large Water Birds on Yunnan-Guizhou Plateau". The result shows that the number of *Grus nigricollis* in has increased to 1,176 in 2004 or 19.6% of world population. This population grew from a declining trend observed few years before, e.g. in 1990, *Grus nigricollis* population was only 350; the maximum estimate of present population is 1300.

13. 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

Dashanbao Wetland biogeographic region is in Central China (VI); sub-tropical forest (01); Guizhou Plateau (01a) and sub-tropical region in northeast Yunnan.

b) biogeographic regionalisation scheme (include reference citation):

The biogeographic zoning is done according to China's Biogeographic Zoning (Xie Yan, 2004) and Yunnan Province Biogeographic Zoning (Yang Yuming, 2003).

14. 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.

Geology and Physiognomy

Dashanbao Wetland is situated at Wulianfeng Mountains at north-east Yunnan Province. It is the main peak and is the mountainous plateau formed due to structural erosion. The elevation is between 3,000- 3,200m., the top elevation is Keche Liangzi 3,364m.), the minimum elevation is the junction between Banpo Village and Ludian County (2,210m.), and the relative height difference is 1,154m. The mountain is composed of limestone and basalt in the Paleozoic erathem and sandstone in the mesozoic erathem.

Origin

Dashanbao Wetland has a natural origin. It is a part of quasi-plain in the early tertiary, and a mountainous plateau terrain was formed due to the powerful cutting by Jiansha River, Hengjiang River and Niulan River along with the uplift of the earth's crust; but a mild high plateau surface is kept at the peak. The reservoir in the wetland is human-made.

Hydrology

Dashanbao is the cradle of many rivers and all belong to the Jinsha River system on the upstream of Yangtze River. There are many upland swamp meadows and thousands of underground springs with good water quality, which form an area of 3,150 ha plateau wetland.

Soil types and their chemical properties

The major soil types are peat soil and marshy soil. The organic content is rich, 20% in average; the whole nitrogen content is about 2%; the soil is alkaline (pH 8.2); the available nutrient content is low.

Water quality

According to sample testing of Water Environment Monitoring Department of Yunnan Province, the water quality in the reserve is fine, the water temperature is 6.0°C, the pH value is 8.2, no pollution from pesticide, production or domestic sewage. The water quality has the national Grade-I water standard and of potable quality.

Water depth

The average water depth is 0.8-3 m. owing to the regulation by the underground water, and the water is not dried at all seasons.

Climate

Dashanbao Nature Reserve is of a warm plateau monsoon climate with cold winter and cool summer. The mean annual temperature is 6.2°C, the mean air temperature in January is -1°C, in July is 12.7°C and the accumulative temperature $\geq 10^\circ\text{C}$ is 798°C. The time of sunshine is long and the yearly hours of sunshine are 2,200- 2,300 h. Annual frostless season on average is 123 days with minimum 84 days. Annual rainfall is 1,165 or 88% during May- October and yearly 34.6 days of snow.

15. Physical features of the catchment area:

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

The geology and geomorphological features of the catchment area are the same as above. The soil types are as follows from high elevation to low elevation:

- (a) Sub-alpine meadow soil (marshy soil partly) (above 3,000m): thin soil layer, high content of gravel, low fertility, and direct transition from Layer A to Layer C and D due to undergrowth of Layer B. There are certain marshy soils at the lower part of meadow and around reservoir, which is developed from the sedge peat of ancient lakes. The surface layer is humidified, the under layers are composed of peat or gleized to form the black peat layer or grey layer with a rich content of soil organic matter;
- (b) Brown earth (2,800- 3,000m): uneven thickness of soil and certain fertility;
- (c) Yellow brown earth (2,200-2,800m): it is a transitional soil within the range of the reserve, deep and fertile.

The land utilization types are grassland and woodland as well as some farm lands; the climate is warm plateau monsoon climate (refer to section 14).

16. Hydrological values:

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

Dashanbao is a important wetland in term of water source for Hengjiang, with function of combating soil erosion in Jinsha and Niulan River valley. There are numerous underground springs in the wetland, which can supplement the ground water and provide water to the

downstream and peripheral localities. It can intercept the sediment and reduce flood and debris flow disasters in the downstream. Moreover, the rich water resources maintain the wetland biodiversity and provide good natural conditions for the wintering of *Grus nigricollis*.

17. 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.

U - Va -Ts

18. General ecological features:

Provide further description, as appropriate, of the main habitats, vegetation types, plant and animal communities present in the Ramsar site.

There are many wetlands in Dashanbao Nature Reserve, and the larger ones are at Tiaodun River, Dahaizi, Lelizhai, Qinjia Haizi and Yanmaidi reservoir. Water quantity in Tiaodun River and Dahaizi usually change greatly with seasonal variations, which cause the area of wetland along the valley increase in rainy season and shrink in winter. In winter, the transitional water area increases along with the recession of level, and such places become good habitats of *Grus nigricollis*. The small-area wetlands developed by spring vents are found everywhere on the hillside and important sites for *Grus nigricollis* for food and movements at daytime.

Along with the soil moisture changes, the wetland is transiting from aquatic environment to xeric environment, and the overall wetland ecosystem is a typical ecotone dominated by the water factor. The different plant ages, climatic conditions, elevations and landforms decide the ecological features of specific areas.

There are few sub-merged vegetation and emerging vegetation at the existing wetland environment.

1. There is shallow water vegetation that gives priority to *Poa annua* Linn and *Geum aleppicum* at the shallow water area.
2. There are *Cyperus serotinus* and water pepper in shallow water of rivulets regionally, which are aquatic ecosystems. Wetlands dominate which are often flooded by shallow water.
3. Beyond the shallow water, the typical meadow soil is saturated with water, but it is usually not flooded by water. In this environment, there are *Eleocharis congesta*, *Eleocharis yokoscensis*, etc..

4. *Iris laevigata* appears at certain sections.

The wetland covers a large area, the organic substance is rich, and the soil layer is thick and elastic.

On the slopes of wetlands transitioning to upland, the soil moisture is declining gradually. The soil is transforming from meadow soil to brown soil, and the vegetation is changing from mesophyte to artificial grass. The coenotype here is secondary shrubberies, tamed pasture and cultivated land. No adventitious species are found until now.

There are wetland, meadow and farm land in the reserve, which provides a good habitat for *Grus nigricollis* and other water birds and animals. There are lots of juvenile fishes, shrimps and insects in the shallow water and swamp of the reservoir, and plants and crops on the meadow provide animals, *Grus nigricollis* for instance, with abundant and multiple food sources and form stable food chain ecosystem.

19. Noteworthy flora:

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. *Do not include here taxonomic lists of species present – these may be supplied as supplementary information to the RIS.*

In Dashanbao Wetland, there are 186 species of vascular plants in 140 genera of 56 families, including 11 species of Pteridophyta in 10 genera of 9 families and 175 species of seed plants in 130 genera of 47 families. The biggest family is Poaceae (19 genera and 20 species); Rosaceae (12 genera and 18 species); Compositae (7 genera and 10 species); and Cyperaceae (6 genera and 10 species).

20. 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.*

There are 7 kinds of national Grade II animals for protection, including Common Crane (*Grus grus*), Northern Goshawk (*Accipiter gentiles*), Black Kite (*Milvus migrans*), Northern Sparrow Hawk (*Accipiter nisus*), Hen Harrier (*Circus cyaneus*), Barred Owllet (*Glaucidium cuculoides*), White-tailed Sea Eagle (*Haliaeetus albicilla*).

21. Social and 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.

Dashanbao is the dominant peak of Wulianfeng in the northeast Yunnan and there is intact and extensive sub-alpine meadow on the high plateau. There are flowers in spring, green grass in summer, golden color in autumn and silver appearance in winter. In autumn and winter, groups of *Grus nigricollis* fly here bringing along vitality to the grassland and lakefront. The wetland is

suitable for seasonal tour, including sightseeing, tourism for generalizing popular science and recreational travel.

The reserve has high value for scientific research because of the following reasons:

- Dashanbao is a peat moor in the sub-alpine swamp meadow, and has a high value for protection and use;
- Dashanbao has multiple habitats and the existing wetlands can be used for reference during wetland ecology recovery;
- The migration and wintering of *Grus nigricollis* at Dashanbao is quite important for the study of cranes
- In the reserve, the water birds get along well with local people, which is valuable for cultural and aesthetic study.

The people living in the Dashanbao nature reserve has the tradition of loving and protecting cranes, and a harmonious coexistence situation has been formed. For quite some time, the local people have been regarding the *Grus nigricollis* as magic birds, and they will hold a memorial ceremony if *Grus nigricollis* is hunted and killed. *Grus nigricollis* are living here peacefully under the protection of this custom.

22. Land tenure/ownership:

(a) within the Ramsar site:

The Dashanbao nature reserve has clear boundary and definite ownership without any dispute over the boundary demarcation. The Nature Reserve has the full state land use rights and has received the state land use permit from Zhaotong Municipal Land Management Bureau (Zhao Shi Guo You 2001 NO. 111222).

(b) in the surrounding area:

The Dashanbao Nature Reserve relates to 7 townships, the land is state-owned, but the collectives have the right of use (Zhao Shi Guo You 2001 No. 111222).

23. Current land (including water) use:

(a) within the Ramsar site:

In Dashanbao Wetland, the water area is not large but well protected, and it is only providing irrigation water to the downstream. The swamp and meadow are used for seasonal grazing.

(b) in the surroundings/catchment:

The pasture land around the wetland is 8,740ha, the woodland is 3,100ha, the cultivated land is 4,200ha and the market towns and roads are 150ha.

24. 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:

The protection and control measures are effective and there is no negative factor that affects the wetland ecology.

(b) in the surrounding area:

The local people are accustomed to stocking, while overgrazing may have an influence on the renewal and recovery of muskeg.

25. Conservation measures taken:

List national category and legal status of protected areas, including boundary relationships with the Ramsar site; management practices; whether an officially approved management plan exists and whether it is being implemented.

Dashanbao *Grus nigricollis* Nature Reserve was founded in 1990, and was promoted to a National Reserve in 2003. The total area is 19,200ha and the wetland is completely within the range of Nature Reserve. The protective measures adopted are as follows:

(1) Local regulations are established to normalize and standardize the protection works. Along with the establishment of Dashanbao National Nature Reserve, Zhaotong People's Government released the "Management Method for Dashanbao *Grus nigricollis* Provincial Nature Reserve", which was put in force on June 1, 2003 and boosted the protection works.

(2) The project of returning land for farming to forestry (grass) is practiced to recover the wetland and ecology. Dashanbao Nature Reserve has an open landform and *Grus nigricollis* mainly find food on pasture land and moorland. In order to expand the foraging area, the Nature Reserve adopted many measures jointly with the Municipal Party Committee and government of Dashanbao Township, such as fixing the cultivated land at the core region, protecting wild wood, returning land for farming to forestry or grass, restoring the marsh through water storage and prohibiting deforesting and opening up wasteland. In 2002, by combining the national policy of returning land for farming to forestry (grass), the area of forestation and grass plantation reached 879 ha in the nature reserve, including 167 ha of land for farming being returned for forestry. In 2003, forestation and grass plantation in the reserve was 1,508 ha, including 508 ha land for farming returned to forestry. Meanwhile, the villagers in the reserve can get cash allowance of 202,500 yuan and 1,518,750 kg of grain from the country for 8 years. In this way, a wider space is provided to *Grus nigricollis* for their smooth wintering, and the local people have settled the problem of dressing warmly and eating enough and gained more income.

After the Nature Reserve was established, effective measures were taken to recover the wetland and meadow under the support and concern of local governments at various levels, and now capital and grain are provided by the state for returning farming land to forestry. The grass plantation area was 758.6ha in 1999, the area of returning land for farming to grass was 166.7 ha in 2002 and 533.3 ha in 2003.

(3) Relocation of local people is implemented to provide home to *Grus nigricollis*. In order to protect *Grus nigricollis* and Dashanbao more efficiently, the Municipal Party Committee and the municipal government as well as the district party committee and district government decided to relocate the 3,245 people in 759 households in the core space of the reserve to Jiancheng County, Simao District, Yunnan Province. From March 2001 to now, 1,337 people in 332 families of 8 communities have been emigrated from Tiaodun River, and the total number of emigration is expected to be 3,245 people in 758 families. The remaining residents will be totally emigrated within the 3 years. The original cultivated land will be reverted to grassland completely in order to expand the inhabit environment of *Grus nigricollis*.

(4)The management is strengthened to protect the wetland resources efficiently. Control station and police station have been set up in the reserve with 11 managerial personnel and 3 temporary personnel. Presently, Dashanbao Nature Reserve administration is being prepared to be established. In order to further divide the supervisory works and to carry them out, Dashanbao Nature Reserve and the People's Government of Dabaoshan Township jointly released the Notice on Prohibiting Pasturage at Dahaizi, Tiaodun River, etc. on January 15, 2004 and have

established the work rules and the responsibilities of each post. The administration established watch system and regular patrol system, and some core areas, such as Dahaizi, Longjia Dadi, Tiaodun Rive, Shuidaoliu and Lelizhai, will be patrolled and managed every 3 days. The problems found during the patrol and the life habit of *Grus nigricollis* are all recorded in the daily log, which will serve as a basis for the establishment of protection route in the next step.

The area of wetlands in Dashanbao is 3,000 ha in all, and they are both the wintering habitat of *Grus nigricollis* and the place where villagers get their fuel (peat). To prevent the wetlands from being damaged, the following measures are adopted:

- villagers are organized to plant trees in order to get more fuel wood in rural areas;
- energy conservation stove used for daily cooking to save the wood;
- patrol and management is strengthened to avoid malice destruction;
- returning land for farming to wetland, planting grass and expanding the wetland area;
- since the 1990's, the district government has allocated 130,000 yuan yearly for coal subsidy to local villages. Through such measures, the trend of wetland reduction is stopped and the area is even recovered and expanded. It is positive for improving the ecologic environment of the reserve and guarantees the wintering habitat of *Grus nigricollis*.

(5) All kinds of media are utilized to publicize the importance and value of protecting *Grus nigricollis* and their habitat. At the evening of March 18, 2003, an introduction of Dashanbao Nature Reserve was played on the western channel of CCTV for half an hour, as well as a special documentary film on the protection of *Grus nigricollis* by local people. Since the reserve was founded, 24 *Grus nigricollis* have been saved and have been returned to the nature.

(6) "China Zhaotong *Grus nigricollis* Protection Volunteers Association" was founded and there are 150 members, including scholars, experts, press correspondents, teachers, middle school and primary school students, retired cadres, etc. both at home and abroad. *Grus nigricollis* photography exhibition was held as part of the campaign.

(7) "Master Plan for Yunnan Dashanbao *Grus nigricollis* National Nature Reserve (2003-2012)" (include the management plan) passed the valuation in June, 2003.

26. Conservation measures proposed but not yet implemented:

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

(1) Environmental construction: during the course of implementing the policy on protecting wild wood, returning land for faming to grass and recovering and expanding the wetland and meadow is programmed. The recovered area of swampland is 312 ha, and 500 ha of land for farming are returned to grass.

(2) Water quality protection: the crop farming, aquaculture and manufacturing in the reserve operate without causing public nuisance.

(3) *Grus nigricollis* protection:

- Construction of observation and monitoring station: an observing and monitoring station will be built at Dahaizi and Tiaodun River respectively and a watch tower will be built on Jigong Mountain

- *Grus nigricollis* aid station: an aid station for *Grus nigricollis* will be constructed at Dashanbao to provide emergency service to cranes if needed.
- Construction of 5 food sources for *Grus nigricollis*, which are 15 ha.
- 8 food supply points will be set, which will be supplemented before snow coverage and leaving of cranes.

(4) Traffic and patrol: automobiles need to be added and roads need to be reconstructed, and patrol roads and posts are required to be added.

In addition, it is suggested to develop concrete regulations for wetland restoration and to make investment correspondingly with the practical situation of Dashanbao Wetland. For instance, the treatment given to returning farming land to forests should also be applied to the return of farming land to wetland, the compensation mechanism for ecological benefit of the wetland should be established and illegal acts should be regulated in detail in the "wetland protection regulations" together with the punishment measures.

27. Current scientific research and facilities:

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

- The satellite tracking monitoring and ecological assessment of wintering habitats of *Grus nigricollis* conducted by Kunming Institute of Zoology, CAS in 2004-2005;
- Research on the Dashanbao Wetland community, education and biodiversity protection conducted by Yunnan Normal University in 2004;
- Dashanbao *Grus nigricollis* nature reserve scientific expedition conducted by Yunnan University in 2000;
- Master plan for Dashanbao *Grus nigricollis* nature reserve made by the Forest Survey and Design Institute of Yunnan Province in 2001;
- Survey of the wintering of *Grus nigricollis* on Yunnan-Guizhou Plateau conducted by the ICF, Yunnan Provincial Forestry Department, and Kunming Institute of Zoology jointly in 2001;
- Survey of the wintering of *Grus nigricollis* on Wulianfeng conducted by Zhaotong City in 1998;
- The master plan for Dashanbao *Grus nigricollis* national nature reserve and feasibility study on capital works conducted by the Forest Survey and Design Institute of Yunnan Province in 2003;
- Muskeg investigation conducted by Kunming Institute of Botany, CAS in 2004.

As for the research equipment in the reserve, there is only one patrolling vehicle and simple observation device for routine bird observation, and therefore, some in-depth scientific researches, such as habitat environmental change, biological property of rare species, etc. cannot be conducted. In addition, there is no well-trained scientific and technical group and professionals of different disciplines that can make scientific efforts in the reserve for long term.

28. Current conservation education:

e.g. visitors' centre, observation hides and nature trails, information booklets, facilities for school visits, etc.

Propaganda & education is the best way to raise people's consciousness of protecting natural ecosystem. In recent years, the nature reserve has sent 6 men to Mai Po Wetland in Hong Kong

and universities in Beijing for managerial knowledge training, and the promotional pamphlets and posters were also distributed. Various types of training classes are given, lectures on environmental protection are given at the city-level, district-level and each middle school and primary school, and some students are organized to observe cranes at the reserve, which are quite effective.

Through the far-reaching propaganda & education, the people in the reserve are convinced of the importance of protecting *Grus nigricollis* and the wetland and actively participate in the protection. 73 injured or ill *Grus nigricollis* were cured, and 13.4 ha land for farming was returned to wetland, which expanded the living space of *Grus nigricollis* and contributed to the protection of *Grus nigricollis* and wetland.

Presently, there is no visitors' centre or educational centre, which is needed for the protection of wetland ecosystem.

29. Current recreation and tourism:

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

There is no tourism or recreational activities in Dashanbao and only popular science generalization and scientific research services are provided.

30. Jurisdiction:

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

(1) Territorially, Dashanbao Wetland is managed by Yunnan Zhaotong Municipal People's Government.

(2) Functionally, it is controlled by the State Forestry Administration, Yunnan Provincial Forestry Department, Zhaotong Bureau of Forestry and the Nature Reserve Administration.

31. 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.

The local office directly responsible for managing the wetland is the Dashanbao National Nature Reserve Administration; address: Nanjiao Wenquan, Zhaoyang District, 657000, Zhaotong City, Yunnan Province; director: Zhong Xingyao, who is in charge of the current management of Dashanbao Wetland.

32. Bibliographical references:

scientific/technical references only. If biogeographic regionalisation scheme applied (see 13 above), list full reference citation for the scheme.

1. Yunnan Provincial Forest Survey and Design Institute, "*Master Plan for Yunnan Dashanbao Grus nigricollis National Nature Reserve*" (2003-2012), April, 2003.
 2. Yunnan University "*Yunnan Dashanbao Grus nigricollis Nature Reserve Scientific Expedition reports*", February, 2001.
 3. Zhaoyang District People's Government, "*Zhaoyang District Year Book- 2002*", 2003.
 4. Yan Xie "Study on Biographical Division of China. Biodiversity and Conservation" 13:1391-1471.
 5. Yang Yuming, *Yunnan Biogeographic Zoning* (doctorate dissertation).
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