Information Sheet on Ramsar Wetlands

(RIS)

Name of the Site: Eling Lake

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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DD MM YY

Designation date | Site Reference Number

2. Date this sheet was completed/updated:
10/10/2004

3. Country:
The People's Republic of China

4. Name of the Ramsar site:
Eling Lake

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):
34°56'N, 97°43' E

7. General location:
Include in which part of the country and which large administrative region(s), and the location of the nearest large town.
The site is located at south-middle of Qinghai Province, about 530 km. away from the south-west of Xining, capital of Qinghai Province. The population of Zhaling Lake township is 1800.

8. Elevation: (average and/or max. & min.):
4268.7m

9. Area: (in hectares):
65,907hectares

10. Overview:

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

Eling Lake, the first largest freshwater lake in the Yellow River catchment, was formed by faulting and falling of the landscape. Eling Lake plays an important role in regulating run off of the Yellow River. It also serves as an ideal habitat for many high plateau rare fish and water fowl species.

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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

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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 1: This wetland is rich in hydrological resources. It plays an important role in regulating the water for the upstream of Yellow River, retaining sediments, improving water quality, preventing flooding and mitigating the local climate.

Criterion 2: Eling Lake supports globally endangered national Grade I Protection and IUCN Red List 2004 species *Grus nigricollis*.

Criterion 3: The wetlands, the peninsular around the lake and water areas provide good habitats for gulls, ducks and geese as well as other water birds. Key species include Bar-headed Goose *Anser indcus,* Great Black-headed Gull *Larus ichthyaetus,* Great Cormorant *Phalacrocorax carbo*, Black-necked Crane *Grus nigricollis*, and Brown-headed Gull *Larus brunnicephalus* etc.

Criterion 7: In the lake some species of fish could be seen such as *Gymnocypris eckloni* Herzenstein *and Gymnodiptychus ptychocheilus* Herzenstein etc. Some of them are endemic to Qinghai-Tibetan Plateau and they have high values of scientific researches and conservation.

Criterion 8: This lake is the main food base and breeding habitat for 8 key fish species.

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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:
Semi-arid region, Tibetan plateau sub-frigid zone.

b) biogeographic regionalisation scheme (include reference citation):
The above biogeographic region is derived from the National Physical Geography Atlas of China, published by the Atlas Press of China in 1999.

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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 geomorphology:
Eling Lake is situated at a wide basin of the upper reaches of the Yellow River lying in the south Buqingshan Mt. and the north of Bayankelashan Mt. of Qinghai-Tibetan Plateau. It was formed by faulting basin with the altitude of 4200-4500m. Many cliffs at the islands and signs of the faulting zone could be clearly seen. The natural dykes (5.0 ~ 6.0m) are developed at some bends of the lake. There are some lowlands at the back of the dykes. There are also some sub-lakes or dry lakes and becoming salt marshes.

Origin: natural.

Hydrology:
The catchment covers an area of 18,188 km^2. The index of water supply is 29.8. The lake is fed by the surface water and rainfall. The Yellow River and Lenaqu River flow into the lake, but mainstream of the Yellow River flows through it from its west to north. The annual average run-off amount into and out of the lake is 12.57×10^8m^3 and 6.36×10^8m^3 respectively. The amount of precipitation is 1.86×10^8m3 and the evaporation is 8.07×10^8m^3, which maintains water balance. The pH value of the lake water is 7.8 and mineralization degree is 310.0mg/L. The average depth of the lake water is 17.6m and the deepest can reach 30.7m.

Soil Type:
Desert soil, meadow soil, chernozem, solonchak and cinnamon soil etc.

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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 catchment covers 18188.0km^2. The topography of the catchment area has a gentle slope from north-west to south-east. The main soil types include Alpine rigid meadow soil and Alpine chernozem. The climate is typically continental with low precipitation. Only livestock husbandry is practiced in this area.

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

It stores water from eight branches in the upper part of the river. It is vital for water storage and flood mitigation. The lake basin is good for retention of sediments and water purification for local communities and keeps water with good quality in low and middle reaches.

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

The plant community belongs to Pan-Arctic in the world and sub-Himalayan flora in China. There are three types of flora in relation to wetlands under the high altitude and cold conditions.
(1) Aquatic plant: *Bunge Batrachium* (*Myriophyllum verticilatum*), *Avena orientalis* Schreber *and Potamogeton pectinatus* L. etc
(2) Marshy meadow: main plant species includes: *Kobresia tibetica Maxim, Brylkinia caudate* (*Blysmus sinocompressus*), *Triglochin maritina and Carex moorcroftii.*
(3) Grassland meadow *Kobresia pygmaea* Clarke *and Stipa purpurea* Griseb. The cover rate is 60-90%.

The wetlands, the peninsular around the lake and water areas provide good habitats for gulls, ducks and geese as well as other water birds. Key species include *Anser indcus, Larus ichthyaetus, Phalacrocorax carbo*, *Grus nigricollis*, and *Larus brunnicephalus* etc. In the lake some species of fish could be seen such as *Gymnocypris eckloni* Herzenstein *and Gymnodiptychus pachyacheilus* Herzenstein etc..

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*.

The vegetation diversity of Eling is unique., there are total 34 families, 87 genus, 140 species of higher plants. There are 3 families, 4 genus, 7 species of Bryophyta, 1 family, 1 genus, 2 species of gymnosperm and 30 families, 82 genus, 131 species of angiosperm. Most of them are unusual to high altitude area compared to the whole Qinghai-Tibet region, the number of moss in family, genus and species in the wetland accounts for 14.9%, 4.3% and 1.6% respectively. Most plants are main food of livestock and traditional Tibetan herbal medicine.

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*.

Some mammals are distributed here under the national protected species e.g. White-lipped Deer *Cervus albirostris*, Kiang *Equus hemious* , Tibetan Gazelle *Procapra picticaudata* and Marmot *Marmota himalayana*. Some of these species are endemic to Qinghai-Tibetan Plateau and have high values of scientific research.

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.

Eling Lake with beautiful landscape faces to Zhaling Lake by a mountain. It is an imaginative place with high altitude lakes, standing snow mountains, grassland, blue sky with snowy clouds

like a vivid pictures present in front of the world. Eling lake plays very important role in Tibetan Buddhism history, which is one six key holy sites for pilgrim. During Huolong and Jingang festivals, thousands of people with special custom pay tribute to the site, with mysterious stories and religious tales. Moreover, there are splendid Tibetan cultures, mysterious stories and religious tales in this upstream region of Yellow River. All these natural resources and its unique environmental features attract many scientists, explorers and travellers, which are beneficial for development of tourism to promote regional economic development.

22. Land tenure/ownership:
(a) within the Ramsar site:
State owned.

(b) in the surrounding area:
All lands around the lake has been contracted to herders. The land tenure and ownership belong to the state-owned.

23. Current land (including water) use:
(a) within the Ramsar site:
Fishing was allowed in the past, but fish harvest has been banned now.

(b) in the surroundings/catchment:
There is no other industrial production except for animal husbandry in this site. About 1,800 people are engaged in grazing around the wetlands. Lands have been contracted for grazing. A total area of pastoral land available in this township is 372,000 ha with 42,269 of livestock. The degraded and desert land covers about 102,366 ha. due to overgrazing and desertification.

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 principal factors affecting Eling Lake are summarized: (1) Glaciers are shrinking and snowline moving upward caused by global warming. They make water supply to the lake lower and water level obviously decreased. Water level reduced some 2 meters in the past 20 years; (2) Overfishing in the history made the fish population decreased rapidly.

(b) in the surrounding area:
The vegetation was degraded due to overgrazing and dry climate caused function of maintaining water resource weak, and water and soil loss increasingly became worse.

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.

Three rivers source provincial Nature Reserve was established in 2000 and updated to National Nature Reserve after approval by the State Council in 2003. In order to effectively protect wetlands resources around this area, 8 wetlands ecological core zones are demarcated based on the master plan, Zhaling and Eling lakes have been listed in one of eight core zones. Currently, as per the management plan, the conservation measures taken are to implement ban on grazing, and fishing in the core zones. Combating desertification and restoration of vegetation programmes are also carried out around the wetlands.

26. Conservation measures proposed but not yet implemented:
e.g. management plan in preparation; official proposal as a legally protected area, etc.

The Feasibility Report on the Demonstration Project of Zhaling-Eling Lake Key Functional Zone in the Three River Source Nature Reserve, Qinghai Province has been prepared.

27. Current scientific research and facilities:
e.g., details of current research projects, including biodiversity monitoring; existence of a field research station, etc.

No detailed scientific research has been conducted yet in this area.

28. Current conservation education:
e.g. visitors' centre, observation hides and nature trails, information booklets, facilities for school visits, etc.

Only a few staff from provincial and national nature reserves has been involved in the training course on wetland survey and monitoring organized by the State Forestry Administration.

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

Eling Lake wetlands landscape has rich tourism resource and value but the tourism development and facilities are far behind. Therefore, no large scale of tourism activity has occurred.

30. Jurisdiction:
Include territorial, e.g. state/region, and functional/sectoral, e.g. Dept of Agriculture/Dept. of Environment, etc.
Territorial jurisdiction: the People's Government of Maduo County;
Functional jurisdiction: State Bureau of Forestry, Qinghai Forestry Bureau and Qinghai Agriculture & Livestock Husbandry Bureau.

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.

Qinghai Three Rivers Source National Nature Reserve Management Bureau, Director: Li Ruofan. Address: 51# Bayi west Rd, Xining, Qinghai

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

[1] Wang Sumin, Dou Hongshen 1998 China Lake, Science and Technology Publishing House
[2] Zhao Kuiyi, 1999 Chna Marshes, Science and Technology Publishing House
[3] Li Diqiang, Li Jianwen, 2002, Biodiversity in Three Rivers Source, Science and Technology Publishing House
[4] Introduction of the Yangtze River, Yellow River and Mekong River, Yellow River Hydrology Publishing house
[5] Ministry of Forestry, Guidelines on Wetlands Conservation and Wise Use, 1994, China Forestry Publishing House
[5] Academy of Forest Inventory, Planning and Design, Qinghai Forestry Bureau, Mater Plan of Three Rivers Source National Nature Reserve, 2003
[6] Wetland International – China Program, Wetlands Economic Evaluation 1999, China Forestry Publishing House
[7] National Physical geography Atlas of China. Beijing: Atlas Press of China, 1999.