Information Sheet on Ramsar Wetlands (RIS) – 2009-2012 version

Available for download from http://www.ramsar.org/ris/key_ris_index.htm.

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 14, 3rd edition). A 4th edition of the Handbook is in preparation and will be available in 2009.

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

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DD MM YY

Designation date

Site Reference Number

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2. Date this sheet was completed/updated:

April 28, 2009

3. Country:

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.

Hangzhou Xixi Wetlands

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:

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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 Hangzhou Xixi Wetlands is mainly characterized by natural water channels, with Fu Causeway and Shentangang River as the eastern boundary, Yanshan River as the southern boundary, Feijiantang as the western boundary, and Chaotianmuyang as the northern boundary.

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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.

Extent: 30º15'-30º17' N, 120º03'-120º05'E.
Center: 30º16'N, 120º03'E.

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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.

The site is located within Western Lake District of Hangzhou City, the Capital of Zhejiang Province, with about 8 km's distance to the urban center of Hangzhou in the west direction.

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

Average: 5 meters, maximum: 10 meters, minimum: 3 meters (above the sea level).

11. Area: (in hectares)

325 hectares

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

Hangzhou Xixi Wetlands are located within the transition zone from the low-hill region to the Hangjia Lake Plain region in Western Hangzhou City. It mainly consists of artificially originated wetlands (they are originated from fish ponds mixed with narrow farming lands, but most of these wetlands currently present near-natural features under relatively long-term protection), as well as semi-natural or near-natural wetlands (including river channels, waterways, lakes and freshwater marshes). A landscape formed by more than thousands of years of human use has been well preserved in the site and it can be viewed as a typical representative of wetland culture in Eastern China. The Wetland Biodiversity Conservation Areas cover about 160 ha where the wetland ecosystems are strictly protected. There are about 400 ponds with different features within the wetlands. The average water depth ranges between 1.3 and 1.5 meters. The natural vegetation is mostly dominated by wetland plants including emergent plants, float-leaved plants and floating plants. The wetlands can provide important habitats for wildlife and are rich in biodiversity. There are 126 bird species in total including 8 under the Second Class National Protection. Meanwhile, they play irreplaceable role in storing water, mitigating flooding, purifying water and regulating climate for the urban regions of Hangzhou. Hence they are called “the kidney of Hangzhou”. With its beautiful scene, the site has been a key base for science and environmental education in the city.

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: A wetland should be considered internationally important if it contains a representative, rare, or unique example of a natural or near-natural wetland type found within the appropriate biogeographic region.

Hangzhou Xixi Wetlands are originally formed by agricultural activities for over 1,000 years. A human-nature compound wetland ecosystem mainly consisted of ponds, water channels, freshwater lakes, herbaceous marshes and rivers is represented in the site and can be regarded as a typical example of river-pond compound wetland in Eastern China. Now the wetlands present near-natural features along with the relatively long-term natural succession and ecological restoration of the wetland ecosystems under the strict protection of the local government.

There are about 400 ponds with different features scattered within the site, forming a unique squama-like landscape from an overlook perspective. The wetlands preserve unique plantation-pond compound wetland types for over a thousand years. Combined with fishing cultures and the beautiful wetland scenery, many great writers and poets were attracted to visit or live in the wetlands. Numerous important literature articles were composed here, and noteworthy wetland culture heritage was accumulated. The great cultural value helped to preserve the wetlands for a long time, and it has become a good example of wise use tradition of wetlands in China.

Criterion 2: A wetland should be considered internationally important if it supports vulnerable, endangered, or critically endangered species or threatened ecological communities.

Species	English Name	IUCN Red list	CITES Appendix	Class of National Protection in China
Mergus squamatus	Scaly-sided Merganser	EN		I
Falco peregrinus	Peregrine Falcon	LC	I	II
Accipiter nisus	Sparrowhawk	LC		II
Buteo buteo	Common Buzzard	LC		II
Falco tinnunculus	Common Kestrel	LC		II
Falco subbuteo	Eurasian Hobby	LC		II
Accipiter virgatus	Besra	LC		II
Centropus sinensis	Greater Coucal	LC		II
Glaucidium cuculoides	Asian Barred Owlet	LC		II

Criterion 7: A wetland should be considered internationally important if it supports a significant proportion of indigenous fish subspecies, species or families, life-history stages, species interactions and/or populations that are representative of wetland benefits and/or values and thereby contributes to global biological diversity.

Hangzhou Xixi Wetlands is located within Taihu Lake Basin. They are connected with Taihu Lake through Dongtiao River and the Great Channel. The site is an important feeding and breeding ground for fishes in the Taihu Lake Basin. Ninety-nine freshwater fish species have been recorded within Hangzhou Xixi Wetlands, accounting for 58% of the total fish species in the whole Taihu Lake Basin. Of those, 38 species present relatively high economic values, and 5 are endemic species (including *Anguilla japonica*, *Erythroculter ilishaeformis*, *Hemibarbus maculates*, *Pelteobagrus fulvidraco*, and *Odontobutis obscura*).

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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:

Central China region, Sino-India sub-division, Oriental realm

b) biogeographic regionalisation scheme (include reference citation):

The Biogeography of Fauna in China (Zhang Rongzu, 1999)

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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.

Geology: Hangzhou Xixi Wetlands belong to Sandun Depression. The bedrock is Cretaceous mottled sandstone, which is covered by 40-50 meters of quaternary system sandy loam and clayey loam. The upper 25 meters of clayey loam is the sediments formed by the second marine intrusion and retreat during Holocene in Northern Zhejiang.

Geomorphology: Hangzhou Xixi Wetlands represent low-lying water systems, where the surrounding villages and mulberry plantations are 1-1.5 meters higher than the wetlands. The elevations vary between 2 and 5.5 meters, generally higher in the south part and lower in the north. The major land use types include mulberry plantation, fish pond, persimmon plantation and water bamboo plantation. Experiencing long-term agricultural modification, a typical semi-natural wetland landscape was gradually formed, which was dominated by fish ponds and large-scaled water-network systems composed of rivers, lakes, narrow dykes and islands with different sizes.

Origins: Hangzhou Xixi Wetlands are originated from quaternary period depression. The current geomorphology took its original form as early as 5 000 years ago.

Hydrology: Hangzhou Xixi Wetlands belong to the western part of the Great Channel water system, and are located within the transition zone between the low hills and plain. The upstream rivers that flow into the wetlands include Xianlinggang River (western part of Yanshan River), Shangbu River and Dongmuwu River. Outflows from Hangzhou Xixi Wetlands merge into the Great Channel through Yuhangtang River and Yanshanhe River, and then flow into Taihu Lake, the third largest freshwater lake in China. The water network of the wetlands mainly consists of channels (Wuchang Channel, Zijin Channel and Jiangcun Channel in the south-north direction, and Yanjia Channel in the east-west direction) and rivers (Yanshan River and Yuhangtang River in the east-west direction).

Water Level: The historical average water level is 1.36 meters and ranges between 3.83 and 0.81 meters.

Soil Type: The general soil types in Hangzhou Xixi Wetland are Paddy soil and Fluvo-aquic soil.

General Climate: Hangzhou Xixi wetland is located within the northern edge of the subtropical monsoon zone, representing distinct monsoon seasons. The summer is dominated by southern winds, whereas northern winds prevail in the winter. Most precipitation falls between March and September. The mean annual rainfall is around 1 400 mm. The mean annual temperature is 16.2 ^{o}C.

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17. Physical features of the catchment area:

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

The total catchment area is 133 km^2. The upstream areas are occupied by low mountains and gentle hills, mostly representing karst landscapes. The mid- and downstream areas are mostly plains. There are three rivers that flow into the wetlands from the upstream areas. Located in the north subtropical zone, the catchment area represents a typical monsoon climate with four distinct seasons. The general soil types in this area are paddy soil, red soil, and endodynamorphic soil.

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18. Hydrological values:

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

Since 70% of the wetlands are water body, the site is a major area of groundwater recharge, runoff regulation and flood mitigation for the Hangzhou city. It has been playing a significant role in hydrological control, especially in preventing citizens in the downstream areas from flooding in raining and typhoon seasons.

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.

Wetland type	Descriptions	Percentage
1	Pond, 125 ha	39%
M	River, 32 ha	10%
9	Drainage channels, 20 ha	6%
2	Farm pond, 20 ha	6%
Tp	Lake,15 ha	4%
O	Freshwater marshes, 15 ha	4%

In addition, there are 98-ha non-wetland type of lands in this site (such as woodlands farm lands), accounting for 31% of the site.

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.

The wetlands are mainly composed of ponds and herbaceous marshes. Water depth ranges between 1.3 and 1.5 meters. In ponds, the dominant floating plant communities are mainly of *Azolla imbricate*, *Salvinia natans* and *Lemna minor*. Herbaceous marshes are distributed at the conjunction areas between water channels and lakes, or between rivers and lakes. Dominant plant species are *Zizania caducifora* Hand-Mazt, *Trapa incisa* Sieb, *Phragmites communis*. These marshes are not only important habitats for the waterfowls such as Little Grebe (*Tachybaptus ruficollis*), Grey Heron (*Ardea cinerea*) and Common Teal (*Anas crecca*), but also the important breeding sites for gulls and rails such as Slaty-breasted Rail (*Rallus striatus*). In winters when fishing activities cease, the wetlands become perfect habitats for shorebirds and ardeids, such as egrets and the Eurasian Bittern (*Botaurus stellaris*).

The secondary habitat is rivers and channels within the wetlands. Yanshan River, the major water supply river, is located in south of the wetlands. Moreover, within the wetlands, several channels controlled by sluices connect different fish ponds and rivers. These water channels and rivers have

important function in mitigating flooding, supply water to the fish ponds, navigation and providing feeding and breeding ground for fishes.

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.*

At least 476 vascular plant species (including varieties) have been recorded in Hangzhou Xixi Wetlands, which belongs to 339 genera and 126 families. Among these species, 9 are ferns, 12 are gymnosperm, and 453 are angiosperm. In particular, *Glycine soja*, *Fagopyrum dibotrys*, and *Trapa incisa* are noteworthy species under national protection.

22. Noteworthy fauna:

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

At least 99 fish species belonging to 63 genera, 20 families and 12 orders have been recorded in Hangzhou Xixi Wetlands. Cyprinidae are dominate in species number (66 species), followed by Perciformes (14 species), Siluriformes (10 species), Clupeiformes (2 species), Salmoniformes (2 species), Anguilliformes, Cyprinodontiformes, Symbranchiformes and Tetraodontiformes (1 species for each genus).

Hangzhou Xixi Wetlands provide important habitat to birds. So far, 126 species of birds have been recorded, among which 28 are waterbirds. The dominant waterbird species are Chinese Pond Heron (*Ardeola bacchus*), Black-crowned Night Heron (*Nycticorax nycticorax*) and Little Egret (*Egretta garzetta*). Besides the species listed in section 14, there are 7 bird species recorded under the second class of national protection (Eurasian Sparrowhawk (*Accipiter nisus*), Common Buzzard (*Buteo buteo*), Common Kestrel (*Falco tinnunculus*), Eurasian Hobby (*Falco subbuteo*), Besra (*Accipiter virgatus*), Greater Coucal (*Centropus sinensis*), Asian Barred Owlet (*Glaucidium cuculoides*)).

The maximum wintering population of Black-crowned Night Heron (*Nycticorax nycticorax*) reached over 600 according to the record during 2005-2007. Resident bird species account for 45.2% of the total bird species in the wetlands, while summering migratory bird species (such as Intermediate Egret (*Egretta intermedia*) and Chinese Pond Heron (*Ardeola bacchus*)) and wintering migratory bird species (such as Common Teal (*Anas crecca*) and Eurasian Bittern (*Botaurus stellaris*)) account for 23%. Passing migrant bird species account for 8.8%.

Ten amphibian species falling into 4 families were recorded in Hangzhou Xixi Wetlands. Of those, Chinese Gliding Frog (*Rhacophorus dennysi*) is listed as a Provincial Key-Protected Species. There are 15 reptile species in the wetlands, among which Beauty Snake (*Elaphe taeniura*) is listed as a Provincial Key-Protected Species. In addition, 14 mammal species are recorded in the wetlands, among which Ferret Badger (*Melogate moschata*) is listed as a Provincial Key-Protected Species.

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:

Hangzhou Xixi wetlands and its surroundings are important fishery bases in the region. In 1985, the municipality established a fish market within the site. The mean annual trade amount of fishery products reaches 26,300 tons. The market of these products covers a large region of the entire Eastern China.

The beautiful wetland scenery has been acknowledged by Chinese people for its artistic conception: “peace, wildness and elegancy”. With more than 1,000 years of cultural accumulation, the unique wetland cultures in terms of farming culture, fishery culture and folk culture make the site an ideal recreational place.

Liangzhu Culture, praised as the dawn of the Chinese civilization, was developed in this area. The wetland culture was discovered to be originated in Han and Jin Dynasty (2 000 years ago), developed in Tang Dynasty (1 000 years ago), peaked in Ming and Qing Dynasty (15th to 19th Century) and revived in the contemporary era.

Moreover, the site is also an important science and education base for its rich biodiversity and good facilities.

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?

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: √

Hangzhou Xixi Wetlands have been developed through more than 1,000 years of human activities, and formed a special wetland culture, which combines fish (fish pond) and silk production (mulberry tree along the fish pond). Sediments at the bottom of the fish ponds provide nutrients for the mulberry trees, and meanwhile, the silkworm that feed on mulberry trees produce nutrient for the fishes within the ponds. This model has been sustained for more than thousands of years. Similar combinations have also been developed in the region, such as the fish pond-persimmon tree complex and fish pond-bamboo complex. All these wetland use modes provide excellent examples of sustainable development.

ii) sites which have exceptional cultural traditions or records of former civilizations that have influenced the ecological character of the wetland: √

Every Duanwu Festival, Dragon Boat Race is held at Jiangcun village which is the heart of Hangzhou Xixi wetlands. Due to its culture importance in China, a ceremony is held every year, at 10 days after the frost (about the beginning of November), which attracts great number of Chinese poets around the world.

iii) sites where the ecological character of the wetland depends on the interaction with local communities or indigenous peoples:

iii) 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: √

Qiuxue Temple (Autumn-Snow Temple), one of the representative sacred sites that located within Hangzhou Xixi Wetlands, had attracted many famous literature masters and poets, such as the

Emperor Gaozong of Song Dynasty, Emperor Kangxi and Qianlong of Qing Dynasty, Su Dongpo, Tang Bohu, Yu dafu, Dong Qichang, Zhang Dai and Huang Binhong. They visited the wetlands and made numerous beautiful poems that influenced Chinese societies for hundreds of years. Due to the noteworthy cultural fames, the wetlands have been well preserved over the past 1,000 years.

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24. Land tenure/ownership:
(a) within the Ramsar site:

State ownership, managed by the Hangzhou Xixi Wetland Park Authority.

(b) in the surrounding area:

State/collective/private ownership.

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25. Current land (including water) use:
(a) within the Ramsar site:

In the site, the 227-ha wetlands are under strict protection, the main use types are water connection, water storing, and transportation. The remaining 98-ha lands are agricultural uses such as growing mulberry trees, persimmon trees, water bamboos and vegetables.

(b) in the surroundings/catchment:

There are 800 hectares of wetlands around the site, which are managed by the same authority (Hangzhou Xixi Wetland Park). The 800-ha wetlands can act as the buffer zone of the site for purpose of strengthening wetland conservation. Other lands in the surroundings include suburb residential area, low-mountain woodland in the southeast and university campus in the north.

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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:

Since 1980s, due to regional economic development and city construction, the wetlands experienced loss in area and decrease in water quality to a small degree. Fortunately, these adverse factors have been effectively controlled and the wetlands have been restored since the ecological restoration projects were implemented and the wetland park was established.

(b) in the surrounding area:

Growing human population and activities would increase water pollution in the surrounding water systems, hence could have adversely impacts on the wetlands in some degree.

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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 Feb 2005, approved by China State Forestry Administration, Hangzhou Xixi Wetlands were taken under the protection of Hangzhou Xixi National Wetland Park, China's first national wetland park. Consequently, many wetland conservation and restoration programs have been launched. The

construction of the wetland park is in three stages, the first of which has the same boundary with the Ramsar site.

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?:

The existing management plans including:

Master Plan of Comprehensive Conservation Project for Hangzhou Xixi Wetlands, approved by Hangzhou Municipal Government in 2004;

Master Plan for Hangzhou Xixi National Wetland Park, approved by Hangzhou Municipal Government in 2004.

d) Describe any other current management practices:

Since 2005 when the national wetland park was established, the following measures have been taken:

(1) Classified wetland management system has been established in Hangzhou Xixi wetlands. The Wetland Biodiversity Conservation Areas are under strict protection and human activities are strictly controlled. For the Ecotourism Areas, the intensity and quantity of tourists are also limited. The buildings used ecological materials as much as possible. And the height of the buildings is limited below 8 m.

(2) Monitoring of the wetland resources: Hangzhou Xixi Wetland Ecological Research Center was setup to conduct routine monitoring activities, including monitoring birds, fish, aquatic plants and water qualities.

(3) Law enforcement is strengthened: effective enforcement in the site for wildlife conservation, fishery management, boat and navigation regulation, visitor management was approved by the provincial government and carried out.

(4) Public awareness was enhanced through conducting diverse environment education programs and development of visitor centre.

(5) Development of ecotourism plans ensures the wise use of wetlands while developing tourism within the wetlands;

(6) Restoring hydrological connections with surrounding water system.

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

"Ecosystem Management Plan for Hangzhou Xixi Wetlands" is under preparation.

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

In 2003, baseline survey for Hangzhou Xixi wetland was completed, which provided a solid base for the management and wise use of the wetlands;

In 2006, Hangzhou Xixi Wetland Ecological Research Centre was established to conduct monitoring of the wetlands, scientific researches and public education programs;

During 2006-2007, led by Subtropical Forest Research Institute of Chinese Academy of Forestry Science, participated by Zhejiang University, Hangzhou Nature Museum, Hangzhou Environment

Research Institute and Hangzhou Hydrological Resource Monitoring Centre, a series research programs focusing on wetland restoration, monitoring and early-warning program were launched.

In 2007, a National-Class Monitoring Station for Epidemic Disease of Terrestrial Wildlife was established and funding and equipments were supported correspondingly.

In 2008, cooperated with Urban Ecological Research Institute of Chinese Academy of Sciences, two aquatic ecological monitoring stations had been put into function, which covers the whole wetlands. Besides, an automatic water quality monitoring station, an automatic air quality monitoring station, a metrological station and one water quality analysis laboratory have been set up in the wetlands.

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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.

International Wetland Forum was successfully held in Hangzhou Xixi Wetlands in 2005 and 2006, which attracted thousands of experts from overseas and China.

A visitor center was established upon approval when Hangzhou Xixi Wetland Park was established as the first national wetland park in China in 2005. Now a new and more advanced visitor center combined with a national wetland museum is under construction. Scientific research and education systems were developed within the wetlands, including wetland research center, wetland science popularization center, bird-watching tower, wetland botanical garden, ecological fishery area, traditional farming area, environmental monitoring station, metrological station, wildlife rescue station and bird banding station.

Diverse environmental education activities were organized, including World Wetland Day Celebrations, Science Week, Environment Week, and Bird-Watching Race in the wetland park. The site has been designated as the secondary education base for the school kids in Hangzhou. Meanwhile, two websites have been established to make propaganda for wetland conservation.

Propaganda materials on Hangzhou Xixi Wetlands were made and published, such as the video "Fascinating Wetlands", the book series including "Animals in Hangzhou Xixi Wetlands" and "Plants in Hangzhou Xixi Wetlands", maps of Hangzhou Xixi Wetlands, handbooks of Birds in Hangzhou Xixi Wetlands.

Now, Hangzhou Xixi Wetlands have been designated by national authorities as national Ecological Civilization Education Base, National Science Popularization Base, and National Environmental Education Base.

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31. Current recreation and tourism:

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

Scientific popularization and education of wetland conservation and ecological tourism are the major types of current use for Hangzhou Xixi wetlands. From the opening of the Hangzhou Xixi National Wetland Park on May 1st, 2005 to the end of May 2008, the amount of visitors to the wetland park reached 2.16 million. In average, 720,000 visitors arrived here per year. The maximum number of visitor admitted to the wetlands is limited to 6 000 per day. Over the past three years, 1.23 million people enjoyed visiting the wetlands freely, among which more than 50% are young and junior students.

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32. Jurisdiction:

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

Territorial Administration: Government of Xihu District, Hangzhou Municipal Government.

Functional Supervision: Forestry and Hydrological Resource Management Bureau of Hangzhou Municipal Government, Forestry Department of Zhejiang Province (provincial level), State Forestry Administration of China (national level).

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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.

Hangzhou Xixi Wetland Park Management Commission Office
Tianmushan Road, Hangzhou 310013, Zhejiang Province, P.R. China
Director: Mr. Wenju Zhang
Phone: +86-(0)571-88106503
Fax: +86-(0)571-88106505

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

Wang Guoping. 2007. Xixi Wetlands Series. Hangzhou Press. (in Chinese)
Gao Yiliang. 2006. Development and Practice in Xixi National Wetland Park Model. Wetland Science and Management 2 (1): 55-59. (in Chinese).
Faculty of School of Life Sciences, Zhejiang University. 2003. Research on Ecology and Wetland Resources of Xixi Wetlands. (unpublished report in Chinese)
Zhang Rongzu. 1999. The Biogeography of Fauna in China. Beijing: Science Press. (in Chinese)
