Information Sheet on Ramsar Wetlands (RIS) – 2006-2008 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).

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:
18 August, 2008

3. Country: Japan

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.

Biwa-ko

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 ■ (65,602 + 382 = 65,984 ha); 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:

Since 1990's, the populations of alien fish such as Largemouth Bass (*Micropterus salmoides*) and Bluegills (*Lepomis macrochirus*) as well as Cormorant (*Pharacrocorax carbo*) have increased rapidly. There is severe adverse impact on the endemic fish and fishery, and there is also damage on the trees by the Cormorants' droppings and by their habit of breaking branches for nest building.

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) ☑, => .PDF format
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.

Existing protected area (Class 2 Special Zone of Quasi National Park).

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.
35°15' N, 136°05' E

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 entire area of Biwa-ko is located in Shiga Prefecture, and is surrounded by 15 municipalities (counter clockwise: Otsu City, Kusatsu City, Moriyama City, Yasu City, Omihachiman City, Azuchi Town, Higashiomi City, Hikone City, Maibara City, Nagahama City, Kohoku Town, Takatsuki Town, Kinomoto Town, Nishiazai Town, Takashima City). Otsu City, the prefectural capital city, is located in the southern end of the lake, about 50km northeast from Osaka City, about 15km east from Kyoto City, 95km west from Nagoya City. 460 rivers and streams of flow into the lake, and its basin covers the entire Shiga Prefecture.

10. Elevation: (in metres: average and/or maximum & minimum)
T.P. (average tidal level of Tokyo Bay) 86m

11. Area: (in hectares)
65,984 ha (The area was originally 65,602 ha, and this is to increase by 382 ha to include Nishino-ko.)

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

Biwa-ko is one of the foremost ancient lakes in the world which provides habitats for many endemic species due to its long history. On the other hand, its abundant water resource sustains the livelihood of

14 million people of Kyoto-Osaka-Kobe area. Since the lake is an important wintering site for ducks and geese, it has joined the Flyway Site Network based on the Partnership for the East Asian – Australasian Flyway.

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 ancient Biwa-ko was formed in this area four million years ago. The present Biwa-ko originated as Katada-ko more than a million years ago, and it is not only the oldest lake in Japan but also one of the oldest lakes in the world.
Approximately 70 % of the precipitation to the catchment basin flows out, which serves as important water source for the downstream basin.

Criterion 2.
Biwa-ko supports many threatened and endangered species, some of which are endemic.
The list below indicates the species categorized as VU or higher risk.

Species	IUCN status[1]	Japan Red List[2]	Species Conservation Law[3]
Birds			
Bean Goose (*Anser fabalis*)	LC	VU	
Eurasian Bitterns (*Botaurus stellaris*)	LC	EN	
Fish			
Striped bitterling (*Acheilognathus cyanostigma*)		CR	
Greasy higai-minnow (*Sarcocheilichthys biwaensis*)		CR	
"Honmoroko" (*Gnathopogon caerulescens*)		CR	
Kissing loach (*Leptobotia curta*)	DD	CR	Yes
"Hariyo" *Gasterosteus aculeatus leiurus*		CR	
"Isaza" (*Gymnogobius isaza*)		CR	
Crucian Carp (*Carassius cuvieri*)		EN	
Round crucian carp (*Carassius auratus grandoculis*)		EN	
Rock Bitterling (*Acheilognathus tabira tabira*)		EN	
"Wataka" (*Ischikauia steenackeri*)		EN	
Golden venus chub (*Hemigrammocypris rasborella*)		EN	
Striped spined loach (*Cobitis* sp.)		EN	
Small striped spined loach (*Cobitis* sp. S Biwako form)		EN	
Japanese eight-barbel loach (*Lefua echigonia*)		EN	
Wrinklehead sculpin (*Cottus reinii*)		EN	
Far eastern brook lamprey (northern species) (*Lethenteron* sp. 1)		VU	

Far eastern brook lamprey (southern species) (*Lethenteron* sp. 2)		VU	
Three-lips (*Opsariichthys uncirostris uncirostris*)		VU	
Japanese gudgeon (*Squalidus japonicus japonicas*)		VU	
Delicate loach (*Niwaella delicate*)		VU	
Torrent catfish (*Liobagrus reini*)		VU	
Medaka ricefish (*Oryzias latipes latipes*)		VU	
Mollusks			
"Nakaseko kawanina" (*Biwamelania nakasekoae*)		CR+EN	
"Kawanejigai" (*Camptoceras hirasei*)	DD	CR+EN	
"Hidarimaki monoaragai" (*Culmenella prashadi*)		CR+EN	
Biwa Perly Mussel (*Hyriopsis schlegeli*)		CR+EN	
"Oguranumagai" (*Oguranodonta ogurae*)		CR+EN	
"Kobayashi mijintsubo" (*Akiyoshia kobayashii*)		VU	
"Mame tanishi" (*Parafossarulus manchouricus japonicas*)		VU	
"Kurokawanina" (*Biwamelania fuscata*)		VU	
"Marudobugai" (*Anodonta calipygos*)		VU	
Obaeboshi (*Inversidens brandti*)		VU	
"Otokotateboshigai" (*Inversiunio reinianus*)		VU	
"Katahagai" (*Obovalis omiensis*)		VU	
"Setashijimi" (*Corbicula sandai*)		VU	

[1] = IUCN Red List of Threatened Species
[2] = Red List of Threatened Wildlife in Japan. Ministry of the Environment.
[3] = Designated under the Law for Conservation of Endangered Species of Wild Fauna and Flora (Species Conservation Law)
(Abbreviations: CR = Critically endangered; EN = Endangered; VU = Vulnerable; Yes = noted as a Domestic Endangered Species)

Criterion 3.:
Biwa-ko supports about 60 endemic species to Biwa-ko water system (see the Annex for the list of endemic species).
Endemic species in Biwa-ko are categorized into *relict* endemic species and *novel* endemic species. Relict endemic species came over from China or Siberia during Ice Age when Japanese archipelago was connected to the continent. These species were left in Biwa-ko at the end of the Ice Age, when the vast lakes and cold climate receded. Fish species such as "Wataka" (*Ischikauia steenackeri*) and "Hasu" (*Opsariichthys uncirostris*), shellfish such as "Ikechogai" (*Hyriopsis schlegeli*), "Biwako-mizushitadami" (*Biwakovalvata biwaensis*) and invertebrates such as "Biwa-Ouzumushi" (*Bdellocephala annandalei*) are the typical examples of relict endemic species. These relict endemic species are biogeographically important species related to the origin of Biwa-ko biofacies.
Novel endemic species have evolved to different species from the common species, adapting to this specific environment. Fish species such as Lake Biwa catfish (*Silurus biwaensis*), "Iwatoko-namazu" (*Silurus lithophilus*), Round Crucian Carp (*Carassius auratus grandoculis*), "Gengoro-buna" (*Carassius cuvieri*) and "Honmoroko" (*Gnathopogon caerulescens*) and shellfish such as "Otoko-tateboshigai" (*Inversiunio reinianus*), "Biwa-kawanina" (*Biwamelania* spp.) are the examples of novel endemic species. There are 10 species of Biwa-kawanina there, which are the speciated species in Biwa-ko.

Criterion5: According to the annual wild bird surveillance of Anatidae and Podicipedidae, the lake provides a wintering habitat for more than 50,000 ducks and geese, and for more than 60,000 Podicipedidae species and swans. The species found in Biwa-ko include Tundra Swan (*Cygnus columbianus*), Bean Goose (*Anser fabalis*), Mallard (*Anas platyrhynchos*), Spot-billed Duck (*Anas poecilorhyncha*), Teal (*Anas crecca*), Wigeon (*Anas penelope*), Pintail (*Anas acuta*), Scaup (*Aythya marila*), Little Grebe (*Tachybaptus ruficollis*), Black-necked Grebe (*Podiceps nigricollis*), Slavonian Grebe (*Podiceps auritus*), Red-necked Grebe (*Podiceps grisegena*) and Great-crested Grebe (*Podiceps cristatus*).

Criterion 7: There are 53 species of fish including 15 endemics, and there are 50 species of shellfish including 20 endemics in this lake. Fish species such as "Wataka" (*Ischikauia steenackeri*) and "Hasu" (*Opsariichthys uncirostris*), shellfish such as "Ikechogai" (*Hyriopsis schlegeli*), "Biwako-mizushitadami" (*Biwakovalvata biwaensis*) and invertebrates such as "Biwa-Ouzumushi" (*Bdellocephala annandalei*) are the typical examples of relict endemic species. Fish species such as Lake Biwa catfish (*Silurus biwaensis*), "Iwatoko-namazu" (*Silurus lithophilus*), Round Crucian Carp (*Carassius auratus grandoculis*), Crucian Carp (*Carassius cuvieri*) and "Honmoroko" (*Gnathopogon caerulescens*) and shellfish such as "Otoko-tateboshigai" (*Inversiunio reinianus*), "Biwa-kawanina" (*Biwamelania* spp.) are the examples of novel endemic species (please see the Annex for the list of endemic species). The life-history and species interaction of these endemic species almost entirely take place within Biwa-ko, but some of them spawn in the inflowing rivers. The level of endemism is 28 % for fish, and 40 % for shellfish, and these proportions are not as high as those in Lake Tanganyika or Lake Baikal, which are even older than Biwa-ko.

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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:

2.2.2 Japanese Evergreen Forest

b) biogeographic regionalisation scheme (include reference citation):

Udvardy, M. D. F. (1975). *A classification of the biogeographical provinces of the world.*

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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: Tectonic lake,

Origin: Natural

Geomorphology: Biwa-ko is separated to wide and deep Hokuko-bon (Hoku-ko: 44m average water depth) and narrow and shallow Nanko-bon (Nan-ko: 4m average water depth). Small lakes called Nai-ko are attached to Biwa-ko with rivers and channels, among them Nishino-ko is the largest. Steep mountains of Hira and Hiei rises on the west side of the lake, whereas an alluvial plain lies on the east side of the lake with number of rivers. The deepest water depth is 104m at a point closer to the west shore of Hokuko-bon.

Hydrology: More than 460 river and streams run into the lake including 125 first-class rivers. Seta River is the only river that runs out of the lake, which changes its name to Uji River when it enters into Kyoto Prefecture. It then joins Katsura River and Kizu River and changes its name to Yodo River that flows out to Osaka Bay. The lake water is also provided to Kyoto City by two artificial channels called Biwa-ko Sosui.

Soil type: Sand gravel.

Water quality: Hoku-ko: pH 8.0, BOD 0.4, COD 2.5
Nan-ko: pH 8.1, BOD 1.0, COD 3.1

Water depth: 104 m at the deepest

Water permanence: Permanent
Fluctuations in water level: The standard water level is 85.614 m above the lowest tide of Osaka Bay. Approximately 1 m of fluctuation (standard + 30 cm in summer and -60 cm in winter in an average year).
General climate: Precipitation: 2,600mm/yr in the north of Omi-basin, 1,600mm/yr in the south of Omi-basin. The average yearly temperature is 12 to 14 degrees.

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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).

Biwa-ko is located in a little west of Omi-basin and the landscape is surrounded by mountains of 500 m to 1,300 m in altitude (the highest is Mt. Ibuki: 1,377 m). The ridges of these mountains form the borderline of the catchment basin (3,147km^2). This catchment basin is roughly the area of Shiga Prefecture. The area of the lake is about one-sixth of the area of Shiga Prefecture.
In the southern area, it is hot and humid in summer and dry and sunny in winter (Pacific type climate). In the northern and western areas, the precipitation as snow in winter is high (Japan Sea type climate). In eastern area, the daily temperature difference is big and the annual precipitation is relatively low (Inland basin type climate).

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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.

The precipitation inside Omi-basin mostly flows into Biwa-ko through 460 rivers, and the amount is assumed to be 4.5 billion tons a year. 10 to 20 percent of the water is under ground water.
The water of Biwa-ko mostly flows out from Seta River.
When the water level of Biwa-ko rises 50cm above the standard, it can hold 335 million tons of water .
The amount of water that flows out of Biwa-ko can be controlled by operating Seta River Arai-zeki (dam) taking into consideration the river conservancy and water utilization.

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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 • <u>O</u> • 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) douminance:
List the wetland types identified in a) above in order of their douminance (by area) in the Ramsar site, starting with the wetland type with the largest area.
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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.

Biwa-ko has rich fresh water biodiversity consisting of at least 1,100 species of flora and fauna. About 60 species of them is endemic to Biwa-ko water system.70 species of aquatic vascular plants are recorded besides numerous phytoplanktons. There are big communities of submerged plants such as "Kuromo" (*Hydrilla verticillata*), "Senninmo" (*Potamogeton maackianus*) and "Ibaramo" (*Najas marina*) in riparian areas up

to 7 m deep. Floating-leaved plants such as "Gagabuta" (*Nymphoides indica*) or Water chestnut (*Trapa japonica*) float on the water surface in the lakefront. and plants such as Reeds (*Phragmites australis*), Manchurian wild rice (*Zizania latifolia*), "Ukiyagara" (*Scirpus yagara*) and "Himegama" (*Typha domingensis*) consist emergent plant communities called 'Yoshihara'. Behind the aquatic plant communities grow lakeside groves that are mostly dominated by willows and alders.

Among the fauna, fish and shellfish are the taxonomic groups with high proportion of endemic species. There are 53 species of fish including 15 endemics, and 50 species of shellfish including 20 endemics.172 bird species are recorded, and about 60,000 birds such as Tundra Swans, Bean Geese and ducks migrate to overwinter.
Nishino-ko, which is the extended area in 2008 and is connected to Biwa-ko by Chomeiji River, has water plant communities mainly consisting of reed community. The area of that reed community is about 109 ha, which is one of the largest in Japan.
124 species of birds belonging to 37 families are recorded in Nishino-ko, including *Sylviidae, Emberizidae*, and many other Passeriformes that are selected as ecologically valuable species.

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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 taxonoumic lists of species present – these may be supplied as supplementary information to the RIS.*

The reed community in Biwa-ko, also called as 'Yoshihara,' is one of the largest in Japan, serving as habitat for various aquatic organisms. The reed community also includes species such as Manchurian wild rice (*Zizania latifolia*), "Ukiyagara" (*Scirpus yagara*) and "Himegama" (*Typha domingensis*).

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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 taxonoumic lists of species present – these may be supplied as supplementary information to the RIS.*

Amphibian species including Clouded Salamander (*Hynobius nebulosus*), Japanese brown frog (*Rana japonica*), and Daruma pond frog (*Rana porosa*) are the ones whose habitats are being lost. On the contrary, Bull frogs (*Rana catesbeiana*) are increasing.

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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-econoumic values:

Biwa-ko is famous for its fishery since ancient times, and the catch is still about 2,000 tons per year. The biggest catch is Ayu (*Plecoglossus altivelis altivelis*), which account for a quarter of the total catch. More than a dozen species of fish are regarded as fishery product, most of which are endemic to Biwa-ko.
The ruins of Awazu shell mounds, which are located on the bottom of the lake, were made in Jomon period (c. 14,500 B.C. - c. 1,000 B.C.) and are one of the largest freshwater shell mounds in the world.
Biwa-ko's economic value rose with fishery and water transportation. Especially, the water transportation grew rapidly in the beginning of 17th century, and the water routes from Eastern Japan and Hokuriku Area to Kyoto especially became important. Harbours and ports prospered as carrying vessels and "Maruko" ships traversed the lake.
From the end of 19th to the beginning of 20th centuries, hydro-tunnel was cut open and water current was used to generate electricity.

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:

Mowing reed in reed communities aimed at its sustainable use.
Using aquatic plants as fertilizers in the agricultural field (until 1960's).

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:

Many fish species in Biwa-ko move upstream to lay eggs in the rice paddies around Biwa-ko, and the rice paddies are used as habitat for juvenile fish. This kind of fish movement has mostly vanished due to river modifications and farm land consolidations. However, measures are being taken by the farmers recently to modify the channels to allow for easy fish movement and to change agricultural practices to take into consideration of the growth of juvenile fish. The typical example is the 'Fish cradle rice paddy project'.

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:

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24. Land tenure/ownership:

a) within the Ramsar site:
Nationally-owned area (Ministry of Land, Infrastructure, Transport and Tourism): 65,780 ha
Private land: 204 ha

b) in the surrounding area:

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25. Current land (including water) use:

a) within the Ramsar site:
Fishery, sightseeing, recreation, water sport, environmental education, drinking water and agricultural water

b) in the surroundings/catchment
Residential area, rice paddies, natural park and motorway

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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:

- Environmental impacts resulting from leisure activities (rubbish, illegal parking, noises, fishhooks and fishing lines injuring water birds).
- Invasion and increase of carnivorous alien fish (Largemouth Bass and Bluegill)
- Increase of fish-eating birds (Cormorant) and its expansion of breeding colonies
- Large-scale modification of the riparian landscape by the Biwa-ko Total Development Project aimed at water control and utilization
- Manipulation of water level of the lake aimed at water control and utilization
- Gravel extraction involving dredging the bottom of the lake

Largemouth Bass (*Micropterus salmoides*, designated as Invasive Alien Species), Bluegills (*Lepomis macrochirus*, designated as Invasive Alien Species) and Cormorant (*Phalacrocorax carbo*; LC in IUCN Red List) are the species causing severe adverse impacts on the ecosystem of Biwa-ko, through predation of endemic species and so on.

b) in the surrounding area:

- Various non-point source pollutions from nutrient salts in the catchment basin
- Influx of turbid water from the paddy fields

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.

Special Zone of of Biwa-ko Quasi-National Park (The Natural Parks Law): designated on July 24, 1950. Activities such as construction, setting artificial structures, logging, mining minerals and reclamation require permission from the Governor of Shiga Prefecture.

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?:

Shiga Prefecture Natural Parks Management Plan

d) Describe any other current management practices:

- Preventing Cormorants' inhabitation and breeding at riparian breeding colonies.
- Creating reed communities
- Controlling invasive alien fish
- Raising awareness to prevent turbid water discharge from agricultural sector / promoting cyclic use of irrigation water

28. Conservation measures proposed but not yet implemented:

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

None

29. Current scientific research and facilities:

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

(Research)

- Monitoring Sites 1000 (Anatidae spp.): Long-term monitoring aimed at capturing changes in natural environment and to take necessary measures.
- Shiga Prefecture General Research on Living Organisms: Aimed at capturing the status of wild fauna and flora within Shiga Prefecture. The results were compiled as Red Data Book twice in 2000 and 2005. The prefectural ordinance, which went into effect in March 2007 stipulates that the results be announced every five years.
- Annual Surveillance of Anatidae and Podicipedidae: Implemented in every January to capture the number of migratory birds.
- Water Quality Survey: Implemented in every month at 29 points in Hoku-ko, 19 points in Nan-ko and 2 points on Seta River, aimed at capturing the water quality of Biwa-ko and to use the result for conservation measures.

(Facilities)

1. Biwa-ko Museum
   It opened in 1996 with a theme 'Lake and People', and besides the displays and public awareness activities on environmental issues, it is engaged in fundamental and interdisciplinary studies in various fields related to the lake.

2. Biwa-ko Environmental Science and Technology Center
   It was established in 2005 (predecessor institution was the 'Biwa-ko Institution' established in 1982). It promotes the comprehensive experimental research from the viewpoint of healthy water environment, material cycle and ecosystem conservation in Biwa-ko and its river basin.

3. International Lake Environmental Committee (ILEC)

4. United Nations Environmental Programme – International Environmental Technology Centre (UNEP-IETC)
   It collects and provides information and conducts trainings, with a view to maintain healthy lake environment worldwide, and to promote knowledge exchange and studies related to sustainable development.

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.

There are some observation facilities such as Biwa-ko Waterfowl Wetland Center (established by the Ministry of the Environment), Kohoku Wild Bird Center and Shin-Asahi Waterfowl Observation Center (established by the municipalities).
An "Environmental Learning Ship" called "Uminoko" is used for environmental education for the elementary school children.
Biwa-ko Museum is also used for environmental learning.

31. Current recreation and tourism:

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

The value of Biwa-ko as a tourist destination is quite high throughout the year, with 46 million annual visitors to the lake. Water sports such as yachting, windsurfing and jet skiing are popular especially in summer. There are also many tourists who board on excursion boats (661,000/yr) and anglers.

32. Jurisdiction:

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

(Territorial)
Otsu City, Kusatsu City, Moriyama City, Yasu City, Omihachiman City, Azuchi Town, Higashiomi City, Hikone City, Maibara City, Nagahama City, Kohoku Town, Takatsuki Town, Kinomoto Town, Nishiazai Town, Takashima City

(Functional)
Shiga Prefecture (Quasi-National Park) (Prefectural Wildlife Protection Area)

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.

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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.

Biwa-ko Natural History Study Group. (1994). *Natural History of Biwa-ko.*
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Annex I
Endemic species in Biwa-ko

	Common name	Scientific name	IUCN status	Japan Red List
Pisces	"Wataka"	*Ischikauia steenackeri*	none	EN
	"Abura higai"	*Sarcocheilichthys biwaensis*	none	CR
	"Sujinuma dojou"	*Cobitis* sp. L	none	EN
	"Sujinuma dojou"	*Cobitis* sp. S	none	EN
	"Iwatoko namazu"	*Silurus lithophilus*	none	NT
	"Honmoroko"	*Gnathopogon caerulescens*	none	CR
	"Isaza"	*Gymnogobius isaza*	none	CR
	"Biwako oonamazu"	*Silurus Biwaensis*	none	
	"Biwa higai"	*Sarcocheilichthys variegatus microoculus*	none	
	Crucian carp "Gengorou buna"	*Carassius cuvieri*	none	EN
	Round crucian carp "Nigoro buna"	*Carassius auratus grandoculis*	none	EN
	"Biwa masu"	*Oncorhynchus masou* subsp.	none	NT
	"Sugomoroko"	*Squalidus chankaensis biwae*	none	NT
	"Biwa yoshinobori"	*Rhinogobius* sp. BW	none	DD
	"Utsusemi kajika"	*Cottus reinii*	none	EN
Mollusks	"Ikechougai"	*Hyriopsis schlegeli*	none	CR+EN
	"Oguranumagai"	*Oguranodonta ogurae*	none	CR+EN
	"Futomaki kawanina"	*Biwamelania dilatata*	none	DD
	"Nangou kawanina"	*Biwamelania fluvialis*	none	DD
	"Kuro kawanina"	*Biwamelania fuscata*	none	VU
	"Nakaseko kawanina"	*Biwamelania nakasekoae*	none	CR+EN
	"Ooura kawanina"	*Biwamelania ourense*	none	DD
	"Tatejiwa kawanina"	*Biwamelania rugosa*	none	DD
	"Otoko tateboshigai"	*Inversiunio reinianus*	none	VU
	"Nagatanishi"	*Heterogen longispira*	none	NT
	"Ibo kawanina"	*Biwamelania multigranosa*	none	NT
	"Mori kawanina"	*Biwamelania morii*	none	NT
	"Takeshima kawanina"	*Biwamelania takeshimensis*	none	NT
	"Hosomaki kawanina"	*Biwamelania arenicola*	none	NT
	"Shiraishi kawanina"	*Biwamelania shiraishiensis*	none	NT
	"Menkarasugai"	*Cristaria plicata clessini*	none	NT
	"Marudobugai"	*Anodonta calipygos*	none	VU

	"Setashijimi"	*Corbicula sandai*	none	VU
	"Hirokuchihiramakigai"	*Choanomphalodes amplificatus*	none	
	"Tatehida kawanina"	*Biwamelania decipiens*	none	NT
	"Habe kawanina"	*Semisulcospira Biwamelania habei*	none	
	"Yamato kawanina"	*Biwamelania niponica*	none	NT
	"Kagome kawanina"	*Biwamelania reticulata*	none	NT
	"Biwako mizushitadami"	*Biwakovalvata biwaensis*	none	NT
	"Kadohiramakigai"	*Choanomphalodes perstriatulus*	none	NT
	"Oumigai"	*Radix onychia*	none	NT
	"Tateboshigai"	*Unio douglasiae biwae*	none	
	"Sasanohagai"	*Lanceolaria oxyrhyncha*	none	
	"Kawamura mameshijimi"	*Pisidium kawamurai*	none	
Insecta	"Kawamura nabebutamushi"	*Aphelocheirus kawamurae*	none	CR+EN
	"Biwako shirokagerou"	*Ephoron limnobium*	none	DD
	"Biwako eguritobikera"	*Apatania biwaensis*	none	
Crustacea	"Biwa mijinko"	*Daphnia biwaensis*	none	
	"Ananderu yokoebi"	*Jesogammarus annandalei*	none	NT
	"Narita yokoebi"	*Jesogammarus naritai*	none	NT
	"Biwa kamaka"	*Kamaka biwae*	none	
Other Invertebrata	"Biwa tsubokamuri"	*Difflugia biwae*	none	
	"Ikaribiru"	*Ancyrobdella biwae*	none	DD
	"Biwa oouzumushi"	*Bdellocephala annandalei*	none	CR+EN
Algae	"Sannenmo"	*Potamogeton biwaensis* Miki	none	
	"Nejiremo"	*Vallisneria natans* var. *biwaensis*	none	
phytoplankton	"Biwa kunshoumo"	*Pediastrum biwae*	none	
	"Suzuki keisou"	*Stephanodiscus suzukii*	none	
	"Suzuki keisou modoki"	*Stephanodiscus pseudosuzukii*	none	