

# 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.

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

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Designation date

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Site Reference Number

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## 2. Date this sheet was completed/updated:

24 October , 2005

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## 3. Country:

JAPAN

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## 4. Name of the Ramsar site:

**Shinji-ko**

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## 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*

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## 6. Geographical coordinates (latitude/longitude):

northeast corner : 133 °03 '05 "E , 35 °28 '04 "N

southwest corner : 132 °54 '11 "E , 35 °24 '26 "N

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## 7. General location:

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

### Shimane prefecture/ Chugoku region

It is located in Matsue City (the capital of Shimane Prefecture, population: c. 190,000, area: c. 530 sq. km), Izumo City (population: c. 150,000, area: c. 543 sq. km), and Hikawa-cho (population: c. 28,000, area: c. 81 sq. km).

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

0.3 m

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## 9. Area: (in hectares) 7,652 ha

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**10. Overview:**

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

Shinji-ko is a brackish lake located in eastern part of Shimane Prefecture. It is the seventh largest lake in Japan, with a circumference of 45km. The lake is one of the largest wintering sites for Anatidae species in Japan. It is well-known for Shijimi clam *Corbicula japonica* which is popular for Japanese dishes; the lake provides the largest catch in Japan.

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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 5:** Shinji-ko is one of the largest wintering sites for *Anatidae* species in Japan and 21,000-48,500 *Anatidae* species are recorded each year from 1998 to 2002.

**Criterion 6:** 1,300-2,300 ( 1 -1.77%) of *Anser albifrons* (White-fronted Goose) and 3,800-6,300 (1.27-2.1%) of *Aythya marila* (Scaup) visited the site every year and the site regularly supports over 1% (1,300 and 3,000 in each) of the East Asian region population.

**Criterion 7:** *Gymnogobius taranetzji*, a Japanese endemic fish species live in the site. Its habitat is limited to rivers, lakes, and ponds along the Sea of Japan, and the population other than Shinji-ko is extremely few.

**Criterion 8:** Shinji-ko supports rich fishery resources as both freshwater fish and saltwater fish exist here. Especially, the catch of *Corbicula leana* is 7,500 ton, which occupies 40 percent and the largest of the whole catch in Japan. In addition, variety of fishery resources are known as “Shinji-ko Shichi-chin” (seven rare sea food in Shinji-ko) including ( Japanese seaperch *Lateolabrax japonicus*, *Metapenaens ensis*, Eel *Anguilla japonica*, Japanese smelt *Hypomesus nipponensis*, *Salangichthys microdon*, Carp *Cyprinus carpio*, Shijimi clam *Corbicula leana* )

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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:**

Japan

**b) biogeographic regionalisation scheme** (include reference citation):

Japan is recognized as single biogeographic region, because Japan is an island country which has unique and rich biota with many endemic species.

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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.

**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:** Thick Miocene formation exists underground of Shinji-ko.

**Geomorphology:** an inland-sea lake; Shinji-ko is the seventh largest lake in Japan. At the lake bottom of Shinji-ko, littoral shelf is developed in 500m-600m width to the depth of 3m at the northern and southern shore. This littoral shelf is connected to narrow slope, which leads to flat central plain widely spread at the depth of 4.5m-5.5m. Delta at the bottom of the lake extend 3km from the river mouth of Hii-kawa.

**Soil Type:** At the eastern part of Shinji-ko, sand is piled up widely by the influence of Ohashi-gawa river. Fine-grained to medium-grained sand is distributed on the littoral shelf, And the sand becomes finer along the slope. Clay silt is distributed on the central plain. And most of the clay silt exist as pellet ( originate in feces of *Notomastus* sp. ) with a diameter of 0.5mm-1mm.

**Origin:** natural, inland-sea lake

**Hydrology:** 17 inflow streams, but Hii-kawa river provides 80 % of the fresh water inflow to the lake (3.1 million cm. per day)(1990). Most of outflow from Shinji-ko flows into adjacent Nakaumi (4.23 million cm. per day).

**Water quality:** Shinji-ko is changeable low salinity brackish water lake. Its salinity is about 10% of that of sea water.

pH:Subsurface Water 8.04, bottom water 7.77 (average of 1986-1996 )

DOsaturation:Subsurface Water 104%, bottom water 70% (average of 1986-1996 )

COD :Subsurface Water 3.31ppm,bottom water 3.48ppm (average of 1986-1996 )

T-P:Subsurface Water 44.8ppb bottom water 51.6ppb (average of 1986-1996 )

T-N:Subsurface Water 376.9ppb, bottom water 55.1ppb (average of 1986-1996 )

Chl.-a:Subsurface Water 16.4ppb, bottom water 14.6pp (average of 1986-1996 )

NH<sub>4</sub>-N <0.01 ~ 0.24ppm(1991),

NO<sub>2</sub>-N <0.001 ~ 0.0013ppm(1991), NO<sub>3</sub>-N <0.001 ~ 0.003ppm(1991)

**Water depth:** .45 m on average, 6.4 m at maximum

**Water level fluctuation:** Daily fluctuation: about 8cm, Seasonal fluctuation: about 30-40cm.

**Climate:** Relatively mild, rainy in July and September, cloudy in winter. Annual precipitation: 1,799mm, annual mean temperature: 14.6 degrees Celsius, fluctuation of mean temperature in each month: +4.5-+25.8 degrees Celsius (average of Izumo from 1979 to 2000)

#### 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).

**Surface area:** 128, 480 ha

**General geology and geomorphological features:**Hii-kawa originates in Chugoku-sanchi mountain area and runs through a mountain valley of Oku-izumo northward. It gathers some branch river and flows into Shinji-ko at Izumo-heiya plain. The basin area up to this point is about 900 sq.km and it covers 70% of total catchment basin area of Shinji-ko. In Oku-izumo area, basin of Shinji-ko, granite of late Cretaceous to Palaeogene(about 70 million-30million years ago) is widely distributed. Hilly area around Shinji-ko mainly consists of volcanic rock and sedimentary rock of Neogene (about 24million-6million years ago).

**General soil types :** residual redosol, brown forest soil, gley soil, strong gley soil.

**Climate:** Relatively mild, rainy in July and September, cloudy in winter. Annual precipitation: 1,799mm, annual mean temperature: 14.6 degrees Celsius, fluctuation of mean temperature in each month: +4.5-+25.8 degrees Celsius (average of Izumo from 1979 to 2000)

#### 16. Hydrological values:

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

Flood control

#### 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.

It is a brackish lake which supports abundant aquatic species, such as over 40,000 migratory birds in winter time including *Cygnus columbianus* (Tundra Swan), *Anser albifrons* (White-fronted Goose), *Aythya fuligula* (Tufted Duck) and *Aythya marila* (Greater Scaup). The lake is also home to numerous fish and shellfish living in both freshwater and saltwater such as *Lateolabrax japonicus* (Japanese seaperch), *Cyprinus carpio* (Carp), *Anguilla japonica* (Eel) and Shijimi clam *Corbicula japonica*. The vegetation around the lake is reed *Phragmites australis* community and *Phragmites karka* community. A lot of *Compsopogon bookeri* (*Rhodophyceae*) grow in the lake. As to insects, a number of Nagoya-sanae *Stylurus nagoyanus* which is sensitive to salinity live in the lake.

#### 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.*

*Compsopogon bookeri* [vulnerable species (VU)\*1]

Note: \*1 Red List of Threatened Wildlife of Japan. Ministry of the Environment

#### 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.*

## [Birds]

- Botaurus stellaris stellaris* (Bittern)[endangered species (EN)\*1]  
*Ixobrychus eurhythmus* (Schrenck's bittern) [endangered species (EN)\*1]  
*Platalea minor* (Black-faced spoonbill) [critically endangered species (CR)\*1, endangered species (EN)\*2]  
*Branta canadensis leucopareia* (Canada goose) [critically endangered species (CR)\*1, Domestic Endangered Species\*3]  
*Anser fabalis serrinostris* (Bean goose) [vulnerable species (VU)\*1]  
*Branta bernicla orientalis* (Brent goose) [vulnerable species (VU)\*1]  
*Tadorna tadorna* (Shelduck)[endangered species (EN)\*1]  
*Anas formosa* (Baikal teal)[vulnerable species (VU)\*1]  
*Haliaeetus albicilla albicilla* (White-tailed Eagle) [endangered species (EN)\*1, Domestic Endangered Species\*3]  
*Haliaeetus pelagicus pelagicus* (Steller's Sea Eagle) [vulnerable species (VU)\*1, near threatened species(NT)\*2, Domestic Endangered Species\*3]  
*Accipiter gentilis fujiyamae* (Goshawk)[vulnerable species (VU)\*1, Domestic Endangered Species\*3]  
*Circus spilonotus spilonotus* (Eastern Marsh Harrier) [vulnerable species (VU)\*1]  
*Falco peregrinus japonensis* (Peregrine Falcon) [vulnerable species (VU)\*1, Domestic Endangered Species of Wild Fauna and Flora\*3]  
*Grus monacha* (Hooded Crane) [vulnerable species (VU)\*1, vulnerable species(VU)\*2, Domestic Endangered Species \*3]  
*Grus vipio* (White-naped Crane) [vulnerable species (VU)\*1, vulnerable species (VU)\*2, Domestic Endangered Species \*3]  
*Coturnicops noveboracensis exquisitus* (Yellow Rail)[vulnerable species (VU)\*1]  
*Eurynorhynchus pygmeus* (Spoon-billed Sandpiper)[endangered species (EN)\*1, vulnerable species (VU)\*2]  
*Tringa totanus ussuriensis* (Redshank) [vulnerable species (VU)\*1]  
*Tringa guttifer* (Spotted Greenshank) [critically endangered species (CR)\*1, critically endangered species (CR)\*2, Domestic Endangered Species \*3]  
*Numenius madagascariensis* (Far eastern curlew) [vulnerable species (VU)\*1]  
*Numenius minutus* (Little Curlew)[critically endangered species (CR)\*1]  
*Himantopus himantopus himantopus* (Black-winged Stilt)[endangered species (EN)\*1]  
*Glareola maldivarum* (Indian pratincole) [vulnerable species (VU)\*1]  
*Larus saundersi* (Saunders's Gull)[vulnerable species (VU)\*1, vulnerable species (VU)\*2]  
*Sterna albifrons sinensis* (Little tern) [vulnerable species (VU)\*1]  
*Emberiza yessoensis yessoensis* (Japanese reed bunting) [vulnerable species (VU)\*1]

## [Fish]

- Gymnogobius taranetzii* [vulnerable species (VU)\*1]

note: \*1 Red List of Threatened Wildlife of Japan. Ministry of the Environment

\*2 IUCN Red List of Threatened Species 2004.

\*3 Designated under the Law for Conservation of Endangered Species of Wild Fauna and Flora (Species Conservation Law)

**21. Social and cultural values:**

Fishery : Yamato Shijimi is a top of Japan. ( About 40% of haul of Japan , 7500 tons)

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.

Fishery: *Corbicula leana* catch is the largest in Japan (approximately 40 % of the catch in Japan, 7,500 ton)  
*Carassius auratus*, *Salangichthys microdon* are harvested from the lake.

**22. Land tenure/ownership:**

(a) within the Ramsar site:

Private land 1ha

Publicly-owned water body 7,645ha

Private water surface 6ha

(b) in the surrounding area:

National land, Local Public body land, Private land

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**23. Current land (including water) use:**

(a) within the Ramsar site:

No resident, fishery

(b) in the surroundings/catchment:

Paddy fields, residential area, planted forests (conifer forests), broad leaf forests.

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**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:

(b) in the surrounding area:

As social activities developed and life style changed, conservation of water quality of Shinji-ko has become more and more important issue. Water pollution due to domestic drainage (domestic wastewater), industry-related drainage (wastewater from factories and business sites), agriculture and stock raising - related drainage (wastewater from the agricultural lands and livestock), and nature-related drainage (flood from urban area and forests caused by rainfall).

In recent years, Pollution loading amount has been steadily reduced. In 2003, total Phosphorus achieved the target of water quality but has not reached the Environmental Quality Standard (based on Basic Environment Law).

Therefore, Shimane prefecture is planning to continue the survey and inspection on the reason why reduction of Pollution Loading Amount is not reflected to the water quality. It will also examine more effective measure for conservation of water quality.

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**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.

Special Protection Area of National Wildlife Protection Area: 7,652ha (Wildlife Protection and Appropriate Hunting Law) \*From November 1<sup>st</sup> 2005

Capture of wildlife is in principle prohibited in the area. It is required to obtain permission from the Minister of the Environment when installation of artificial structure, reclamation of the water body and tree felling.

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**26. Conservation measures proposed but not yet implemented:**

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

None

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**27. Current scientific research and facilities:**

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

**[Scientific research]**

Population Census Survey of Anatidae (Ministry of the Environment)

National Survey on the Natural Environment (Ministry of the Environment)

**[Facilities established for research]**

Hoshizaki Institute for Wildlife Protection /Hoshizaki Green Foundation  
( Survey on conservation and breeding of wild fauna and flora )

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**28. Current conservation education:**

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

Shinjiko Nature Museum Gobius (exhibition of Brackish and Freshwater fishes are conducted at aquarium, a base for nature education)  
Shinjiko Green Park (bird watching site, introduction on natural environment, conducting nature observation programs and waterbirds census survey, place for information exchange for naturalists)

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**29. Current recreation and tourism:**

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

Bird watching, fishing, pleasure boat, windsurfing

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**30. Jurisdiction:**

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

[Territorial]

Ministry of Land, Infrastructure and Transport  
Shimane Prefecture  
Matsue City

[Functional]

Ministry of the Environment (National Wildlife Protection Area Special Protection Area )  
Shimane Prefecture (prefectural natural Park)  
Ministry of Land, Infrastructure and Transport (class A rivers)

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**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

Yonago Nature Conservation Office, Chugoku-Shikoku Regional Environment Office,  
Ministry of the Environment  
124-16 Higashi-cho, Yonago city,  
Tottori, 683-0067 JAPAN  
Tel: +81-859-34-9331  
Fax: +81-859-34-9330

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**32. Bibliographical references:**

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

- Ministry of the Environment Nature Conservation Bureau 1998-2003 Report on Population Census Survey of Anatidae
- Simon Delany et al. 2002 "Waterbird Population Estimates 3<sup>rd</sup> Edition" Wetlands International
- Environment Agency 1993 "The Fourth National Surveys on the Natural Environment Report on Lake and Marsh Survey"
- Ministry of the Environment Nature Conservation Bureau 2002 "500 Important Wetlands in Japan"
- The Ornithological Society of Japan 2000 "Check-list of Japanese Birds Sixth Revised Edition"
- Ministry of the Environment 2002 "Threatened Wildlife of Japan -Red Data Book 2nd ed.- Volume 2, Aves"

- Ministry of the Environment 2003 "Threatened Wildlife of Japan -Red Data Book 2nd ed.- Volume 4, Pisces-Brackish and Fresh Water Fishes"
- Environment Agency 2000 "Threatened Wildlife of Japan -Red Data Book 2nd ed. - Volume 9, Bryophytes, Algae, Lichens, Fungi"
- Hoikusya "Coloured Illustrations of Seashore Animals of Japan"
- Japan Wildlife Research Center "Checklist of Species of Wildlife of Japan"
- Shimane Prefecture 2005 "Conservation Plan of Lake Water Quality in Shinji-ko"
- Shimane Prefecture 2003 "Report of Survey on birds in Shinji-ko"
- Ministry of Land, Infrastructure and Transport Government, River Bureau 2002 "Basic policy for maintenance of Hiikawa river system"
- Ministry of Land, Infrastructure and Transport, Chugoku Regional Development Bureau, Izumo Office of River "Nakaumi / Shinji-ko"
- Shimane Prefecture 1974 "Land Classification Basic Survey, Matsue"
- Shimane Prefecture 1972 "Land Classification Basic Survey, Etomo / Imaichi"
- Center for Studies of the San'in Region, Shimane University 1988 "Nakaumi / Shinji-ko Atlas of topography, bottom material, natural history"
- The San-in Chuo Shinpo 1985 "Nature of Shinji-ko"

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