

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

Available for download from [http://www.ramsar.org/ris/key\\_ris\\_index.htm](http://www.ramsar.org/ris/key_ris_index.htm).

*Categories approved by Recommendation 4.7 (1990), as amended by Resolution VIII.13 of the 8<sup>th</sup> Conference of the Contracting Parties (2002) and Resolutions IX.1 Annex B, IX.6, IX.21 and IX.22 of the 9<sup>th</sup> Conference of the Contracting Parties (2005).*

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

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Chiyoda-ku, Tokyo  
100-8975 JAPAN

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Designation date

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Site Reference Number

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NAOKI\_AMAKO@env.go.jp **2. Date this sheet was completed/updated:**  
8 August 2008

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## 3. Country:

Japan

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## 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.

Hyo-ko

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## 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

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## 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 is the same as an existing protected area (Special Protection Area of National Wildlife Protection Area).

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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.

37°50'N, 139°14' 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.

Located in Agano City (population: c. 46,000; area: 192.72km<sup>2</sup>) in Niigata Prefecture

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

8.6 m

**11. Area:** (in hectares)

24 ha

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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.

Hyo-ko Special Protection Area of Hyo-ko National Wildlife Protection Area (includes Hyo-ko, Toushin-ike, Ayame-ike and Sakura-ike) is located approximately in the centre of Niigata Plain, in Agano City, Niigata Prefecture. It contains reservoirs artificially created in Edo-period (1603 – 1867) and 1990 – 2000, comprising a bird sanctuary “Hyo-ko Waterfowl Park (national natural treasure).” Hunting has been prohibited here ever since the Edo-period, resulting in a large number of waterbirds resting and feeding at this site.

Every winter approximately 18,000 Anatidae species overwinter, including approximately 6,000 swans such as Tundra Swans (*Cygnus columbianus*), as well as ducks such as Pintails (*Anas acuta*). This sanctuary

not only serves as an important wintering ground for birds, but also serves as a habitat for aquatic community such as marshy vegetation, aquatic plants, fish and birds that prey on them. This site is also increasing its significance for nature observation.

**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 2:** Hyo-ko supports the below species which are categorized as VU or higher risk on the IUCN and/or Japan Red Lists.

Species	IUCN status <sup>1</sup>	Japan Red List <sup>2</sup>	Species Conservation Law <sup>3</sup>
<u>Birds</u>			
Canada Goose ( <i>Branta canadensis</i> )	LC	CR	
Brent Goose ( <i>Branta bernicla</i> )	LC	VU	
Bean Goose ( <i>Anser fabalis</i> )	LC	VU	
Shelduck ( <i>Tadorna tadorna</i> )	LC	EN	
Baikal Teal ( <i>Anser formosa</i> )	VU	VU	
White-tailed Eagle ( <i>Haliaeetus albicilla</i> )	LC	EN	Yes
Stellar's Sea Eagle ( <i>Haliaeetus pelagicus</i> )	VU	VU	
Eastern Marsh Harrier ( <i>Circus cyaneus</i> )	LC	EN	
Peregrine Falcon ( <i>Falco peregrinus</i> )	LC	VU	Yes
Black-winged Stilt ( <i>Himantopus himantopus</i> )	LC	VU	
Little Tern ( <i>Sterna albifrons</i> )	LC	VU	
<u>Plants</u>			
Prickly Water Lily ( <i>Euryale ferox</i> )		VU	
<i>Monochoria korsakowii</i>		VU	

<sup>1</sup> = IUCN Red List of Threatened Animals

<sup>2</sup> = Red List of Threatened Wildlife in Japan. Ministry of the Environment.

<sup>3</sup> = 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 6:**

The number of wintering Tundra Swans *Cygnus columbianus* (3,000) exceeds 1% (920) of the East-Asian population.

**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:**

2.15.6 Oriental Deciduous Forest

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

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

**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:** Hyo-ko is located on the west slope of Gozu mountain range, which is on the east end of Agano City. The mountain range contains Tsukioka fault which is geologically famous. It is the east end of “Shibata-Koide Geotectonic line (Fossa Magna)” that runs between Shibata City and Uonuma City in Niigata Prefecture.

**Origin:** Artificially created between 1625 and 1639 as an irrigation reservoir. It’s role as an irrigation pond ended when agricultural waterway was developed in 1939.

**Hydrology:** Hyo-ko Waterfowl Park consists of Hyo-ko, Tousein-ike, Ayame-ike and Sakura-ike, as well as surrounding marsh and park areas. Hyo-ko intakes the water from Oodoori River at the rate of 0.028 m<sup>3</sup> per second, and Tousein-ike from the same river at the rate of 0.032 m<sup>3</sup> per second. Sakura-ike and Ayame-ike are primarily fed by rainwater, but they also intake from Arakawa barrage between October and March, when there is no effect on rice paddies, on a bona fide basis.

**Soil type:** Being a flood plain of rivers such as Agano river, there is thick layer of soft clay and sandy deposit.

**Water quality:** pH: 7.2

BOD: 4.8 mg/L

COD: 9.0 mg/L

SS: 56 mg/L

DO: 10.7 mg/L

**Water depth:** 1.2 m at the deepest, 0.7 m on average

**Water permanence:** All the four bodies of water have water-level regulation function, but due to the small amount of flow the water is almost static.

**Fluctuations in water level:** Seasonal fluctuation (1 m in winter – 3 m in spring)

**Downstream area:** Hyo-ko belongs to Agano River watershed, which is 7,710 km<sup>2</sup> (8<sup>th</sup> largest in Japan).

**General climate:** Facing the Sea of Japan, this area has high precipitation between November and February as rain and snow, with high humidity. The annual precipitation is 1,800 – 1,900 mm at lower Agano River. As the snow accumulation around the prefectural border reaches up to 5 m, the spring runoff sustains despite the low precipitation between March and May.

Average yearly temperature: 13.5 °C, with the highest of 17.2 °C and the lowest of 10.2 °C.

**17. Physical features of the catchment area:**

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

Being artificial reservoirs with intake from the river, Hyo-ko and other ponds do not have catchment area. The surrounding Echigo plain used to be a poorly-drained area with a number of lagoons, thus the people in this area suffered from flooding. The flood prevention works including the development of drainage channels improved the rice yield dramatically.

**Soil type:** From the surface, surface sand (0.2 - 0.7 m), humus soil (0.4 - 0.7 m), upper cohesive soil (sandy silt – clay, 1.0 – 8.2 m), sandy soil (13 m), lower cohesive soil (10 m), gravel (0.8 m).

**Land use:** Park (ponds, park area, foot path, agricultural water, management facility)

**General climate:** Facing the Sea of Japan, this area has high precipitation between November and February as rain and snow, with high humidity. The annual precipitation is 1,800 – 1,900 mm at lower Agano River.

Average yearly temperature: 13.5 °C, with the highest of 17.2 °C and the lowest of 10.2 °C.

**18. Hydrological values:**

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

Hyo-ko was originally created as an irrigation reservoir, but currently it has no hydrological function.

## 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.

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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.

This sanctuary not only serves as an important wintering ground for Anatidae species, but also serves as a habitat for aquatic community such as marshy vegetation, aquatic plants, fish and birds that prey on them. 100 bird species belonging to 13 orders and 31 genera are observed at this site, including Anatidae species such as Pintail (*Anas acuta*), Mallard (*Anas platyrhynchos*), Pocharad (*Aythya farina*), Tufted Duck (*Aythya fuligula*), Wigeon (*Anas penelope*), Tundra Swan (*Cygnus columbianus*) and Whooper Swan (*Cygnus cygnus*). Fish species include Carp (*Cyprinus carpio*), Crucian Carp (*Carassius cuvieri*) and Northern Snakehead (*Channa argus*)

Plant species include water chestnut (*Trapa natans*), lotus (*Nelumbo nucifera*) and Prickly water lily (*Euryale ferox*) on the water surface, reeds (*Phragmites australis*) and Manchurian wild rice (*Zizania latifolia*) on the waterfront, with Silver grass (*Miscanthus sinensis*) and Canada goldenrod (*Solidago canadensis*) on the ground. Cherry trees, Siberian Iris (*Iris sanguinea*), *Monochoria korsakowii*, Asian skunk cabbage (*Lysichiton camtschaticense*) are also planted in the park.

## 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.*

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

The below species, listed as NT on Japan Red List, are also found at Hyo-ko.

Chinese Little Bittern (*Ixobrychus sinensis*), Intermediate Egret (*Egretta intermedia*), White-fronted Goose (*Anser albifrons*), Osprey (*Pandion haliaetus*), Goshawk (*Accipiter gentilis*), Sparrowhawk (*Accipiter nisus*)

The alien species include the following.  
Snakehead (*Channa argus*)

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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-economic values:

Local residents' involvement in conservation

- i) A local conservation group has been holding bird watching events twice a year as well as many other small events targeted to school trips, and it has been cooperating in the water quality survey by Agano City and in Anatidae census.
- ii) The local elementary school has been selected as a bird-loving model school, and all the pupils formed a swan patrol.
- iii) Approximately 30 swans remain in Hyo-ko every year, which cannot migrate northward due to injury or some other reasons. In order to secure open water for these remaining swans, lotus and water chestnut (*Trapa natans*) are cleared and utilized by the local community.

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?

Yes

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:
- 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:

Hyo-ko is famous nationwide from a wild bird conservation standpoint. Though created as an artificial irrigation reservoir, hunting has been prohibited since the Edo period. Since the local residents succeeded in artificially feeding the swans in 1954, consultations among Niigata Prefecture, experts, wild bird conservationists, hunting society and Agency for Cultural Affairs have resulted in designation of hunting prohibited area and National Natural Treasure. While the natural wetlands have been lost through agricultural operations and residential development, the case of this artificial wetland, protected by local residents, is exceptional.

- 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:

Agency for Cultural Affairs 0.90 ha  
 Agano City 22.87ha  
 Agano barrage right bank land improvement district association 0.02 ha  
 Agano river land improvement district 0.01 ha

b) in the surrounding area:

National land: 0.9 ha  
 Public land 22.9 ha

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

a) within the Ramsar site:

Park (irrigation)

b) in the surroundings/catchment:

Rice paddies and residential area

**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:

There is no river flowing to Hyo-ko, and the water level is maintained by small amount of intake from Oodoori-river and the irrigation barrage on the east. However, the amount of intake is too small to maintain the quality of water for the swans and ducks, and the eutrophication from accumulated bird droppings and dead plant materials is a concern. Many local residents expect dredging for the improvement of the environment.

b) in the surrounding area:

While Hyo-ko Waterfowl Park is increasing its importance as a suitable site for nature observation and tourist attraction, the residential development is proceeding in the surrounding area, reaching the west boundary of the Park.

**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.

National Natural Treasure (27.2 ha): \*from March 1954

Prohibition on change in geometry, logging or collecting.

Special Protection Area of National Wildlife Protection Area (24 ha) (Wildlife Protection and Appropriate Hunting Law): \*from October 2008

Capture of wildlife (birds and mammals) is in principle prohibited in the area. It is required to obtain permissions from the Minister of the Environment when installing artificial structures, reclaiming the water body or logging.

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?:

A plan is being formulated with consultation among relevant national agencies, local governments and stakeholders, for the management of the Special Protection Area of National Wildlife Protection Area. It will be officially approved and enter into force in October 2008.

**d) Describe any other current management practices:**

Volunteer work by the “Association to Protect the Swans in Hyo-ko”  
Suibara Elementary School’s Swan Patrol (652 students)  
Conservation activity such as preparing bird feed and picking trash by “Hyo-ko Environment Club”  
Conservation activity such as picking trash by the clubs for the elderly  
Preparing bird feed by the Red Cross Volunteers

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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.

Dredging

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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.

Current researches:

Bird banding research (banding site) (Ministry of the Environment)  
Bird surveillance (Niigata Prefecture, Niigata Prefecture Wild Bird Society, Niigata Prefecture Society of Instructors for Nature Observation, and Association to Protect the Swans in Hyo-ko)  
Vegetation research (Agano City)  
Water quality survey (Agano City)  
Ecological research on swans (Agano City Board of Education)

Facilities:

Hyo-ko management office (Agano City)  
Hakucho-no-sato (home of swans: museum) (Agano City)  
Swan shelter (Agano City)

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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.

Hakucho-no-sato (home of swans: museum)  
Wild Bird Observatory  
Trails inside Hyo-ko Waterfowl Park  
Printed materials  
School excursion  
Potential opportunities for nature observation for the disabled

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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.

There are 300,000 – 400,000 visitors each year to Hyo-ko Waterfowl Park especially around wintering season of the swans, making it an important tourist resource for Agano City. Also this park is used by many local residents and serves as destination for walking chosen by nurseries, kindergartens, elementary schools and welfare facilities in and around the city.

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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]  
Agency for Cultural Affairs



Agano City  
Agano barrage right bank land improvement district association  
Agano river land improvement district

[functional]

Ministry of the Environment (National Wildlife Protection Area)  
Agency for Cultural Affairs (National Natural Treasure)  
Niigata Prefecture (Prefectural National Park)  
Agano barrage right bank land improvement district association (agricultural water)  
Agano river land improvement district (agricultural water)

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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.

Hiroaki Kaneko, Nature Conservation Officer  
Niigata Office, Kanto Regional Environment Office,  
Ministry of the Environment,  
Bandaijima Building 15 F, 5-1, Bandaijima,  
Chuo-ku, Niigata City, 950-0078, Japan

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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.

Ministry of the Environment. (2007). *Report on the 37<sup>th</sup> Anatidae Census*  
Ministry of the Environment. (2004). *Report on survey regarding designation of Hyo-ko National Wildlife Protection Area and Special Protection Area.*  
Agano City. (1990). *Report on ground investigation of Hyo-ko Waterfowl Park*  
Agano City. (2007). *Report on water quality survey*  
Agano City. (2005). *Vegetation research*

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Please return to: **Ramsar Convention Secretariat, Rue Mauverney 28, CH-1196 Gland, Switzerland**  
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