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:

August 16th, 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.

Kejo-numa

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 is the same as that of the Special Protection Area of Kejo-numa National Wildlife Protection Area, which is the waterfront line at full water level.

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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.

38°37′N, 141°57′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.
Kejo-numa is located about 5km northeast from the center of Osaki City (population: c. 138,000), which is located about 35km north of Senda City (the capital of Miyagi Prefecture, population: c. 1,030,000)

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10. Elevation: (in metres: average and/or maximum & minimum)
Minimum level: 23.4m
Maximum level: 30.5m
Full water level: 25.9m

11. Area: (in hectares)
34 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.

The current Kejo-numa is a dammed lake completed in 1995 that serves for flood control and irrigation. It is based on a natural lake that was embanked in c. 1690 as a small reservoir. Only rain water and spring water from the surrounding hills flow into the lake, except water transmission for flood control. Common carps (*Cyprinus carpio*), Crucians (*Carassius cuvieri*), Largemouth bass (*Micropterus salmoides*) and Bluegills (*Lepomis macrochirus*) have been introduced in the lake. The maximum depth of the lake is less than 4 m, and various water plants such as lotus (*Nelumbo nucifera*) and Manchurian wild rice (*Zizania latifolis*) flourish in the whole area. About ten thousands birds such as >3,000 Greater White-fronted Goose *Anser albifrons* and

>2,000 Thick-billed Bean Goose *Anser fabalis serrirostris* roost in winter, making this lake imperative for these species.

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:

(Birds)

19 species that are listed in the Red List of Threatened Wildlife in Japan inhabit Kejo-numa, (Insects)

Two species of nationally endangered dragonflies inhabit Kejo-numa: *Cercion plagiosum, Sympetrum uniforme*.

(Plants)

28 species of endangered plants listed in the Red List of Threatened Wildlife in Japan inhabit Lake Kejo-numa,

The list below indicates those categorized as VU or higher risk.

Species	**IUCN status[1]**	**Japan Red List[2]**	**Species Conservation Law[3]**
Birds			
White-tailed Eagle (*Haliaeetus albicilla*)	LC	EN	Yes
Eastern Marsh Harrier (*Circus spilonotus*)	LC	EN	
Steller's sea eagle (*Haliaeetus pelagicus pelagicus*)	VU	VU	Yes
Peregrine falcon (*Falco peregrinus japonensis*)	LC	VU	Yes
Bean goose (*Anser fabalis serrirostris*)	LC	VU	
Canada goose (*Branta canadensis leucopareia*)	LC	CR	Yes
Brent goose (*Branta bernicla orientalis*)	LC	VU	
Baikai teal (*Anas formosa*)	VU	VU	
Insects			
"Oosesuji itotombo" (*Cercion plagiosum*)	-	CR+EN	
"Ooki tombo" (*Sympetrum uniforme*)	-	CR+EN	
Vascular Plants			
"Denjisou" (*Marsilea quadrifolia*)	-	VU	
Brittle waternymph (*Najas minor*)	-	EN	
"Tonetentsuki" (*Fimbristylis stauntonii var. Tonensis*)	-	VU	
"Kinran" (*Cephalanthera falcate*)	-	VU	
"Okinagusa" (*Pulsatilla cernua*)	-	VU	
"Hirohano kawarasaiko" (*Potentilla niponica*)	-	VU	
"Himebishi" (*Trapa incisa*)	-	VU	
"Inu senburi" (*Swertia tosaensis*)	-	VU	
"Marubano sawa tougarashi"(*Deinostema*	-	VU	

adenocaulum)			
"Ooabunome" (*Gratiola japonica*)	-	VU	
Balloon flower (*Platycodon grandiflorum*)	-	VU	
"Akino hahakogusa" (*Gnaphalium hypoleucum*)	-	VU	
"Onamomi" (*Xanthium strumarium*)	-	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 6: Over 3,000 White-fronted Geese (*Anser albifrons*) and over 2,000 Thick-billed Bean Geese (*Anser fabalis serrirostris*) overwinter in Kejo-numa, both of them exceeding 1% of the respective regional populations (i.e. 1,800 for White-fronted Geese (*Anser albifrons*) and 700 for Thick-billed Bean Geese (*Anser fabalis serrirostris*).

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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:

2.15.6 Oriental Deciduous Forest

b) biogeographic regionalisation scheme (include reference citation):

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

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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: Peneplain valley consists of gravel layer of the Pleistocene epoch. The surrounding hills consist of layers formed by crustal alteration, volcanic activity and deposition of vegetation in the Pliocene epoch.
Geographical features: 34ha, shallow shelving bottom, depth is 4m or less. North, east and west sides of the lake are surrounded by hills lower than 100m, and there are rice paddies in the south.
Origin: Embanked natural lake
Hydrology: Kejo-numa belongs to Eai river system which flows into Kyu-Kitakami River which is a tributary of Kitakami River that flows through Sendai Plain. The inflow is limited to rain water and spring water from the surrounding hills, except for water transmitted from Tajiri River for flood control. The outflow is used to irrigate 162.9 ha of rice paddies in the downstream, before merging into Tajiri River and then Eai River.
Soil type: Sand, gravel, clay, and silt
Water quality: Transparency over 30cm, PH7.0, no smell and no impurity.
Water depth: Normal depth is less than 4m. Maximum depth in dam operation is about 10m.
Water permanence: permanent
Fluctuations in water level: 23.4m-25.9m (from sea-level) for irrigation, 25.9m-30.5m for flood adjustment. The elevation of the bottom is 22m.
Downstream area: 183 ha
General climate: Class Cfa (Köppen classification). The annual rainfall is 1200mm. The annual mean temperature is 11 degrees. The average temperature of the coldest month at the closest

observation point in Osaki City is -0.4 degrees Celsius. It rarely freezes completely even in the coldest months of the year.

17. Physical features of the catchment area:
Describe the surface area, general geology and geomorphological features, general soil types, and climate (including climate type).

Surface area: 183 ha
General geology and geomorphological features: Peneplain valley consists of gravel layer of the Pleistocene epoch.
General soil type: Sandstone, tuff, shale, and lignite
Climate: Class Cfa (Köppen classification). The annual rainfall is 1200mm. The annual mean temperature is 11 degrees.

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

Irrigation for rice field
Flood control

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.

6, O

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 whole area of Kejo-numa is a habitat of various aquatic plants, birds and dragonflies. In summer, the whole surface area is covered with lotus (*Nelumbo nucifera*) or Water chestnut (*Trapa japonica*). Dragonfly species such as *Rhyothemis fuliginosa* or *Cercion plagiosum* breed on the waterfront.

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*.

The species listed as NT or lower risk on Japan Red List found at Kejo-numa are : "Mizunira" (*Isoetes japonica*), "Mikuri" (*Sparganium erectum*), Pondweed (*Potamogeton cristatus*), "Kakitsubata" (*Iris laevigata*), "Tokisou" (*Pogonia japonica*) , "Tachimo" (*Myriophyllum ussuriense*) "Gagabuta" (*Nymphoides indica*)

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.*

Kejo-numa supports Anatidae species like Mallard (*Anas platyrhynchos*) ;Spot-billed Duck (*Anas poecilorhyncha*) ,Teal (*Anas crecca*) ,Pintail (*Anas acuta*) .

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:

'Ruin of Miyazawa' is designated as a national historical site spreading from south-western part of Kejo-numa to the hilly districts. This ruin is a fort made around 750 to 1,000 A.D., which is presumed to have been a military or trading hub between Yamato dynasty and the other tribes.
Because of beautiful natural view, the lakeside park, wild plants garden and wild bird observation road are maintained for relaxation and recreation for the citizens.

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:

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:

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:

24. Land tenure/ownership:

a) within the Ramsar site:
Kejo-numa's public-owned water surface is managed by Miyagi Prefecture.

b) in the surrounding area:
Mostly owned by the nation, Miyagi Prefecture and Osaki City, and partly private-owned.

25. Current land (including water) use:

a) within the Ramsar site:
Kejo-numa is used for flood control and irrigation. Water is provided to the paddy fields.
It is selected as one of 1,000 monitoring sites in the "Monitoring Sites 1000" project by the Ministry of the Environment.

b) in the surroundings/catchment:

The surrounding hills are used for cedar afforestation and as other woods. Kejo-numa Ancient Village Park, Kejo-numa Citizens' Picnic Area Park and Tohoku Expressway Service Area could be found. The water of Kejo-numa is used to irrigate 162.9 ha of rice paddies in the downstream.

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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:

Many of the submerged and floating-leaved plants died in the raised water level caused by the test of the dam conducted between 1993 and 1994.

The population of native fish has been decreasing after the dam construction due to released Largemouth Bass (*Micropterus salmoides*) and Bluegill (*Lepomis macrochirus*) .
The aquatic plants have been decreasing due to the increasing number of swans.

b) in the surrounding area:
None

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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.

Special Protection Area of National Wildlife Protection Area: 34 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.

The boundary of the Special Protection Area is the same as that of 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?:

A plan is formulated with consultation among relevant national agencies, local governments and stakeholders, for the management of the Special Protection Area of National Wildlife Protection Area.

d) Describe any other current management practices:

Local communities are engaged in cleanup activities on surrounding roads. A new artificial pond was created to transplant and protect the plants which were at risk of submerging from the dam construction.

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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.

Since the condition of the transplanted plants have been poor after the dam construction, the following plans were suggested:

- Setting up 10 new artificial ponds around the lake for transplant.
- Restoration of rare plants using the seed bank.

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

Miyagi Prefecture is conducting Anatidae surveys three times a year (The Miyagi Prefectural nature conservation section, 3-8-1 Honmachi, Aoba-ku, Sendai City, Miyagi 980-8570, Japan).

Dam Management Office (Kejo-numa Sightseeing Museum: 2-2 Tozawa, Furukawa-Ono, Osaki City)

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 promenades in the surrounding hills.

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

Kejo-numa Ancient Village Park, Kejo-numa Citizens' Picnic Area Park and Tohoku Expressway Service Area are utilizing the views of Kejo-numa.
The water surface is used for bass and crucian fishing.

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

[territorial]
Ministry of Land, Infrastructure, Transport and Tourism
[functional]
Ministry of the Environment (National Wildlife Protection Area)
Miyagi Prefecture
Agency for Cultural Affair (national historical site)

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.
Yuzo Ito, Director, Wildlife Division
Tohoku Regional Environmental Office, Ministry of the Environment
3-2-23 Honmachi, Aoba-ku, Sendai City, Miyagi Prefecture, 980-0014, Japan
Yuzo Ito, Director, Wildlife Division

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

Wetlands International. (2006). *Waterbird Population Estimates – Fourth Edition*
Ministry of the Environment. (2004). *Designation Plan of Kejo-numa National Wildlife Protection Area and Special Protection Area.*