



Ramsar Information Sheet

Published on 15 July 2025

Japan Lake Inawashiro



Designation date	15 July 2025
Site number	2574
Coordinates	37°28'37"N 140°05'28"E
Area	10 960,00 ha

Color codes

Fields back-shaded in light blue relate to data and information required only for RIS updates.

Note that some fields concerning aspects of Part 3, the Ecological Character Description of the RIS (tinted in purple), are not expected to be completed as part of a standard RIS, but are included for completeness so as to provide the requested consistency between the RIS and the format of a 'full' Ecological Character Description, as adopted in Resolution X.15 (2008). If a Contracting Party does have information available that is relevant to these fields (for example from a national format Ecological Character Description) it may, if it wishes to, include information in these additional fields.

1 - Summary

Summary

Lake Inawashiro is situated nearly at the center of Fukushima Prefecture, straddling Koriyama City, Aizuwakamatsu City, and Inawashiro Town. Located at the foot of Mt. Bandai, this lake encompasses a wetland area of 10,960ha, with the water surface area of approximately 10,300ha—making it the fourth largest in Japan.

Of the 37 rivers flowing into Lake Inawashiro, the Nagase River provides the largest (60%) inflow. The Nagase River mainstream with a neutral pH becomes acidic after the confluence of the Sukawa River, which is highly acidic due to its volcanic origins, making Lake Inawashiro also previously an acidic lake. As the low pH suppressed biological production, the water quality of the lake is one of the best in Japan, with high transparency and an outstanding water quality index score for a lake of its size. In recent years, the lake water has been neutralized, causing concerns about water quality deterioration due to increased internal production. To address this, Fukushima Prefecture has developed a water environment conservation plan to maintain good water quality over the long term.

Lake Inawashiro serves as a vital overwintering site for swans and ducks, as it is an ice-free lake that does not freeze over on its entire surface in winter. An average of 801 Tundra Swans (*Cygnus columbianus bewickii*) have flown into the lake for overwintering in recent years, exceeding the 1% threshold of the Japanese/Korean non-breeding population. There are 197 animal species, including birds, living in and around Lake Inawashiro. The lake is also home to 100 species of aquatic plants, and the largest breeding ground for flowering individuals of the Fringed Water-lily (*Nymphoides peltata*) in Japan. As for terrestrial and other plants on the lakeshore, 705 species have been identified. Thus, Lake Inawashiro is considered a vital site for the conservation of biodiversity in the region.

The lake water is used for hydroelectric power generation, irrigation, and domestic use in the cities of Aizuwakamatsu and Koriyama. Many sandy beaches were formed near the mouth of the inflowing rivers, which have created the excellent natural scenery of white sand and green pine trees, such as Tenjinhama Beach, making the lake one of Fukushima Prefecture's most popular sightseeing spots. The area also attracts visitors for lake bathing and other water-related activities, as well as camping, thus contributing greatly to the development of the local economy.

2 - Data & location

2.1 - Formal data

2.1.1 - Name and address of the compiler of this RIS

Responsible compiler

Institution/agency	Tohoku Regional Environmental Office, Ministry of the Environment, Government of Japan
Postal address	Sendai Joint Government Building No.2, 3-2-23, Honcho, Aoba Ward, Sendai City, Miyagi Prefecture 980-0014, Japan

National Ramsar Administrative Authority

Institution/agency	Wildlife Division, Nature Conservation Bureau, Ministry of the Environment, Government of Japan
Postal address	No. 5 Godochosha, 1-2-2 Kasumigaseki, Chiyoda-ku, Tokyo 100-8975, Japan

2.1.2 - Period of collection of data and information used to compile the RIS

From year	2020
To year	2024

2.1.3 - Name of the Ramsar Site

Official name (in English, French or Spanish)	Lake Inawashiro
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2.2 - Site location

2.2.1 - Defining the Site boundaries

b) Digital map/image

<1 file(s) uploaded>

Former maps	0
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Boundaries description

This wetland area is located in Fukushima Prefecture, Japan, and consists of Lake Inawashiro and the coastal forests at the foot of Mount Bandai. Its northern boundary is mainly between rice fields and coastal forests, while the eastern boundary is National Route 49 and Prefectural Route 9, the southern boundary is Prefectural Route 376, and the western boundary is Prefectural Route 376 and the lakeshore. As such, the wetland has the same boundaries as the Class II Special Zone of the Bandai-Asahi National Park designated by the Japanese government.

2.2.2 - General location

a) In which large administrative region does the site lie?	Aizuwakamatsu City, Koriyama City, and Inawashiro Town in Fukushima Prefecture
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b) What is the nearest town or population centre?	Koriyama City (population: 319,230 as of October 2024)
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2.2.3 - For wetlands on national boundaries only

a) Does the wetland extend onto the territory of one or more other countries? Yes ☐ No ☒

b) Is the site adjacent to another designated Ramsar Site on the territory of another Contracting Party? Yes ☐ No ☒

2.2.4 - Area of the Site

Official area, in hectares (ha): 10960

Area, in hectares (ha) as calculated from GIS boundaries	11121.221
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2.2.5 - Biogeography

Biogeographic regions

Regionalisation scheme(s)	Biogeographic region
Udvardy's Biogeographical Provinces	Oriental Deciduous Forest
WWF Terrestrial Ecoregions	Nihonkai montane deciduous forests Honshu alpine conifer forests (Part of the southeast side is applicable.)
Freshwater Ecoregions of the World (FEOW)	Honshu-Shikoku-Kyushu

3 - Why is the Site important?

3.1 - Ramsar Criteria and their justification

☒ Criterion 1: Representative, rare or unique natural or near-natural wetland types

Hydrological services provided

Lake Inawashiro was formed when sediments from the partial collapse of Mt. Bandai as a result of its eruption 50,000 years ago blocked a river in a basin created by the subsidence of an area between two faults.

The lake surface is 514 m above sea level, with a maximum depth of 94 m and a surface area of approximately 10,300 ha, making it the fourth largest lake in Japan. Lake Inawashiro is the largest lake formed by volcanic activities in the relevant WWF Terrestrial Ecoregion (Nihonkai Montane Deciduous Forests) as well as in the Japanese archipelago.

Furthermore, Lake Inawashiro contains two areas with completely different topographies and ecosystems in the north and south of a single lake, making it unique within its WWF Terrestrial Ecoregion in this respect. Specifically, at the mouth of the Nagase River in the northern part (on the side of Mt. Bandai), a river delta has developed extensively, and a shelf-like flat area with a depth of less than 2.5 m extends more than 1,500 m from the shore, making it a major habitat for swans and other water birds. The southern part, on the other hand, generally has few shoals, and the water becomes deeper right from the shore (with the exception of a shallow area called "Oninuma Marsh"). The uniqueness of Lake Inawashiro is that the natural environment with these different characteristics is widely maintained and conserved.

The largest river flowing into Lake Inawashiro is the Nagase River, which accounts for 60% of the total inflow. The pH of the Nagase River mainstream is neutral, however, due to the confluence of the acid-rich Sukawa River, originating in the Adataro Mountain range, acidic water is poured into the Nagase River. The acid river water contains high concentrations of metal ions, which have a natural purification function of adsorbing pollutants in the lake water and settling them to the bottom as flocs. Due to this natural purification process, the lake is so crystal clear as to be called "Lake Tenkyo (Heavenly Mirror Lake)", and its water quality index is kept extremely good considering its size, making it one of the lakes with the cleanest water in Japan.

There are 37 rivers of various sizes flowing into Lake Inawashiro, and the water flows out through one river and the Asaka Canal (artificial waterway). The outflowing lake water functions effectively in preventing floods and reserving water for irrigation, daily life, as well as hydroelectric power generation for the Aizu, Inawashiro, and Koriyama areas. The rice fields which Tundra Swans (*Cygnus columbianus bewickii*) and other birds use as feeding and resting grounds, are farmed using water supplied from Lake Inawashiro. In addition, the mouths of the rivers flowing into the lake have formed sandy beaches, large and small, through sedimentation, creating an outstanding natural landscape of white sand and green pines.

Other ecosystem services provided

Renowned for its stunningly beautiful scenery, the lake is also a popular spot for swimming and other water-related activities, while the lakeside is used as a campsite, hence contributing greatly to the development of the local economy. As the lake remains ice free during the winter, migratory birds such as Tundra Swans and Common Pochards (*Aythya ferina*) also use the lake as their vital overwintering place. The lake is also popular among birdwatchers as a prime spot for observing wild birds. The lake also provides special conditions in which its surface remains unfrozen even when the temperature drops below freezing during the winter. Under such a condition, when strong winds blow onto the trees and shrubs, unique natural ice sculptures, known as "Shibuki Gori", are formed at the lake's edges. This unique phenomenon has made the lake one of the most popular winter tourist spots.

☒ Criterion 2 : Rare species and threatened ecological communities

Optional text box to provide further information

Plant and animal species checked for Criterion 2 have been confirmed in research materials and survey data.

☒ Criterion 3 : Biological diversity

Justification

The fauna of Lake Inawashiro and its surrounding areas has been confirmed to include a total of 197 animal species: 39 families and 111 species of birds; 12 families and 21 species of mammals; 2 families and 4 species of amphibians; 9 families and 26 species of fish; 8 families and 18 species of insects; 6 families and 11 species of shellfish; and 2 families and 6 species of crustaceans. A peer-reviewed scientific report indicates that more than 90 species of macrobenthic fauna alone have been identified. In terms of the flora, 35 families and 100 species of aquatic plants and 23 families and 705 species of non-aquatic plants have been identified.

Among these animals and plants, 333 species (170 animal species, 50 aquatic plant species and 113 land plant species) have been assessed under the IUCN Red List. In addition, 19 of these animal species and 13 plant species are listed as threatened species on the National Red List.

The lake is also a vital overwintering place for Tundra Swans (*Cygnus columbianus bewickii*), with the number of those migrating there exceeding the 1% threshold of the Japanese/Korean non-breeding population. For this reason, the swans are nationally protected as a national natural monument under the title "The swans of Inawashiro Lake and their migratory grounds". Furthermore, Marsh Forklet-moss that grows in the area of Lake Inawashiro is also registered as a national natural monument under the title "Lake Inawashiro's Marsh Forklet-moss community".

☒ Criterion 4 : Support during critical life cycle stage or in adverse conditions

Optional text box to provide further information

Fringed Water-lily (*Nymphoides peltata*) is a floating-leaved plant that grows in lakes, reservoirs, and waterways, but in recent years its number has been declining rapidly throughout Japan. In Fukushima Prefecture, Lake Inawashiro is the only breeding ground for Fringed Water-lily (*Nymphoides peltata*). In Inawashiro Lake, it grows on the northern shore and the southern shore of Oninuma, and the northern shore has an outstanding growing area compared to the rest of the country. The northern part of the lake, where there are many rivers flowing into the lake, is covered with sand and mud, creating an environment that is favourable to Fringed Water-lily, which is thought to be the reason for the formation of vast communities of this plant species.

Strong waves are known to inhibit the growth of floating plants in particular through direct effects such as the loss of rhizomes and partial destruction of plant bodies, and indirect effects such as the slowing of sedimentation. Around the shores of Lake Inawashiro where Fringed Water-lily grows, the disappearance of open water areas due to freezing in winter and the resulting lack of strong waves may allow the growth of large populations.

☒ Criterion 6 : >1% waterbird population

Optional text box to provide further information

In the Lake Inawashiro area, Tundra Swans (*Cygnus columbianus bewickii*) satisfy this criterion. Those swans that fly to Lake Inawashiro belong to the Japan/Korea non-breeding population of *Cygnus columbianus bewickii*, which is the only population that inhabits Japan and the Korean Peninsula. 1% of this population required in the criterion is 450 birds. The number of C.c. *bewickii* that spent winter in the lake site in the last five years is as follows: 2024: 774, 2023: 427, 2022: 772, 2021: 711, and 2020: 1,322 (average of the five years: 801). Four of the five years of 2020-2024 exceeded 450 birds, and the five-year average also exceeded 450 birds, thus clearing the 1% criterion.

3.2 - Plant species whose presence relates to the international importance of the site

Phylum	Scientific name	Criterion 2	Criterion 3	Criterion 4	IUCN Red List	CITES Appendix I	Other status	Justification
Plantae								
TRACHEOPHYTA/ LILIOPSIDA	<i>Caldesia parnassifolia</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	LC	<input type="checkbox"/>	National Red List VU	
BRYOPHYTA/ BRYOPSIDA	<i>Diobelonella palustris</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	National natural monument "Lake Inawashiro's Marsh Forklet-moss community"	
TRACHEOPHYTA/ LILIOPSIDA	<i>Gastrodia elata</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	VU	<input type="checkbox"/>	CITES Appendix II	Vegetation on Inawashiro lakeshore 1994
TRACHEOPHYTA/ LILIOPSIDA	<i>Lemna trisulca</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	LC	<input type="checkbox"/>	National Red List VU	
TRACHEOPHYTA/ LILIOPSIDA	<i>Najas minor</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	LC	<input type="checkbox"/>	National Red List VU	
TRACHEOPHYTA/ MAGNOLIOPSIDA	<i>Nymphoides peltata</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	LC	<input type="checkbox"/>		The number of Fringed Water-lily individuals has been declining rapidly throughout Japan. In Fukushima Prefecture, it grows only on the northern shore and the southern shore (Oninuma marsh) in Inawashiro Lake. The northern shore, which has the largest breeding ground in Japan, is covered with sand and mud due to many river inflows, creating an environment that allows Fringed Water-lily to form vast communities. Strong waves are known to inhibit the growth of floating plants, but around the shores of Lake Inawashiro where Fringed Water-lily grows, the disappearance of open water areas due to freezing in winter and the resulting lack of strong waves may allow the growth of large populations.
TRACHEOPHYTA/ LILIOPSIDA	<i>Ottelia alismoides</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	LC	<input type="checkbox"/>	National Red List VU	
TRACHEOPHYTA/ POLYPODIOPSIDA	<i>Salvinia natans</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	LC	<input type="checkbox"/>	National Red	

3.3 - Animal species whose presence relates to the international importance of the site

Phylum	Scientific name	Species qualifies under criterion				Species contributes under criterion				Pop. Size	Period of pop. Est.	% occurrence 1)	IUCN Red List	CITES Appendix I	CMS Appendix I	Other Status	Justification
		2	4	6	9	3	5	7	8								
Others																	
CHORDATA/ ACTINOPTERYGII	<i>Acheilognathus melanogaster</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				VU	<input type="checkbox"/>	<input type="checkbox"/>	National Red List EN	
Birds																	
CHORDATA/ AVES	<i>Aythya ferina</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	63	2020-2024		VU	<input type="checkbox"/>	<input type="checkbox"/>		Biodiversity Center of Japan, Habitat Survey for Anatidae: 2020-53 2021-144 2022-47 2023-6 2024-69 (January 2020 – January 2024; Conducted every January)
CHORDATA/ AVES	<i>Cygnus columbianus bewickii</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	801	2020-2024	1.8		<input type="checkbox"/>	<input type="checkbox"/>	National natural monument “The swans of Inawashiro Lake and their migratory grounds”	Criterion 6 : (1% = 450) Biodiversity Center of Japan, Habitat Survey for Anatidae
CHORDATA/ AVES	<i>Emberiza rustica</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				VU	<input type="checkbox"/>	<input type="checkbox"/>		Confirmed every year (2012-2020) in the Report of Bird Surveys along the North Shore of Lake Inawashiro

1) Percentage of the total biogeographic population at the site

3.4 - Ecological communities whose presence relates to the international importance of the site

Name of ecological community	Community qualifies under Criterion 2?	Description	Justification
Lake Inawashiro's Marsh Forklet-moss communities	<input type="checkbox"/>	Submerged moss communities forming moss balls	National natural monument

Optional text box to provide further information

Moss balls (jpn. “Mari-Goke”) in Lake Inawashiro are formed when fragments of mosses and other aquatic plants are bound together by the rotational motion caused by waves on the lakeshore. Lakes where such moss balls form are very rare in the world, and only two places in Japan, including Lake Inawashiro. The moss balls in Lake Inawashiro are mainly formed by submerged Marsh Forklet-moss communities and are designated as a national monument of scenic beauty due to their rarity and academic value. For these reasons, it can be said that the Lake Inawashiro's Marsh Forklet-moss communities are of global value.

4 - What is the Site like? (Ecological character description)

4.1 - Ecological character

Lake Inawashiro is a relatively deep lake with an average depth of 52 m, so it is a non-freezing lake where the surface is not frozen during winter except for part of its shores. Because of that, more than 800 Tundra Swans (*Cygnus columbianus bewickii*), which is more than the 1% threshold for the Japan/Korea non-breeding population, use the lake as an overwintering home. In addition, 20 species of duck, such as the Common Pochard (*Aythya ferina*) and Northern Pintail (*Anas acuta*), have been confirmed, so it is a vital wintering ground for these birds as well. On the northern shore, reed belts extend alongside the lake shore, while on the land side, there are belts of willow and alder trees, as well as vegetable and rice fields. The reeds are used by Black-browed Reed Warblers (*Acrocephalus bistrigiceps*) and Yellow Bitterns (*Ixobrychus sinensis*) during the breeding season. The forested areas, rice and other agricultural fields are used by birds of prey such as Eurasian Goshawks (*Accipiter gentilis*) as well as small birds such as skylarks (*Alauda arvensis*), which also serve as a feeding ground for Tundra Swans (*Cygnus columbianus bewickii*) during winter. A total of 111 bird species from 39 families and 15 orders have been confirmed in the Lake Inawashiro area to date.

In addition, 3 orders, 6 families and 11 species of shellfish have been confirmed to be living in the lake, and it is also a habitat for the Yokohama Shijiragai clam (*Inversiunio jokohamensis*), which is the mother shell for the spawning of the bitterling species, as well as the endangered Cockscomb Pearl Mussel (*Cristaria plicata*). On top of that, a total of 197 animal species, including 21 species of mammals, 4 species of amphibians, 26 species of fish, 18 species of insects, and 6 species of crustaceans, have also been confirmed.

The north shore of Lake Inawashiro has a gently sloping topography with a wide, flat lake shelf extending out with a depth up to 2.5 m for a distance of over 1,500 m offshore, and this terrain makes a natural environment where the nationally-protected Marsh Forklet-moss (*Dicranella palustris*), as well as emergent plants such as Singhara Nut and reed grow. There are also valuable plants listed as endangered on the National Red List, such as Parnassus-leaf caldesia (*Caldesia parnassifolia*) and Brittle Naiad (*Najas minor*), growing here. Moreover, Lake Inawashiro is the largest growing area in Japan for flowering individuals of Fringed Water-lily (*Nymphoides peltata*). In total, 23 orders, 35 families and 100 species of aquatic plants have been confirmed to grow in the lake, and so have 49 orders, 123 families and 705 species of non-aquatic plants along the lakeshore and nearby areas, showing a wide and diverse range of plants in and around Lake Inawashiro.

4.2 - What wetland type(s) are in the site?

Inland wetlands

Wetland types (code and name)	Local name	Ranking of extent (1: greatest - 4: least)	Area (ha) of wetland type	Justification of Criterion 1
Fresh water > Lakes and pools >> O: Permanent freshwater lakes	Lake Inawashiro	1	10312	Unique

Other non-wetland habitat

Other non-wetland habitats within the site	Area (ha) if known
Forests	559

4.3 - Biological components

4.3.1 - Plant species

Other noteworthy plant species

Phylum	Scientific name	Position in range / endemism / other
CHAROPHYTA/CHAROPHYCEAE	<i>Chara braunii</i>	National Red List VU
CHAROPHYTA/CHAROPHYCEAE	<i>Chara fibrosa</i>	National Red List CR
TRACHEOPHYTA/LILIOPSIDA	<i>Cremastra unguiculata</i>	National Red List VU, CITES Appendix II
TRACHEOPHYTA/LILIOPSIDA	<i>Eriocaulon kiusianum</i>	National Red List VU
TRACHEOPHYTA/LILIOPSIDA	<i>Habenaria sagittifera</i>	National Red List VU
TRACHEOPHYTA/LILIOPSIDA	<i>Najas tenuissima</i>	National Red List VU
TRACHEOPHYTA/MAGNOLIOPSIDA	<i>Potentilla chinensis</i>	National Red List VU
TRACHEOPHYTA/MAGNOLIOPSIDA	<i>Pyrus ussuriensis</i>	National Red List EN
TRACHEOPHYTA/MAGNOLIOPSIDA	<i>Rotala hippuris</i>	National Red List VU
TRACHEOPHYTA/MAGNOLIOPSIDA	<i>Rubus pungens</i>	National Red List VU

Invasive alien plant species

Phylum	Scientific name	Impacts
TRACHEOPHYTALILIOPSIDA	<i>Elodea densa</i>	Potential
TRACHEOPHYTALILIOPSIDA	<i>Elodea nuttallii</i>	Potential
TRACHEOPHYTALILIOPSIDA	<i>Iris pseudacorus</i>	Potential
TRACHEOPHYTAMAGNOLIOPSIDA	<i>Myosotis scorpioides</i>	Potential
TRACHEOPHYTALILIOPSIDA	<i>Pontederia crassipes</i>	Potential
TRACHEOPHYTAMAGNOLIOPSIDA	<i>Rudbeckia laciniata</i>	Potential

4.3.2 - Animal species

Other noteworthy animal species

Phylum	Scientific name	Pop. size	Period of pop. est.	% occurrence	Position in range /endemism/other
CHORDATA/	<i>Acheilognathus tabira</i>				IUCN Red List NT (Acheilognathus tabira), National Red List EN
CHORDATA/AVES	<i>Anser albifrons</i>	22	2022-2024		IUCN Red List LC, National Red List NT, CMS Appendix II, National natural monument
CHORDATA/AVES	<i>Anser fabalis</i>	4	2020-2024		IUCN Red List LC, National Red List VU, CMS Appendix II, National natural monument
CHORDATA/AVES	<i>Butastur indicus</i>				IUCN Red List LC, National Red List VU, CITES Appendix II, CMS Appendix II
CHORDATA/MAMMALIA	<i>Capricornis crispus</i>				IUCN Red List LC, National special natural monument
MOLLUSCA/GASTROPODA	<i>Cipangopaludina chinensis laeta</i>				IUCN Red List LC (Cipangopaludina chinensis), National Red List VU
MOLLUSCA/BIVALVIA	<i>Cristaria plicata</i>				IUCN Red List LC, National Red List EN
CHORDATA/AVES	<i>Falco peregrinus japonensis</i>				IUCN Red List LC, National Red List VU, CITES Appendix I, CMS Appendix II, National Endangered Species of Wild Fauna and Flora
ARTHROPODA/INSECTA	<i>Laccophilus lewisius</i>				National Red List VU
CHORDATA/AVES	<i>Lanius tigrinus</i>				IUCN Red List LC, National Red List CR
CHORDATA/CEPHALASPIDOMORPHI	<i>Lethenteron reissneri</i>				IUCN Red List LC (Lethenteron reissneri), National Red List VU
CHORDATA/MAMMALIA	<i>Nyctalus aviator</i>				IUCN Red List NT, National Red List VU
CHORDATA/MAMMALIA	<i>Nyctalus aviator</i>				IUCN Red List NT, National Red List VU
ARTHROPODA/INSECTA	<i>Orectochilus punctipennis</i>				National Red List VU
CHORDATA/ACTINOPTERYGII	<i>Oryzias latipes</i>				IUCN Red List LC, National Red List VU
CHORDATA/ACTINOPTERYGII	<i>Oryzias sakaizumii</i>				IUCN Red List LC, National Red List VU
CHORDATA/AVES	<i>Pericrocotus divaricatus</i>				IUCN Red List LC, National Red List VU

Invasive alien animal species

Phylum	Scientific name	Impacts
CHORDATA/ACTINOPTERYGII	<i>Channa argus</i>	Potential
MOLLUSCA/BIVALVIA	<i>Corbicula fluminea</i>	Potential
CHORDATA/AVES	<i>Garrulax canorus</i>	Potential
CHORDATA/ACTINOPTERYGII	<i>Lepomis macrochirus</i>	Potential
CHORDATA/ACTINOPTERYGII	<i>Micropterus dolomieu</i>	Potential
CHORDATA/ACTINOPTERYGII	<i>Micropterus salmoides</i>	Potential
CHORDATA/ACTINOPTERYGII	<i>Oncorhynchus mykiss</i>	Potential
ARTHROPODA/MALACOSTRACA	<i>Pacifastacus leniusculus</i>	Potential
ARTHROPODA/MALACOSTRACA	<i>Procambarus clarkii</i>	Potential
CHORDATA/ACTINOPTERYGII	<i>Rhodeus ocellatus</i>	Potential

4.4 - Physical components

4.4.1 - Climate

Climatic region	Subregion
C: Moist Mid-Latitude climate with mild winters	Cfa: Humid subtropical (Mild with no dry season, hot summer)

There have been no changing climatic conditions affecting the site.

4.4.2 - Geomorphic setting

a) Minimum elevation above sea level (in metres)

a) Maximum elevation above sea level (in metres)

- ☐ Entire river basin
☒ Upper part of river basin
☐ Middle part of river basin
☐ Lower part of river basin
☐ More than one river basin
☐ Not in river basin
☐ Coastal

Please name the river basin or basins. If the site lies in a sub-basin, please also name the larger river basin. For a coastal/marine site, please name the sea or ocean.

Aganogawa river system

4.4.3 - Soil

Mineral ☒

Organic ☐

No available information ☐

Are soil types subject to change as a result of changing hydrological conditions (e.g., increased salinity or acidification)? Yes ☐ No ☒

4.4.4 - Water regime

Water permanence

Presence?	
Usually permanent water present	No change

Source of water that maintains character of the site

Presence?	Predominant water source	
Water inputs from surface water	<input type="checkbox"/>	No change

Water destination

Presence?	
To downstream catchment	No change

Stability of water regime

Presence?	
Water levels largely stable	No change

Please add any comments on the water regime and its determinants (if relevant). Use this box to explain sites with complex hydrology.

There are 37 rivers of various sizes flowing into Lake Inawashiro, and the water flows out through one river and the Asaka Canal. That is to say, the water flows from the Nagase River and other rivers into Lake Inawashiro, and from there the lake water either flows out to the Sea of Japan through the Nippashi River which later becomes the Agano River, or flows out to the other outlet, the Asaka Canal, where it is used for hydroelectric power generation, irrigation, as well as a water supply for the cities of Aizuwakamatsu and Koriyama, before flowing into the Abukuma River system and out to the Pacific Ocean.

4.4.5 - Sediment regime

Significant erosion of sediments occurs on the site ☐

Significant accretion or deposition of sediments occurs on the site ☐

Significant transportation of sediments occurs on or through the site ☐

Sediment regime is highly variable, either seasonally or inter-annually ☐

Sediment regime unknown ☒

(ECD) Light - reaching wetland

The transparency of the center of Lake Inawashiro was 10.0m in FY2022 and 10.6m in FY2023, remaining largely stable at o

(ECD) Water temperature

Range of water temperature in the center of the lake in 2022: Upper layer (surface): 5.5-25.5°C Middle layer: 5.4-23.5°C

4.4.6 - Water pH

Acid (pH<5.5) ☐

Circumneutral (pH: 5.5-7.4) ☒

Alkaline (pH>7.4) ☐

Unknown ☐

Please provide further information on pH (optional):

The pH of the lake center was acidic, between 4.6 and 5.4 from the 1930s until at least around 1995, but it began to rise from then, reaching approximately 6.5 around 2005, and has since remained largely neutral.

The pH of the lake center in 2023 was between 6.6 and 7.1, with an average of 6.9.

The specific causes of the neutralization of the pH are not determined yet, but several factors have been pointed out, a major one of which is the decrease in the amount of sulfuric ions supplied from the Sukawa River.

4.4.7 - Water salinity

Fresh (<0.5 g/l) ☒

Mixohaline (brackish)/Mixosaline (0.5-30 g/l) ☐

Euhaline/Eusaline (30-40 g/l) ☐

Hyperhaline/Hypersaline (>40 g/l) ☐

Unknown ☐

4.4.8 - Dissolved or suspended nutrients in water

Eutrophic ☐

Mesotrophic ☐

Oligotrophic ☒

Dystrophic ☐

Unknown ☐

Please provide further information on dissolved or suspended nutrients (optional):

In the survey conducted in 2022, the concentration of dissolved nitrogen was in the range of 0.06-0.07 mg/L at four locations: the lake center, 500 m off the Nagase River, 500 m off the Takahashi River, and 500 m off the Oguro River; the dissolved phosphorus concentration was below the lower quantitation limit (<0.003 mg/L) at the lake center, 500 m offshore of the Nagase River, and 500 m offshore of the Takahashi River.

(ECD) Dissolved organic carbon

Dissolved organic carbon: 0.72-0.73 mg/L at the four locations; Dissolved state: more than 94% at all the locations

(ECD) Water conductivity

Electrical conductivity of the lake water: 114-168 µS/cm, with an average of 118 µS/cm

4.4.9 - Features of the surrounding area which may affect the Site

Please describe whether, and if so how, the landscape and ecological

characteristics in the area surrounding the Ramsar Site differ from the i) broadly similar ☐ ii) significantly different ☒

site itself:

Surrounding area has greater urbanisation or development ☐

Surrounding area has higher human population density ☐

Surrounding area has more intensive agricultural use ☐

Surrounding area has significantly different land cover or habitat types ☒

Please describe other ways in which the surrounding area is different:

On the northeastern side of Lake Inawashiro are the town of Inawashiro and rice fields. The southeastern side has extensive plantations and broadleaf forests, while the southern and western sides are used for agriculture as rice fields.

4.5 - Ecosystem services

4.5.1 - Ecosystem services/benefits

Provisioning Services

Ecosystem service	Examples	Importance/Extent/Significance
Food for humans	Sustenance for humans (e.g., fish, molluscs, grains)	Medium
Fresh water	Water for irrigated agriculture	High
Fresh water	Water for energy production (hydro-electricity)	High
Fresh water	Drinking water for humans and/or livestock	High

Regulating Services

Ecosystem service	Examples	Importance/Extent/Significance
Maintenance of hydrological regimes	Storage and delivery of water as part of water supply systems for agriculture and industry	High
Pollution control and detoxification	Water purification/waste treatment or dilution	High
Hazard reduction	Flood control, flood storage	High

Cultural Services

Ecosystem service	Examples	Importance/Extent/Significance
Recreation and tourism	Recreational hunting and fishing	Low
Recreation and tourism	Picnics, outings, touring	High
Recreation and tourism	Water sports and activities	High
Scientific and educational	Educational activities and opportunities	High
Scientific and educational	Long-term monitoring site	Medium

Supporting Services

Ecosystem service	Examples	Importance/Extent/Significance
Biodiversity	Supports a variety of all life forms including plants, animals and microorganisms, the genes they contain, and the ecosystems of which they form a part	High

Within the site: 413000s

Outside the site: 443000s

Have studies or assessments been made of the economic valuation of ecosystem services provided by this Ramsar Site? Yes ☐ No ☐ Unknown ☒

4.5.2 - Social and cultural values

i) the site provides 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 ☒

Description if applicable

By cutting reeds which are grown while absorbing phosphorus and nitrogen, and removing them from the lakeshore before they die, the elution of nutrient salts can be prevented, thereby hindering water quality deterioration. For that goal, reed cutting is carried out regularly at Lake Inawashiro. In addition, the cut reeds are not disposed of as waste but are utilized based on the concept of "wise use" in local traditional events such as the Donto Festival (new year fire festival) and as a raw material for paper production.

ii) the site has exceptional cultural traditions or records of former civilizations that have influenced the ecological character of the wetland ☐

iii) the ecological character of the wetland depends on its interaction with local communities or indigenous peoples ☐

iv) 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 ☐

4.6 - Ecological processes

(ECD) Notable aspects concerning migration

Lake Inawashiro provides a wetland indispensable for the overwintering of Tundra Swans (*Cygnus columbianus bewickii*), which stay there for more than six months from October to April.

5 - How is the Site managed? (Conservation and management)

5.1 - Land tenure and responsibilities (Managers)

5.1.1 - Land tenure/ownership

Public ownership

Category	Within the Ramsar Site	In the surrounding area
National/Federal government	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Provincial/region/state government	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Local authority, municipality, (sub)district, etc.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Private ownership

Category	Within the Ramsar Site	In the surrounding area
Other types of private/individual owner(s)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

5.1.2 - Management authority

Please list the local office / offices of any agency or organization responsible for managing the site:

1) Tohoku Regional Environmental Office, Ministry of the Environment, Government of Japan
2) Fukushima Prefecture

Provide the name and/or title of the person or people with responsibility for the wetland:

1) Naoko Nakajima: Director of Tohoku Regional Environmental Office, Ministry of the Environment, Government of Japan
2) Masao Uchibori: The governor of Fukushima Prefecture

Postal address:

1) 6F, Sendai Joint Government Building No.2,
3-2-23, Honcho, Aoba Ward, Sendai City, Miyagi Prefecture 980-0014, Japan

Email: reo-tohoku@env.go.jp

2) 2-16, Sugitsumacho, Fukushima City, Fukushima Prefecture 960-8670, Japan

Email: shizen@pref.fukushima.lg.jp

5.2 - Ecological character threats and responses (Management)

5.2.1 - Factors (actual or likely) adversely affecting the Site's ecological character

Agriculture and aquaculture

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Annual and perennial non-timber crops	Medium impact	Medium impact	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Human intrusions and disturbance

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Recreational and tourism activities	Low impact	Low impact	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Invasive and other problematic species and genes

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Invasive non-native/ alien species	Medium impact	Medium impact	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Pollution

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Household sewage, urban waste water	Medium impact	Medium impact	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Geological events

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Volcanoes	Medium impact	Medium impact	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Please describe any other threats (optional):

The specific causes of the neutralization of the pH are yet to be determined, but several possibilities have been pointed out in recent years, a major one of which is the decrease in the amount of sulfuric ions supplied from the Sukawa River.

No particular or potential threats have not been identified due to the fish releases described within this RIS.

5.2.2 - Legal conservation status

National legal designations

Designation type	Name of area	Online information url	Overlap with Ramsar Site
Class A River	Lake Inawashiro	https://www.pref.fukushima.lg.jp/sec/41045a/inawashiroko-riyou.html	partly
National Natural Monument	Lake Inawashiro's Marsh Forklet-moss community	https://kunishitei.bunka.go.jp/bys/maindetails/401/360	partly
National Natural Monument	The swans of Inawashiro Lake and their migratory grounds	https://kunishitei.bunka.go.jp/bys/maindetails/401/389	partly
National Park	Bandai Asahi National Park	https://www.env.go.jp/park/bandai/index.html	whole
Wildlife Protection Area	Prefectural Wildlife Protection Area (Inawashiro (The visiting spot for the birds in group))	https://www.pref.fukushima.lg.jp/sec/16035b/r6-tyoujyuuhogoku.html	whole

Non-statutory designations

Designation type	Name of area	Online information url	Overlap with Ramsar Site
Important Bird Area	JP066 Lake Inawashiro	https://mobile.wbsj.org/nature/hogo/others/iba/search/sites/touhoku/imgs/JP066.pdf	whole
Other non-statutory designation	Areas surrounding Lake Inawashiro	https://www.env.go.jp/nature/satoyama/07_fukushima/no7-3.html	whole
Other non-statutory designation	Bandaisan Geopark	https://www.bandaisan-geo.com/	whole
Other non-statutory designation	Lake Inawashiro	https://kba.conservation.or.jp/tohoku/index.html	whole
Other non-statutory designation	Lake Inawashiro and its inflowing rivers	https://www.env.go.jp/nature/important_wetland/wetland/w143.html	whole

5.2.3 - IUCN protected areas categories (2008)

- Ia Strict Nature Reserve ☐
- Ib Wilderness Area: protected area managed mainly for wilderness protection ☐
- II National Park: protected area managed mainly for ecosystem protection and recreation ☒
- III Natural Monument: protected area managed mainly for conservation of specific natural features ☒
- IV Habitat/Species Management Area: protected area managed mainly for conservation through management intervention ☐
- V Protected Landscape/Seascape: protected area managed mainly for landscape/seascape conservation and recreation ☐
- VI Managed Resource Protected Area: protected area managed mainly for the sustainable use of natural ecosystems ☐

5.2.4 - Key conservation measures

Legal protection

Measures	Status
Legal protection	Implemented

Habitat

Measures	Status
Catchment management initiatives/controls	Partially implemented
Habitat manipulation/enhancement	Partially implemented
Improvement of water quality	Partially implemented

Human Activities

Measures	Status
Management of water abstraction/takes	Implemented
Fisheries management/regulation	Implemented
Harvest controls/poaching enforcement	Implemented
Regulation/management of recreational activities	Implemented
Communication, education, and participation and awareness activities	Implemented
Research	Implemented

Other:

Fukushima Prefecture is monitoring the number of nests and the population of Great Cormorants, which are fish-eating birds, from the perspective of conserving fishery resources including freshwater fish. In recent years, due either to the increase in the number of Great Cormorants or to the expansion of their habitat, fish such as ayu (sweetfish) are increasingly preyed upon by them in rivers and other bodies of water. Large number of released, farmed, and native fish are affected. Moreover, in cormorant habitats, the death of trees caused by their droppings is increasing, and damage to fisheries and forests has become apparent. In order to tackle these issues, Fukushima Prefecture has been making efforts to control the Great Cormorant population, and from 2013 to 2022, a trial of hunting them with guns was carried out at the breeding colony on Okinajima Island in Lake Inawashiro. In addition, in order to prevent the spread of infection by highly pathogenic avian influenza to wild birds, Anatidae birds have been monitored to check any abnormalities.

5.2.5 - Management planning

Is there a site-specific management plan for the site? Yes

Has a management effectiveness assessment been undertaken for the site? Yes ☐ No ☒

If the site is a formal transboundary site as indicated in section Data and location > Site location, are there shared management planning processes with another Contracting Party? Yes ☐ No ☒

Please indicate if a Ramsar centre, other educational or visitor facility, or an educational or visitor programme is associated with the site:

The Lake Inawashiro area has the Urabandai Visitor Center, the Inawashiro Aquatic Environment Centre, and the Aquamarine Inawashiro Kingfishers Aquarium. Moreover, Fukushima Prefecture organizes annual environmental study workshops for elementary school children and their parents in the lake area, with the aim of helping children to understand the water environment and the relationship between humans and wildlife, while enabling them to act proactively for environmental conservation. Elementary schools in the lake area are promoting water environment learning, consisting of activities such as cultivating and transplanting Fringed Water-lily, water quality surveys, aquatic life surveys, and lake shore clean-up activities. The "Inawashiro Studies", a home-area research program introduced to local high schools, is carrying out initiatives aimed at exterminating invasive species such as Signal Crayfish.

URL of site-related webpage (if relevant):

<https://mizu-mirai.jp/about/> <https://www.fukushima-kankyosozo.jp/facilities03.html>
<https://www.pref.fukushima.lg.jp/sec/16035c/konpeki.html>

5.2.6 - Planning for restoration

Is there a site-specific restoration plan? Yes, there is a plan

5.2.7 - Monitoring implemented or proposed

Monitoring	Status
Water regime monitoring	Implemented
Water quality	Implemented
Plant species	Implemented
Animal community	Implemented
Birds	Implemented

Lake Inawashiro is designated as a survey site for both forest and grassland ecosystems as well as land and water ecosystems, which are two survey site categories in the Monitoring Site 1,000, a natural environment monitoring program run by the Ministry of the Environment. Surveys of terrestrial birds, plankton, freshwater fish, benthic animals and lakeside vegetation are carried out once every five years.

Lake Inawashiro is also a site selected for the nationwide simultaneous survey of Anatidae bird habitats conducted by the Ministry of the Environment in mid-January every year. In this survey, the arrival of Anatidae birds, including Tundra Swans for overwintering, and their population are recorded.

Furthermore, in order to manage the population of fish-eating Great Cormorant, Fukushima Prefecture conducts monitoring surveys of the number of nests and individuals in the Inawashiro area every summer and winter.

In addition, the Fukushima Prefectural Centre for Environmental Creation has been conducting research with the aim of contributing to aquatic conservation, including research on ionic balance and on persistent organic substances in the water of Lake Inawashiro and its major inflowing rivers.

In 2016, Fukushima University established the Bandai-Asahi Research Institute for Natural Environment Conservation, which has been conducting project research on topics such as benthic animals and plants, water circulation, and water quality in Lake Inawashiro and the surrounding area.

6 - Additional material

6.1 - Additional reports and documents

6.1.1 - Bibliographical references

- Ministry of the Environment Japan (MOEJ) Red List 2020
- IUCN Red List of Threatened Species
- Monitoring Sites 1000 - Lake Inawashiro
- Plants of the World Online (POWO) Website
- Global Biodiversity Information Facility (GBIF) Website
- The Report of monitoring birds at the northern shore of lake- Inawashiro 2020
- Aquatic Environment Conservation Plan for Lake Inawashiro and the Lake Urabandai Basin (2022)
- Macrophytic flora and vegetation of the northern Inawashiro-ko Lake, Fukushima Prefecture, Japan, with suggestions for the efforts for water environment conservation
- Inawashiro Water Environment Center Website
- Wildlife Protection Area Map 2024, Japan
- FY2022 Lake Inawashiro Research and Survey Project Report
- Koriyama City Official Website
- Aizuwakamatsu City Official Website
- Inawashiro Town Official Website
- Fukushima City Official Website
- Fukushima Prefecture Official Website
- Website of the Biodiversity Center of Japan's Website (National Park Area, etc.)
- Habitats, floral morphs and escape of *Nymphoides peltata* and re-examination of its genetic diversity in Japan (2015)
- Population status and genetic diversity of *Nymphoides peltata* in Japan
- Deep Blue Lake Inawashiro Revival Project Meeting
- Bandai-Asahi National Park (Website of MOEJ)
- Website of the Wild Bird Society of Japan Aizu-Branch

6.1.2 - Additional reports and documents

i. taxonomic lists of plant and animal species occurring in the site (see section 4.3)

<1 file(s) uploaded>

ii. a detailed Ecological Character Description (ECD) (in a national format)

<no file available>

iii. a description of the site in a national or regional wetland inventory

<no file available>

iv. relevant Article 3.2 reports

<no file available>

v. site management plan

<no file available>

vi. other published literature

<no file available>

6.1.3 - Photograph(s) of the Site

Please provide at least one photograph of the site:



Fringed Water-lily on the northern side of Lake Inawashiro (Fukushima Prefecture, 19-08-2024)



Bewick's swans and pintails (Koriyama City, 08-01-2025)



Sandy beach and highly transparent water (Koriyama City, 10-09-2024)



Oninuma Marsh on the southern side of Lake Inawashiro (Koriyama City, 10-09-2024)

6.1.4 - Designation letter and related data

Designation letter

<1 file(s) uploaded>

Date of Designation 2025-07-15