



Ramsar Information Sheet

Published on 31 October 2023

Update version, previously published on : 8 November 2005

Japan Oku-Nikko-shitsugen



Designation date	8 November 2005
Site number	1553
Coordinates	36°46'53"N 139°26'15"E
Area	260,41 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

The wetlands of Oku-Nikko are located in the northern part of Tochigi prefecture and include Senjogahara mire, Odashirogahara mire, and Lake Yunoko. Odashirogahara mire has areas of successions to grassland. Lake Yunoko is a small lake which is 3 km² around, and the hot springs of Yunoko-onsen arise from the bottom of the lake. These wetlands are the results of the volcanic activities of Mt. Nantai and Mt. Mitsudake.

The Senjogahara area is open to lower elevations with no high mountain and is seasonally visited by native butterflies. The areas with lower elevation receive greater rain fronts but rainfall is comparatively less in the centre of Nikko City than other lower elevations. From spring to early summer, *Gallinago hardwickii* (Latham's Snipe) can be observed in the mire. Although agriculture has developed around the Senjogahara mire, the remaining area of mire is strictly protected within Nikko National Park. Due to prevalence of *Cervus nippon* (Sika Deer), the native flowers and butterflies were negatively affected. As a result, a fence has been constructed which partially protects the area from the deer and the numbers of the deer are also controlled.

The vegetation of Odashirogahara mire is also protected by fencing. Although the area is drying, many butterflies are still found in the grassland areas. Sometimes high rainfall, especially during a typhoon, create temporary ponds in the centre of the mire which helps the ecosystem resiliency of the area and at the same time adds to the aesthetics of the Site.

Lake Yunoko has abundant aquatic plants. Ducks, such as *Anas penelope* (Eurasian Wigeon) visit the Lake in large numbers every year. It is also an important roosting site for migratory birds like *Cygnus columbianus* (Tundra Swan).

2 - Data & location

2.1 - Formal data

2.1.1 - Name and address of the compiler of this RIS

Responsible compiler

Institution/agency	Kanto Regional Environment Office, Ministry of the Environment of Japan
Postal address	6F, Saitama-Shintoshin Joint Government Bldg., No.1, 1-1 Shintoshin, Chuo-ku, Saitama-city, Saitama Prefecture 330-9720 JAPAN

National Ramsar Administrative Authority

Institution/agency	Wildlife Division, Nature Conservation Bureau, Ministry of the Environment
Postal address	1-2-2 Kasumigaseki, Chiyoda-ku, Tokyo Japan

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

From year	2018
To year	2021

2.1.3 - Name of the Ramsar Site

Official name (in English, French or Spanish)	Oku-Nikko-shitsugen
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2.1.4 - Changes to the boundaries and area of the Site since its designation or earlier update

(Update) A. Changes to Site boundary	Yes <input type="radio"/> No <input checked="" type="radio"/>
(Update) B. Changes to Site area	No change to area
(Update) For secretariat only. This update is an extension	<input type="checkbox"/>

2.1.5 - Changes to the ecological character of the Site

(Update) 6b i. Has the ecological character of the Ramsar Site (including applicable Criteria) changed since the previous RIS?	Not evaluated
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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

Oku-Nikko-shitsugen is located at 36°47' North latitude and at 139°26' East longitude and 120m north of Tokyo. The wetland is in a valley surrounded by mountains over an altitude of 2000m including Mt. Nantai (2486m) and Mt. Shirane (2578m).

The designated area includes the volcanic lake called Yuno-ko with the Yukawa River flowing out from it, and the two major wetlands, Senjogahara and Odashirogahara. Senjogahara is a 400 hectare marshland that lays flat area at an altitude of approximately 1,390 to 1,400 metres. It is located within Nikko National Park in Nikko City, Tochigi Prefecture. The Site is bordered with Mt Nantai, Mt Tarō, Mt Sannoboshi and Mt Mitsudake (in order from south) on the eastern side and Odashirogahara and Mt. Toyama (in order from south) on the western side. The Yugawa River flows almost in a north-south direction along the western edge of the area. Odashirogahara is located in the mid-west of Oku-Nikko, at an altitude of approximately 1,405 m to 1,430 m. It is surrounded by mountains on three sides (north, west and south), with Senjogahara on the east, Mt. Toyama on the north to west sides and Mt. Takayama on the south side. The only open area on the east side, is separated from Senjogahara by broad-leaved oak trees.

The Yukawa River originates from Lake Yunoko, and it flows down from the southern shore of Lake Yunoko as the 'Yutaki Falls' and passes through the marshland of Senjogahara. The section from Yutaki Falls to Senjogahara is registered as the Ramsar Site 'Oku-Nikko Shitsugen'.

2.2.2 - General location

a) In which large administrative region does the site lie?	Nikko City, Tochigi Prefecture
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b) What is the nearest town or population centre?

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):

Area, in hectares (ha) as calculated from GIS boundaries

2.2.5 - Biogeography

Biogeographic regions

Regionalisation scheme(s)	Biogeographic region
Udvardy's Biogeographical Provinces	Oriental Deciduous Forest

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

Other reasons

Senjogahara is a representative high moorland, one of the largest on Honshu island, with more than 100 species of plants. Many of these are named Nikko, reflecting the high academic value of the area. Summers are cool because of the high elevations where peat forms. Some species, such as *Geranium yesoense* var. *nipponicum* (Akanuma-furo or Hakusan-furo in Japanese) are genetically distinct to other areas, which adds to the genetic diversity of the Site. In the high and intermediate moorlands (which occupy the most of the Site areas), *Rhododendron mulle* subsp. *japonicum* (Japanese Azalea) and *Malus sieboldii* (Toringo Crabapple) are found. *Eriophorum vaginatum* (Hare's Tail Cotton Grass) and tussocks are unique features of the mire landscape.

Odashirogahara also represents a rare landscape with succession from mire to grasslands. While the wetter areas are mire, the remaining areas are grasslands with some woodland. It is important to note that grasslands are declining due to human impacts such as urban development and agricultural fields throughout Japan. Therefore, this Site provides crucial habitat for birds and other species that use grasslands as their breeding grounds.

Yunoko is a shallow lake with abundant aquatic plants. Especially in winter, it functions as an important habitat for migratory waterbirds. Majority of the waterbirds are ducks, such as *Anas penelope* (Eurasian Wigeon). *Fulica atra* (Common Coot) are also common while *Cygnus columbianus* (Tundra Swan) are visiting waterbirds.

Each wetland is protected within the Nikko National Park. Furthermore, Odashirogahara and Senjogahara are designated as special protection areas and strictly managed.

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

<no data available>

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

1) Percentage of the total biogeographic population at the site

<no data available>

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

<no data available>

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

4.1 - Ecological character

Senjogahara has major mire communities, such as *Moliniopsis japonica* - *Sphagnum papillosum* community, *Carex thunbergii* var. appendiculate community, and *Eriophorum vaginatum* (Hara's Tail Cotton Grass) community. It is marked by a strong representation of intermediate moor. *Sphagnum* is less developed and forms hollow hummocks. Furthermore, because of the inflow of surface water to Senjogahara, large tussocks of *Carex thunbergii* var. appendiculate are formed. Around inflow areas from the river, reed communities exist. Many environmental types are thus contained in this site. Other plants, including *Rhododendron molle* subsp. *Japonicum* (Japanese Azalea), *Spiraea salicifolia*, *Cirsium oligophyllum* subsp. *Nikkoense* (Nikko-Thistle), and *Malus toringo* (Toringo Crabapple) also grow naturally.

The mire areas, and accompanying grassland, are an important breeding habitat for birds such as *Gallinago hardwickii* (Latham's Snipe) and *Saxicola torquata* (Siberian Stonechat).

Lowland grasslands throughout Japan are disappearing because of urban development, increase of production fields, or vegetation succession. Hence, the grasslands of this Site which are supported by the wetter conditions, play an important role as a habitat for birds and other species that use grasslands as their breeding grounds.

The mire environment is abundant with flowers, forming suitable habitats for butterflies. *Plebejus argus micrargu* (Silver-studded Blues, National Red List: NT) is uniquely adapted to the Site and flowers once every year.

Nitella flexilis and *Chara globularis* Thuill. var. *Globularis* grow in Lake Yunoko. Small mires are located on the lakeside, and *Eriophorum vaginatum* (Hara's Tail Cotton Grass) and *Vaccinium oxycoccos* (Cranberry) live there. Lake Yunoko is also important as a winter refuge, providing a habitat for many waterbirds including *Anas platyrhynchos* (Mallard), *Anas penelope* (Eurasian Wigeon), *Aythya fuligula* (Tufted Duck), and *Mergus albellus* (Smew).

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 Yunoko	3	35.71	Representative
Fresh water > Marshes on peat soils >> U: Permanent Non-forested peatlands	Senjogahara and Odashirogahara	1	219.4	Rare

(ECD) Habitat connectivity

Senjogahara and Odashirogahara are located downstream of Lake Yunoko, which was formed when the Yukawa River was dammed by volcanic activities.

4.3 - Biological components

4.3.1 - Plant species

Other noteworthy plant species

Phylum	Scientific name	Position in range / endemism / other
TRACHEOPHYTA/LILIOPSIDA	<i>Carex loliacea</i>	Feature species for wet grassland
CHAROPHYTA/CHAROPHYCEAE	<i>Chara globularis</i>	Rare, because of other habitats like lakes and ponds are damaged
TRACHEOPHYTA/MAGNOLIOPSIDA	<i>Cirsium oligophyllum</i>	indigenous
TRACHEOPHYTA/LILIOPSIDA	<i>Eriophorum vaginatum</i>	Beautiful cotton-like seeds make a fine wetland's landscape
TRACHEOPHYTA/LILIOPSIDA	<i>Iris ensata</i>	Feature species for wet grassland
TRACHEOPHYTA/MAGNOLIOPSIDA	<i>Malus sieboldii sieboldii</i>	Beautiful flowers make a fine landscape
CHAROPHYTA/CHAROPHYCEAE	<i>Nitella flexilis</i>	Rare, because of other habitats like lakes and ponds are damaged
TRACHEOPHYTA/MAGNOLIOPSIDA	<i>Rhododendron japonicum</i>	Beautiful flowers make a fine landscape
TRACHEOPHYTA/MAGNOLIOPSIDA	<i>Spiraea salicifolia</i>	Beautiful flowers make a fine landscape
TRACHEOPHYTA/MAGNOLIOPSIDA	<i>Vaccinium oxycoccos</i>	Component of species at the high moor
TRACHEOPHYTA/MAGNOLIOPSIDA	<i>Veronicastrum japonicum</i>	Feature species for mountainous grassland

Invasive alien plant species

Phylum	Scientific name	Impacts	Changes at RIS update
TRACHEOPHYTA/LILIOPSIDA	<i>Elodea nuttallii</i>	Actual (minor impacts)	decrease
TRACHEOPHYTA/MAGNOLIOPSIDA	<i>Rudbeckia laciniata</i>	Actual (minor impacts)	decrease

Optional text box to provide further information

The following species is not in the system.
 Scientific name (Common name) | Position in range / endemism / other
 1) *Geranium yesoense* var. *nipponicum* (Meadow Cranebill) | Called Akanuma-huro past time. The characteristic variation exists.

The following are the variants of the species listed above that are found in the Site.
 1) *Nitella flexilis* - *Nitella flexilis* var. *longifolia*
 2) *Chara globularis* - *Chara globularis* var. *globularis* (Fragile Stonewort)
 3) *Cirsium oligophyllum* - *Cirsium oligophyllum* subsp. *Nikkoense* (Nikko Thistle)

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/AVES	<i>Aix galericulata</i>				National Red List: DD, Feature species for water front
CHORDATA/AVES	<i>Anas penelope</i>				Major species of migratory birds
CHORDATA/AVES	<i>Anas platyrhynchos</i>				Major species of migratory birds
CHORDATA/AVES	<i>Aythya fuligula</i>				Major species of migratory birds
CHORDATA/AVES	<i>Cinclus pallasii</i>				Feature species for mountain torrent
CHORDATA/AVES	<i>Cygnus columbianus bewickii</i>				Migratory to the Site
CHORDATA/AVES	<i>Fulica atra</i>				Major species of migratory birds
CHORDATA/AVES	<i>Gallinago hardwickii</i>				National Red List: NT, Feature species for grassland
CHORDATA/AVES	<i>Mergellus albellus</i>				Major species of migratory birds.
CHORDATA/MAMMALIA	<i>Murina hilgendorfi</i>				Tochigi pref. Red List : II
ARTHROPODA/INSECTA	<i>Plebejus argus</i>				Feature species for mountainous grassland
CHORDATA/AVES	<i>Saxicola stejnegeri</i>				Tochigi Pref. Red List: NT, Feature species for mountainous grassland
CHORDATA/AVES	<i>Saxicola torquatus</i>				Tochigi Pref. Red List: NT, Feature species for mountainous grassland
CHORDATA/AVES	<i>Troglodytes troglodytes</i>				Feature species for mountain torrent, Smallest size in Japan

4.4 - Physical components

4.4.1 - Climate

Climatic region	Subregion
D: Moist Mid-Latitude climate with cold winters	Dfb: Humid continental (Humid with severe winter, no dry season, warm summer)

The climate is cool in summer. The annual average temperature is 6.7 degrees, with monthly averages ranging from -4.2 to 18.5 degrees. This caused the formation of peat. Although the area has snow because of its high elevation, the climate is typical of the Pacific Ocean side of Japan with relatively light snowfall. The annual rainfall is 2103 mm, which is less than in Nikko City. The topography or elevation mean relatively low rainfall in the rainy ('baiu') season.

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.

Yukawa River

4.4.3 - Soil

Mineral

(Update) Changes at RIS update No change Increase Decrease Unknown

Organic

(Update) Changes at RIS update No change Increase Decrease Unknown

No available information

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

Please provide further information on the soil (optional)

Senjogahara and Odashirogahara support the production of peat. Initially, the dammed lake was buried by volcanic products and sediments from Mt. Nantai. In the next stage, this was covered by plant residues including aquatic plants such as reeds. The area is now transforming from mire to grassland.

4.4.4 - Water regime

Water permanence

Presence?	Changes at RIS update
Usually permanent water present	

Source of water that maintains character of the site

Presence?	Predominant water source	Changes at RIS update
Water inputs from surface water	<input checked="" type="checkbox"/>	No change
Water inputs from precipitation	<input checked="" type="checkbox"/>	No change

Water destination

Presence?	Changes at RIS update
To downstream catchment	No change

Stability of water regime

Presence?	Changes at RIS update
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:

Lake Yunoko was formed when volcanic products from Mt. Mitsudake that dammed the Yukawa River. Downstream passes over falls to be Yukawa River and then runs on to Senjogahara. The water level does not change frequently.

Senjogahara was initially a lake that was dummed by the volcano explosion of Mt. Nantai. Sediments and volcanic products gradually covered it. In the next stage, the lake was buried by plant residues that contained aquatic plants such as reeds. The area is currently high moor.

In Odashirogahara, a branch basin, the origin of the mire is similar to Senjogahara. Mt. Nantai produced volcanic products and sediment which gradually covered it, and (largely aquatic) plant residues followed. Compared with Senjogahara, Odashirogahara has become desiccated, and is in succession from mire to grassland.

(ECD) Connectivity of surface waters and of groundwater	Surface water mainly runs off to R.Yukawa. R.Sakasa provides small inflow to Senjogahara, but the surface water seems to recharge in the upper area of the mire to be groundwater. No significant flooding. Odashirogahara is mainly recharged by groundwater.
(ECD) Stratification and mixing regime	Lake Yunoko has waterlogged areas. The water is generally shallow with a depth of around 12 m. Stratification of the lake water has not been observed.

4.4.5 - Sediment regime

Sediment regime unknown

Please provide further information on sediment (optional):

Sediment turbidity was not observed.

(ECD) Water turbidity and colour	Lake Yunoko: SS 3mg/L, Unknown: Senjogahara and Odashirogahara have no surface water.
(ECD) Light - reaching wetland	enough
(ECD) Water temperature	Lake Yunoko: 14.0 degrees. Senjogahara and Odashirogahara: Unknown - they have no surface water.

4.4.6 - Water pH

Circumneutral (pH: 5.5-7.4)

(Update) Changes at RIS update No change Increase Decrease Unknown

Alkaline (pH>7.4)

(Update) Changes at RIS update No change Increase Decrease Unknown

Unknown

Please provide further information on pH (optional):

Lake Yunoko (center of lake): pH7.8
Unknown - Senjogahara and Odashirogahara have no surface water.

4.4.7 - Water salinity

Fresh (<0.5 g/l)

(Update) Changes at RIS update No change Increase Decrease Unknown

Unknown

(ECD) Dissolved gases in water	Lake Yunoko: DO 11.0 mg/L. Unknown: Senjogahara and Odashirogahara have no surface water.
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4.4.8 - Dissolved or suspended nutrients in water

Mesotrophic

(Update) Changes at RIS update No change Increase Decrease Unknown

Unknown

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

Lake Yunoko has a spa town in the upper area of the basin. Eutrophication has been observed with, especially, high nitrogen level, which exceeds environmental standards. This causes an increase in levels of chlorophyll a. There is insufficient information on other wetlands, but change caused by human activities is unlikely because of the small population in the basin and controls on tourism.

(ECD) Dissolved organic carbon	Lake Yunoko: COD:2.6ppm (1.4~3.2), T-N:0.31mg/L, T-P:0.017mg/L, Chl-a:16.0µg/L; Senjogahara & Odashirogahara: Unknown
(ECD) Redox potential of water and sediments	Unknown
(ECD) Water conductivity	Lake Yunoko: EC 142µs/cm(134~164), Alkalinity: 24.7mg/L (24.1~34.6). Senjogahara & Odashirogahara: Unknown

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 site itself: i) broadly similar ii) significantly different

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:

The area around the Site is mainly summer green or mixed forest with high naturalness. A small area was planted with *Larix kaempferi* (Japanese Larch) but there is now only little harvesting. In the past, fire has occurred around the Site, provoking the spread of *Quercus crispula* Blume (Mongolian Oak) forest replacing *Fagus crenata* Blume (Japanese Beech). Other areas have been reclaimed and used as fields. In these areas, drainage canals have led to desiccation and transition to grasslands. Other wetland areas have been retained, mainly in badly drained conditions.

4.5 - Ecosystem services

4.5.1 - Ecosystem services/benefits

Regulating Services

Ecosystem service	Examples	Importance/Extent/Significance
Maintenance of hydrological regimes	Groundwater recharge and discharge	High

Cultural Services

Ecosystem service	Examples	Importance/Extent/Significance
Recreation and tourism	Recreational hunting and fishing	Medium
Recreation and tourism	Nature observation and nature-based tourism	High

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:

Outside the site:

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

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

<no data available>

4.6 - Ecological processes

(ECD) Primary production	Productivity is low because the area is mountainous, with a cool climate, and mainly intermediate moor.
(ECD) Nutrient cycling	Although there is some inflow of nutrients from the river basin, this is at low levels because there is small population.
(ECD) Carbon cycling	Plant production in the area has accumulated as peat.
(ECD) Animal reproductive productivity	Summer birds such as <i>Gallinago hardwickii</i> (Latham's Snipe) and <i>Saxicola torquata</i> (Siberian Stonechat) breed in the mire.
(ECD) Vegetational productivity, pollination, regeneration processes, succession, role of fire, etc.	Many indigenous species are distributed across the area. The site is surrounded by mountains with high elevation.
(ECD) Notable species interactions, including grazing, predation, competition, diseases and pathogens	Nothing

(ECD) Notable aspects concerning animal and plant dispersal	Nothing
(ECD) Notable aspects concerning migration	The mire is an important site for breeding of summer birds such as <i>Gallinago hardwickii</i> and <i>Saxicola torquata</i> . Furthermore, Lake Yunoko is a wintering spot for migrating birds like <i>Anas platyrhynchos</i> , <i>Anas penelope</i> , <i>Aythya fuligula</i> , and <i>Mergus albellus</i> .
(ECD) Pressures and trends concerning any of the above, and/or concerning ecosystem integrity	These wetlands have been largely formed by the volcano activities by Mt. Nantai and Mt. Mitsudake. However, these volcanos are not now active, and the landform is stable.

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 checked="" type="checkbox"/>

Private ownership

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

Provide further information on the land tenure / ownership regime (optional):

Forestry Agency: The whole area is governed by the Forest Agency as a National Forest.

Ministry of the Environment: The land use is controlled by the Ministry of the Environment, as a National Park. Development and collection of earth and stones are strictly prohibited.

Tochigi Prefecture: As a Wildlife Protection Area, catching living creatures is prohibited.

5.1.2 - Management authority

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

Kanto Regional Environment Office, Ministry of the Environment of Japan

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

Toshiro Segawa, Director of Kanto Regional Environment Office

Postal address:

6F, Saitama-shintoshin Joint Government Bldg., No.1, 1-1, Shintoshin, Chuo-ku, Saitama-city, Saitama Prefecture 330-9720 Japan

E-mail address:

reo-kanto@env.go.jp

5.2 - Ecological character threats and responses (Management)

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

Human settlements (non agricultural)

Factors adversely affecting site	Actual threat	Potential threat	Within the site	Changes	In the surrounding area	Changes
Unspecified development	Low impact	Low impact	<input type="checkbox"/>	No change	<input checked="" type="checkbox"/>	No change

Water regulation

Factors adversely affecting site	Actual threat	Potential threat	Within the site	Changes	In the surrounding area	Changes
Drainage	Medium impact	Medium impact	<input checked="" type="checkbox"/>	No change	<input type="checkbox"/>	No change

Agriculture and aquaculture

Factors adversely affecting site	Actual threat	Potential threat	Within the site	Changes	In the surrounding area	Changes
Annual and perennial non-timber crops	Low impact	Low impact	<input type="checkbox"/>	No change	<input checked="" type="checkbox"/>	No change

Transportation and service corridors

Factors adversely affecting site	Actual threat	Potential threat	Within the site	Changes	In the surrounding area	Changes
Roads and railroads	Low impact	Low impact	<input type="checkbox"/>	No change	<input checked="" type="checkbox"/>	No change

Biological resource use

Factors adversely affecting site	Actual threat	Potential threat	Within the site	Changes	In the surrounding area	Changes
Unspecified	Low impact	Low impact	<input checked="" type="checkbox"/>	No change	<input checked="" type="checkbox"/>	No change

Human intrusions and disturbance

Factors adversely affecting site	Actual threat	Potential threat	Within the site	Changes	In the surrounding area	Changes
Recreational and tourism activities	Low impact	Low impact	<input checked="" type="checkbox"/>	No change	<input type="checkbox"/>	No change

Invasive and other problematic species and genes

Factors adversely affecting site	Actual threat	Potential threat	Within the site	Changes	In the surrounding area	Changes
Invasive non-native/ alien species	Low impact	Low impact	<input checked="" type="checkbox"/>	No change	<input type="checkbox"/>	No change

Geological events

Factors adversely affecting site	Actual threat	Potential threat	Within the site	Changes	In the surrounding area	Changes
Volcanoes	Low impact	High impact	<input type="checkbox"/>	No change	<input checked="" type="checkbox"/>	No change

Please describe any other threats (optional):

The area has a history of reclamation at the time of World War II. A part of the area was converted to fields using drainage canals which left only residual wetlands and a problem of desiccation. Drainage canal measures are currently being implemented to delay the inflow of rainwater into the drainage infrastructure.

More recently, feeding damage on local flora by Sika Deer (*Cervus Nippon*) has been notable. As such, the occurrence of some flowers has decreased temporarily. The butterfly, *Kohyoumonmodoki* (*Melitaea ambigua nippona*) has disappeared because of the absence of the herb *Weiling Ascitesgrass* (*Veronicastrum sibiricum*) as a result of deer feeding. Fencing is has helped recovery of vegetation and butterflies.

5.2.2 - Legal conservation status

National legal designations

Designation type	Name of area	Online information url	Overlap with Ramsar Site
National Park	Nikko National Park	https://www.env.go.jp/park/nikko/	whole
Wildlife Protection Area	Nikko Wildlife Protection Area	http://www.pref.tochigi.lg.jp/d04/eco/shizenkankyou/shizen/tyoujyuuhogokutoutitizu-zenntai.html	whole

Non-statutory designations

Designation type	Name of area	Online information url	Overlap with Ramsar Site
Other non-statutory designation	Important wetlands in Japan: Lake Yunoko, Senjogahara and Odashirogahara with surrounding wetlands	https://www.env.go.jp/nature/important_wetland/wetland/w167.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

Species

Measures	Status
Threatened/rare species management programmes	Implemented

Human Activities

Measures	Status
Regulation/management of recreational activities	Implemented
Research	Implemented
Harvest controls/poaching enforcement	Implemented

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:

On the Yunoko lakeside, the Nikko-Yumoto visitor center has been established. This provides information about nature in Oku-Nikko.

- Volunteers apply herbicide to the cutleaf coneflower.
- Survey for flower count, feeding damage by Sika Deer, patrol activities by Nikko Park volunteer.
- Providing the tour mainly for nature observation.

URL of site-related webpage (if relevant): <http://www.nikkoyumoto-vc.com/english/>

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
Animal community	Implemented
Birds	Implemented
Plant species	Implemented
Plant community	Implemented
Water regime monitoring	Implemented

Monitoring activities for butterflies are conducted at Senjogahara and Odashirogahara.

6 - Additional material

6.1 - Additional reports and documents

6.1.1 - Bibliographical references

- A Guide to the Natural History of Nikko : From Amateurs to Professionals, issued by Tochigi Prefectural Museum 2021.1.
- WEB Red data book of Tochigi. (2018) Tochigi Prefecture.
- Red data book Tochigi (2018) Tochigi Prefecture.
- Contrast report of the inventory of the natural environment for effective introduction promotion renewable energy 2018. Ministry of the Environment.
- report of effectiveness for facility of revegetation on the Senjogahara (fencing) in Nikko National Park. Ministry of the Environment.
- Report of monitoring survey for counterplan of the drainage system in Senjogahara, Nikko National Park 2017. Ministry of the Environment.
- Report of monitoring survey for counterplan of the drainage system in Senjogahara, Nikko National Park 2016. Ministry of the Environment.
- Report of the Maintenance investigation for water quality of Lake Yunoko. (2015) Water environment Bureau of Tochigi Prefecture.
- Report of monitoring survey for facility of revegetation on the Senjogahara in Nikko National Park (vegetation, birds, butterflies). Ministry of the Environment.(2013)
- Report of the Maintenance investigation for water quality of Lake Yunoko. Section of input and output water of lake Yunoko (2013) Water Environment Bureau of Tochigi Prefecture.
- Water and biology in Oku-Nikko. Results of survey in 2002. The Nippon Foundation.
- Handbook of nature in Oku-nikko (1997) Miyachi N. eds. Jiyu-Kokumin-Sya.
- Report of fresh water, National Survey on the Natural Environment. (1993) Environment Agency
- Home page of Nikko National Park : Ministry of the Environment. <https://www.env.go.jp/park/nikko/index.html>
- Home page of Nikko-Yumoto visitor center. <http://www.nikkoyumoto-vc.com/>

6.1.2 - Additional reports and documents

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

<no file available>

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

<1 file(s) uploaded>

6.1.3 - Photograph(s) of the Site

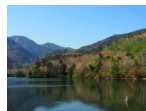
Please provide at least one photograph of the site:



Odashirogahara in autumn (Ministry of the Environment of Japan, 01-10-2017)



Yunoko with autumn colour (Ministry of the Environment of Japan, 11-10-2017)



Yunoko in May with an angler (Ministry of the Environment of Japan, 25-05-2019)



Mt. Nantai in Senjogahara (Ministry of the Environment of Japan, 05-09-2017)



Eriophorum vaginatum in Senjogahara (Ministry of the Environment of Japan, 19-06-2018)



Autumn foliage in Odashirogahara (Ministry of the Environment of Japan, 07-10-2019)

6.1.4 - Designation letter and related data

Designation letter

<no file available>

Date of Designation