

Shikotsu-Toya National Park

National Park of Japan 6

Shikotsu-Toya National Park

Symbolic Plant of the National Park

Tarumaeso

Pentstemon frutescens, a species of beardtongue



Drawing by Aijiro Nihashi

"Iwabukuro" is the common Japanese name for this flower. However, because of its prevalence on Mount Tarumae it is better known by the name "Tarumaeso". Sandy volcanic land is its habitat and many grow on Mount Yotei as well. The flower is about 2.5cm in length and the petals are covered with white hair.

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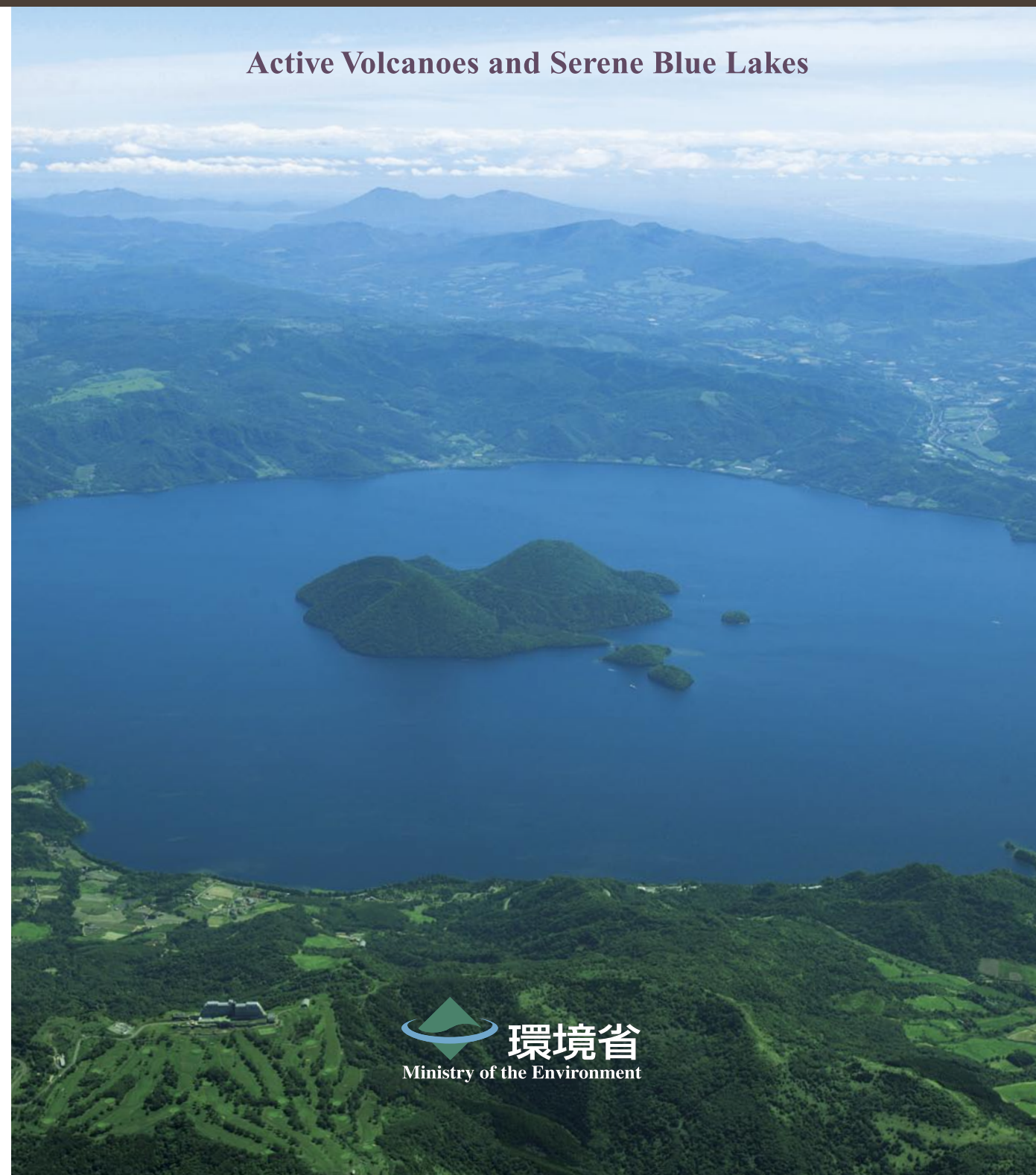
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Active Volcanoes and Serene Blue Lakes



Volcanoes have made lakes, fostered forests, and given rise to magnificent scenery.

Japan is a country with numerous volcanoes. More than half of Japan's 29 national parks have volcanoes. By region, most volcanoes with a history of huge eruptions are in Hokkaido, and in Kyushu. At Shikotsu-Toya National Park in Hokkaido, crystal clear lakes, verdant forests, and active volcanoes are major attractions. The abundant hot springs at various locations are also due to volcanic activity.

The area was designated a national park in 1949. It is an accessible area, being very near Sapporo and New Chitose Airport.



Lake Shikotsu seen from Mount Eniwa

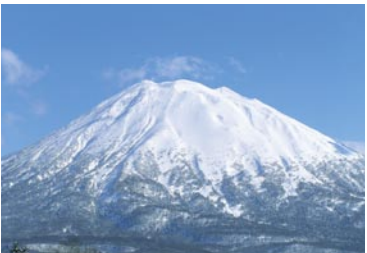
Aspects of Shikotsu-Toya National Park

Mount Yotei Area

A Beautiful Cone Shape
Also Called “Ezo Fuji”

At 1,893m, Mount Yotei stands alone beautifully. It resembles Mount Fuji, is the highest peak in this national park and is adorned with alpine plants near the summit.

The Niseko area, adjoining the park on the west side, has been growing as an international ski resort in recent years.



Lake Toya Area

Living with Volcanoes

In contrast to Lake Shikotsu, at Lake Toya there are many paddy fields and farmlands on the flat lakeshore with agricultural villages, creating a pleasant but serene scenery. Mount Usu and Mount Showa Shinzan stand side-by-side on the south shore.



Shikotsu-Toya National Park

Volcano Bay

Legend

National Park

Spa

Visitor Center / Museum

View Point

Inter Change

Jozankei Gorge Area

Fresh Verdure and Autumn Colors
Adorning the Valley

Jozankei Gorge Hot Spring, along with Noboribetsu, is one of the best examples of hot springs in Japan. The region stretching along the Toyohira River is known for beautiful valleys and colourful foliage in the fall, and the surrounding mountains are destinations for relaxation and refreshment for Sapporo citizens.



Lake Shikotsu Area

Water Color that Fascinates
the Tourists

The crystal clear water of Lake Shikotsu is most impressive. It is surrounded by the rich greenery of Mount Eniwa and Mount Fuppushi, with the lava dome of Mount Tarumae on the south shore adding a special character. Although located not far from New Chitose Airport (about 20km), it is the area with the highest natural quality within the park.



Noboribetsu Area

Blessed with Abundant Hot
Springs

Noboribetsu Hot Spring, with its abundant yield of hot water and diverse spring qualities, is a perfect example of hot springs in Japan. Mount Hiyori and Jigokudani Vally (Valley of Hell), both of which fuming with smoke lie to the rear, and crystal clear waters of Lake Kuttara surrounded by forests stretch to the east.



The Museum of Volcanic Activity

Niseko Annupuri

Mount Yotei This mountain's stand-alone conical shape is impressive. The lack of erosion on the mountain and its crater indicates that it is still a relatively young volcano. Old lava flows of Mount Yotei are widespread on the eastern side, and it is thought to have been active before, although there are no historical records of its eruptions.

Mt. Yotei

Lake Shikotsu and the Three Mountains in the Vicinity

Lake Shikotsu has a surface area of 77.3 square kilometers, making it the eighth largest lake in Japan. The Shikotsu caldera was formed by an enormous eruption that took place about 40,000 years ago. Large amounts of igneous rocks and volcanic ashes were released during this eruption, and its pyroclastic flow reached the outskirts of Sapporo and Mount Yotei. Mount Fuppushi, Mount Eniwa, and Mount Tarumae became active after the caldera formed. All three of these impressive mountains can be viewed from the shore of Lake Shikotsu. Mount Tarumae emerged 9,000 years ago and its prominent lava dome was created by the eruption in 1909. In recent years, there was a small eruption in 1978.

Mt. Eniwa

Lake Shikotsu

Mt. Fuppushi

Mt. Tarumae

Lake Toya Lake Toya has a surface area of 70.7 square kilometers and is roughly circular. It is the ninth largest lake in Japan. It is a caldera lake of 8-11km in diameter, formed after an enormous eruption about 110,000 years ago. The pyroclastic flow subsequently spilled into the Pacific Ocean and the Sea of Japan, creating a plateau in the area. The islands, comprised of seven lava domes concentrated in the center, were formed by volcanic activity about 50,000 years ago, after the formation of the caldera. Mount Usu on the south bank became active about 20,000 years ago.

Lake Toya

Nakajima

Mt. Usu

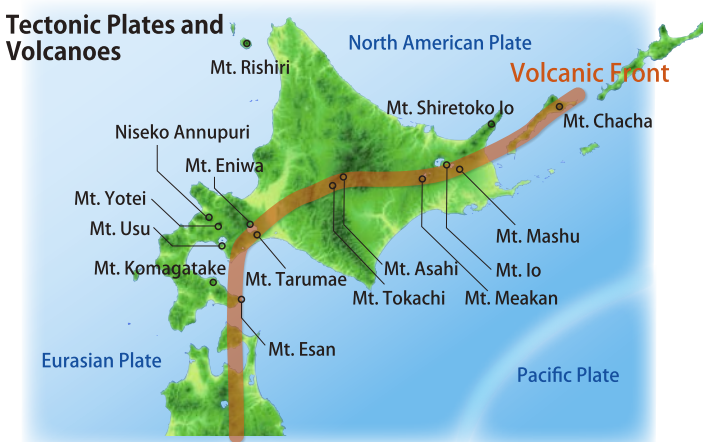
Mt. Showa Shinzan

Nature Created by Volcanoes

On a map of the volcanoes in Hokkaido, this highly concentrated region forms a belt. This volcanic belt connecting Chishima Islands and north-east Japan arises from the sinking of the Pacific tectonic plate into the oceanic trench, causing magma to rise from the depths. Hokkaido is located at a point where two arched archipelagos, the Chishima Arc and the Northeast Japan Arc,

meet. Shikotsu-Toya National Park is located where this volcanic belt bends. In this national park, Mount Usu and Mount Tarumae are still active and continue to transform the landscape. The three caldera lakes (Lake Shikotsu, Lake Toya, and Lake Kuttara) that emerged from past volcanic activities, and many hot springs combine to create unique scenery, rendering this national park diverse and dynamic.

Tectonic Plates and Volcanoes



Lake Kuttara and Noboribetsu Another caldera lake, Lake Kuttara, was also formed by ancient volcanic activity. Having a diameter of about 2km, it is smaller than both Lakes Shikotsu and Lake Toya. In Noboribetsu, Jigokudani Valley and Oyunuma, both filled with hot steam vents and sinters, arose about 10,000 years ago through a series of eruptions of Mount Hiyori.

Mount Usu is a volcano that emerged roughly 15-20,000 years ago after the formation of Toya caldera. It has erupted repeatedly, and there was a massive collapse near the summit about 7-8,000 years ago, triggering a rock avalanche that flowed into Volcano Bay. After a long period of dormancy, it resumed activity in 1663. Since then, over eight eruptions have been recorded, with two - in 1977 and 2000 - since the area was designated a national park. The eruption in 2000 originated in the western base of Mount Usu and created a new crater in Mount Konpira, among others, near the hot spring district. Sections of the nearby road were severely damaged. Hot water spurting from Mount Konpira became a mudflow and reached the hot spring district. In addition, there were repeated occurrences of tectonic movement, some as disruptive as to cause a 70-meter rise of the ground surface, damaging buildings, roads, and railroads. From the observation trails that were

constructed after the eruption, you can still see the craters releasing steam, as well as the ruins of the roads and buildings. Undoubtedly, Mount Usu is one of the most active volcanoes in Japan.

A Mountain that Never Lies

Eruptions of Mount Usu in historic times, followed by the formation of a lava dome, as well as its premonitory phenomena such as earthquakes and ground rupture, indicate there is a pattern to its volcanic activity. Thus scientists call Mount Usu "the mountain that never lies". In the Mount Usu neighbourhood, observation and research on volcanic activity in order to predict the eruptions have been advancing, and moreover, the production of a hazard map to estimate damage in case of a disaster and evacuation plans have been progressing. Emergency information announced prior to the eruption in 2000 led to a prompt evacuation of 16,000 local residents with no casualties.

Mount Usu and its Ongoing Volcanic Activities

Lake Toya Area Ecomuseum

– Town Development Coexisting with Volcanoes

Lake Toya Hot Spring and Soubetsu Hot Spring both located at the base of Mount Usu were created after the eruption in 1910, and have been developing ever since. They have sustained some damage from three eruptions thus far. Since the eruption in 2000, Toyako-cho has been working on disaster prevention and control by constructing a drainage to direct mudflow, and by removing schools to safer areas. Furthermore, the towns of Date, Soubetsu, Toyoura, and Toyako have begun incorporating the remains of past disasters into tours of the area, as well as providing educational activities (such as historical and scientific lessons) in order to increase the public's understanding of volcanoes. With the entire region serving as an ecomuseum, in other words "nature museum", the locals are making efforts to promote regional appeal.

A region so densely populated as this that lies so close to a highly active volcano is highly unusual. The residents are blessed with beautiful scenery and hot springs created by the volcano.



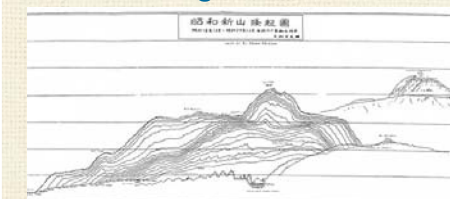
Eruption of Mount Usu and Lake Toya Hot Spring district (1977)



Eruption of Mount Usu (2000)

Column

Mount Showa Shinzan and Mimatsu Diagram



During the Second World War, the activity of Mount Usu which began in December, 1943 with a severe earthquake, raised the land on the east side of the mountain between 1944-45, creating a parasite volcano, Mount Showa Shinzan (elevation 407 meters). For about 600 days during this period, Masao Mimatsu (1888-1977), then a local postmaster, observed and measured geomorphological changes and kept a detailed record. Later, Mimatsu Diagram, the records of the daily rise of the base and the growth of the lave dome by his unique technique from a set point, was published at the international conference of volcanology in 1948, and became known as the world's first record of the process of volcanic growth.



Drawing by Masao Mimatsu Mount Showa Shinzan in 1954

By courtesy of Masao Mimatsu Memorial Museum

Water Network

20-meter lake depth can be seen

Lake Shikotsu is one of the main attractions at this park. This lake, one of the most transparent in Japan, is surrounded by forests, and fascinates visitors with its deep blue water. The clarity of the water is due to low plankton levels, and a wide coverage of deep lakeside forests also minimizes runoff flowing into the lake. For this reason, it is valued as one of the rare freshwater diving spots in Japan. The transparency measurement

averaged 15-25m in the 1960s, and has decreased to an average of 15-20m in recent years. However, it was recorded to be 30.7m at one of the measurement spots in an investigation conducted in May, 2002. In order to maintain the blue water quality of Lake Shikotsu, the public sewer serving the lodging facilities in Lake Shikotsu Hot Spring has been diverted away from the lake.



Lake Okotanpe surrounded by primeval forests

Spring Water at Mount Yotei

Volcanoes with porous lava accumulated often have springs at the bases, from which underground water emanate. There are over ten such spots known on Mount Yotei, and the one at the northeast base is known as "Yotei Spring Water". The volume of water emanating at this spring reaches 80,000 tons per day. It has been selected as one of the 100 best waters in Japan. Due to the water's extensive period of underground flow, it contains various minerals resulting in a high-quality mineral water. Many visitors from afar bring containers to take water home with them.

Spring water in Fukidashi Park



Diving in Lake Shikotsu



Kokanee in Lake Shikotsu

The Northernmost Ice-Free Lake

Lake Shikotsu is a deep-water lake having a maximum depth of 363m, with an average depth of 265m. Among lakes in Japan, both of these values rank only second behind Lake Tazawa in Akita Prefecture. It holds a large volume of water due to its extreme depth. Compared to Lake Biwa, the largest lake in Japan (average depth 41.2m), Lake Shikotsu has only 12% of Lake Biwa's surface area, yet 75% of its water volume. Due to convection, the temperature of the surface water layer does not drop significantly, so it never freezes entirely, even in midwinter. This makes it the northernmost ice-free lake in Japan.

Importation and Aquaculture of Kokanee Salmon

Kokanee is a landlocked variety of Sockeye Salmon, which was originally from Lake Akan and Lake Chimikeppu in eastern Hokkaido. It was introduced to Lake Shikotsu from Lake Akan in 1894, and after successful cultivation, it was transferred to many other lakes, such as Lake Toya in Hokkaido and Lake Towada in Honshu. During the summer season, the only time when fishing ban is lifted, the lake gets crowded with many anglers.

Column

Water Flow which connects Lake Shikotsu, Chitose River and Lake Utonai

The Chitose River, the only outflow from Lake Shikotsu, runs northward from Chitose and converges with the Ishikari River, finally flowing into the Sea of Japan. The upstream section is surrounded by forests with crystal clear water currents where salmon migrate upstream. At the Ministry of Agriculture, Forestry, and Fisheries' hatchery of salmon and trout located here, an "Indian Water Wheel", which captures these fish, is still in use. The Ishikari River, which used to reach the Pacific Ocean, was obstructed by pyroclastic flow from a massive eruption of the Shikotsu

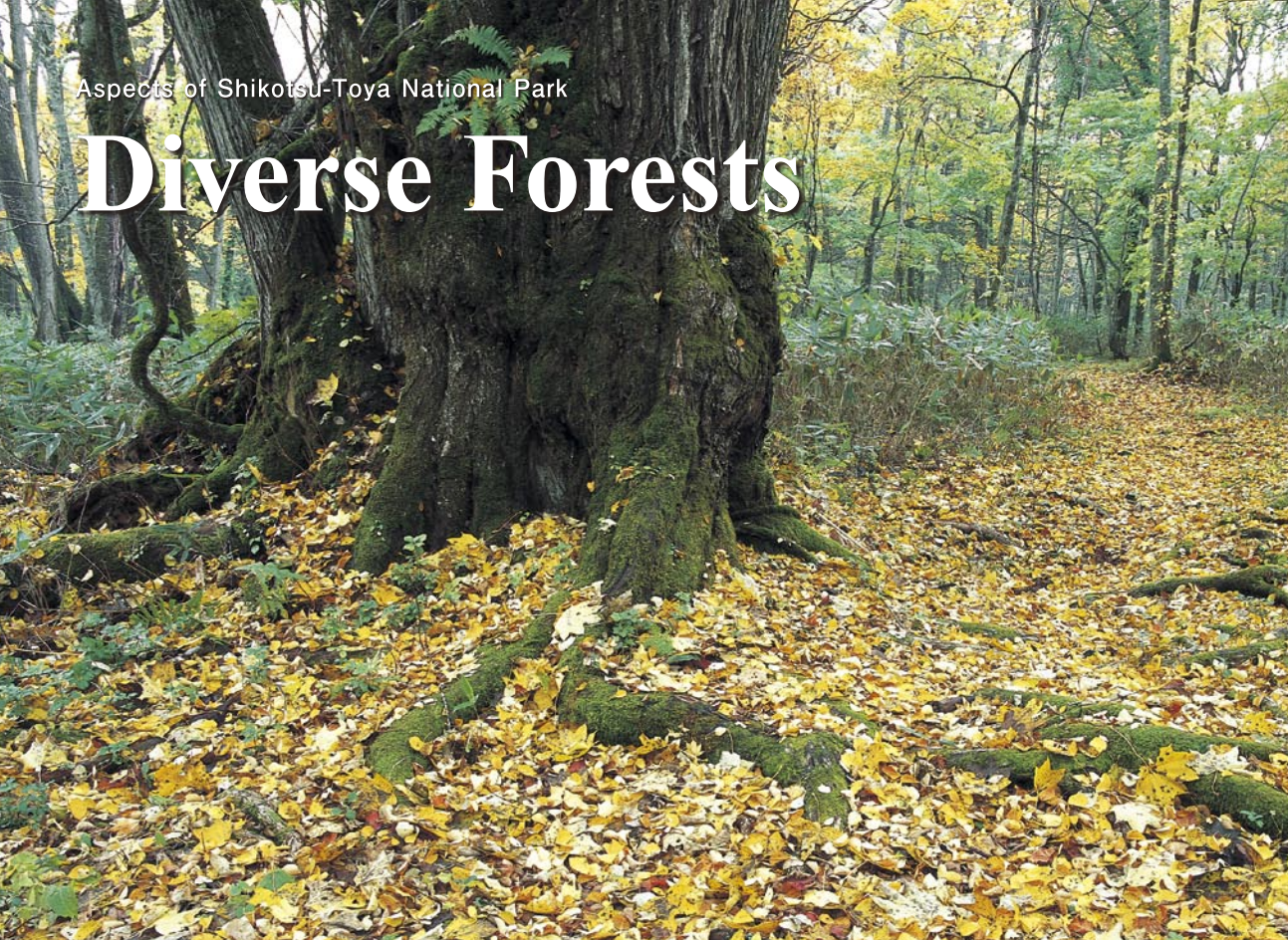


Chitose Naibetsu Spring

Volcano 40,000 years ago, causing the direction to change towards the north. Now the base region of Mt Tarumae is a zone of springs and the source of Bibi River, which flows south through Lake Utonai, and finally pours into the Pacific Ocean.



Diverse Forests



Mixed forest on the Shikotsu lakeshore

Forests around the Rim of the Shikotsu Caldera

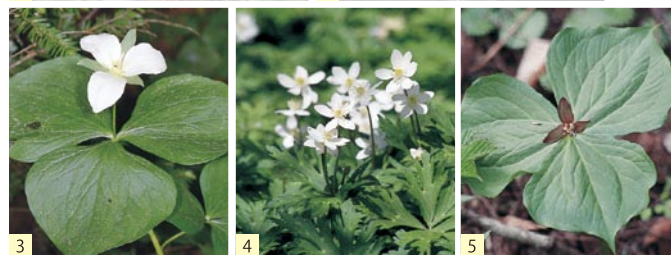
The mountainous area surrounding Lake Shikotsu is covered with rich forests. It is a mixed forest consisting primarily of Ezo Spruce, Sakhalin Fir, Mongolian Oak and Japanese Elm, and the upper region transitions to a more coniferous forest. Needle-leaf trees grow predominantly on Mount Fuppushi, which is dormant. However, on Mount Tarumae, which has been active since the late 17th century, forests are present only in elevations below 600m.

Forest Floor Plants of Early Spring

In Hokkaido, where winters are long, spring arrives without any warning. As if they cannot wait for the snow to melt away, the plants wake up all at once. Short-lived spring ephemeral plants flower and spread their seeds in the sunlight-filled forests before the trees' leaves come out. By the time tree leaves emerge and it gets dark within the forests, the ground plants are already gone. The growth period of spring plants is short, and many of them take several years to flower from the point of germination. Dogtooth Violet takes eight years, and Oobana-no-enreiso (*Trillium kamtschaticum*) takes over a decade.

Giant Tree Forest in Bifue

The forests around Lake Shikotsu sustained severe damage by a typhoon in 1954. However, around Bifue on the west bank of Lake Shikotsu, numerous large broadleaf trees such as Japanese Elm, Japanese Judas, Mongolian Oak, Japanese Linden, and Sennoki (*Kalopanax septemlobus*), still remain. This entire area is called the "Giant Tree Forest".



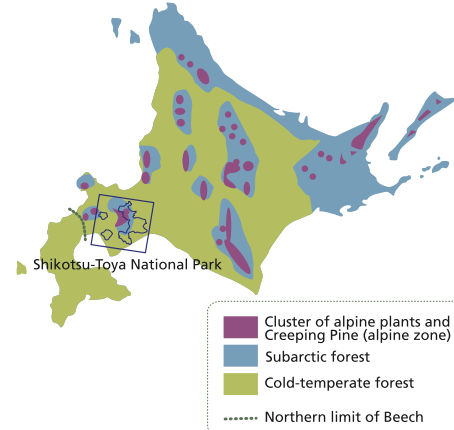
- 1 Corydalis ambigua
- 2 Dogtooth Violet
- 3 Oobana-no-enrei-so (*Trillium kamtschaticum*)
- 4 Soft Windflower
- 5 Enreiso (*Trillium smallii*)
- 6 Pheasant's Eye



Hokkaido where Northern and Southern Forests Meet

Beech tree forests widely distributed in Honshu and southward, can also be seen in Hokkaido, up to Oshima Peninsula. There are no beech tree forests further northward, but in the lowlands, mixed forests prevail, where a wide variety of broadleaf trees, common in mountainous areas of Honshu, such as Japanese Elm, Japanese Linden, Japanese Judas, Japanese White Birch, grow. In addition, there are needle-leaf trees, which do not grow in Honshu, such as Ezo Spruce and Sakhalin Fir. This is due to the fact that Hokkaido is located in a transitional climate, between subarctic and cold-temperate zones, possessing the trees of both forest types.

• Forest types of Hokkaido



Moss Gateway

There is a narrow, mossy gorge situated at the western base of Mount Fuppushi that was created by the erosion of cracks in the volcanic rocks discharged from Mount Tarumae, and has a maximum depth of about 10m, width 3m, and length 400m. Around 30 types of mosses including Ebigoke (*Bryoxiphium savatieri*) and Ohokigoke (*Jungermannia infusca*) grow densely on both sides of its rocky walls. This is due to the favorable conditions inside including temperature, humidity, and lack of sunlight, and has taken a long time to develop. A viewing deck is available at the entrance.

Column

Nature Destruction Caused by Volcanic Eruptions and Subsequent Regeneration



Vegetation of Mount Tarumae (top) and Mount Fuppushi (bottom)

Volcanic eruptions significantly influence nearby forests. Trees and shrubs wither and die in the areas where volcanic ashes and igneous rocks accumulate or areas covered by pyroclastic flow. Ground temperature rises near the volcanic vents, which furthers the damage. The regeneration of forests begins only when the ground temperature drops, and it takes a long time for the forest to recover. In contrast, in areas distant from the crater and where the accumulation of released materials is low, plants are able to regenerate and forests may return to their original state in a relatively short time. Presently, forests at various stages of recovery can be seen around Mount Tarumae and Mount Usu.

The Brown Bear is the largest land animal in Japan.

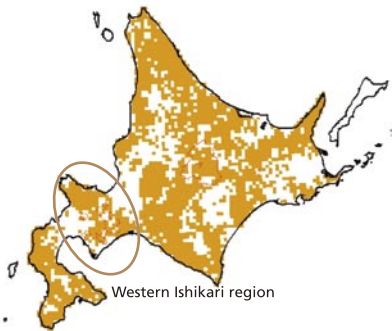
Aspects of Shikotsu-Toya National Park

Living with Wild Animals

Precious Habitat of Wildlife

Fox in winter fur

Distribution of Brown Bear in Hokkaido (2000-2002)



Investigation of mammalian distribution by the Ministry of Environment

- 1 Ezo Owl
- 2 Narcissus Flycatcher
- 3 Black Woodpecker
- 4 Japanese Grosbeak
- 5 Brown-headed Thrush



Birds Living in the Forest

There are numerous forest bird species in the natural forests near Lake Shikotsu, and their chirping echoes throughout the early summer when the colors of the new leaves are brilliant. In Hokkaido's forests, where the winter climate is harsh, the majority are summer birds. Non-migratory birds are mainly those of the woodpecker species such as the Great Spotted Woodpecker and the Black Woodpecker, and the tit species such as the Great Tit and the Marsh Tit, as well as the Hazel Grouse. The wide variety of summer birds also includes the Japanese Thrush, the Brown-headed Thrush, the Narcissus Flycatcher, the Japanese Bush Warbler, the Black-faced Bunting, and the Oriental Cuckoo.

National parks play a significant role as a place to preserve biodiversity. Numerous species of mammals inhabit this park, such as the Brown Bear, Ezo Deer, Fox, Mountain Hare, Red Squirrel, Chipmunks, Ezo Flying Squirrel (Pteromys volans orii), and relatives of bats and mice. The Brown Bear and Ezo Deer are especially important in

The Impact of Invasive Alien Species

There are numerous cases of non-native animals imported for domestic use (food and pets) running wild after escaping or being abandoned. The raccoon, native to the north-western United States, has been expanding its habitat range, raising concerns of agricultural damage and negative effects on the ecosystem. Signal Crayfish, originally from the United States and possibly endangering native Japanese Crayfish, have been recently found at Lake Toya and Lake Shikotsu. It is prohibited to transport and/or release either of these species into the wild by the Invasive Alien Species Act enacted in 2005. Currently, efforts such as capturing individuals in the wild are being made.



Captured Common Raccoon

relation to humans.

The Brown Bear is the largest land animal in Japan and Hokkaido is its only habitat in Japan. Formerly the Brown Bear was distributed across much of Hokkaido but its habitat has shrunk and is fragmented due to human development in the plains. In particular, the bears inhabiting the western Ishikari region are thought to be endangered. The national park area covers large part of their habitat. Furthermore, in recent years the Ezo Deer has increased in number, causing damages to agriculture and forestry, traffic accidents, and even affecting the vegetation within the park. For this reason, Hokkaido Government has established a scientific management plan for the Ezo Deer and is advancing multiple measures.



Ezo Flying Squirrel

Column

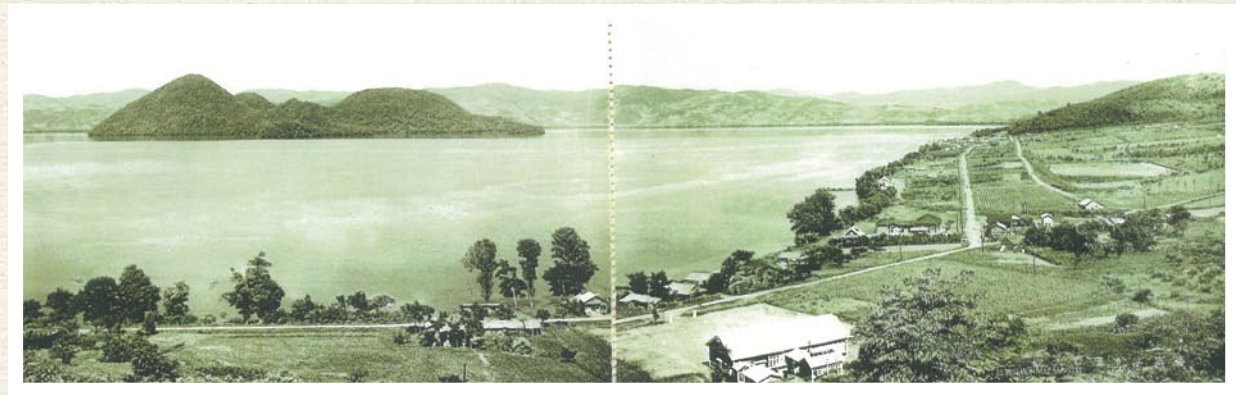
The Ezo Deer on Nakajima in Lake Toya



On Nakajima, the islands located at the center of Lake Toya, the Ezo Deer gradually increased in number just from the three that were brought to the islands in 1957, and their feeding pattern has ruined parts of the forest. As a result, only plants inedible to the deer have begun to dominate the vegetation on the islands. At one point the number of deer increased to almost 300, and a large number have died from starvation. At present, their number has stabilized at 150-200. The case has become an important precedent when discussing the ecological balance in small and isolated area. Research that will lay the foundation for deer protection and management is currently in progress.

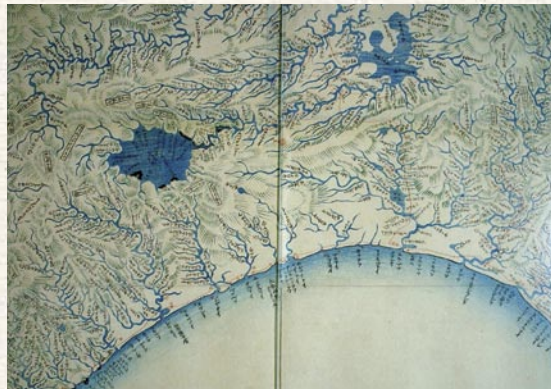
The History of Development in the Area

The neighbouring area of Shikotsu-Toya National Park was once home to the Ainu, the indigenous people of Hokkaido. Around the middle of Edo era, Matsumae clan advancing to the southern Hokkaido placed bases around Lake Shikotsu (in Chitose, Usu, Abuta and other locations) for trade with the Ainu. The full-blown development of Hokkaido only began in the late 19th century when the Meiji government was established. For this reason, Hokkaido has followed a different path from that of the Honshu.



Toya lakeshore in early Showa era

By courtesy of Takeshiro Matsuura Memorial Museum



Drawing of Lake Shikotsu area by Takeshiro Matsuura in the mid-19th century

Column

① Discovery of Lake Shikotsu by Takeshiro Matsuura

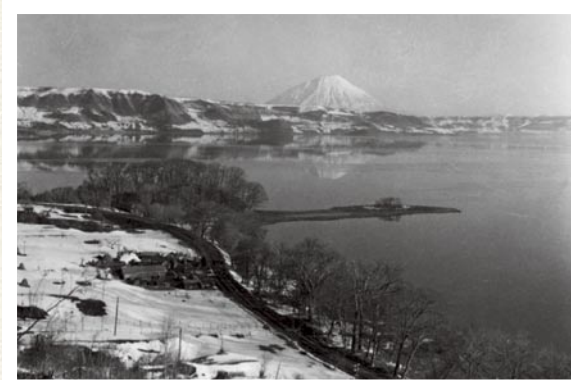
Takeshiro Matsuura (1818-1888) was the first person who made a survey and left a record of Lake Shikotsu. He was an explorer who played an active role in the investigation of Hokkaido and Sakhalin at the end of the Edo period. From 1857-1858 as the shogunate's "Geographical Investigator of the East and West Ezo Mountains and Rivers", he investigated inland Hokkaido in detail and left an extensive record. He arrived at the Shikotsu lakeshore in 1857, after departing from Chitose and going along Chitose River in the mountains. The exploration is noted in his "Yubari Diary".



The History of Development: Toya Lakeshore

The reclamation of this region began from the plains along the coast. The Hokkaido Agency was established in 1886 in Sapporo in order to unify Hokkaido and consequently, the traffic between Hakodate and Sapporo via Lake Toya increased. In 1887, 76 individuals from Kagawa Prefecture immigrated to current Takarada district and the population on the lakeshore increased gradually. Tourism on the Toya lakeshore began when hot springs were discovered in the early Taisho era. The Muroran Line and Chitose Line of the National Railways, connecting Hakodate and Sapporo through this region, were opened at the end of this era. A railroad from Abuta (now JR Toya) station to the Toya lakeshore opened in 1929 (abandoned during the Second World War), and hotels and golf courses began to be developed in the area.

The area was nominated for designation as a national park before the war. Following Akan and Daisetsuzan, the area was finally designated a national park in 1949, its accessibility being appreciated due to its proximity to Sapporo. In the late 1950s and 60s, with the popularity of tourism during this period of rapid economic growth, the Toya lakeshore grew rapidly as a sightseeing area.



Toya lakeshore near Chinkojima around 1954

Column

② Nature Restoration of the Mount Eniwa Olympic Downhill Skiing Course

At the Sapporo Winter Olympics held in 1972, Mount Eniwa was the venue for the downhill ski events. There was controversy surrounding the issue of cutting down trees within the national park in order to set up ski runs, however it was approved with the condition that the facility would be demolished after the events, and trees would be planted to restore the environment. For the event, ski runs for men and women spanning 2km, a ropeway, and several buildings were constructed. Immediately after the Olympics, restoration work began, and by 1974 demolition, tree planting, and construction work on the slopes for reforestation had all been carried out. In addition, maintenance work continued for a long time afterwards. Currently, the remains of the ski runs have mostly faded, but the transplanted trees are still smaller than those in the surrounding area.

By courtesy of Kenji Moriya



Bifue Gold Mine's railroad operated between 1936 and 1951

Forest/Mine Exploitation and the National park

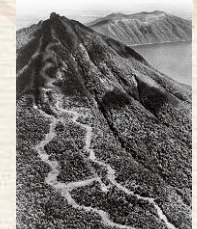
Though a high degree of nature quality remains around Lake Shikotsu, it had a history of industrial activities such as mining before it was designated a national park. In Japan, where land is very limited, reconciling conflicts with industries such as mining and power generation was often the biggest issue when designating areas as national parks. Since the beginning, the national park system in Japan has been shaped by the attempt to seek balance with various industrial activities.

Oji Paper Company built their factories in Tomakomai, established a railroad from Tomakomai to the Shikotsu lakeshore in 1908, constructed a power plant on Chitose River, and cleared the forests around Lake Shikotsu. Exploitation of mines was vigorous at the time, and there were a few within the park such as the Bifue Gold Mine on the Shikotsu lakeshore and the Horobetsu Mine in Noboribetsu. Some of them continued operating for a while even after the area was designated a national park, although now, all the mines within the park have been abandoned. Some structures from the time, such as the railway bridge, still remain, now as part of the park's historic scenes.

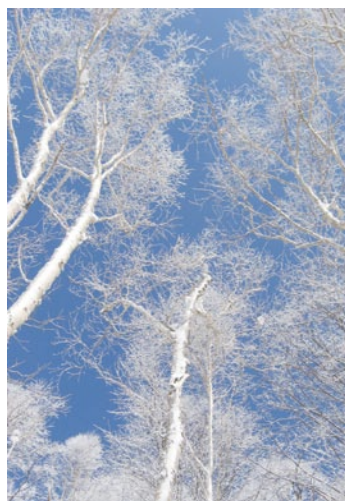


Railway bridge designated as a cultural property of Chitose City

By courtesy of Hokkaido Newspaper



Mount Eniwa Downhill Skiing Course in the Sapporo Winter Olympics



Welcome to Shikotsu-Toya National Park

When you first arrive at this national park, it is a good idea to stop by the visitor center. You can obtain the latest information and tips on how to explore the park through the exhibitions on local nature and history, or guidance by the park staff. There are also various nature-experiencing events and programs.

At Shikotsu-Toya National Park, there is a visitor center on the Shikotsu lakeshore, Toya Takarada Nature Experience House and another visitor center on the Toya lakeshore, all of which are run by the Ministry of Environment. Other facilities where you can learn about the nature in the park include the Volcano Science Museum and the Lake Toya Forest Museum.

In addition, the Utonai-ko Wildlife Center is located by Lake Utonai outside the park in the wetland, which is included in the Ramsar List of Wetlands of International Importance.

Toyako Visitor Center

The visitor center at Lake Toya Hot Spring, at the base of Mount Usu opened in 2007. Through displays and exhibitions, it describes the flora and fauna of Lake Toya and its surrounding area, as well as the volcanic activities of Mount Usu. The Volcano Science Museum is located next to the visitor center. In its vicinity, some facilities that were destroyed by the eruption in 2000 have been preserved as a remainder of the disaster.

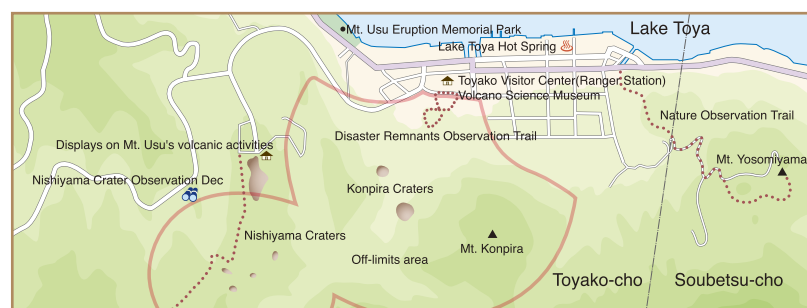


Toyako Visitor Center

142-5 Toyako Onsen, Toyako-cho, Abuta-gun, Hokkaido, 049-5721
Phone: 0142-75-2555
<http://www.toyako-vc.jp/en>

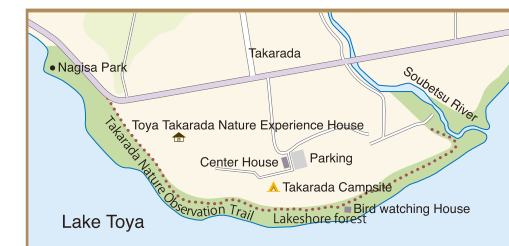
Volcano Science Museum

A museum on Mount Usu's eruptions and disaster prevention is connected to the Toyako Visitor Center by a passage. You can experience the eruption of the year 2000 in the theater with three multi-angled screens and body sensation booth. Damaged cars and railroad tracks are also displayed. This museum charges an entrance fee.



Toya Takarada Nature Experience House

Located on the north shore of Lake Toya in the Takarada district, the Toya Takarada Nature Experience House exhibits information on the nature and animals of the area. There is a biotope pond within the premises, with activities such as observation of freshwater organisms and of environmental improvement, and other activities offering nature experiences through activities such as craft classes, making soba noodles, and a walking recreation. Also, there is a 1.5km trail along the lakeshore.



Toya Takarada Nature Experience House

2-2 Takarada, Toyako-cho, Abuta-gun, Hokkaido, 049-5813
Phone: 0142-82-5999
<http://www18.ocn.ne.jp/~toya/eng>

Shikotsuko Visitor Center

The Shikotsuko Visitor Center is located on the lakeshore near the Chitose River, on the south side of the Lake Shikotsu Hot Spring. There is an exhibition on the formation of Lake Shikotsu and its surrounding nature. A tour of the adjacent Shikotsuko Nature Path of Wild Bird and an evening slide screening are also provided.



Shikotsuko Visitor Center

Shikotsu-ko Onsen, Chitose, Hokkaido, 066-0281
Phone: 0123-25-2404
<http://www15.ocn.ne.jp/~sikotuv/>

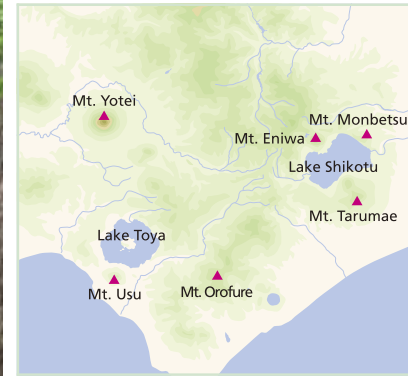
Shikotsuko Nature Path of Wild Bird

The 100-ha forest, to the south of the Lake Shikotsu Hot Spring on the bank of Chitose River, has the Shikotsuko Nature Path of Wild Bird with trails and explanatory panels set up for bird-watching. The vegetation of the forest is primarily broadleaf trees and a mixture of evergreen needle-leaf trees. Numerous species of forest birds such as woodpeckers and tits, as well as duck species on the lake can be seen in all seasons. The latest information on wild birds can be obtained from the Shikotsuko Visitor Center.

Japanese Bush Warbler



Activities to Experience Nature



Mountain Climbing and Trekking Trails



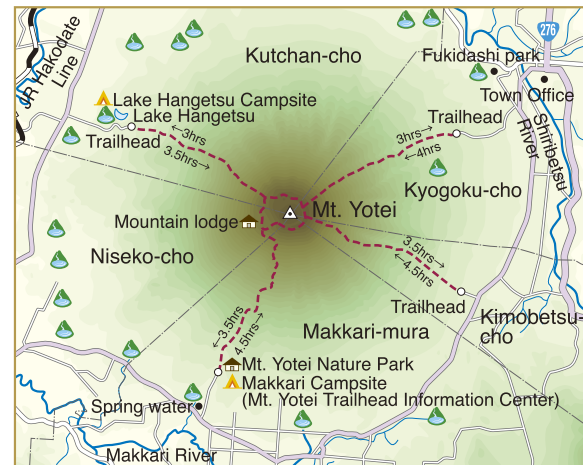
Mount Yotei in the late fall, seen from Makari

Mount Yotei (1,893m)

An independent ridge that is both beautiful and prominent. Enjoy the view which opens up as you climb and the alpine flowers that welcome you. There are three craters at the summit. Since it is a mountain of relatively high elevation, you need to be well-equipped and mentally prepared. Currently, the development of a mountaineering center at Makkari trailhead is in progress by the Ministry of the Environment. Upon its completion, the Center will provide information about the nature of Mount Yotei, guidelines for mountain climbing, and other safety information. It will also have toilets and shower facilities. There are many springs at the foot of Mount Yotei.

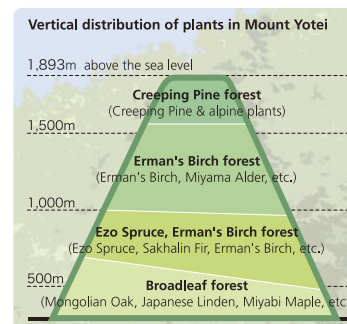


Flower garden near the summit



Vertical Distribution of Vegetation on Mount Yotei

Mount Yotei is an isolated mountain, and thus it is easy to recognize the vertical distribution of plants. From the base to an elevation of 650m, the mountain is covered with broadleaf trees such as Japanese Elm and Mongolian Oak. Thereafter, needle-leaf trees such as Ezo Spruce and Sakhalin Fir, and Erman's Birch extend up to 1,000m. Up to 1,600m is mostly an Erman's Birch zone, but Creeping Pine appears at the upper level. From this point upward is an alpine zone. There are about 260 species of alpine plants on Mount Yotei, including Mountain Harebell, Iwabukuro (Pentstemon frutescens), Blue Mountainheath, Kibanashakunage (Rhododendron aureum) to name a few -a wide variety for an isolated mountain.



The National Parks Code

In order to pass on the park's precious nature to future generations, please help protect our national parks by following these guidelines.

- ❗ Stay on wooden walkways and trails to protect the plants.
- ❗ Do not litter. Please pack your rubbish out of the park with you when you leave.
- ❗ Do not remove plants or stones.
- ❗ Keep our wildlife wild. Do not feed or disturb animals.



Mount Utsu (733m)

Aerial tramways run up to the summit. From the station at the summit, if you walk through the observation deck or take the south edge route, you will be able to see traces of past eruptions and the state of recovery of vegetation. You would be surprised to know that horses and cattle pastured here before the eruption in 1977.



Miyama Columbine

Mount Orofure (1,231m)

Mount Orofure is located between Lake Toya and Noboribetsu Hot Spring. Although it has a low elevation, it is known for its numerous alpine plants. The trailhead is at Orofure Pass on the old road. On the way, there is a cluster of Shirane Hollyhock, which turns into a flower garden in July when dozens of different flowers such as Clubmoss Mountain Heather, and Miyama Columbine bloom.

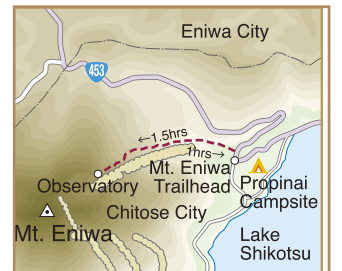


Mount Eniwa (1,320m)

The trailhead is in Poropina, at the east mountain base. The view is obstructed within the forest but once out of the ridgeline, the outer edge of the crater can be seen. Due to the threat of rocks falling near the summit, passage is not permitted beyond the eighth station of the mountain.



Panicle hydrangea



Mount Monbetsu (866m)

Located on the north side of Lake Shikotsu Hot Spring. You would follow a narrow roadway built for maintenance purposes. The view of Lake Shikotsu as well as that of a magnificent prairie extending in the direction of Chitose is fantastic.

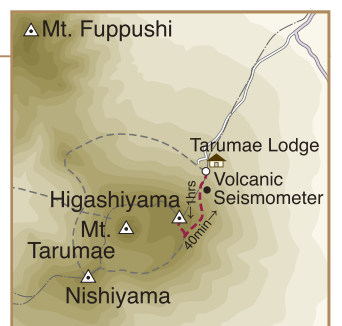


Shiraneaoi (Glaucidium palmatum)



Mount Tarumae (1,041m)

Mount Tarumae is a volcano still releasing smoke. It takes less than one hour to reach the summit from the end of the roadway. You can see the wide crater basin and the lava dome from Higashiyama, on the side of the dome. Plants such as Miquel's Spicy-wintergreen (Gaultheria miqueliana), Marsh Rosemary (Ledum palustre), and Iwabukuro (Pentstemon frutescens) can be seen. You can go around the crater but it is prohibited to enter the crater.



There are many hot springs in Japan and their distribution roughly matches the distribution of volcanoes. Most hot springs are fed by rainwater seeping underground and heated by close proximity to magma below the volcanoes. The content of dissolved materials varies among hot springs depending on the dissemination of underground water and the composition of the surrounding rocks. The result is different types of hot springs such as simple thermal hot spring with low mineral content, chloride spring, sulfur spring, and acidic spring. Their bathing effects vary as well.

Hot springs are blessings from volcanoes

Natural footbath in Oyunuma River (Noboribetsu Hot Spring)

Fumes in Jigokudani Gorge (Noboribetsu Hot Spring)

Column

Benefits of Hot Spring

Hot springs provide many medicinal benefits such as recuperation and disease prevention through the effects of the mineral salts contained in the water, and the psychological benefit of relieving the stress of daily life, and placing oneself in a natural environment. The Japanese are big fans of hot spring baths. The history of hot spring use is well established. As a matter of fact, there is a record related to hot springs in "Kojiki"(The Records of Ancient Matters), the oldest history book in Japan written in the eighth century. Hot springs serve many purposes besides bathing. Not only are they used as a source of heat for raising animals and cultivating plants, but they are also utilized to heat buildings using heat pumps. In the town of Soubetsu, farmers use hot springs to cultivate tomatoes in large-scale plantation houses.

Highlights of the Major Hot Springs



Jozankei Gorge Hot Spring



Marukoma Hot Spring

Footbath in Lake Toya Hot Spring

Lake Shikotsu Hot Spring

The only settlement on the shore of Lake Shikotsu. The area was planned systematically after the area was designated a national park, therefore accommodations were made to blend in with the forests, giving the area a tranquil appearance. This hot spring emerged as a result of boring in 1974 and is a bicarbonate (salt) spring. It is not far from Shikotsuko Nature Path of Wild Bird (p19). The red railway bridge spanning the Chitose River nearby is the oldest railway bridge remaining in Hokkaido.

Marukoma Hot Spring and Ito Hot Spring are both located on the north shore of Lake Shikotsu. They have both bicarbonate and sulfate springs.



Ito Hot Spring

Noboribetsu Hot Spring

One of the most representative hot springs in Japan. Noboribetsu was known by the Ainu for a long time before government officials working in Hakodate began bathing there for therapeutic purposes at the end of Edo era. The amount of spring water exceeds 10,000 tons per day, and a total of 11 various types of springs, including sulfur, hydrogen sulfide, and iron springs can be

enjoyed. For this reason, it is also a place where research in the remedial use of hot springs, from a modern medical perspective, has been taking place. Jigokudani Valley and Oyunuma, still vigorously releasing volcanic gases and boiling water, are located near the hot spring district. There are benches along the river flowing out of Oyunuma, where you can take a natural foot bath.

Lake Toya Hot Spring

A hot spring emerged upon the eruption of Mount Usu in the early 20th century and has been developing as a hot spring district on the lakeshore, helping to promote the growth of this town along with Mount Usu (p8-9). There are chloride springs and bicarbonate (salt) springs. There are hand baths and foot baths in over a dozen locations. Also, if you stroll down the promenades of Nishiyama craters and Konpira craters, you can closely observe the ravages of the eruption in 2000.



Jozankei Gorge Hot Spring

A chloride spring with abundant water, large enough to establish a district. It was discovered by a monk from Okayama Pre-

fecture, Jozan, in 1866. Situated in the suburbs of Sapporo, it has been a place of relaxation for the locals for a long time. There is a promenade along the Toyohira River extending 2.5km in the upper section of the hot spring.



Kitayuzawa Hot Spring

Kitayuzawa is a sulfur spring situated to the east of Lake Toya facing the Osaru River. A promenade extends from the hot spring along the stream, and there is a foot bath where you can walk through the stream of warm water. There is also a ski area close by.

Karurusu Hot Spring

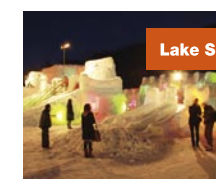
A sulfate hot spring situated about 8km north of Noboribetsu. It was the first place to be designated a national health resort in Hokkaido in 1957, and its therapeutic atmosphere still remains. The name Karurus was taken from the famous spa, Karlsbad (Karlovy Vary) in Czech Republic, for the springs' similar levels of radium.

Hot Spring Festival and Other Events



Showa-Shinzan International Yukigassen

A tournament based on a simple yukigassen (snowball fight) developed. The number of participating teams is increasing yearly, and the European Championship game was held recently in Finland.



Lake Shikotsu Ice Festival

A local event by resident evolved into the leading festival of Chitose. Many ice sculptures standing along the lake are lit up in the evening, which creates a fantastic atmosphere.



Noboribetsu Spa Hell Festival

Once a year, when the lid of the "Hell" at Jigokudani Valley opens, "the King of the Hell" appears with many demons. Noboribetsu Hot Spring is full of festive cheer with many floats on this theme and portable shrines carried through the streets.



The National Park Profile

The Japanese Islands -70% of the land is covered by forests and blessed with diverse biota from subarctic to subtropical zones. National park areas represent Japan's rich and beautiful nature. National Parks in Japan, founded in 1931, have a history of over 70 years. Presently, from Hokkaido to Ryukyu Islands, 29 areas have been designated national parks nationwide, amounting to 5% of land area of the country. National parks contain the nation's representative natural environments, and comprise the framework for preserving natural environments and biodiversity of

Japan.

National parks in Japan not only include primeval forests and wetlands, but also agricultural lands, communities and their surrounding nature, places that developed through the interactions of humans and nature, as well as historical and cultural scenery. They are also intended for recreation, tourism, and educational activities, emphasizing the symbiosis with regional communities.

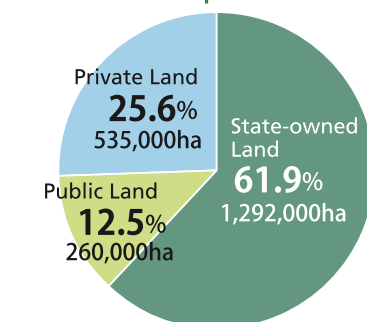
National parks in Japan are designated regardless of land ownership. Although enhancement of nature conservation has been

considered, most of state-owned lands within parks are managed and utilized for other purposes as well, such as forestry or river-coastal management. Thus on a cooperative basis, and the fostering of partnership with local communities and interest groups, the balance between conservation and sustainable use of natural resources is the foundation of national park management in Japan.

The management of national parks is carried out based on zoning. Park areas are divided into three zones according to their characteristics of the natural environment and scenery; the most strictly protected Special Protection Zone, the main component Special Zone, and the Ordinary Zone as a buffer. Activities that may affect the scenery such as cutting down trees or construction require permits from the authorities or a notification.

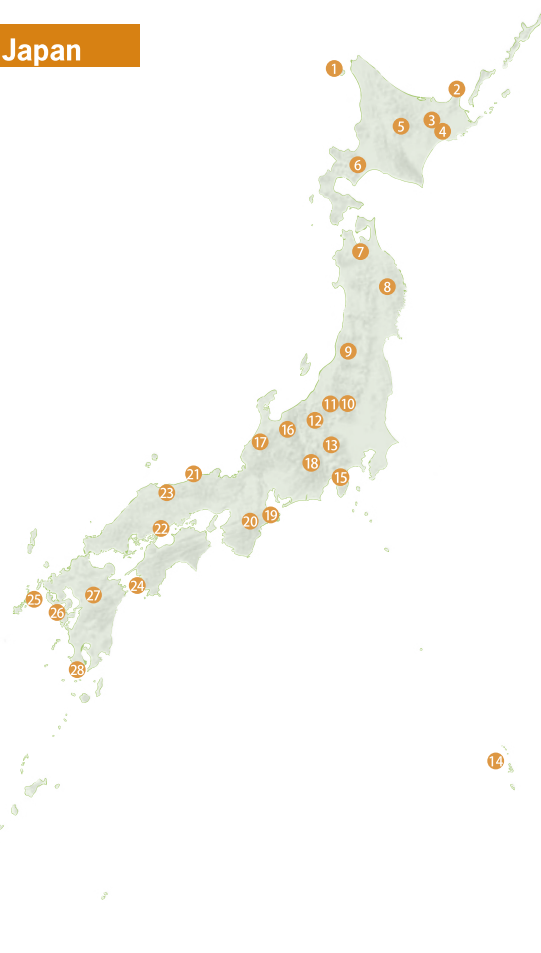
The management of national parks on site is carried out by the Regional Environment Office of the Ministry of the Environment, with the aid of local governments. National Park Rangers (The Nature Conservation Officers) are assigned at each park, making adjustments for development deals, maintenance of facilities, promoting public awareness, conducting interpretation, and closely monitoring the natural environment.

Land Ownership



National Park in Japan

- 1 Rishiri-Rebun-Sarobetsu
- 2 Shiretoko
- 3 Akan
- 4 Kushiro-Shitsugen
- 5 Taisetsusan
- 6 Shikotsu-Toya
- 7 Towada-Hachimantai
- 8 Rikuchu-Kaigan
- 9 Bandai-Asahi
- 10 Nikko
- 11 Oze
- 12 Joshinetsu-Kogen
- 13 Chichibu-Tama-Kai
- 14 Ogasawara
- 15 Fuji-Hakone-Izu
- 16 Chubu-Sangaku
- 17 Hakusan
- 18 Minami Alps
- 19 Ise-Shima
- 20 Yoshino-Kumano
- 21 Sanin-Kaigan
- 22 Setonaikai
- 23 Daisen-Okai
- 24 Ashizuri-Uwakai
- 25 Saikai
- 26 Unzen-Amakusa
- 27 Aso-Kuju
- 28 Kirishima-Yaku
- 29 Iriomote-Ishigaki



National Parks in Hokkaido

1 Rishiri-Rebun-Sarobetsu

Designated on September 20, 1974
/ Land area: 24,166 ha

The northernmost national park in Japan. Comprised of three areas; isolated peak Rishiri Island on the ocean, Rebun Island with endemic plants, and the magnificent Sarobetsu wetland extending from the mouth of Sarobetsu River. Its dynamic scenery and biota are its prominent features.



3 Akan

Designated on December 4, 1934 / Land area: 90,481 ha

One of the most historical national parks in Japan. Primeval forests of Sakhalin Fir and Ezo Spruce, and lakes of various sizes shaped by volcanic activities are the core of its scenery. It is a park that lets you feel the intricacy of nature typical of Hokkaido. There are some volcanoes that are still active and hot springs at various places.

2 Shiretoko

Designated on June 1, 1964
/ Land Area: 38,633 ha

The park area extends from the center to the tip of Shiretoko Peninsula. There are almost no human settlements, and thus pristine ecosystems in which sea and land have remained virtually untouched. It is the habitat of large wild animals such as the Brown Bear, the Steller's Sea Eagle, and the Northern Sea Lion. The area was designated a World Heritage Site in 2005.



4 Kushiro-Shitsugen

Designated on July 31, 1987 / Land Area: 26,861 ha

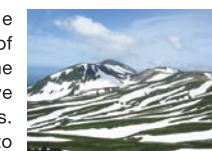
A relatively new national park, designated in 1987. Kushiro Shitsugen is the largest wetland in the country, expanding around the Kushiro River basin (with plants such as the sedges), it is a precious habitat for wild, endangered species such as the Red-crowned Crane and rare Japanese Huchen (Hucho perryi). It was included in the Ramsar List of Wetlands of International Importance in 1980.



5 Daisetsuzan

Designated on December 4, 1934 / Land area: 226,764 ha

With a total area 226,000ha, it is the largest national park in Japan. A chain of 2000m-class mountains, it is known as the "roof of Hokkaido". There are expansive clusters of alpine plants on the mountains. It is a highly primeval park, and home to various wild animals including the Brown Bear.



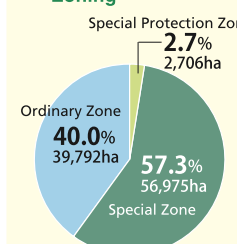
6 Shikotsu-Toya

Designated on May 16, 1949 / Land area: 99,473 ha

Principle attractions are the scenery created by caldera lakes and volcanoes, which continue to be very active, the park encompasses highly natural forests. Being close to the Hokkaido metropolitan area, it is popular as a recreational field due to its high accessibility.

Total Visitors : 14,620,000 (in 2005)

Zoning



Land Ownership

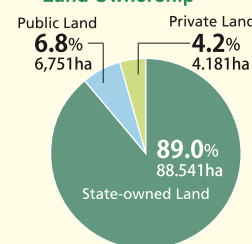


Photo: Go Abe, Kiyoshi Otomo, Hirokazu Ohashi (Naturally), Toshiharu Ohashi, Norichika Kubo, Masakazu Koike, Yukihiko Sasaki, Katsuichi Sano, Tomoyuki Tachibana, Takayuki Tsubata, Koichi Hamagashira, Takashi Hyakutake, Keiko Horikawa, Natsuhiko Morimoto, Ryozo Yamada, Kazuyuki Yoshie, Tsugumitsu Takezako, Lake Shikotsu Photo Fan Club, Shikotsuko Hot Spring Hotels Association, Natural Parks Foundation, Jozankei Tourism Association, Lake Toya Hot Spring Tourism Association, Niseko-cho, Noboribetsu Tourism Association, Hokkaido Art Co., Hokkaido Eizo Kiroku Co.