

I'd like to go there....

> Day lily (Hemerocallis middendorffii var. esculenta)

Wow,

E

Asian skunk cabbage (Lysichiton camtschatcense)

Carles and the first of the fir

such beautiful flowers. Where do these flowers bloom?

#### **Oze National Park.** In

Oze, which straddles the borders of the four prefectures of Gunma, Fukushima, Niigata, and Tochigi, was designated as Japan's 29th national park in 2007. The park's beautiful and spectacular natural environment is being carefully maintained and protected by everyone, including the national government and local communities, so that future generations will be able to continue to enjoy it.



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Ozegahara Marsh

Ozenuma thistle

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(Cirsium homolepis)

Lake Ozenuma

Japanese stoat

(Mustela erminea Nippon)

### What sort of place is Oze?

Please feel free to ask us anything about Oze.

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Mt. Shibutsu

#### Mt. Hiuchi

Oze includes Ozegahara, a large marsh, and Lake Ozenuma. Surrounding the area are a series of mountains that reach over 2,000m in height, including Mt. Shibutsu and Mt. Hiuchi. There are so many things to see in Oze, including wetlands, mountains, and plants and animals.



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A wide variety of plants can be seen in the park during each season, and it is said that there are about 900 species of plants there (including primitive pteridophytes, such as ferns). There are even a number of flowers that include "Oze" in their names. And the park is also home to many kinds of animals ranging from Japanese Mmmmh stoat and dragonflies to tree swallows and Asian black bears.

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## Tell us more about the amazing places in Oze!

Mt. Hiuchi



Miharashi

A chito



Oze National Park covers an area of 37,222 ha. **That is about 7,900 times the size of the Tokyo Dome baseball stadium.** The park is **designated as a Special Protection Area and a Special Natural Monument** by the Japanese Government, and it is absolutely forbidden to pick plants or hunt animals within its borders without permission. On top of this, visitors are not allowed to pick up fallen leaves and dead branches. It's a place where nature must be carefully protected.

Moreover, the park is a **world-class natural treasure** that is listed under the **Ramsar Convention**<sup>+1</sup>, which was established for the conservation of wetlands of international importance.

\*1. The Ramsar Convention: A convention for the protection of internationally important wetlands, to which 172 countries are parties. From Japan, 53 sites have been registered, including Kushiro Marsh, Lake Biwa, and Oze. (Data as of December 2023)

# It's the biggest high moor<sup>2</sup> in Honshu.

\*2. High moors are described on page 8.

This is a view of Ozegahara from the top of Mt. Shibutsu. The small ponds we can see here and there dotting the landscape are called chito and there are more than 1,800 of them.

Yamanohana

How were

large wetlands

like Ozegahara

formed?

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# The wetlands were created over a very long period of time.

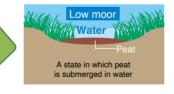
Mt. Shibutsu is a rocky mountain formed more than 200 million years ago and uplifted over a long period of time. Mt. Hiuchi has erupted numerous times over the past several hundred thousand years. **Ozegahara and Ozenuma,** 

surrounded by these mountains, became lakes after the rivers in the area were blocked by volcanic eruptions. After that, peat gradually accumulated in Ozegahara and created the expansive wetlands that we see today.

How the welands formed

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Ozegahara experiences cool summers with an average temperature about 10°C lower than Tokyo, so when plants die, they tend not to decompose completely but instead turn into peat. The present wetlands are said to have been formed by the accumulation of peat at a rate of **about 1mm per year, which grew into a peat layer about 4.5 to 5m thick over a long period of time.** 

Peat

A state in which peat is

piled up into a raised bed

1cm of peat in Ozegahara is the equivalent of 10 years of accumulation.

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Intermediate moor

A state in which low moor is in the

process of becoming high moor

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Uze

of the land in Oze National Park is owned by TEPCO

Approximately 40%

# What is the connection between Oze and TEPCO?

TEPCO

#### Column 1 Hydroelectric Power: Then and Now

When TEPCO was established, the ratio of hydroelectric power generation to thermal power generation was in 8:2. Currently, the proportion of hydroelectricity is smaller, but it is still considered an important power generation method for the following reasons:

- Hydroelectric power is a clean power generation method that does not emit CO<sub>2</sub>.
- It represents a purely domestic energy source, which is particularly valuable for Japan, where natural resources are scarce.
  Although the original plan to generate electricity in Ozegahara was cancelled, TEPCO is still using some of the water from Lake Ozenuma to generate electricity, while ensuring that there are no negative impacts on the environment.



Lake Ozenuma and Mt. Hiuchi

During the Meiji and Taisho eras, electricity was beginning to make its way into people's lives, and more electricity was needed with each passing year. Because of this, one of Japan's major challenges was to promote the construction of hydroelectric power plants (where the power of water is used to generate electricity), which were the main source of electrical power generation at that time. In the Taisho era (1912-1926), the then-existing electric power company obtained the right to access the land and water of Oze in order to utilize the area's abundant water resources for power generation. Then, in 1951, when TEPCO was established, it inherited these extensive land and water rights, and this marked the beginning of the **relationship between Oze and TEPCO**. Currently, about 40% of the entire Oze National Park area and about 70% of the special protection area (nearly all of which is on the Gunma Prefecture side) is owned by TEPCO.

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## Column 2 The Toden-goya mountain lodge

The Toden-goya mountain lodge in the northern part of Ozegahara was built at the beginning of the Showa era (1926-1989) by the then-existing electric power company as a base for surveying precipitation, and was called the Suiden Hut at that time.





The old Toden-goya mountain lodge(constructed in 1927)

The current Toden-goya mountain lodge

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A scene overflowing, with hikers

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People standing on floating islands The ruined Ayamedaira Marsh

Why is TEPCO working so hard to protect the nature of Oze?

## These photographs were taken in the 1960s.

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### People entering the marsh to play

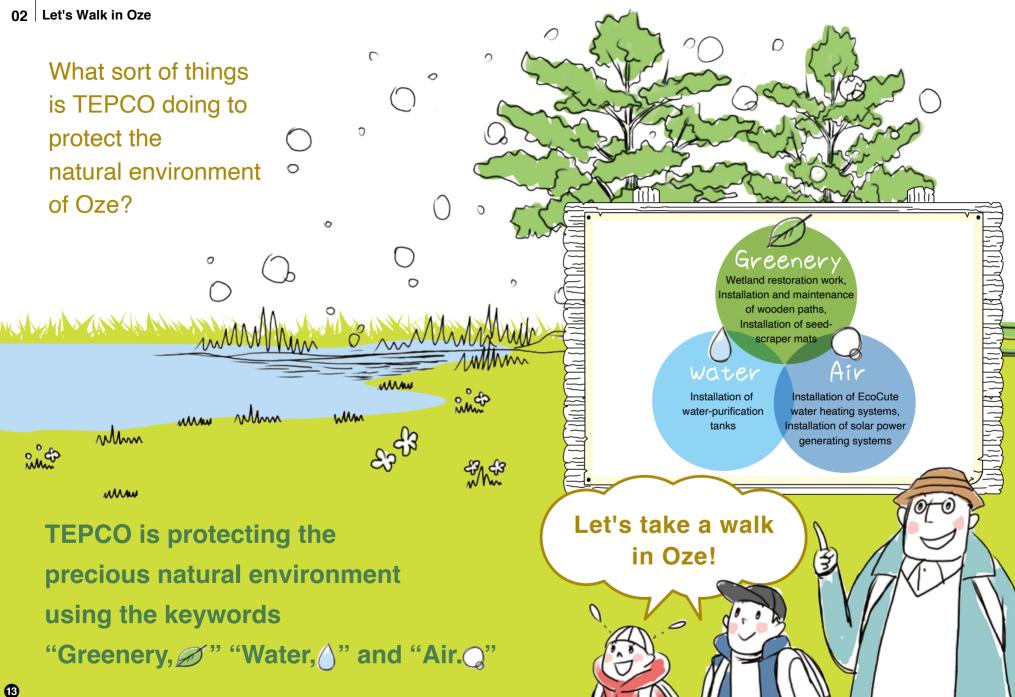
It all started during the hiking boom of the 1960s. Attracted by the beauty of the area, people began visiting Oze in large numbers. However, at that time, many visitors did not possess the proper etiquette to protect nature, and there were lack of adequate wooden paths and public restrooms, so the natural environment in Oze was quickly become devastated. From that time on, TEPCO began saying, "We can't leave things as they are!" And that's when the desire to protect the area's natural beauty began to grow.

People walking off the wooden path



TEPCO belives that **"Beautiful Oze is the property of all the people of Japan,"** and as the owner of the land in Oze, TEPCO has been

working to protect the natural environment of the area for about half a century.



# What does it mean to bring back "greenery ?"?

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Ayamedaira, which was once praised as a

"Heavenly Paradise," was devastated by the trampling feet of many hikers in the 1960s. Since the 1970s, TEPCO has been working to restore the damaged Oze wetlands in an effort to bring back greenery to the area, and as a result, the beautiful Ayamedaira

Marsh has been largely restored.

6 Ayamedaira today

**1** View of the devastated Ayamedaira

Wetlands that have been destroyed by human activity are difficult to restore through the power of nature alone, aren't they?

Covering the ground with grass clippings of numagaya (Moliniopsis japonica) to prevent drying out.

#### Column 3 Winter Activities

Oze is located in an area where heavy snowfall can accumulate to a depth of around 3 to 4m, and the access roads are closed for about six months from November to May. TEPCO's environmental preservation staff spend about a week on the mountain during the severe winter season when there are no visitors, to clear the snow that piles up around mountain lodges, bridges, public restrooms, and other areas.

s of numagaya (Moliniopsis japonica) ent drying out.



2 Determining the site for restoration work in Ayamedaira

年後1日本市 日本地を広に内支出からの  Sowing four kinds of seeds including mitake sedge (Carex michauxiana var. asiatica) and planting peat moss

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What does it mean to protect "greenery ? ??

An extensive network of **wooden paths** has been constructed to prevent the wetland from being trampled again. A total of about 65km of wooden paths have been laid across most of Oze's wetlands and mountain areas so that vsitors can experience nature while minimizing their impact on the environment. About 20km of these footpaths are maintained by TEPCO, which needs to replace the structures around once every 10 years, so planned maintenance is carried out every year.

Visitors are not supposed to stray from the wooden path or enter the marsh.

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Workers replacing a wooden path

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There are a great number of rare plants unique to Oze. However, the plant seeds that are brought in on the soles of hikers' shoes threaten to displace the native plants that live in Oze. TEPCO has installed **seed-scraper mats** at all mountain path entrances on the Gunma Prefecture side of Oze, and is urging people to thoroughly remove seeds from the soles of their shoes before entering Oze.

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#### Request

To avoid bringing weed seeds into Oze, please remove any seeds from the soles of your shoes before entering the mountain

#### Column (4) The Oshimizu Marsh Restoration Project

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The Oshimizu Marsh used to be a marshland where skunk cabbages were in full bloom, but in recent years, many of the skunk cabbages have disappeared due mainly to being damaged by foraging deer. In 2018, a wetlands restoration project led by the nearby village of Katashina was launched, and in addition. TEPCO renovated the old broad wooden paths and planted skunk cabbages. We are still planting skunk cabbages in cooperation with local high schools and businesses.



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#### Column 5 Oze Wooden Path Eco Paper

The wooden paths in Oze are replaced every 10 years or so. When these wooden paths can no longer serve as walkways, they are recycled into a raw material for creating Oze Wooden Path Paper, which is used for pamphlets and business cards, etc.



The Oze Wooden Path Eco Paper logo mark

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## What does it mean to protect "water

### What does it mean to protect the "air $\approx$

The solar power generation system that provides a portion of the electricity used in the Toden-gova mountain lodge



Shibutsu-sanso

mountain lodge

Air source heat pump systems, also known as EcoCute systems, that heat water using heat from the air are installed in front of the Shibutsu-sanso mountain lodge. In addition, a portion of the electricity used in the Toden-goya mountain The EcoCute systems lodge and all the electricity used in the Fujimi-toge installed at Pass public restrooms is generated by solar power. These two initiatives are helping to reduce

CO2 emissions and protect the clean air of Oze.

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The public restrooms in Oze are equipped with high-performance water-purification

tanks. These tanks are used to make the dirty water as clean as natural river water before returning it to the river.

These water-purification

tanks are protecting

Oze's clean water.

The public restroom at Fujimi-toge Pass

The water-purification tanks installed at Fujimi-toge Pass



# Is there anything we can do to help?



# Join us in picking up trash!

Although it has become a common practice for people to take their garbage home with them, small pieces of trash, such as candy wrappers, can still be found in Oze. As part of its "Take Your Garbage Home with You" Campaign, TEPCO is calling for **Green Volunteers** to pick up any trash they see while walking around Oze at their own pace and enjoying the scenery.

Appealing to the public at the

(NVh)

entrance to the mountain.



### Take Your Garbage Home with You Campaign

A trash bin overflowing with trash left by hikers -

#### Column 6 Take Your Garbage Home with You Campaign

In Oze, cleaning overfilled trash bins was a major problem. To address it, at the initiative of TEPCO and its affiliated company, Oze Forestry (now Tokyo Power Technology), all the trash bins were removed from the area in 1972. This was the beginning of the "Take Your Garbage Home with You Campaign" and one of the reasons why Oze is called "the birthplace of nature conservation activities in Japan".



Green Volunteers

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# Is there anything else we can do?

The Oze-Tokura Forest, which extends to the south of Oze, plays an important role as a water reservoir for the Tokyo metropolitan area and also as a zone that nurtures Oze's natural environment. However, the was found that some larch woods planted there after World War II were not growing well. So, in 1997, TEPCO began **Volunteer activities** with local residents to plant beech, Japanese oak, and other trees in

an effort to restore the original

richness of the forest.

Tree-planting work

Let's grow a forest together!

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In addition to tree planting, we also organize **volunteer activities for tree thinning** in dense areas. Thinning allows light to reach the ground and healthy forests to grow. Furthermore, in August 2009, the forest area was certified for CO<sub>2</sub> absorption and biodiversity (FORESTOCK Certification<sup>\*1</sup>), and in February 2010, it was certified under the international forest certification system established by the Forest Stewardship Council (FSC<sup>\*2</sup>). We're managing the forest while also taking advice from outside agencies.

ORESTOCK System A system for the assessment of forests basis appropriate survey methods for the levels or management and administration, biolotiversi conservation, and forest sink (Coclabsorpti credit) condition, in accordance with the Assessment Criteria for Forest Sinks, Biodit dec, in Forest Development (published in Us only by the FORESTOCK Association). Tree-thinning work

# What kinds of flowers bloom in spring and early summer?



#### Eastern skunk cabbage

(Symplocarpus foetidus/ Symplocarpus renifolius Schott) (Japanese name: zazenso) Early May–Early June

The spathe surrounding the spadix that contains the flowers is purple in color. The word *zazen* (seated meditation) in the Japnese name comes from the fact that the flower resembles a monk sitting in zazen.



Asian skunk cabbage (Lysichiton camtschatcensis) (Japanese name: mizubasho) Late May–Late June

A representative flower of Oze in spring, appearing as soon as the snow melts, this plant is often seen along the water's edge. In Japanese, it is also called *shiroi yosei* (white fairy).



Tateyama gentian (Gentiana thunbergii) (Japanese name: tateyama r

(Japanese name: *tateyama rindo*) Late May–Late June

The buds of the Tateyama gentian swirl and curl like soft-serve ice cream. And the flowers bloom only when it is sunny.

#### Hare's-tail cottongrass

(*Eriophorum vaginatum*) (Japanese name: *watasuge*) Late June–Early July

The white balls of fluff are called kasui (fruit clusters), and when they ripen they are blown away by the wind. During some years, depending on the season, you can see lots of this fluff.



#### Asian pogonia

(*Pogonia japonica*) (Japanese name: *tokiso*) Late June–Early July

This orchid is said to be named from the color of its flowers, which is reminiscent of the color of the crested ibis's feathers.

Day lily

(Hemerocallis middendorffii var. esculenta)

(Japanese name: nikkokisuge)

Early July-Early August

A representative flower of Oze in

known in Japan as zenteika (zen

one-day flowers that bloom in the

summer, the day lily is also

garden flower). It produces

morning and wilt the same

evening.



#### Japanese iris

(*Iris laevigata*) (Japanese name: *kakitsubata*) Early July–Late July A similar flower, the beachhead iris (*Iris setosa*), blooms around the same time, but you can easily tell them apart because the pattern of the petals is different (the Japanese iris has a single white stripe).



#### Bog asphodel

(Narthecium asiaticum) (Japanese name: kinkoka) Early July–Early August

This plant has yellow flowers and sharply pointed leaves that resemble swords. The leaves turn orange in the early autumn.

#### **Pigmy waterlily**

(*Nymphaea tetragona*) (Japanese name: *hitsujigusa*) Early July<mark>-Early September</mark>

It is said that the name *hitsujigusa* comes from the fact that the flowers open at the hour of the sheep (around 2:00 p.m.), but actually the flowers can be seen even in the morning.







#### Marsh marigold (*Caltha palustris var. nipponica*) (Japanese name: *ryukinka*) Late May–Early July

This plant is often found around creeks. The flowers bloom for a long time from when the snow melts until early summer.

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Bogbean (*Menyanthes trifoliata*) (Japanese name: *mitsugashiwa*) Late May–Early July

If you look at the white flowers through a magnifying glass, you can see lots of fine, long hairs on the petals. This plant can be seen mainly around chitos.

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#### **Aleutian avens**

(*Geum pentapetalum*) (Japanese name: *chinguruma*) Mid-June–Early July

#### This plant is often seen along



wooden paths The name chinguruma is said to be derived from chigoguruma, which means a child's wheel, because the shape of the berries resembles a child's pinwheel.

# What kinds of flowers can be seen from midsummer to autumn?



Oze kohone (Nuphar pumila var. ozeensis) (Japanese name: ozekohone) Mid-July-Mid-August

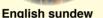
This small lily is characterized by a flower with a red center. It is a rare flower found outside of Oze only in Gassan (Yamagata Prefecture) and some parts of Hokkaido. It can be seen at the Research Collection Garden and in the deeper chitos in Ozegahara.



#### Mizugiku

(Inula ciliaris var. glandulosa) (Japanese name: mizugiku) Late July-Early September This plant can be seen in flower mainly in Ozegahara from late July, when the day lilies have finished blooming. It is characterized by a pattern of small dots on the underside of its leaves.

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(Drosera anglica) (Japanese name: nagaba-no-mosengoke) Mid-Julv-Mid-August

A member of the insectivorous flowring plant family Droseraceae, this plant catches insects and other small arthropods to obtain nutrients. It is said to be rare in Japan, with Hokkaido being the only place other than Oze where it grows naturally.

#### **Ozenuma thistle**

(Cirsium homolepis Nakai) (Japanese name: ozenuma-azami) Late July-Late September

Named after its discovery in the Ozenuma area, this is a rare thistle that is found only in the Oze area. It is characterized by the thick, areen, needle-like bracts attached to the underside of the flowers. When the flowers open, many insects gather to feed on the nectar.



Sawa-gikyo

(Lobelia sessilifolia)

(Japanese name: sawa-gikyo)

Late July-Late August

feeling of deepening autumn. It is

This is a flower that conveys the

often seen in Ozegahara.

#### **Double-spotted swertia**

(Swertia bimaculata) (Japanese name: akebonoso) Late July-Late September

The Japanese name akebonoso (dawn plant), comes from the pattern of the petals, which with the vellow representing the moon and black dots the stars.

#### Iwashobu

(Tofieldia iaponica) (Japanese name: iwashobu) Early August-Early September

The stem of this plant is sticky to the touch, which helps to prevent ants and other ground-dwelling insects from climbing up and taking away the pollen and nectar.



#### Marsh grass of parnassus

(Parnassia palustris) (Japanese name: umebachiso) Mid-August-Mid-September

The Japanese name comes from the shape of the flower, which resembles a family crest with an ume-no-hana (plum blossom) design. This is a very elegant flower and is often seen in Ozegahara.



#### Sobana

(Adenophora remotiflora) (Japanese name: sobana) Late August-Early September

It can often be seen along the wooden path running between Hatomachi-toge Pass and Yamanohana. It is distinguished by its trumpet-shaped, downward-facing flowers.



#### Oze aconite

(Aconitum sachalinense) (Japanese name: oze-torikabuto) Late August-Late September

This plant produces beautiful purple flowers, but the entire plant is extremely poisonous and must be handled with great care. The Japanese name torikabuto (bird helmet) comes from the shape of the flowers, which resemble the head of the phoenix that appears in classical Japanese Bugaku theater.

Mid-September-Early October In the Oze wetlands, the flowers of this plant bloom at the end of the tourist season. The usual color of the flowers is purple, but pure white flowers can sometimes be seen in the Research Botanical Garden.

(Gentiana triflora var. japonica)

(Japanese name: ezo-rindo)

#### Japanese rowan

(Sorbus commixta) (Japanese name: nanakamado) Early October-.

This tree produces white flowers from late June to early July, but its leaves and fruits turn red in the autumn, giving it a very vivid color. It is said that the Japanese name nanakamado (seven ovens) comes from the saying that even if you put it in the oven seven times, it will still remain unburned.



resembles the starry sky at dawn,



## What kinds of animals can be seen in Oze during the tourist season?



Scarlet dwarf (Nannophya pygmaea) (Japanese name: hachou-tombo)

Oze is the habitat of about 40 species of dragonflies. The scarlet dwarf is one of the smallest in the world, measuring only about 2cm in length. The males are characterized by their bright red color when they mature around July.



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#### Japanese fire-bellied newt

(Cvnops pvrrhogaster) (Japanese name: akahara imori) As their name suggests, these newts have red bellies when flipped over, but the patterns differ between individuals. They are often seen swimming in the chitos. Take your time to observe them carefully



#### Asian house martin

(Delichon dasvpus) (Japanese name: iwatsubame) These birds can be seen in Oze from early June to late September, and they spend the winter mainly in Southeast Asia. The Japanese name iwatsubame (rock swallow) comes from the fact that they tend to nest in rocky areas, but in Oze they are often found nesting in mountain lodges.



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#### Japanese stoat

(Mustela erminea Nippon)

The Japanese stoat is a member of the weasel family with a very cute face, but it is a carnivore and will even eat animals larger than itself, such as hares. If you see an Japanese stoat in Oze, please report it to the Yamanohana Visitor Center or the Ozenuma Visitor Center and you can get a Certificate of Spotting an Japanese stoat. But be warned, stoats move quickly and are not easy to spot.

#### Asian black bear

(Ursus thibetanus) (Japanese name: tsukinowaguma) Although they have large teeth and sharp claws, these bears are generally shy and they follow an omnivorous diet, mainly of plant foods, such as beech and other tree nuts and young shoots of Japanese garlic. If you see one, please leave the area quietly.



#### Char (Salvelinus) (Japanese name: iwana)

Char, which prefer cold water and live in the upper reaches of rivers, are said to have a strong life force and have long been a valuable food source for people living in the mountains. Char in Japan can be divided into four main species based on their patterns and other characteristics.

The Japanese char. known in Japan as the nikkoiwana can be seen in Oze.

#### Sika deer (Cervus nippon) (Japanese name: nihonjika)

The number of sika deer, which were previously thought to be absent from Oze. has been increasing over the past decade, causing problems by overgrazing plants in the wetlands. In particular, in areas where many bogbeans grow, there are traces of the dear digging the ground in the marshes





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## Please tell us about the rules of Oze!

### For safety and enjoyment!

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### Oze is a mountain. You need to ensure your own safety.

- Oze is a mountainous area. Make appropriate preparations for mountaineering, especially with regard to shoes, clothing, and rain gear.
- · Allow yourself plenty of time and energy to spare.
- The wooden paths can be slippery, so always walk with care.
- Be aware of the surrounding conditions, such as fallen trees, rocks, etc.
- Wear a bell or a similar device to minimize the risk of encountering bears.

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### To protect nature!

### Let's preserve Oze's precious natural environment by paying attention to small details!

- Remove weed seeds from the soles of your shoes before entering the mountain.
- · Do not go into the marshes.

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Let's observe

these rules!

- Do not bring in or take out animals or plants.
- Be sure to take all your garbage home.
- Mountain lodges are by reservation only. Please refrain from using soap or shampoo.

We can preserve the beautiful nature of Oze by all working $\sim$ together to protect it.

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