彩の国
SAITAMA PREFECTURE

What is Biodiversity?

In order for our lives to be happy, it's important to protect the lives of all the different creatures around us.

How can we make this happen?

地球のいのち、つないでいこう

Restoring our rivers and green spaces, restoring biodiversity

Prefectural Mascot Kobaton

Our food, fuel, medicine, the things we make:
They come from nature.

We are alive
because of our connection to nature.
If something is missing and these connections fall apart,
our lives will fall apart too.

Now creatures around the world are going extinct
faster than ever
because of what humans are doing.

If we want to our lives to be happy,
we must protect all the many creatures that live
in nature around us.

Now it's up to us to decide how to do that.

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1 What is Biodiversity?

Have you the word "biodiversity" before? Biodiversity describes the way that all creatures are different from each other. There are different kinds of biodiversity such as ecosystem diversity, species biodiversity, and genetic diversity.

Ecosystem Diversity


Okuchichibu Mountains


Hiki Hills


Kabuto River

From the old-growth forests of the Okuchichibu Mountains to the *satoyama* (ponds and rice fields that border the woodlands) in Hiki Hills; from the Arakawa and other rivers small and large to the tidal flats of Tokyo Bay, plants and animals have adapted to and created many different kinds of natural habitats.

Species Biodiversity

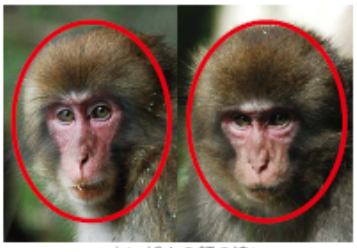

Chichibu Iwazakura


Sika Deer


Midori Shijimi

The basic unit of classifying different kinds of creatures like animals and plants is called a species. There are about 5,600 different species of plants, algae, and fungi in Saitama, as well as some 10,000 different species of animals such as mammals and insects.

Genetic Diversity


Facial variations of Japanese macaques


Variations in the shapes of Japanese zelkova branches

If you look closely you can see subtle differences even among the same species of plants or animals. For example, monkeys have different faces or body shapes, and the shape of a tree can vary so that one tree has branches that spread out while the other has many thin and straight branches, even though they are the same species. These differences are due to genetic diversity. The more genetic diversity a species has, the better they are able to adapt to a habitat.

2 The Gifts Biodiversity Brings Us

We benefit in many ways when biodiversity is protected.

Plants absorb carbon dioxide and emit oxygen. Microorganisms and earthworms decompose fallen leaves to produce rich soil. Biodiversity provides the essential foundations for all life.

The food we eat, the wood we use, the medicine we take—we live our lives built on the biodiversity around us.

Biodiversity is also the root of the food, crafts, and festivals that provide the rich cultural foundations that inspire our sense of beauty and make us who we are.

By conserving forests, we can prevent disasters such as landslides and help protect sources of clean drinking water. This ensures that we can continue to live safely.

By protecting the many creatures around us from extinction and preserving biodiversity, we ensure that our own way of life can continue into the future as well.

3 Saitama's Vibrant Nature

Saitama Prefecture is blessed with rich natural habitats. Although it has no ocean beaches, large rivers such as the Arakawa and Tone Rivers flow through it, and with the highest proportion of river-to-land area in Japan, Saitama abounds in natural riverside habitat. From the sub-alpine mountains in the west to low-lying plains in the east, the sheer variety of plants distributed across the prefecture makes it a cross section of the Kanto region.

A large variety of creatures live in these different environments. There are many endangered plants and animals that live in the mountains of the Chichibu area, and the only place in the world that the prefectural fish (the musashi tomiyo) lives is in the head waters of the Moto Arakawa River near Kumagaya. The river banks of the Arakawa River in Saitama City are the native habitat of the Japanese primrose and have been nationally designated as a Special Natural Monument. Even in suburban areas, wildlife can still be found in the Minuma rice paddies, the Santome Shinden thickets and fields, and the hills of Sayama.

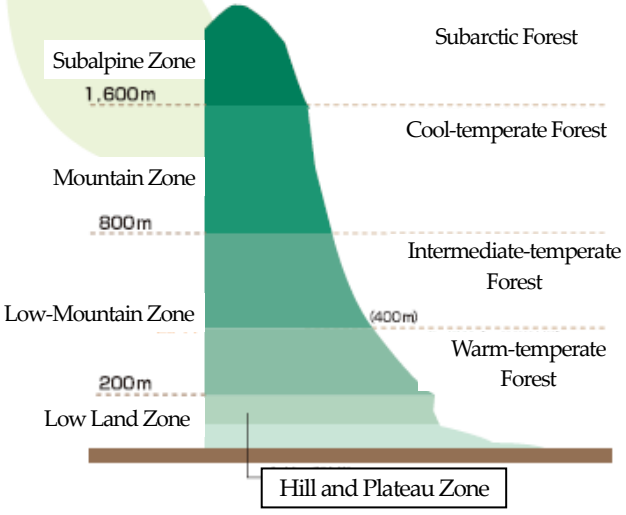
But in recent years, these rich natural environments are being lost, and the plants and animals that used to be so familiar have disappeared. Saitama's biodiversity is being threatened. Why is this happening?

Coniferous forest in Okuchichibu

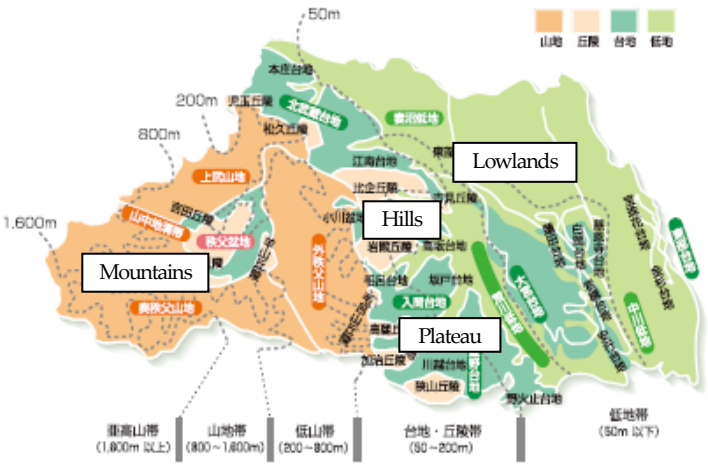
The habitat of Saitama's prefectural fish

Japanese primrose in Tajimagahara

Vegetation Zone of Saitama Prefecture



Zone Map of Saitama Prefecture



4 What's Threatening Our Biodiversity?

The following are four major factors threatening biodiversity.

1 Our Lifestyles and Human Development

Arable lands and hills have been developed for housing, factories, and roads during the economic growth that began after World War II. Lakes and marshes were buried and reclaimed, and forests were cleared. Creatures have been losing their habitats, and some of them disappeared.

Drain water from factories and households has polluted rivers and ocean waters, and plants and animals can't live in rivers whose banks have been covered in concrete. Japanese wolves were driven to extinction by excessive hunting and changes in their natural environment. Native flowers such as calanthe orchids, lady slipper's orchids, and Japanese primrose have disappeared as people illegally take them from their native habitat.

Polluted river

A lowland forest being cleared for development and infested with pests

2 Neglected Satoyama Habitat

Neglected thickets

Golden orchids become rarer

Rice fields and irrigation ponds have been habitats for plants and animals that favor wetlands and waterfronts. Trees cleared to make charcoal or firewood left room for organisms that thrive in sunlight. This interaction between human and nature created a habitat called *satoyama* that has been home to numerous species of plants and animals for many thousands of years.

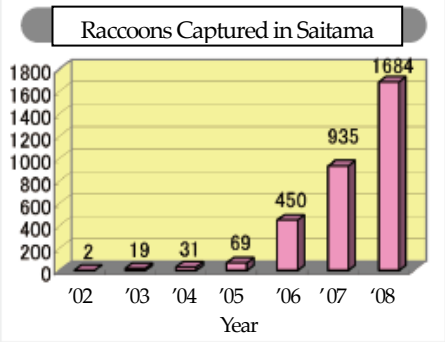
However, with an aging society and declining population, and as people have changed from using firewood to electricity and natural gas, these satoyama have disappeared as local woodlands and fields have fallen into neglect. Because of this, creatures that were once commonplace such as golden orchids, Japanese killifish, and carnivorous diving beetles are disappearing.

3 Threats from Non-Native Species

Canada Goldenrod

Raccoon

Raccoons Captured in Saitama



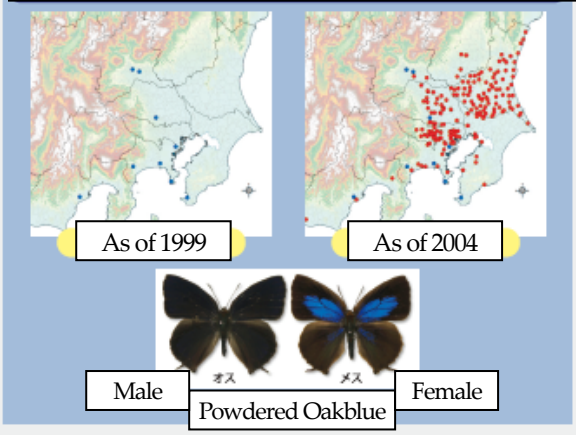
Non-native species are species including plants and animals that have been brought to Japan as pets, livestock, or garden plants; some of them have escaped and established themselves in the wild. It is estimated that there are about 2200 of these non-native species in Japan such as raccoons, black bass, and Canada goldenrod. These alien species deprive native species of their habitats and compete with them for food, which throws the natural ecosystem out of balance.

Plants and animals that live on islands such as Japan have specially evolved to adapt to their unique environment, meaning they cannot compete with these non-native species from outside their environment. If they become extinct, Japan will lose its unique native species.

4 Global Warming

Global warming can seriously impact biodiversity as it disturbs ecosystems and causes organisms to go extinct. It is estimated that more and more species in the environment around us will be at higher and higher risk of extinction as global warming progresses.

Sightings of the southern-dwelling powdered oakblue

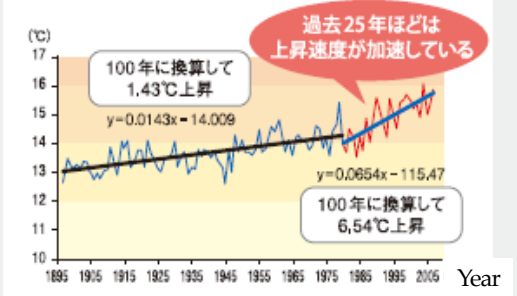


Intergovernmental Panel on Climate Change (IPCC): Fourth Assessment Report

If the average global temperature is 1.5-2.5° higher than that in 1980-1999:

20-30 % of animals and plants around the world will be at risk of extinction

Average annual temperature change at Kumagaya Meteorological Observatory



5 What We Can Do?

"I realize the importance of conserving biodiversity, but it seems difficult."
"I don't know what we should do."
"I don't even know the names of plants and animals."
"Protecting the environment is a job for the government."
"I'm not an expert, so I don't know what to do."

Perhaps you have been thinking these things?

Conserving biodiversity is actually not very difficult. There are many things we can do in our ordinary daily life with just a little bit of effort and awareness. Here are just a few of the things you can do that can have a big impact:

- Select native species when planting trees around your house.
- If you keep non-native animals as pets, be sure to take care of them their entire lives and never release them into the wild.
- Take your trash home with you if you go out.
- Don't pick or damage native grasses and flowers.
- Don't give food to wild animals.
- When in dry riverbeds or forests, do not use vehicles outside of the designated areas.
- Don't pour food scraps and cooking oil down the drain.
- Don't overuse chemicals such as insecticides and herbicides.

Of course, there are some approaches that require cooperation from others or the knowledge of an expert. If that's the case, ask your friends to help or ask someone with more detailed knowledge, and this way you can expand your efforts and have an even greater effect.

For people who want to know more about biodiversity and how to protect it, Saitama Prefecture made an action guide, the Prefectural Strategy to Protect Biological Diversity (March 2008).

People working to conserve woodlands

Removing food scraps from a dish using a scraper or paper

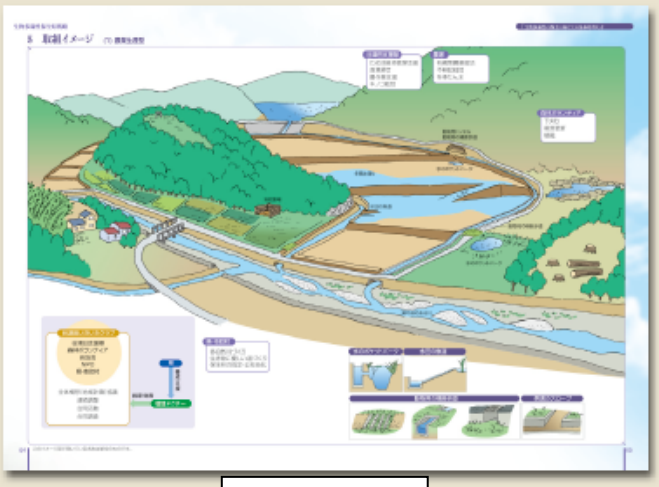
6 Saitama's Strategy to Protect Biodiversity

The Prefectural Strategy to Protect Biological Diversity is a guide to help businesses, organizations, and individuals recognize how the conservation of biodiversity is an immediate concern and what steps they can take to get involved. By focusing on the practical approaches people can take, the guide shows examples of what we can do at home, at school, or in factories and workplaces.

It also gives five examples of the group-led conservation efforts, from how to establish goals to verifying the effects of your efforts. With all of this as well as illustrations and photographs, it's an easy-to-use tool for anyone who wants to help protect biodiversity.

The Prefectural Strategy to Protect Biological Diversity

Front cover



Approach model

You can access the Prefectural Strategy to Protect Biological Diversity at the following website:

http://www.pref.saitama.lg.jp/A09/BD00/tayousei/tayouseihozen.html

Environment training session

School biotope

7 Restoring Our Rivers and Green Spaces

Though Saitama Prefecture has been blessed with a rich natural environment, green spaces and waterfront areas have decreased as urbanization and population rapidly increased. Forests have been devastated and water quality is deteriorating.

Because of this, the prefecture is working to restore Saitama's rivers and green spaces in order to make it a comfortable and environmentally friendly place where people can enjoy living. In order to conserve and replant the forests around us, the Sainokuni Green Fund has been created using a portion of an automobile tax. The prefecture is also undertaking river renewal projects so that residents can enjoy clear streams flowing along peaceful and flourishing open spaces.

By realizing that restoring these spaces is a concern for all of us and by doing what we can to help, we can bring back the many different creatures to the rivers, fields, and satoyama habitats of Saitama. Each of our small efforts will join together to become a movement among all the people in the prefecture.

Take your first step and help us bring back the rivers and green spaces that are so important to conserving biodiversity.

Domestic and International Movements for Biodiversity

	Worldwide	Japan	Saitama
1995	**1992**: The Convention on Biological Diversity (Biodiversity Convention) was adopted at the United Nations Conference on Environment and Development (UN Earth Summit). **1994**: The Biodiversity Convention came into effect.	**1993**: Japan ratified the Convention on Biological Diversity.	**1994**: Basic Environment Ordinance passed by the prefecture.
2000		**1995**: To indicate how biodiversity will be protected, the National Strategy for the Conservation and Sustainable Use of Biological Diversity was developed in accordance with the Biodiversity Convention.	**1996**: Planning for the Basic Environment Ordinance. First edition of the prefectural red data book for animals was published. **1998**: First edition of the prefectural red data book for plants was published.
2005	**2002**: At the 6th Conference of Parties (COP6) as part of the Convention on Biological Diversity, the 2010 target was adopted to significantly reduce the current rate of biodiversity loss by 2010.	**2002**: National Strategy for the Conservation and Sustainable Use of Biological Diversity (2002 version), which pointed out the importance of satoyama habitat, was developed.	**2000**: Prefectural Ordinance for the Conservation of Endangered Species of Wild Fauna and Flora enacted. **2002**: Revised edition of the prefectural red data book for animals published.
2010	**2005**: Findings were released by the Millennium Ecosystem Assessment (MA), a program supported by the UN that researches ecosystem changes. **2007**: G8 Environment Ministers Meeting, in which biodiversity was discussed as a major agenda, was held in Potsdam, Germany.	**2007**: Third National Strategy for the Conservation and Sustainable Use of Biological Diversity, which offered a 100-year plan, was developed. **2008**: Basic Act on Biodiversity approved to establish principles for the promotion of biodiversity programs.	**2005**: Revised edition of the prefectural red data book for plants was published. **2008**: Second revised edition of the prefectural red data book for animals published. Prefectural Strategy for the Conservation and Sustainable Use of Biological Diversity was developed. Sainokuni Green Fund created.
	2010: COP10 (the 10th Conference of the Parties to the Convention on Biological Diversity) held in Nagoya, Japan.	**2010**: 2010 National Strategy for the Conservation and Sustainable Use of Biological Diversity developed.	

Biodiversity Keywords

1. **Ecosystem**: The interacting system of a biological community and its non-living environmental surroundings. Oceans, mountains, rainforests and deserts each contain their own unique ecosystems.

2. **Global Warming**: An increase in the Earth's surface temperature. The Intergovernmental Panel on Climate Change (IPCC) recently concluded that increased concentrations of greenhouse gases are the cause.

3. **Red Data Book**: A book carrying lists of endangered animals and plants (Red Lists). The name "red data book" is derived from the red cover of the book published by the IUCN (International Union for Conservation of Nature).

4. **Satoyama**: A Japanese term applied to the border zone between mountain foothills and arable flat land. Satoyama promote biodiversity if properly maintained by human activities.

5. **Vegetation**: A general term for the plant life of a region, it refers to the ground cover provided by plants. It is affected by environmental factors such as terrain and human factors such as deforestation.

6. **Convention on Biological Diversity**: A legally binding international treaty adopted in Rio de Janeiro in June 1992 and entered into force in 1993. The Convention has three main goals: conservation of biological diversity (or biodiversity); sustainable use of its components; and fair and equitable sharing of benefits arising from genetic resources.

7. **COP10** (10th Conference of the Parties to the Convention on Biological Diversity): The Conference of Parties is the governing body of the Convention and advances implementation of the Convention through decisions reached at its periodic meetings. The 10th meeting of the COP took place in Nagoya, Japan in October 2010. In April 2002, the Parties to the Convention committed themselves to achieve a significant reduction of the current rate of biodiversity loss by 2010. The United Nations proclaimed 2010 to be the International Year of Biodiversity.

8. **National Strategy for the Conservation and Sustainable Use of Biological Diversity**: The government developed the Strategy in 1995 after adopting the Convention on Biological Diversity at the UN Conference on Environment and Development (Earth Summit) in 1992. It explains the concepts and government programs related to the conservation and sustainable use of biological diversity.

9. **Basic Act on Biodiversity**: The act was issued and went into effect in June 2008. It establishes principles to promote the balanced conservation and sustainable use of biological diversity. It obligates the country to develop a national strategy towards these ends and encourages local governments to develop their own local strategies as well.

10. **Prefectural Strategy for the Conservation and Sustainable Use of Biological Diversity**: An action guide for helping enterprises, organizations, and individuals recognize the conservation of biodiversity as an immediate concern and explains how each of these groups can preserve biodiversity in daily life.