

Integrated Farming System for Harmonizing People and Cattle in the Mikata District



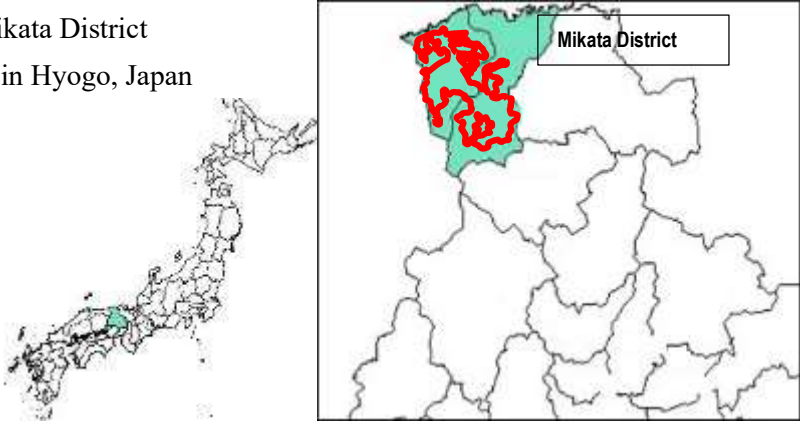
October 2021

Last revised January 2023

The Globally and Nationally Important Agricultural Heritage Promotion Council for
“Tajima cattle Produced in Mikata District”

Application for Certification for the Globally Important Agricultural Heritage System

SUMMARY INFORMATION

Name/Title of the Agricultural Heritage System: Integrated Farming System for Harmonizing People and Cattle in the Mikata District							
Requesting agency/organization: <ul style="list-style-type: none"> • Organization name: The Globally and Nationally Important Agricultural Heritage Promotion Council for “Tajima cattle Produced in Mikata District” • Organization members: Kami Town and Shinonsen Town in Hyogo Prefecture, Tajima Agricultural Cooperatives (JA Tajima), and 20 other organizations 							
Responsible ministry (for the Government): Ministry of Agriculture, Forestry and Fisheries, Japan							
Location of the site: <ul style="list-style-type: none"> • Name of the area of application: Mikata District (Kami Town and Shinonsen Town) in Hyogo, Japan • The area is located in northwestern Hyogo Prefecture in Japan. • Tajima is the old name of northern Parts of Hyogo Prefecture. • 35°21- 35°40N ,134°22- 134°43E 							
Accessibility of the site to capital city or major cities: About one hour from Haneda International Airport to Tottori Airport, and about one hour by car from Tottori Airport to the JA Tajima-Mikata livestock office About one hour by car from JR Toyooka Station to the JA Tajima-Mikata livestock office							
Area of coverage: 22,487 hectares (of which 2,247 hectares is farmland and 305 hectares grazing area)							
Agro-ecological zones Rice paddies and pasturage in temperate mountain areas							
Topographic features: The area is surrounded by the sea to the north and the 1,000-meter-class Chugoku mountain range on the inland side. Mountains, rivers, and the ocean create a diverse natural environment.							
Climate type: The climate is temperate and humid. The area has high precipitation and remains humid throughout the year. Winter is bitterly cold with heavy snowfall.							
<table style="width: 100%; border: none;"> <tr> <td style="width: 20%;">Kami Town</td> <td style="width: 30%;">Avg. temperature: 11.3°C</td> <td style="width: 50%;">Avg. precipitation: 1,976 mm</td> </tr> <tr> <td>Shinonsen Town</td> <td>Avg. temperature: 13.3°C</td> <td>Avg. precipitation: 1,962 mm</td> </tr> </table>		Kami Town	Avg. temperature: 11.3°C	Avg. precipitation: 1,976 mm	Shinonsen Town	Avg. temperature: 13.3°C	Avg. precipitation: 1,962 mm
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Shinonsen Town	Avg. temperature: 13.3°C	Avg. precipitation: 1,962 mm					

Approximate population (beneficiary):

20,820 people (of which about 1,788 engage in farming) as of January 1, 2020

Ethnicity/Indigenous population :

None

Main source of livelihoods:

Agriculture, forestry, livestock farming, fishery, tourism, and commerce and industry

Executive summary

The proposed system is located in Mikata district in the northern part of Hyogo prefecture, Japan. A large part of the proposed site is not suitable for cultivation since mountains and forests cover about 85% of the site. Flat lands are only seen around the mouths of rivers such as the Kishida River and the Yada River. Most communities are located in valleys among the mountains. Farmlands are scattered along the valleys. The proposed site has the total of 22,487 hectares including 2,247 hectares of farmlands, Tajima cattle farmers' households, 305 hectares of grazing areas, and water source forest for rice farming. Among the 2,247 hectares of farmlands, paddy fields account for about 80%, meaning rice is the main farm product of this area. Many rice paddies are in the form of terraced paddy fields with small individual areas of cultivation. The proposed site has heavy snowfall during winter, and the day-to-night temperature difference is large, and night fog often occurs, resulting in the growth of soft grass in summer. Tajima cattle have been kept in the proposed site using grass on ridges around paddy fields, grazing areas in mountains, and rice straw as feed. About 2,000 breeding cows are now being kept in the site.

This proposed site has a diversity of land uses unique to its deep valley topography, including grasslands, rice paddies and fields with ridges around them, rivers, and plantation forests. The diversity of topography, environment, and human activities, including the seasonal changes throughout the year and the use of local grass resources by Tajima cattle of Mikata District have created a complex ecosystem that seems like an environmental mosaic and maintained the diversity of organisms that live there.

Rice farmers have traditionally restricted the use of agricultural chemicals in paddy fields because the cattle fed on rice straw. They use cattle manure compost as fertilizer. Tajima cattle farmers are also using grass from ridges around rice paddies as feed. Terraced rice paddies have been kept in clean conditions under the system based on the mutually supportive relationship between Tajima cattle farming and rice farming in terraced paddy fields.

Thanks to the practice of such farming over many generations, this area has a rich diversity of amphibians including the forest green tree frog (*Rhacophorus arboreus*), Japanese fire belly newt (*Cynops pyrrhogaster*), and Japanese giant salamander (*Andrias japonicus*), even as the amphibian population is decreasing around the world. Wild grasses on ridges around rice paddies are regularly removed and used as feed for the Tajima cattle, which has resulted in diverse vegetation including native grasses such as Japanese mugwort (*Artemisia indica*), Japanese pampas grass (*Miscanthus sinensis*), and kudzu vine (*Pueraria lobate*). In addition, conserving the grassland environment has provided habitats for many grassland fauna and flora including rare species such as the golden eagle (*Aquila chrysaetos*).

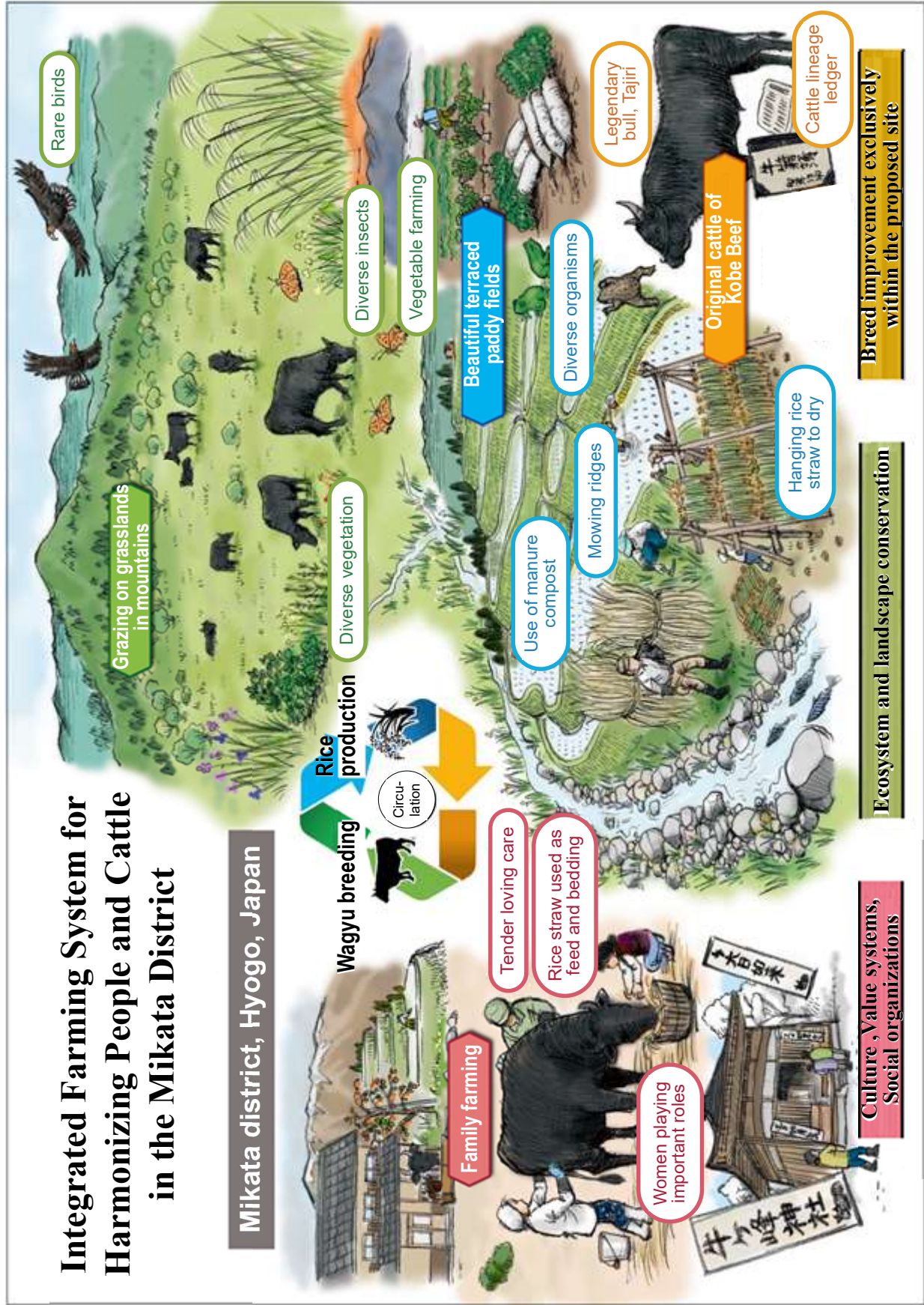
Tajima Beef, known as Kobe beef in the market, is a type of wagyu beef which is one of the lineages in the breed of Japanese Black. The proposed site has long been known for its production of high quality Tajima cattle. The oldest records indicate that Yamana family, the feudal lord of Tajima Muraoka, hosted a calf exhibition in the Edo period in 1849. Local people established cattle lineages called “*tsuru-ushi* (literal translation: cattle in family tree)” and continually improved them. In 1898, Japan’s first cattle lineage register, which became the foundation of cattle lineage registration, was established. As it is indicated by the history, Mikata district is the leading site in Japan on breeding and improving Japanese Black.

Farmers in the proposed site treat their cattle as family members. Small-scale cattle farmers still have cattle barns just next to their residence. Average cattle farmer in the proposed site keep about ten cattle per household. This small-scale operation allows the farmers to provide intensive care for each of their cattle.

The popularity of the Japanese Black today focuses on bulls of specific lineages. The proposed site is the only area in Japan that has exclusively improved the cattle raised within the site for more than 100 years among the Japanese Black breeds. Thus, the Tajima cattle raised in the proposed site have played an important role in maintaining the genetic diversity of the Japanese Black.

As discussed so far, the proposed site has established a unique sustainable system in which terraced paddy fields, the farming village environment, grasslands, and diverse biological resources have been conserved through Tajima cattle breeding. In addition, globally distinctive genetic resources have been protected in the Tajima cattle of the proposed site through the unique breed improvement. Local people and their society are collaborating and helping each other to pass these practice on to future generations.

System diagram of the proposed site



Photograph of the proposed site



1. Terraced paddy fields in the proposed site



2. Landscape with grazing



3. Hanging rice straw to dry in a terraced paddy field



4. Terraced paddy fields in the proposed site in winter



5. Traditional Tajima cattle farmers



6. Brushing a cow



7. Grazing cattle in the forest



8. Cattle grazing near the residential area

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Description of agriculture, forestry or fishery system

1. Significance of the Proposed GIAHS Site

The Mikata District, the home of the proposed site, is located in the northern part of Hyogo Prefecture, Japan. Most communities are located in valleys among the mountains. Among the total municipality area of 60,978 hectares, mountains and forest cover about 85%. The proposed area where the farming system is being practiced is 22,487 hectares of Mikata district including 2,247 hectares of farmland, 305 hectares of grazing area, and nearby areas. (See the land use map of the proposed site on page 2, page3 and the distribution of Tajima cattle farmers on page 4.)

This site is blessed with natural resources such as mountains, rivers, oceans, and valleys as well as snow and hot springs. In addition to "Tajima cattle," this site has excellent agricultural products and seafood such as organic rice and snow crab. The tourism industry is being promoted at this site by taking advantage of these features. The number of tourists visiting this site annually is approximately 2.5 million people.

The forest inside of the proposed area represents (i) Satoyama area where local community people traditionally provides collective efforts for its conservation and management and (ii) highland area where traditional summer grazing activities have been practiced.

About 80% of the 2,247 hectares of farm area is covered by rice paddies indicating that rice is the main farm product of this area. A characteristic feature of the proposed site is that about 2,000 breeding cows are kept to produce and sell calves. Many rice paddies are in the form of terraced paddy fields. Many farmers engage in small-scale farming with about 0.4 hectares of cultivated land. The day-to-night temperature difference is large at the proposed site, and night fog often occurs, resulting in the growth of soft grass in summer. Farmers therefore used ridges around terraced rice paddies and grazing areas as meadows to produce calves of Tajima cattle (Photo 1).

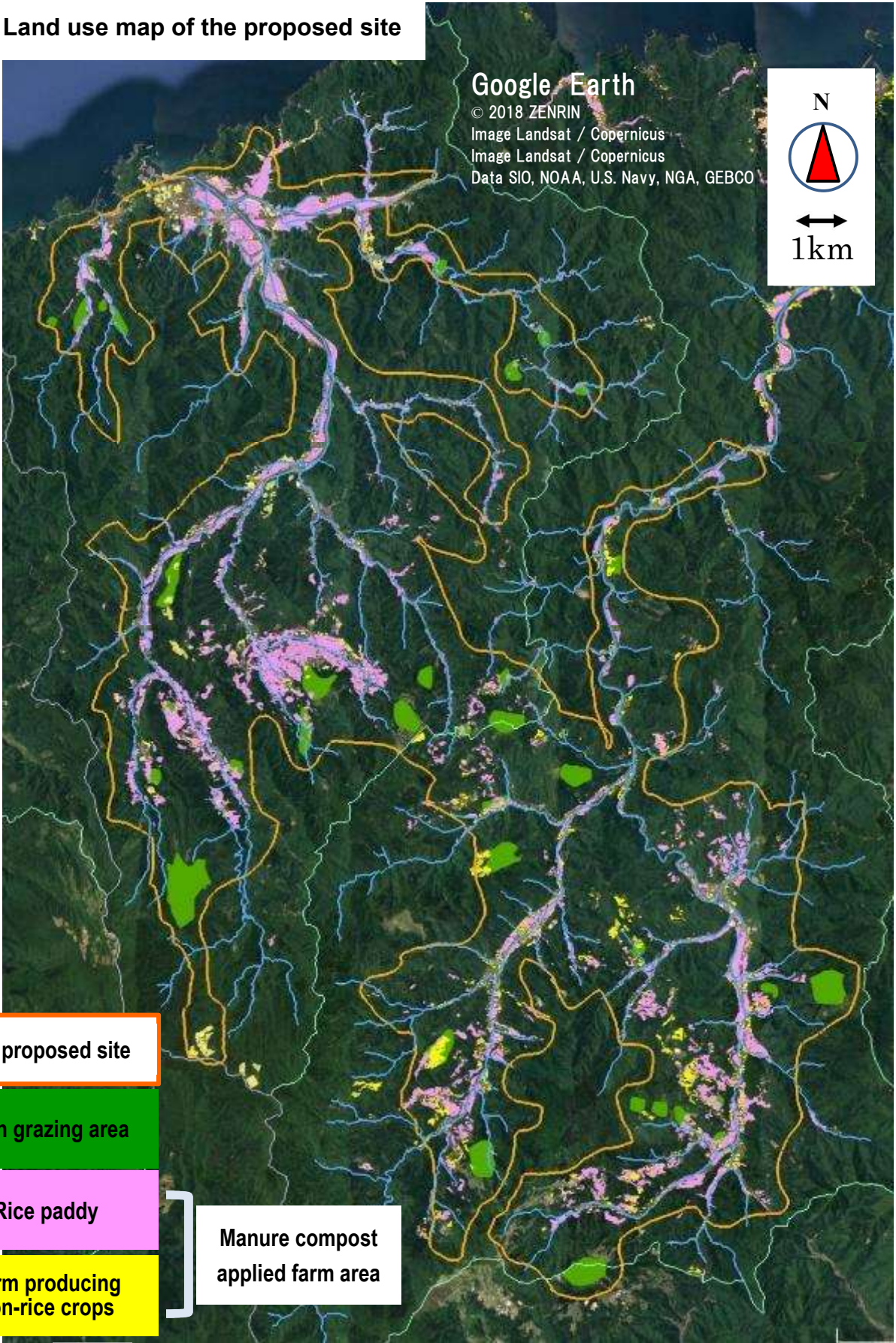
The proposed site established a cattle lineage register ahead of the rest of Japan and built the foundation of the lineage registration system that contributed to the establishment of the Japanese Black breeds.

For more than a century, farmers in the proposed site have exclusively improved cattle born within this small area. The Tajima cattle system of the proposed site is based on the mutually supportive system of the attentive care provided by farmers to individual cattle and the agricultural practice centralized around seasonal changes in nature and rice farming.



Photo 1 Terraced rice paddies in the proposed site

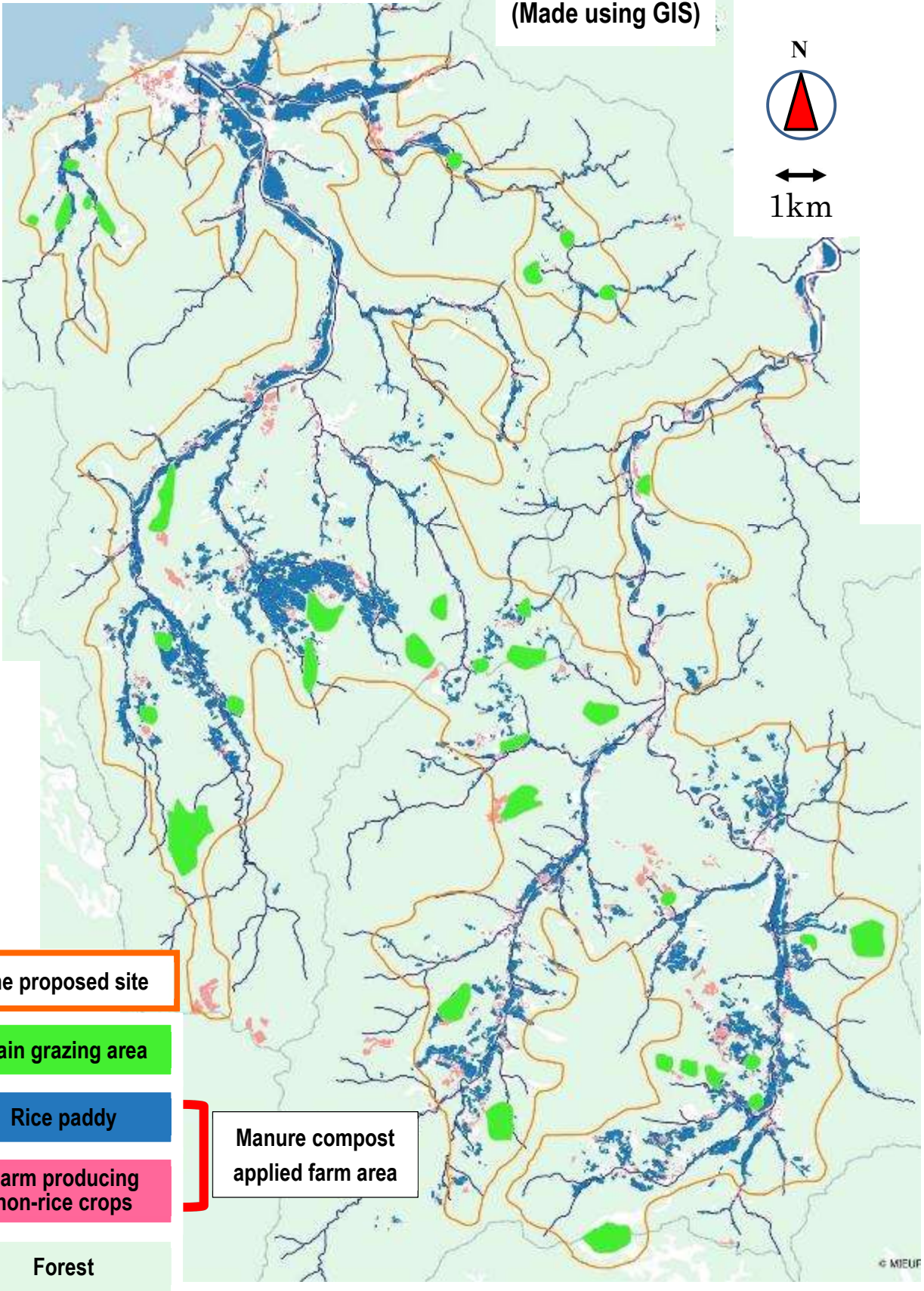
Land use map of the proposed site



*Farmland and a grazing area cover the main parts of the proposed site. The forest is related to water sources and the conservation of wild organisms, but it is a sub-area of this site.

Land use map of the proposed site

(Made using GIS)



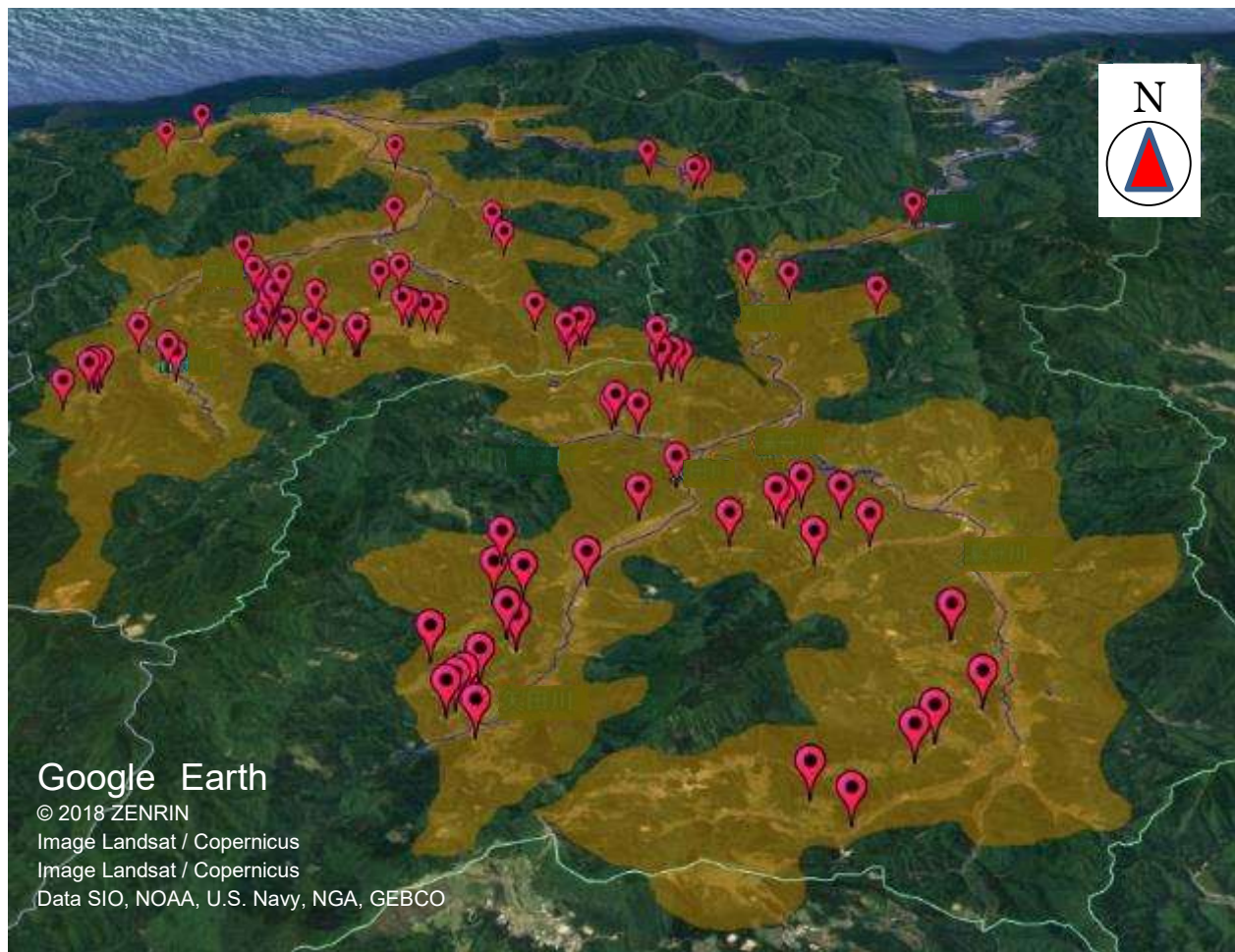
- The proposed site**
- Main grazing area**
- Rice paddy**
- Farm producing non-rice crops**
- Forest**

Manure compost applied farm area

 River

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Distribution of Tajima cattle farmers in the proposed site area



Farmlands in the proposed site area are distributed along valleys among mountains. Tajima cattle of the Mikata district have a close relationship with rice paddies. Farmers keeping Tajima cattle are thus located close to farmlands.

1.1 Agriculture, livestock farming, and biodiversity

The proposed site belongs to the Sea of Japan side climate, featuring heavy snowfall. Organisms favoring both cold regions and warm regions are found in this area. Medium- to small-sized rivers, including the Yada River and the Kishida River, flow from the Hyonoson and Ouginosen mountain ranges, with altitudes of over 1,000 meters, into the sea as clear streams. Farmlands are scattered among the rivers (Photo 2). Flatland is rare in the proposed site area, and most farmlands are located in mountains only where spring water from forests in mountains is available.



Photo 2 Terraced paddy fields in the proposed site

The area of ridges around terraced rice paddies in this site accounts for as much as 33% of the total cultivated area (Kato, 1995) (Table1) . The ridges around the paddy fields are the semi-natural grassland where feed for the Tajima cattle of Mikata District grows. Local residents have regularly mowed the grass and maintained the ridges for a long time.

The large sloped areas between terraced rice paddies create differences in soil moisture and nutrients due to differences in the height of the slope itself and the location of the terraced rice paddies. This causes a difference in vegetation between the upper and lower parts of the slopes. Also, the vegetation on the slopes varies depending on the frequency and unevenness of mowing, creating a semi-natural grassland that is suitable for a variety of organisms to inhabit (Ushimaru, 2012).

Table1 : Cattle farmers and arable land conditions

	Number of cattle farms	Number of household	Average arable land area (ha)	Average ridge area (ha)	Terraced rice paddy	Redeployment of arable land	Ridge area/Arable land area
Upstream	91	214	0.48	0.16	Developed	Limited	33%
Downstream	8	338	0.81	0.04	Rare	Entire area	5%

Source: Masahiko Kato (1995)



Photo3: Terraced rice paddies in an upstream area (left) and maintained rice paddies in a downstream area (right)

Farmers have long produced rice in paddy fields in mountains using organic fertilizer made from the manure of Tajima cattle. They seldom have used agricultural chemicals. They have used rice straw and grass from ridges around rice paddies as feed. This practice has evolved into today’s environmentally sound farming grounded on the conservation of the environment of terraced rice paddies and the preservation of biodiversity. The proposed site is now the production site of one of the highest-quality rice brands in Japan.

Farmers have used the ridges as meadows to produce feed for Tajima cattle for generations. While the average self-sufficiency rate of feed for cattle is 47% the national average. The self-sufficiency rate for Tajima cattle is high among traditional small-scale farming households, which are the main players of Tajima cattle farming: it is 53% among farmers keeping less than ten head of cattle and 85% among those with less than five head of cattle because they mainly use rice straw and grass from ridges as feed (Figure 1).

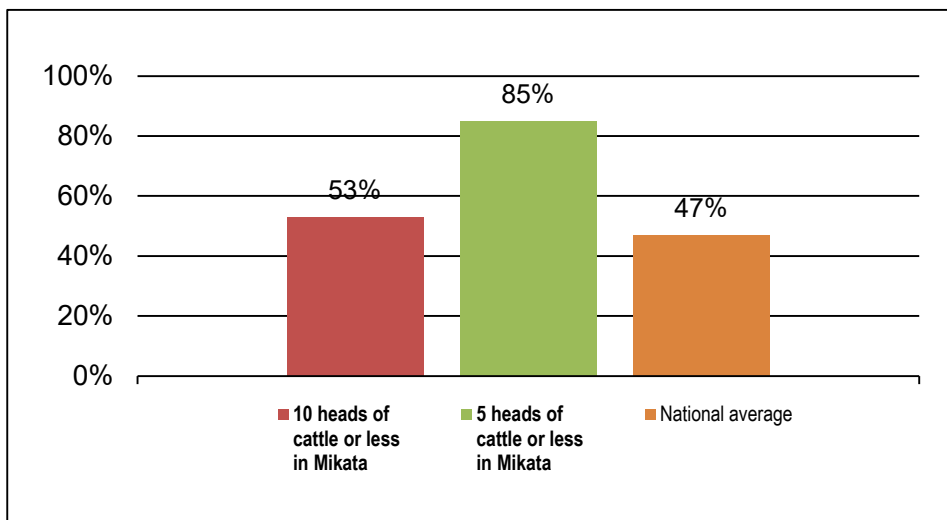


Figure 1 Self-sufficiency rate of feed for Tajima cattle of the Mikata district

Source: Livestock Section, Hyogo, Regional Agriculture Extension Center at Shinonsen, Hyogo Ministry of Agriculture, Forestry and Fisheries (2017)

Tajima cattle of the Mikata district are playing an important role in material circulation within the proposed site through the use of manure compost. About 19,400 tons of Tajima cattle manure is currently being produced every year. Among that amount, about 2,073 tons is released during grazing and used as nutrients for plants in grazing areas. The remaining 17,327 tons is fermented to produce about 13,169 tons of manure compost. About 4,477 tons of compost is then applied on farmlands within the proposed site for the growth of rice, vegetables, and forage crops. The remaining manure compost is used for farming in adjacent areas where cattle are rare, indicating that Tajima cattle of the Mikata district are being of use in environmental conservation of the entire Tajima area rather than only within the proposed site. Forage crops, grass, and rice straw as the byproduct of rice are produced from fields, onto which manure compost is applied and used as the feed for Tajima cattle of the Mikata district (Figure 2).

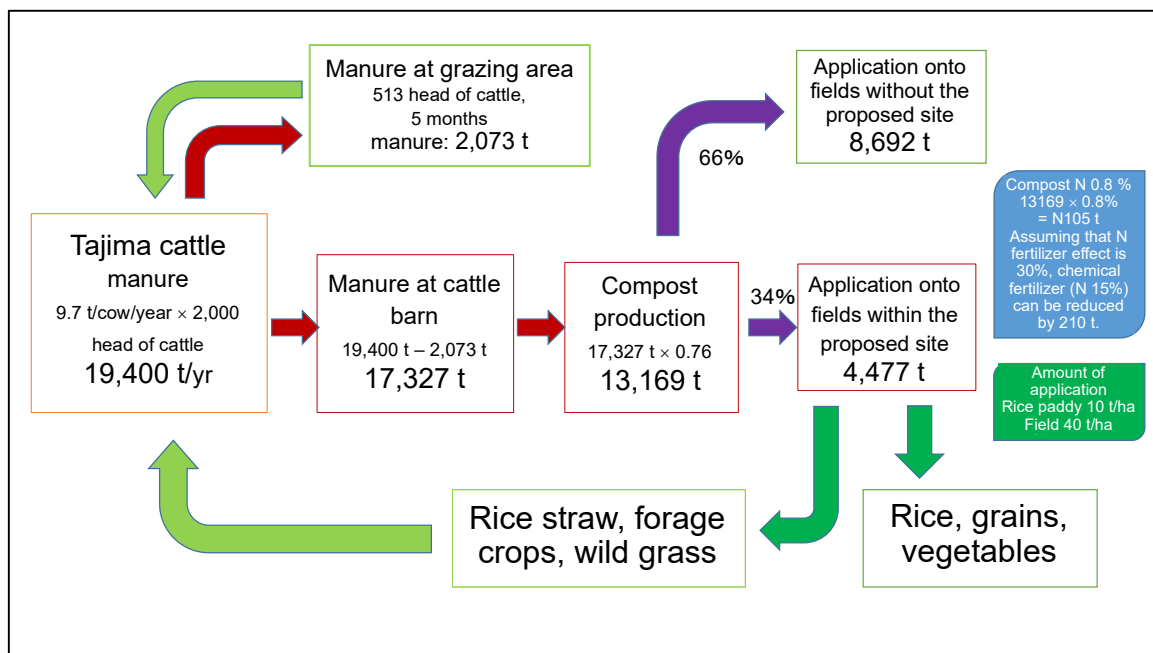


Figure 2 Use of Tajima cattle manure compost in Mikata district
Source: Mori (2020)

1.2 Upkeep of grasslands through grazing

The land use in the proposed site is spreading in the vertical direction. Beech (*Fagus*) forests spread across the mountain ranges of Hyonoson and Ouginosen, over 1,000 meters in altitude, and *Cercidiphyllum japonicum* forests in low altitude areas. Below the beech (*Fagus crenata*) forests lies the distribution of grasslands mainly consisting of Japanese pampas grass (*Miscanthus sinensis*). Land uses at even lower altitudes consist of rice paddy fields and human communities. Grasslands are maintained by human intervention and revert into forests once they are abandoned. Tajima cattle of the Mikata district are closely related to the upkeep of the ecosystem in grasslands, paddy fields, and the environment around communities (Figure 3).

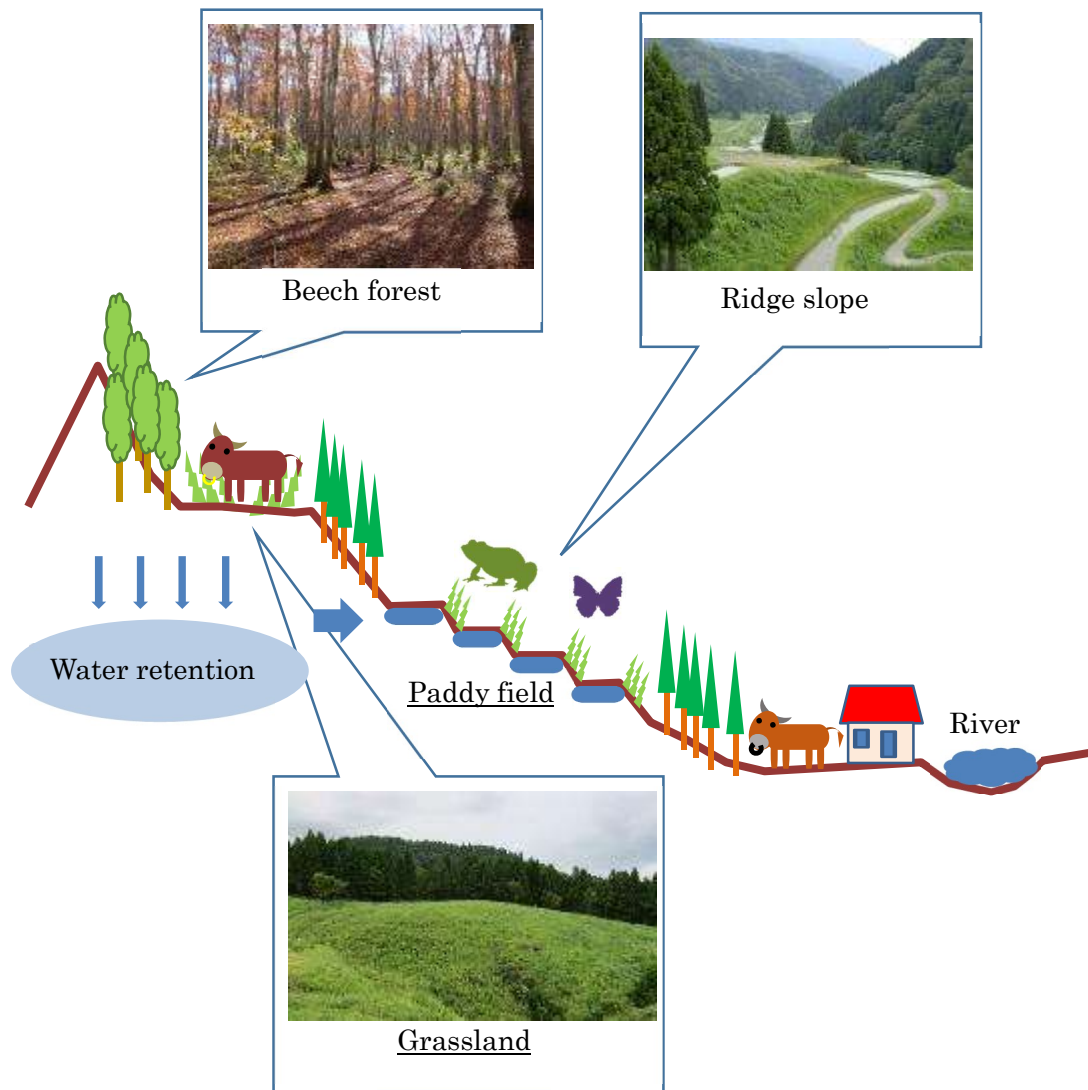


Figure 3 Use of the land in the vertical direction

The area of grassland in Japan was 11-13% of the total land area in the Meiji and Taisho period (1868-1925) (Himiyama et al. 1995; Yahara and Kawakubo 2002; Ogura 2012). Yet, according to the 5th Basic Survey on Nature Conservation in 1993, the percentage was reported to be 4%, and according to Ogura (2012), it now only covers 1% of the national land area.

As depicted in the *Manyoshu* (the oldest collection of *waka* poems in Japan) and historical paintings, there used to be a certain area of grassland around the village. Many of the places that are now used as cedar and cypress plantation forests were originally grasslands. Since the Jomon period (10,500–300 B.C.), the grasslands of Japan have been semi-natural grasslands that have been modified for human use (Suka, 2012). The grasslands have been used for harvesting grasses for the material for thatched roofs, collecting feed for cattle and horses, and grazing, among other purposes. Today, the use of grasslands as pasture has decreased due to the decline in the number of thatched roofs and the number of cattle and horses. Instead, cedar and cypress have been planted due to the increased demand for lumber after World War II, and other

grasslands have been turned into golf courses, ski resorts, etc., or abandoned, resulting in the disappearance of grasslands. Although a similar trend has also been seen at this site, many grasslands in the mountains are being maintained by using them as grazing grounds for Tajima cattle of Mikata.

Community-shared pastures were developed in the Mikata district from 1926 to 1935. Grazing back then was called Tajima-style grazing. In summer, farmers took mother cows and calves to pastures during the daytime and returned with them to barns at homes carrying mowed grasses on their backs in the evening. It was mainly children’s work to take the cattle out for grazing. It was common for the entire family to take care of the cattle together.

Pastures in the Mikata district also function as shared meadows. Mowing in pasturage to collect grasses in summer was an important task to secure hay for winter.

Tajima cattle of the Mikata district that worked in paddy fields were taken to pasturages in the morning and returned home in the evening up until about 1965. Day-and-night grazing in which the cattle were released to pasturages for a few months started around 1988 to reduce workload. New grazing technologies such as the use of electric fences then became available in addition to traditional grazing technologies, which expanded the grassland area maintained by Tajima cattle of the Mikata district to 305 hectares in 2018.

The grazing of Tajima cattle of the Mikata district has preserved Japanese pampas grass (*Miscanthus sinensis*) fields. Also, cut forest areas and abandoned farmlands were put into practical use as pasturages. Among the 491 hectares of pasturage area in Hyogo prefecture, about 60% of 305 hectares is located in the proposed site, making pasturage the characteristic feature of the proposed site (Figure 4). In addition, the upkeeping of the grasslands have provided habitats for grassland insects and wild animals.



Photo 4 Landscape with grazing

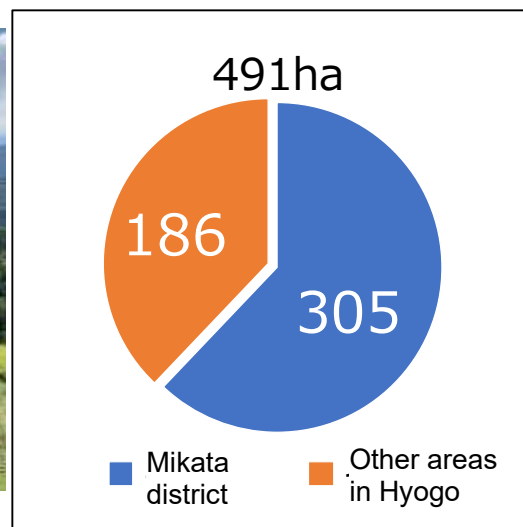


Figure 4 Pasturage area in Hyogo prefecture
Source: Livestock Section, Hyogo (2018)

Roughage such as hay is the main feed for the Tajima cattle raised on this site.

In the early 1900s, 3,500 Tajima cows were raised on this site, all of which were raised on local grass resources. The current number of breeding cows is about 2,000, and the number has decreased. In terms of area, it is considered possible to feed all existing cows using grass resources in the region. However, due to the aging population and depopulation, there is a shortage of labor to harvest wild grasses, which is hard work in the summer. To make up for the lack of grass, purchased feed is used to maintain the Tajima cattle breeding on this site especially for larger-sized farmers even though they use grazing in the summer.

1.3 Production of Tajima cattle in the Mikata district

According to a survey of cattle and horse husbandry in Japan conducted around 1887, the western part of Honshu, the mainland of Japan, was dominated by cattle, while eastern Honshu was dominated by horses, with a large number of cattle being raised in parts of eastern Honshu such as Sado and Iwate. A large number of both cattle and horses were kept in Kyushu and Shikoku (Nakanishi, 1994).

The reason for this difference in Japan is due to geographical factors, the biology of cattle and horses, and the purpose of use. In the case of agricultural use, western Japan has many wet rice fields, and cattle is more suitable, while Kanto has many large dry fields, and horses are more suitable. Meanwhile, in terms of transporting goods, cattle are suitable for working on steep mountain roads, while horses are suitable for carrying many goods on flat roads on the plains. In terms of feeding management, horses require a certain amount of large, flat pastureland, and the Kanto and Kyushu regions were suitable for securing such spaces.

Even in the western part of Honshu, where cattle breeding is popular, there were differences in the purpose of breeding depending on the region. The Sanyo to Kinki region has a lot of farmlands, and off-season cropping is possible. In this region, young cattle (under one year old) were raised and trained for farming, while adult cattle (over one year old) were used for farming and also sold to areas with high demand, or shipped to urban areas for use as meat and skins. Under such circumstances, the Mikata District has been a breeding management area that supplied young cattle (calves) to the Kinki and Chugoku regions (Sakai, 1961).

Nowadays, cattle and horses are no longer used as utility animals due to the spread of trucks, cultivators, and other machines with engines, and the number of animals kept has decreased. The number of horses, in particular, decreased dramatically as the demand for horses for military use disappeared. In contrast, the demand for cattle as meat has increased, which has halted the decline in the number of cattle kept, and in areas where horse keeping was popular, the number of cattle kept instead of horses has increased.

The Tajima cattle production at this site is mainly based on the breeding business discussed above. The breeding business is a form of management in which cows are bred, calves are born about nine months later, and the calves are raised for about nine months before being shipped to the calf market.

On the other hand, the fattening business is a form of business involving the purchase of calves at calf markets, raising them for about two years, and shipping them as meat.

Cattle raised in Mikata District is called Tajima Cattle. Among grades of Tajima Beef, the highest-grade beef which satisfies a strict beef rating standard is certified as Kobe Beef. Most of the Tajima cattle of the Mikata district are certified as Kobe Beef.

1.4 Traditional Small-scale family farming and roles of women

Small-scale family farmers are the main supporters of Tajima cattle (Photo 5). The Tajima cattle farmers in the Mikata District were originally engaged in a combination of small-scale farming in terraced rice fields and raising Tajima cattle. Traditional small-scale farmers still operate in the same way today.



(A farmer gently caressing a cow)

(A cow shed right next to the front entrance of a farmer's residence)

Photo 5 Traditional small-scale farmer

It was mainly the task of women to take care of the cattle during winter at a time when men used to leave their homes to take part-time non-farming jobs in other regions. Now that the economic situation has changed, and the practice of taking winter jobs has mostly ended, women who work diligently on farms are playing important roles in taking care of the Tajima cattle. The role of women is not just as a labor force. Women function as business partners in creating high-quality Tajima cattle of the Mikata district with their detailed and careful observation of the cattle and the tender care they provide for the calves.

In addition, now that many women are working in various industries in society, increasing numbers of women seek farming jobs to produce Tajima cattle of the Mikata district after they see women working on farms rearing Tajima cattle (Photos 6 and 7).



Photo 6 Female farmer



Photo 7 Start-up female farmer

1.5 Roles of Lager-Scale farmers

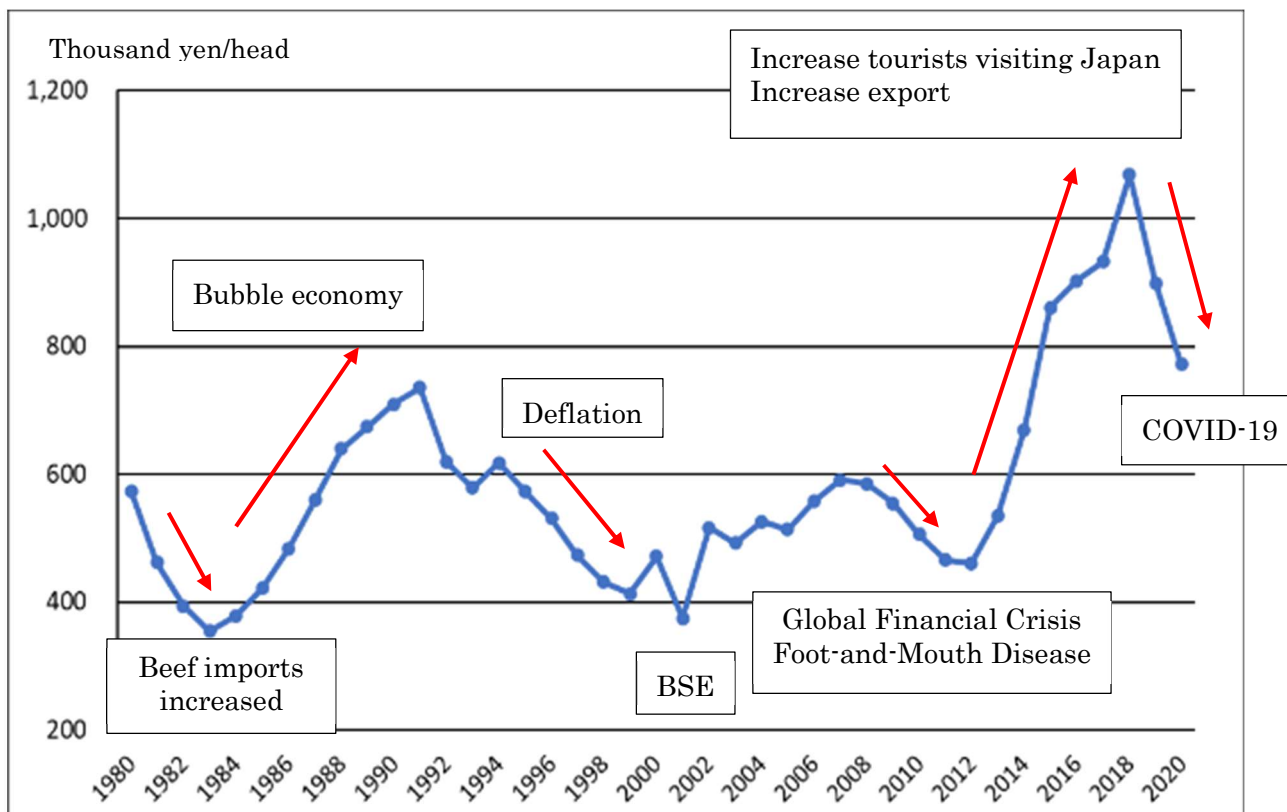
Of the 96 farms that raise Tajima cattle in Mikata, there are 4 farms that raise more than 100 cattle.

However, these larger-scale farms in Mikata maintain the following traditional practices:

- Family farming using traditional methods.
- The traditional pedigree of cattle in Mikata area, that is the utmost important value of the area, is firmly maintained. No calves are introduced from outside the proposed site (i.e., outside of Mikata area).
- Pregnant cows are grazing on pastures in summer to ensure the best use of local pasture resources as well as to keep mother cows in healthy conditions.
- The practice of making compost by mixing rice husks and cow dung and fermenting them has been maintained.
- Since this site is located in a mountainous area with few flat lands, larger sized farmers set up cowsheds for 50 cows in the mountains and place them in separated mountain sites in Mikata area. No concentration of large cowsheds occurs in this area due to the limitation of the flat land areas. Traditional rural landscape and biodiversity in the area are maintained under this condition.

Larger-scale farms provide meaningful supports to smaller sized farmers in Mikata including the following elements:

- They help small-scale farmers in transporting calves to the calf market, in treating difficult births, in lending feed to farmers who are temporarily short of cattle feed, and in providing human labors during the time of injury or illness of other farming families. Such mutual aids are regarded as traditional practices of farmers to cope with the sudden changes of feed supply conditions or other fluctuations of the farming environment. Because of the existence of such mutual aids, elderly farmers can continue to raise Tajima cattle.
- They provide training opportunities for young farmers who are new to farming. Young farmers regularly become independent after working as employees of a larger sized farms in the proposed site. This practice has a positive effect for the maintenance of the system.
- They contribute to preserving genetic diversity within the region. The cattle owned by larger-scale farm represents various traditional pedigrees of breeding cows within the proposed site.
- They purchase calves from the calf market to produce fattening cattle, and this practice creates indirect support to local breeding farmers. The price of calves fluctuates under the influence of economic conditions outside of Mikata area (Figure 5). Most of the buyers in the market come from outside of Mikata area, and they usually do not care about negative influences to local farmers caused by low or volatile calf prices in the market. When local fattening farmers purchase calves in the market, it has an effect to increase or at least stabilize calf prices. It constitutes indirect support for breeding farmers who sell calves in the market.



Source: Tajima Agricultural Cooperative Association (2020)

Figure 5 Average price of wagyu calf (Mikata district)

Furthermore, it should be noted that larger-scale farms eventually came to large partly because of the mutual aid system above. When elderly farmers decide to retire, they want their cows to be retained by nearby farmers in Mikata area. Capable farmers who have goodwill and are acting as leaders in the local society are expected to accept such cows. Eventually, they have ended up with larger-scale farm in this area.

1.6 Outline of Tajima cattle produced in the Mikata district

The Tajima cattle is the black cattle raised in the Tajima region in the northern part of Hyogo. They form part of the cattle categorized as wagyu (Japanese cattle) and one of the lineages that belongs in the breed of Japanese Black (Photo 8). The main breeds of beef cattle in Japan currently include.

the following four: the Japanese Black; the Japanese Brown; the Japanese Shorthorn; and the Japanese Polled. The Japanese Black is a unique breed that is independently improved in Japan. It accounts for about 95% of the beef cattle raised in Japan.



Photo 8 Original sire, Yoshihisa Doi

In the proposed site, farmers have exclusively used the cattle born within this small region as genetic resources for cattle improvement. Therefore, unlike other regions, regionally unique genetic resources have been protected, which now play an important role as genetically unique cattle that add genetic diversity to the Japanese Black breed.

The genetically unique Tajima cattle of the Mikata district contribute to the improvement of wagyu around Japan. Many of the Tajima cattle of the Mikata district that have been adopted around Japan are bulls of the Nakadoi lineage, which is known for its superb meat quality. This means that when the lineages of the Japanese Black in different prefectures are investigated, 99.9% of the cattle have some genes of Tajiri, the bull of the Nakadoi lineage produced in the Mikata district (investigation by the Wagyu Registry Association, February 2012).

The oldest evaluation given to the Tajima cattle of the Mikata district as beef dates back to 1859, when the Port of Yokohama was opened. Foreigners who arrived in Japan at that time gathered beef from all over Japan to dine on. Among the varieties of beef, they were especially impressed by the marvelous taste of Tajima Beef transported from the Port of Kobe. The beef then spread around the world under the name of Kobe Beef. Kobe Beef in those days was from the Tajima Beef cow that had been fed on barley and other feed.

Today, Kobe Beef is strictly defined by Kobe Beef Marketing & Distribution Promotion Association, which consists of producers' associations, distributors' associations, and consumers' associations established in 1983. Kobe Beef must be made from Tajima cattle produced only by crossing successive generations of Tajima cattle born and raised in Hyogo Prefecture.

As a result, Tajima Beef and Kobe Beef became the first beef to be registered in the geographical indications (GI) protection system of the Ministry of Agriculture, Forestry and Fisheries (2015), and became subject to protection as an intellectual property (Photo 9).



Photo 9 GI registration certificate

1.6.1 Breed improvement in the Mikata district

The proposed site is known as the production site of breeding cattle from the perspective of wagyu improvement.

Breeding cattle are bulls and cows used for breeding purposes. The proposed site has been known as a site that has produced excellent cattle and for its region-wide commitment to cattle improvement. Thus, it has been the center of the Japanese Black breed improvement. Female calves have been sold to farmers in Hyogo and around the country to be raised as mother cows who have been used for wagyu improvement in these regions. Similarly, bulls have also been sold to farmers around the country as stud bulls to introduce the good genes of Tajima cattle.

The proposed site has a custom of referring to the lineage of excellent cattle as “*tsuru*.” “*Tsuru*” means “vine” in Japanese, and is used to refer to “lineage” or “bloodline” in this context. It indicates that just as similar fruits and leaves are produced on the vines of the same plant, cattle with good traits are born in the lineage of cattle with good traits. The group of lineages of excellent cattle produced by farmers who knew this by experience is called “*tsuru-ushi*” (“*ushi*” means cattle in Japanese). Many *tsuru-ushi* such as Shusuke-*tsuru* (from the former Mikata Town) and Hiemeshi-*tsuru* (from the former Onsen Town) were produced in the Edo Period (1600s to mid-1800s) in individual communities in valleys formed by rivers flowing among the mountains. Local farmers improved them by focusing on the lineage of the mother cows.

In 1941, Yoshitaka Habu Ph.D. of Kyoto University investigated the *tsuru* of wagyu in the Chugoku region (the region that includes the Mikata district), and published a report. According to his report, *tsuru-ushi* were produced as a result of wealthy farmers and livestock merchants with dedication to their cattle and keen eyes for cattle selection carefully selecting and crossing cattle and keeping calves carrying the intended traits. The crossing often involved closely related cows and bulls. The expressed traits thus became

uniform through the homogenization of genes. (Yoshitaka Habu (1948). (*Tsuru Production and Tsuru-ushi*). Sangyo Tosho.)

Yoshitaka Habu reports that this method is similar to the method that the Englishman Robert Bakewell—known as the founder of modern cattle breeding—was practicing in Leicestershire, England almost in the same period. While improvements were conducted in England focusing on the bloodlines of both bulls and cows, the improvement in the proposed site focused on the bloodlines of mother cows and did not place importance in the bulls.

In the improvement focusing on bulls, one bull can produce many offspring, and excellent genes can be widely spread. On the other hand, it may result in losing genetic diversity because genetic diversity is limited to one bloodline.

Meanwhile, in the improvement focusing on mother cows, genes of cows from various lineages can surely be preserved and hence genetic diversity can be maintained although the improvement progresses slowly as a cow only gives birth to one calf every year.

The investigation by Yoshitaka Habu confirmed more than 100 *tsuru-ushi* lineages in the Tajima region. In the proposed site, small-scale farmers carefully took care of their cattle and continued the practice with the next generation of daughter cows, thereby preserving the distinctive genetic resources in the individual communities.

1.6.2 Establishment of a cattle lineage record ahead of the rest of Japan

The Mikata District Livestock Association was established around 1898. The preparation of cattle lineage records that would later become the foundation of lineage records used in towns and villages of the Mikata district started around this time (Photo 10). In 1903, Japan's first cattle lineage ledger was established. The cattle lineage record and the cattle lineage ledger became the foundation for proving the lineage of Tajima cattle of the Mikata district when the larger-scale cattle registration system started later. They became the precursor to the cattle registration system of Japan. The cattle lineage ledger is still being compiled in hard copies today, even though databases have been created to keep records. Past ledgers are still being preserved as valuable references.

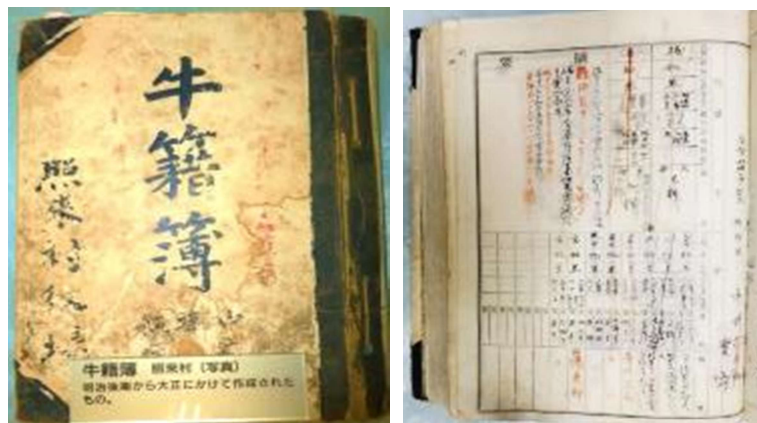


Photo 10 Cattle lineage record (cattle lineage ledger) (c.a.1900)

The cattle lineage record contains the name of the animal, the name of the breeder, the address, the date of birth, the names of the father and mother, and records of offspring, just like in a human family register. Generally, the lineage of the cattle is certified and recorded for breeding and improvement. The lineage of all cattle including those sold and fattened to become beef cows has been certified in the proposed site since this period. This reflects the regional dedication to the cattle. The system of registering every head of cattle is rare in the world and still continues today.

1.6.3 Preservation of genetic diversity of the Japanese Black

The genetic diversity of livestock animals is essential in improving their breeds and making the animals resilient and adaptable to future environmental changes, new infectious diseases, and changes in market demand. Especially, regionally unique breeds cannot be restored once their genetic resources are lost.

Today, the mating of the Japanese Black is usually conducted artificially using frozen semen. The advancement of artificial insemination technology using frozen semen enables one bull to fertilize thousands of cows per year. The spread of artificial fertilization technology that started around the 1890s caused a major transformation from the conventional breed improvement method focusing on mother cows (the bloodline of mothers) to bulls (the bloodline of fathers). In addition, around the time when the role of the Japanese Black shifted from working on farms to being raised as beef cattle, the transaction of calves among fattening farmers started to focus on lineages. Then, the fertilization of popular bulls that produced high-priced calves and cows born from popular mother cows increased. This lowered the regional characteristics of the Japanese Black around the country, and the relationship between the proposed site and *tsuru-ushi* started to weaken.

The Wagyu Registry Association analyzed the genetic diversity of the Japanese Black around the country based on lineage information. According to this analysis, Tajima cattle were genetically separated from groups of Japanese Black in other prefectures and formed a distinctive group (Figure 6). This indicates that Tajima cattle have been improved through a unique method specific to this region over a long period of time, and unique lineages have been preserved. It also means that the cattle are extremely important as genetic resources to maintain the genetic diversity of the Japanese Black.

While the genetic resources of livestock are affected by economic activities, the Tajima cattle system of the Mikata district, which has preserved unique genetic resources while continuing its economic activities, has enormous importance in the world.

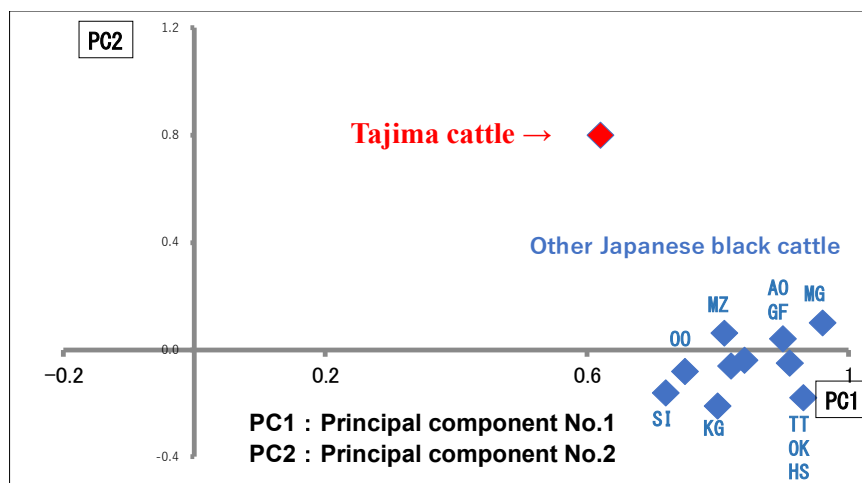


Figure 6 Lineage analysis of Japanese Black breeds principal component analysis (original data)

Source : Wagyu Registry Association (2005)

*Principal component analysis of the registered lineage data of the Japanese Black clarifying genetic differences among them

Meanwhile, the region has adopted a new analytical technology (the gene dropping method) to preserve the unique genetic resources of the Tajima cattle within the small Mikata district and maintain their genetic diversity.

The gene dropping method can reproduce the current status of *tsuru-ushi* on a computer by tracing lineages using cattle lineage ledgers, investigating original cows of individual lineages, and analyzing genetic links between the original cows and current cows (Figure 7).

The analysis using the gene dropping method found that farmers of the proposed site have securely preserved cows in *tsuru-ushi* lineages continuing from the Edo Period (1603 to 1868) until today, despite the active distribution and exchange of cattle. A characteristic point was that the groups categorized by the gene dropping method were related to areas such as the eastern and western parts of the Mikata district, which had connections with the establishment of *tsuru-ushi*.

Various measures are now being implemented to promote the preservation of cows in rare lineages of Tajima cattle of the Mikata district, which are identified through the investigation of original cows and are kept by farmers to increase their numbers as unique genetic resources of this region. The cattle lineage ledger, which has been continued for more than a century, has enabled analysis of this kind in the Mikata district.

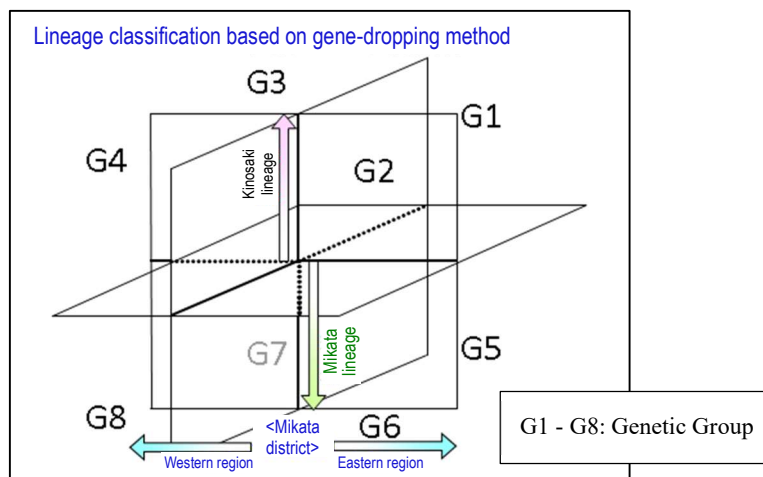


Figure 7 Lineage classification by the gene dropping method

Source: Moriyuki Fukushima et al. (2005)

*Classification of the genetic effects of the original Tajima cattle - reproducing the current state of *tsuru-ushi*

1.7 Comparison between the Mikata region and Zhagana, China

The breeding style for Tajima cattle of the Mikata district is based on individual cattle management using a cattle lineage register, breeding mainly in barns, and grazing in grasslands from spring to summer when grasses are available in abundance. The style is different from the extensive breeding management mainly based on grazing practiced in Zhagana, China, which is one of the GIAHS. Forests in the proposed site are located in steep slopes do not have undergrowth which become cattle feed and are not used for grazing. Forests function as the source of water for paddy fields, and byproducts of rice production including rice straw and grasses growing on ridges are used as the feed for Tajima cattle. Like the agriculture-forestry-animal husbandry system in Zhagana, in the proposed site, there is also an interrelationship among grassland management through grazing, soil conservation, water source conservation, and use of compost, which are all related to the region's ecosystem conservation and landscape development (Photo 11).

Table 2 Comparison between agricultural heritage system in Mikata region and Zhagana region

	Characteristic aspects of the system	Mikata	Zhagana
1	Main type of livestock	Tajima cattle of the Mikata district	Juema pig,yak, and dzo
2	Livestock breeding methods	Individual Cattle management, kept in barns next to human residence for close attentions, grazing specific seasons	Extensive, mainly based on grazing
3	Main products of livestock	Sale of calves	Production of raw milk and beef
4	Maintenance of the genetic diversity of livestock	Presvation of region's unique genes	Preservation of the region's endemic species
5	Organization for livestock improvement	Available: Cattle lineage register continuing for more than a century	None
6	Effect of livestock grazing	Maintenance of grassland and biodiversity	Maintenance of grasslands, preservation of soil
7	Agriculture-forestry cooperation	Conservation of water source	Preservation of soil and water sources
8	Agriculture-livestock farming cooperation	Use of compost, seasonal operations, use of wild grasses growing on ridges among rice paddies	Use of compost
9	Forestry-livestock farming cooperation	No cooperation	Forest grazing by juema pigs
10	Ecosystem and environmental conservation	Traditional agriculture and livestock farming	Traditional customs, taboos
11	Landscape	Communities are located slong valleys in mountainous regions consisting of 1500 to 1100-meter-class dormant volcanoes.	A highland region located from 2400 to 3000 m in altitude with communities, faming zones, forests, and grasslands spread in concentric rings at the bottom section.
		Forests, grazing ground, communities, faming zones, and rivers are located in the vertical direction.	Grassland, forests, communities, faming zones, and rivers are located from the top in the vertical direction.



Photo 11 Mikata region (left) and Zhagana region (right)

Source: Diebu Zhagana Agriculture-Forestry-Animal Husbandry Composite System(2017):

Proposal for designation as Globally Important Agricultural Heritage System(GIAHS);cover photo

1.8 Contribution toward Sustainable Development Goals (SDGs)

The Tajima cattle system of the Mikata district that has been continuing for more than a century is contributing to the following four goals of the Sustainable Development Goals (SDGs). The preservation and promulgation of this system will surely result in the achievement of the goals in other regions.

1.8.1 Goal 15: Protect, restore and promote the sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss [Target: 15.1, 15.4, 15.5]

The promotion of the grazing of Tajima cattle of the Mikata district is contributing to the maintenance and preservation of regional nature and land resources such as the preservation of grasslands and the elimination of abandoned agricultural lands. It is also contributing to maintaining the biodiversity of the species inhabiting these areas and preserving the regional ecosystem.

Sustainable farming based on resource circulation, which uses rice straw and grasses produced using cattle manure as the feed for Tajima cattle and recycling the manure produced by the cattle again for rice production and grassland fertilization, has become established as sustainable agriculture that is beneficial to the ecosystem of local organisms by reducing the use of agricultural chemicals and chemical fertilizers.

1.8.2 Goal 2 End hunger, achieve food security and improved nutrition, and promote sustainable agriculture [Target: 2.4]

Sustainable agriculture using the manure of Tajima cattle of the Mikata district reduces the use of agricultural chemicals and chemical fertilizers, increases soil resilience, and is beneficial to the local ecosystem. This is also a sustainable form of agriculture whereby resources are circulated within the system: manure → rice straw → cattle → manure.

These activities have become established as regional sustainable agriculture that preserves local terraced paddy fields and the satoyama environment, retaining the regional ecosystem, and preventing flooding by maintaining regional food control abilities.

1.8.3 Goal 12: Ensure sustainable consumption and production patterns [Target: 12.8]

Population aging and depopulation has been exacerbating in this region. Nevertheless, the region boasts Tajima cattle, terraced paddy fields, and rich nature, and the pattern of production and consumption has been secured based on interaction with people in large cities, including tourists, as well as consumer demand for Tajima Beef of the Mikata district.

In the Mikata district, where small-scale farming is conducted mainly by farming families using the natural mountainous environment, local people are involved in livestock operations with a sense of pride in producing Tajima cattle of the Mikata district. They portray an admirable traditional lifestyle in which people and nature maintain a harmonious relationship.

1.8.4 Goal 8: Promote sustained, inclusive and sustainable economic growth, full and productive employment, and decent work for all [Target: 8.3, 8.9]

The breeding of Tajima cattle through small-scale family operation that has protected genetic resources has evolved into corporate operations conducted mainly by family members. Also, there are many cases where young people employed on corporate farms accumulate skills and funds and start their own Tajima cattle farms. Tajima cattle breeding contributes to the region, making it a worthwhile place to work.

Tajima cattle of the Mikata district produce excellent beef. Thus, as the tourism industry, meat shops, hotels and inns, food processing businesses, and many other relevant industries form mutually cooperative relationships, they produce many added values and employment that greatly contribute to the stable operation of the livestock farmers and the regional economy.

2. Characteristics of the proposed site

2.1 Food and livelihood security

2.1.1 Agriculture of the proposed site

The agriculture of the proposed site is characterized by paddy fields covering approximately 80% of the farmland area, with the annual production of rice being about 4,790 tons.

Meanwhile, in terms of production, the total agricultural production in 2015 was 2,976 million yen, of which the production of beef cattle accounts for 1,271 million yen (42.7%), rice production 1,128 million yen (37.9%), and other crops 420 million yen (14.1%). The production of rice and beef cattle account for about 80% of overall production, indicating that the production of rice and Tajima cattle of the Mikata district characterizes agricultural production of this area (Figure 8).

In terms of income in individual farming households, men used to leave this region during winter to work in sake breweries because heavy snowfall in winter made winter farming impossible, and the source of non-farming income was limited because of the shortage of other local industries. Therefore, a much higher ratio of men than adjacent areas used to leave this area for winter jobs (Figure 9 and photo12).

This is a site where the livelihood of farmers has been sustained through rice production, calf production, and winter jobs. The opportunities to receive income later increased, and the number of farmers taking on winter jobs decreased as the transportation network developed and industrial structure changed.

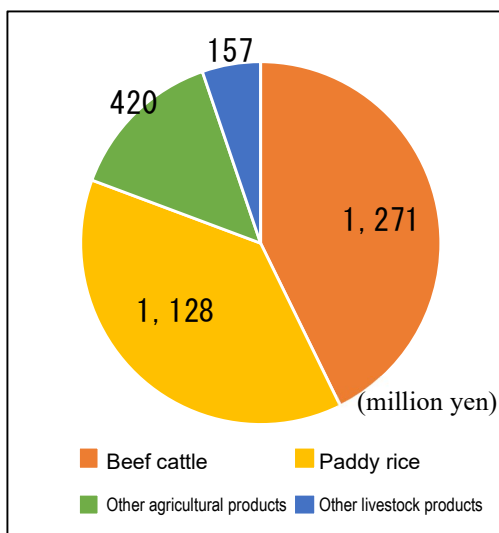


Figure 8 Total agricultural production in proposed site(2015)

Source : 2015 CENSUS OF AGRICULTURE AND FORESTRY IN JAPAN Report and Data on the results

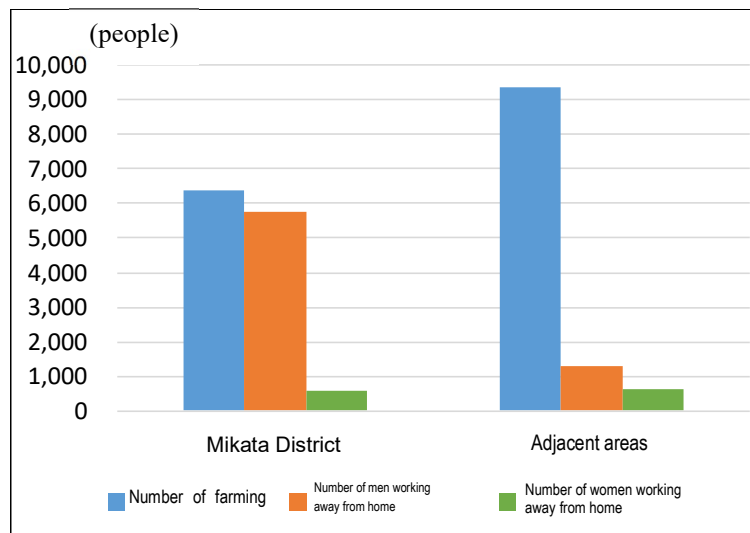


Figure 9 Number of people taking winter jobs (1934)

Source : Goroh Hitomi (1988).



Photo12 Terraced paddy field in spring (left) and in winter (right)

As stated in Chapter 1, about 4,477 tons of compost is spread annually on farmland at the proposed site, which reduces the use of chemical fertilizers and supports agricultural practice. Compost produced by livestock farmers is efficiently supplied to crop farmers through compost centers in addition to direct trade between farmers. The proposed site has three compost centers, where compost is temporarily stocked, stabilized in quality, and then transported to crop farmers in a wider area.

The proposed site is known as the production site of tasty rice brands, such as Muraoka Rice, which has won the Gold Prize for more than ten consecutive years in the National Rice Taste Analysis and Appraisal Contest, and Mikata Tanada Rice. Rice and other agricultural products are being produced in the proposed site area, taking advantage of its geographical conditions based on heavy snowfall in winter and many terraced rice paddies and employing soil preparation using the manure compost of Tajima cattle of the Mikata district and other organic fertilizers.

2.1.1.1 Cooperation between stock farmers and crop producers

The Umigami Farming Union of the Umigami community in Shinonsen Town is conducting sustainable agriculture using the manure of Tajima cattle of the Mikata district. The Umigami community is also known as a production site of Tajima cattle of the Mikata district. The farming union is distributing manure produced by livestock farmers to rice paddies to create good soil with the cattle manure. This community is producing and selling organic rice named Umyana Rice by sparsely planting seedlings in terraced paddy fields into which no domestic wastewater flows due to the absence of houses in the upstream section (Photos 13 and 14).

The JA Tajima Muraoka Rice Production Union in the Muraoka area of Kami Town is producing rice through farming based on natural circulation using the manure of Tajima cattle and the large temperature difference between day and night, which is a unique climatic feature of this region. They are producing Tajima Muraoka Rice in this way and selling them.



Photo13: Landscape with terraced paddy



Photo 14 Local Organic Rice

2.1.2 Tajima cattle of the Mikata district as industry

All farmers in the proposed site used to have one or two heads of cattle each for plowing paddy fields. On many farms, a cattle barn (locally called a “*maya*”) was located next to the entrance of the main house. People and cattle lived under the same roof, and the people took very good care of the cattle like family members. Selling a newborn calf every year provided a large income to the farmers (Photo 15).

Since the Mikata district has heavy snowfall and many terraced paddy fields in the mountains, Tajima cattle of the Mikata district were small-built and had a gentle temperament, making them suitable for plowing in small rice paddies. When there was no agricultural machinery, Tajima cattle of the Mikata district were highly helpful as a cultivation tool, and an essential treasure for farmers.

Tajima cattle of the Mikata district are the produce of the climate and culture of Mikata. As a result of continuing unique breed improvement in this region, the cattle came to have great quality as beef, and calves are being sold to areas known for the cattle fattening business in Hyogo Prefecture and areas where brand-name beef such as Matsuzaka-ushi and Oumi-gyu are being produced for fattening. In 1908, the number of breeding cows kept in the Mikata district was 3,023, which gradually decreased after peaking in 1956 with 4,255 cows. In 2018, 2,035 cows are kept in the proposed site (Figure 10). The average price of a calf in 2018 was about 1,060,000 yen (Figure11). Tajima cattle of the Mikata district now account for 42.7% of the agricultural output of the district. The total shipment of calves is about 840 million yen, meaning that livestock farming is now the main industry of the proposed site.

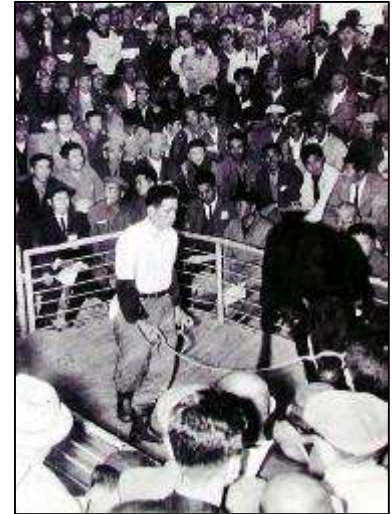


Photo 15 Calf market (1968)

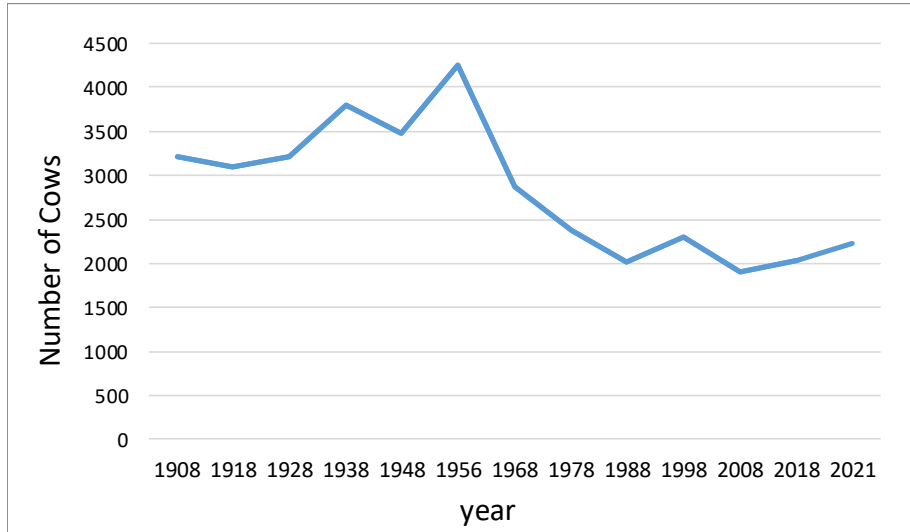


Figure 10 Number of cows kept (Mikata district)

Source: JA Tajima (2021)

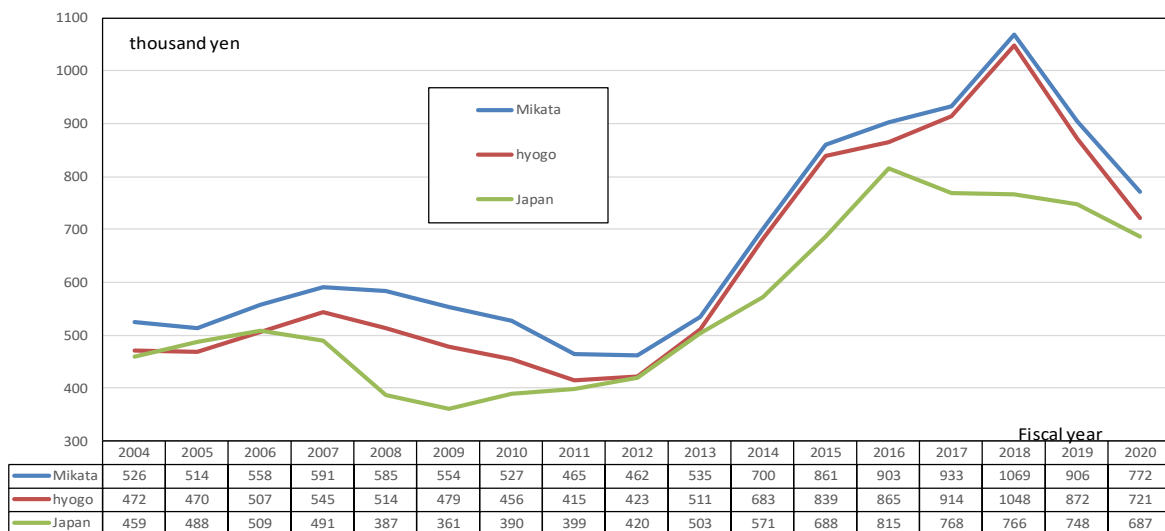


Figure 11 Price of a wagyu calf (national, Hyogo prefecture, and the Mikata district)

Source: Livestock Section, Hyogo Prefecture (2020)

The site produced 7,896 calves in 2017-2021, and 4,703 calves were sold in the calf market, and remaining 3,196 calves were not sold (some are kept in original farmers, and some other died) (Figure 12).

Of the male calves, 50 (1.9%) were purchased outside Hyogo Prefecture, and 2,431 (92.6%) were purchased outside of Mikata in Hyogo Prefecture. 145(5.5%) have been purchased by farmers in Mikata and all fattened.

Of the female calves, 893 (43%) were purchased outside Hyogo Prefecture, and 789 (38%) were purchased outside of Mikata in Hyogo Prefecture. 395 (19%) were purchased by farmers in Mikata as mother cow in the next generation.

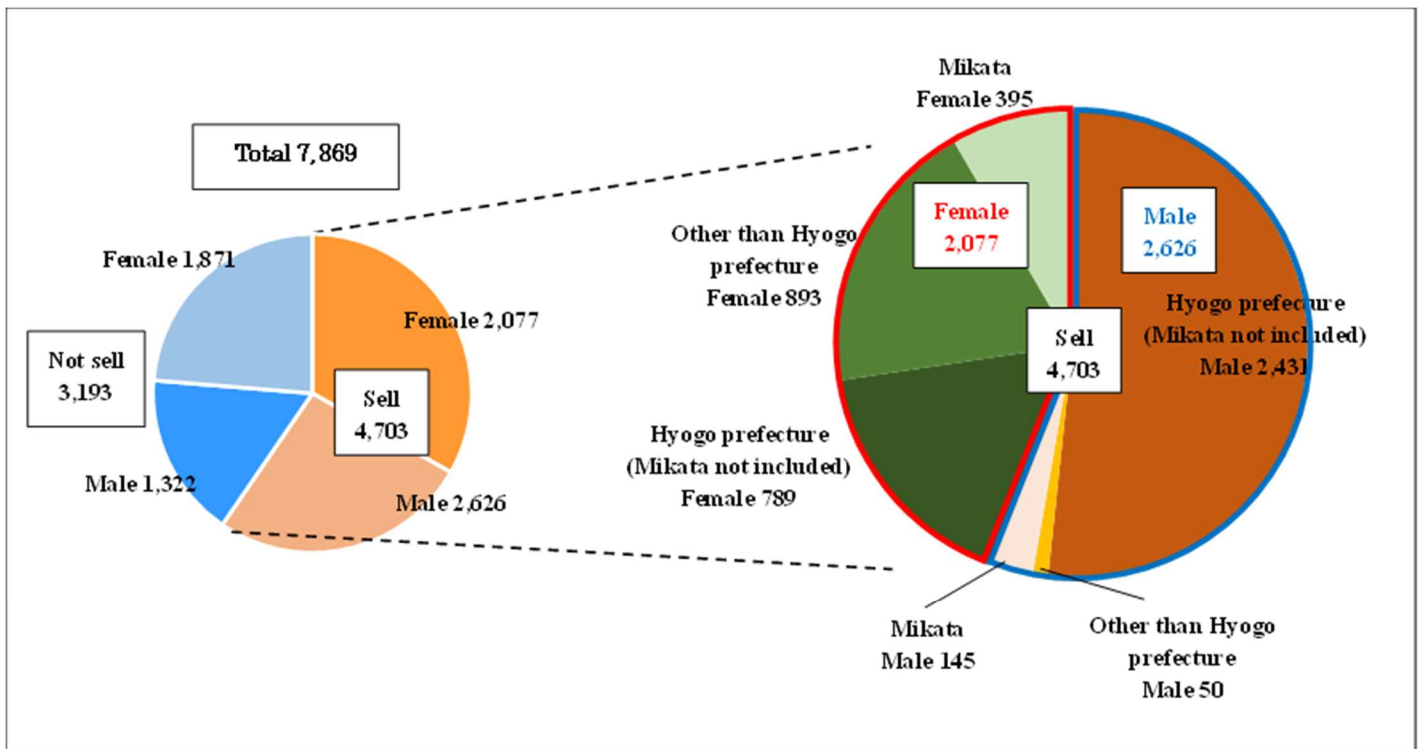


Figure 12 Destinations of Calves (2017-2021)

Source: Regional Agriculture Extension Center at Shinonsen, Hyogo Ministry of Agriculture, Forestry and Fisheries

Buyer compositions at the local calf market today still largely represents traditional distribution channels of calves produced in this proposed site. As it is repeatedly mentioned, this site has been a calf-producing area since about 400 years ago, when cattle were used as working animals. Before the development of modern transportation infrastructures in 20th century, the cattle sold at this site were transferred by walking along the old cattle transportation route and being bought and sold along the way (Figure 13).

Today, calves sold outside of Mikata are not used as labor animals but as fattening cattle for beef production in southern part of Hyogo prefecture or other areas. Those areas for fattening activities today are largely correspond with the old destinations of labor animals. Figure 14 shows the current destinations of calves originated from Mikata and sold from 2017 to 2021. The size of the circles in the map represents the number of calves. It indicates calves are purchased in the fattening cattle production area in southern Hyogo Prefecture and the Matsusaka area in Mie Prefecture (Figure 14). By comparing information on Figures 13 and 14, it can be concluded that traditional distribution channels of calves originated from Mikata are largely kept even in the current situation, although the roles of the calves in their destination have been shifted from labor use to fattening. It should be also noted that this shift on the roles of calves primarily occurred in the areas outside of Mikata, and inside of Mikata the traditional breeding practices have been maintained for approximately 400 years.

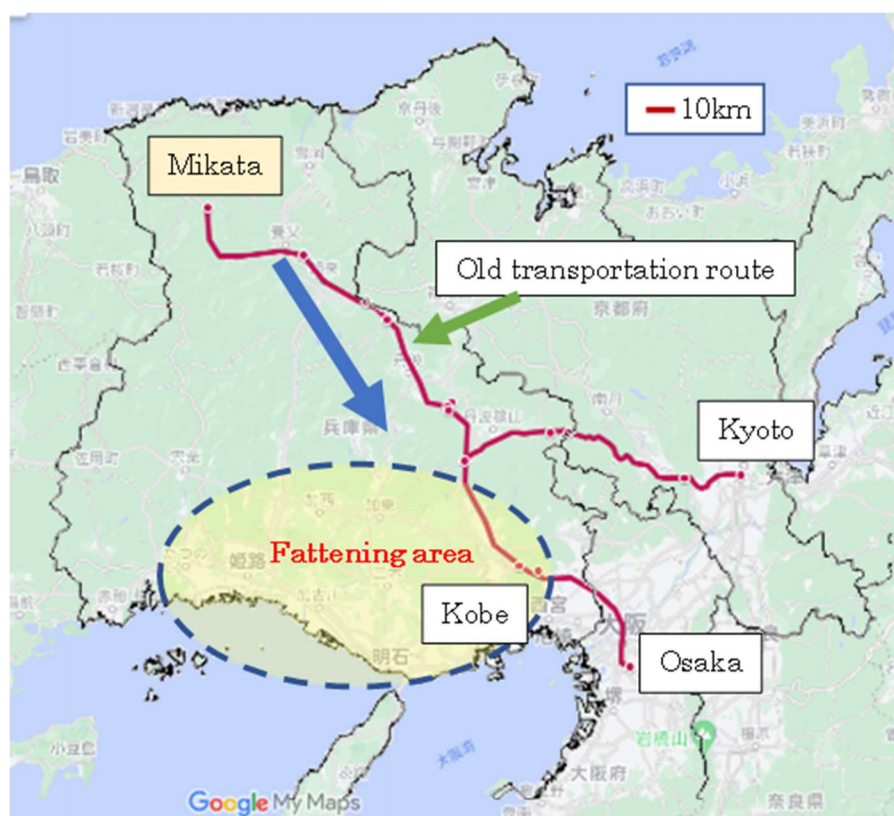


Figure 13 Old transportation route of calves before 20th century

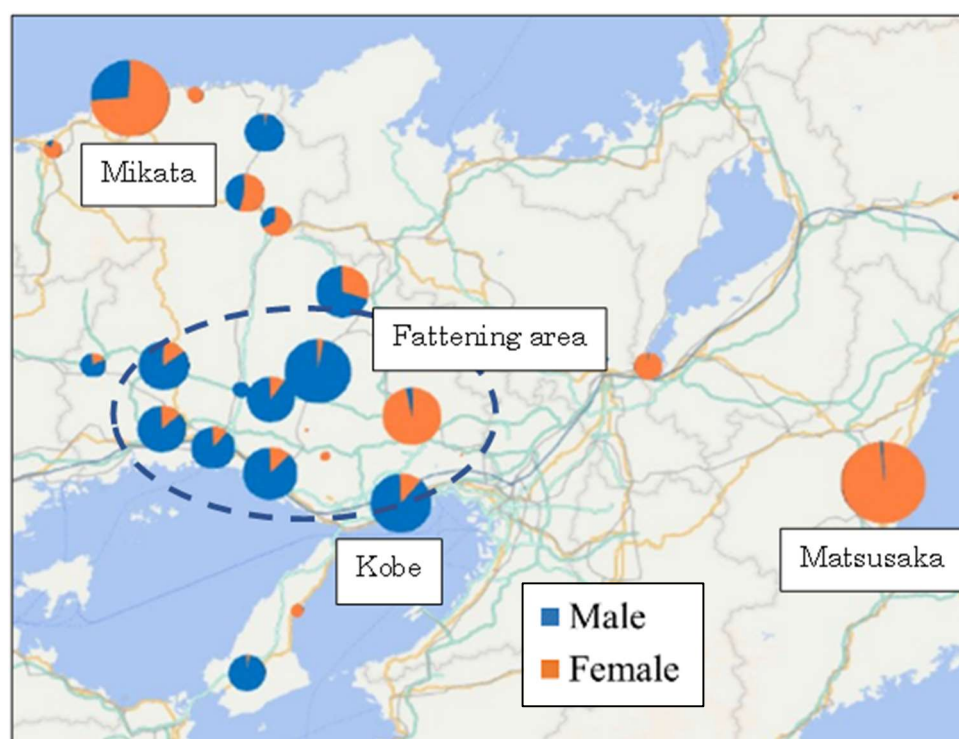


Figure 14 Areas where Mikata calves were sold from 2017 to 2021

Beef was not exported from Japan until recently, mainly because Japanese cattle raising practices are carried out by small-scale farmers and their main targets are Japanese domestic markets. Exports of Kobe beef started in 2011. The amount of export is small. From 2017 to 2021, an average of 2.9% of Kobe beef has been exported from Japan, according to Kobe Beef Marketing & Distribution Promotion Association. Most of the exported Kobe beef is produced by farmers in the southern part of Hyogo prefecture outside of the proposed site. From 2011 to 2021, 442 kg (0.11% of total exports 401,842 kg) of beef from cattle fattened in Mikata was exported.(Figures 15 and 16)

Kobe Beef is strictly defined by Kobe Beef Marketing & Distribution Promotion Association (located in Kobe City of Hyogo Prefecture), which consists of producers' associations, distributors' associations, and consumers' associations established in 1983. Kobe Beef must be made from Tajima cattle produced only by crossing successive generations of Tajima cattle born and raised in Hyogo Prefecture.

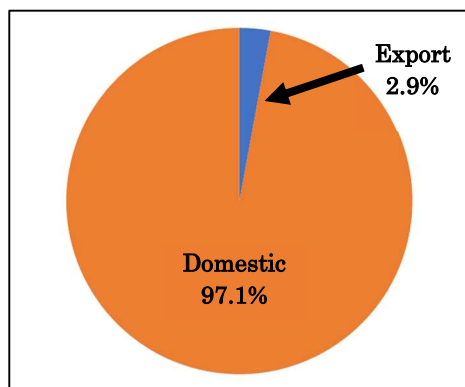


Figure 15 Kobe beef Shipment Destination (2011-2021)

Source: Livestock Section, Hyogo Prefecture

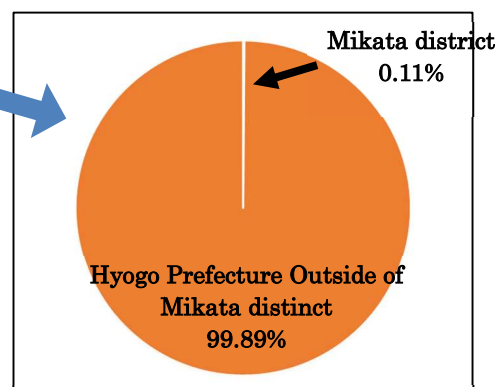


Figure 16 Production Area of Kobe beef to be Exported(2011-2021)

Source: Livestock Section, Hyogo Prefecture

Consumptions of beef by foreigners visiting in Japan have long existed. Originally, cattle in Japan were used as service cattle in cultivated land. There was no food culture to eat beef, before Japan opened up its borders in 1858 for United States and several other countries. In 1895, the port of Yokohama was designated as an international port and, since then, people started to prepare beef for foreigners. At that time, cattle were raised mainly in western Japan including Tajima. Therefore, cattle were gathered from Tajima and sent to Yokohama via Kobe. Kobe is another international port in western Japan and located approximately 100km south of Tajima. The southern part of Hyogo prefecture (the area between Mikata and Kobe) had mild climate and rich arable lands. Cattle was fattened up in this area before shipped to Yokohama. Cattle brought from Tajima via Kobe was highly appreciated by foreigners, and started to be called "Kobe beef".

Today, the number of foreign tourists to Japan has also increased, and so does the demand for Kobe beef for tourist. Consumption of Kobe beef by foreign visitors in Japan can be regarded as an important feature for Tajima cattle for more than a century.

2.1.3 Relationship between the tourism industry and Tajima cattle of the Mikata district

The Mikata district is surrounded by magnificent mountains of the Hyonosen mountain range and faces the sea. The area is blessed with natural resources including mountains, rivers, sea, and valleys, which display colorful landscapes through the four seasons, traditional and historical assets, and snow and hot springs that help people relax. The proposed site utilizes these assets and promotes tourism. It receives about 1,430,000 tourists to Kami Town and about 1,080,000 tourists to Shinonsen Town every year.

In addition to Tajima Beef, the proposed site has excellent agricultural and fishery specialties such as snow crab (*Chionoecetes opilio*) and organic rice. Among these, Tajima Beef of the Mikata district is especially popular. Hotels, inns, roadside stations, and restaurants offer dishes of Tajima Beef produced in the Mikata district. Many tourists purchase the beef at farmers' markets. Tajima cattle of the Mikata district is thus especially important for the tourism industry of this region.

Roadside stations such as Muraoka Farm Garden in Kami Town and Sanin Kaigan Geopark Hamasaka no Sato in Shinonsen Town in the Mikata district have meat shops selling Tajima Beef produced within the Mikata district. These facilities also have restaurants that offer dishes made using locally produced Tajima Beef and other fresh ingredients. The relationship between Tajima cattle and this region is especially strong, with a Tajima Beef calf born in Mikata district being appointed as an honorary stationmaster of the roadside station, Sanin Kaigan Geopark Hamasaka no Sato.

Hyogo Prefectural Tajima Pasture Park (in Shinonsen Town) is holding the Tajima Beef Festival, an event of Tajima cattle of the Mikata district on the fourth Sunday of September every year. Hachi-kita Highland (in Kami Town) is hosting the Tajima Beef Food Festival every October. These events are held to widely publicize Tajima cattle of the Mikata district, the origin of high-grade wagyu beef, to people in and outside of Hyogo Prefecture and to allow local people to feel closer to Tajima cattle of the Mikata district. Nearly 20,000 people visit these events every year (Photos 16 and 17).



Photo 16 Hyogo Prefectural Tajima Pasture Park



Photo 17 Bride parade

2.1.4 Cooperation with a variety of relevant industries within the region

The proposed site was originally focused on breeding Tajima cattle of the Mikata district and shipping calves born in the region to the market. Tajima cattle of the Mikata district produce excellent beef. Thus, as meat shops and hotels and inns offering Tajima Beef, food processing businesses engaging in the development, production and sale of beef products, and many other relevant industries form mutually cooperative relationships, they produce many added values and employment which greatly contribute to

the stable operation of livestock farmers and the regional economy.

In Kami Town, various products using Tajima cattle of the Mikata district are being created. Members of the Chamber of Commerce create plans to produce and offer original Tajima Beef sushi at local restaurants, hotels, and inns. Roadside stations sell products such as Tajima Beef curry, smoked Tajima Beef, seasoned Tajima Beef, Tajima Beef Hamburg steak, and Tajima Beef hamburger. Also, the “double-brand pot” containing snow crab (*Chionoecetes opilio*) and Tajima Beef sukiyaki offered at hotels and inns are popular among tourists (Photo 18).



Photo 18 Various products

2.1.5 Tajima cattle of the Mikata district supported by the elderly and family businesses

The ratio of the elderly population aged 65 or older in the Mikata district is 33%, which is high in comparison to the prefectural average of 23%. This means that one in three people in this area is elderly, presenting a serious demographic challenge. In regard to the production of Tajima cattle in the Mikata district in recent years, there is concern that the foundation of cattle production is weakening as many elderly farmers are giving up their farming business, resulting in sluggish growth in the number of cattle kept by farmers. The foundation of cattle production needs to be reinforced through measures such as nurturing successors and supporting small-scale farmers.

Among the breeding farmers of Tajima cattle of the Mikata district, about 60.8% (Table 3) are elderly farmers aged 60 or older, and about 61.5% (Tables 4 and 5) are small-scale farmers with less than 15 heads of cattle. These data indicate that elderly, small-scale, and traditional farmers are greatly involved in the production of calves of Tajima cattle of the Mikata district.

Compared to the national average, the percentage of beef cattle farmers under the age of 49 is about twice as high in Mikata district, at 20.6% compared to 11.9% nationwide, indicating that it is an attractive job for young people.

In the Mikata district, where small-scale farming has been conducted in the mountains, elderly and family farmers, who are proud of the nationally famous brand Tajima cattle and are committed to working for them over their lifetimes, carry out the livestock farming with purpose and support the local economy (Photos 19 and 20).

Table 3(a) Age structures with farmers Tajima Cattle of the Mikata district

	20s	30s	40s	50s	60s	70s and over
Number of farming household	6	3	11	18	27	32
%	6.2	3.1	11.3	18.6	27.8	33.0

Source:Hyogo Branch of Wagyu Registry Association (2017)

Table 3(b) Reference:Age structure of wagyu farmers nationwide

Nationwide(%)	0.8	2.9	8.2	22.5	33.9	31.8
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Source:Hyogo Branch of Wagyu Registry Association (2016)

Table 4 Number of farming households by number of Tajima cattle of the Mikata district

	1-5	6-14	15-29	30-49	50-100	101-250
2008	93	23	27	13	3	2
2012	58	24	25	8	7	2
2017	31	28	19	9	5	4

Source:Hyogo Branch of Wagyu Registry Association (2017)

Table 5 Composition of the scale of farmers by number of wagyu cattle they keep(%)

	1-5	6-14	15-29	30-49	50-100	101-250
Hyogo	33.7	29.3	22.4	11.6	2.1	1.1
Mikata	32.3	29.2	19.8	9.4	5.2	4.2
National	42.8	24.2	16.7	12.1	3.2	1.2

Source:Hyogo Branch of Wagyu Registry Association (2017)



Photo 19 Calf market



Photo 20 National Competitive Exhibition of Wagyu

2.2 Agro-biodiversity

2.2.1 Agricultural biodiversity supported by compost production

Farming in the proposed site area is mainly based on rice production, with rice paddies covering about 80% of the farmland. Other agricultural products are being produced by effectively using Tajima cattle manure compost and regional characteristics.

This proposed site has four seasons. Small-scale farmers cultivate multiple varieties of crops and avoid a concentration of harvesting periods. It allows farmers to use their limited labor in sequence. Unlike large-scale agricultures, the selection of varieties is not based on production efficiency, but rather on the best use of the seasonal patterns in the region. ,

Cattle manure from Tajima cattle produced in Mikata District is used to restore the nutrition of the land. At the same time, the residues of vegetables produced, such as daikon radish leaves, are used as cattle feed without waste.

2.2.1.1 Amount of rice production 4,790 t (2020)

The rice produced in this area includes those for direct human consumptions and for sake productions. Koshihikari is the main variety produced for direct human consumptions. Sake rice is characterized by its large grains, and in this region, the specialty Hyogo Kita Nishiki is produced and shipped to sake brewers. (Photos 21 and 22)



Photo 21 Hyogo Kita Nishiki rice



Photo 22 Locally brewed sake at a vicinity area of the proposed site

2.2.1.2 Adzuki bean Shipment: 5.7 tons (2020)

The Mikata dainagon adzuki bean, a large-grained variety of adzuki bean (*Vigna angularis*) originating in the Mikata district, is commonly produced in the proposed site area. The Mikata dainagon adzuki bean is characterized by a white pod and large beans. It is popular because of its beautiful ruby red color and a tough texture that remains intact during boiling. Famous and established Japanese confectionary shops favor the Mikata dainagon adzuki bean (Photos 23 and 24).



Photo 23 Mikata dainagon adzuki beans



Photo 24 Traditional confectionary

2.2.1.3 Green pepper Shipment: 84.1 tons (2020)

The Green pepper that grows plump under hot summer sun is also called “summer and autumn green pepper.” As the name implies, it is harvested in high season from late June to early November (Photo 25).



Photo 25 Green pepper

2.2.1.4 Daikon radish Shipment: 714.8 tons (2020)

Hataganaru Daikon is one of the famous products of the proposed site produced in Hataganaru Highland, with an altitude of about 1,000 meters in Shinonsen town near the border with Tottori. It is produced using the cool climate of the region, where the highest temperature in summer is only about 27 degrees Celsius. Harvesting and shipping start in mid-summer. Harvesting starts at three in the morning. Farmers first remove leaves, carefully wash the daikon, pack them in boxes, and ship them to markets within the day (Photo 26).



Photo 26 Daikon radish

2.2.1.5 Green onion Shipment: 12.6 tons (2020)

The Green onion (*Allium fistulosum*) is commonly produced in the proposed site area. Soft Green onion, which is edible as a whole, including the white root section and green leaves, is also produced in the Mikata district (Photo 27).



Photo 27 Green onion

A variety of other products, including 54 species of vegetables, 19 species of fruits, 8 species of flowers and trees, and 7 species of forage crops, are being produced, although in small amounts, through environmentally friendly farming (Appendix: Biodiversity list – Agricultural products).

2.2.2 Regional biodiversity

2.2.2.1 Maintenance of semi-natural grasslands along ridges around rice paddies

The proposed site belongs to the Sea of Japan side climate, featuring heavy snowfall. Organisms favoring both cold regions and warm regions are found in this area. Medium- to small-sized rivers including the Yada River and the Kishida River flow from the Hyonoson and Ouginosen mountain ranges, with altitudes of over 1,000 meters, into the sea as clear streams. Terraced paddy fields and farmlands are located in the mountains among these rivers. The large sloped areas between terraced rice paddies create differences in soil moisture and nutrients due to differences in the height of the slope itself and the location of the terraced rice paddies. This causes a difference in vegetation between the upper and lower parts of the slopes. Also, the vegetation varies depending on the frequency and unevenness of mowing, creating a semi-natural grassland that is suitable for a variety of organisms to inhabit (Ushimaru, 2012).

Ishida et al. (2018) of the University of Hyogo compared the vegetation on the slopes of ridges in the Mikata District located on the Japan Sea side and the southern region on the Seto Inland Sea side in Hyogo Prefecture, and investigated the characteristics of the Mikata District, which uses wild grasses growing on the ridges as feed for cattle. In the Mikata District, 28.8 species of grasses were found per square meter of the slope, which was more than the 22.5 species found in the southern area. In addition, 22 species of indigenous grasses characteristic of the Mikata District, such as *Vincetoxicum pycnostelma*, were identified, indicating that the grasslands of the Mikata District tend to have more indigenous plant species per survey area than the southern region (Figure 17).

In another survey by Ishida et al. in the Tajima area (Town of Kami in Mikata and Yabu City), a comparison of grass species in traditional grasslands (ridges around traditional terraced rice paddies, etc., mowed four to five times a year), abandoned grasslands (abandoned rice paddies, not mowed), and maintained grasslands (ridges around maintained fields, mowed four to five times a year) showed that 31.1 species (including 29.9 native species) were found in traditional grasslands, 8.4 species (including 8.3 native species) in abandoned grasslands, and 20.1 species (including 18.4 native species) in maintained grasslands. This indicates that the use of grasses from ridges as feed for cattle and the management of the ridges through regular mowing are related to the maintenance of grass species (Photos 28, 29 and 30).

The farmers of Tajima cattle think that a mixture of many kinds of grasses is better for their cattle because the cattle prefer such grasses (Kato, 1995). Some of the many kinds of wild grasses in the area are

recognized by farmers as medicinal herbs for the cattle, and farmers are aware that the mixture of many kinds of grasses are good for their cattle based on their observation of the cattle's preferences. This relationship between regular mowing and Tajima cattle continues and helps to maintain the biodiversity of the grassland.

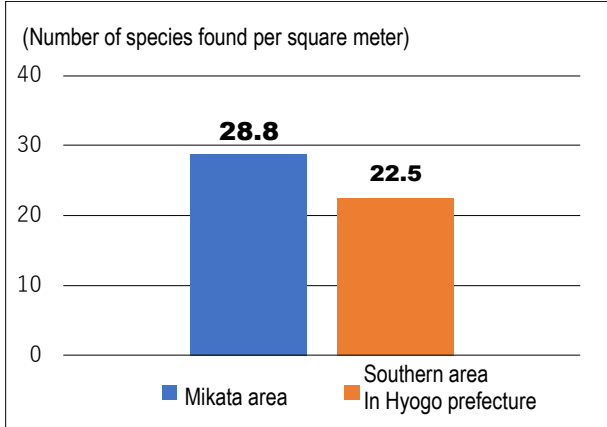


Figure 17 Plant species diversity on the slope of ridges around rice paddies

Source: Ishida et al. of University of Hyogo: Unpublished data (2018)



Photo 28 Mowing ridges



Photo 29: Slopes with the same mowing frequency (left) and slopes with different mowing frequency



Photo 30 : Vincetoxicum pycnostelma (left) and Isodon trichocarpus (right)

Pest is rare in highlands in mountains; thus, the grazing of Tajima cattle of the Mikata district and vegetable production are commonly conducted. The number of amphibian species is relatively large in this area such as forest green tree frog (*Rhacophorus arboreus*), Schlegel's green tree frog (*rhacophorus schlegelii*), Japanese common toad (*Bufo japonicus*), Japanese fire belly newt (*Cynops pyrrhogaster*), and Japanese giant salamander (*Andrias japonicus*), even as the amphibian population is decreasing around the world (Photos 31, 32, and 33). Also, native grass species are found around farmlands including Japanese mugwort (*Artemisia princeps*), Japanese pampas grass (*Miscanthus sinensis*), cogongrass (*Imperata cylindrical*), nettles (*Urtica thunbergiana*), Japanese knotweed (*Fallopia japonica*), and kudzu (*Pueraria lobata*) thanks to regular mowing that has prevented the homogeneous growth of strong wild grasses. These diverse grasses have long been used as the feed for Tajima cattle of the Mikata district.



Photo 31 Japanese common toad



Photo 32 Schlegel's green tree frog



Photo 33 Forest green tree frog

While the forest green tree frog commonly lays its eggs in trees, it is seen laying eggs on grasses on ridges thanks to the well-maintained ridges around rice paddies (Photo 34).



Photo 34 Egg of forest green tree frog

2.2.2.2 Regeneration of grasslands through the grazing and preservation of grassland organisms

Limited-time grazing in shared grazing grounds called Tajima-style grazing has mainly been conducted in the proposed site area since the Meiji Era (1868 to 1912). Grazing technologies have evolved since then. Day-and-night grazing (all-day grazing) then started around 1988, and the area of grazing grounds and the number of cattle increased. New grazing technologies, such as the use of electric fences, became available during this period in addition to traditional grazing technologies, which increased the grassland area with an ecosystem maintained by Tajima cattle of the Mikata district to 305 hectares in 2018.

Grazing in the Mikata district is conducted based on accurate identification of the area of grazing grounds and the vegetation conditions. The number of cattle let out for grazing is also determined based on observation of the health conditions of cattle during grazing. Thanks to these efforts, degradation of vegetation and desertification, which are often seen in areas with overgrazing, are not found in this area. Grazing is effectively being used to maintain artificial grasslands, such as Japanese pampas grass (*Miscanthus sinensis*) fields.

In Japan, more than 60% of the 63 species of butterflies threatened with extinction are grassland butterflies. There are two types of grassland butterflies: common species that are distributed over a wide area, and rare species that live in limited areas such as old semi-natural grasslands and high mountains. The extinction and decline of the rare grassland species are said to be caused by changes in vegetation due to the use of semi-natural grasslands in their habitats for other purposes, the development of grasslands into rice paddies and fields, and changes in grassland management methods (Suka, 2012). The maintenance and regeneration of traditional semi-natural grasslands determines the population of rare species of butterflies. At the proposed site, many semi-natural grasslands still remain thanks to traditional maintenance methods such as mowing ridges around the terraced rice paddies and cattle grazing.

[Biodiversity survey at Hyogo Prefectural Tajima Pasture Park at the proposed site]

The Hyogo Museum of Nature and Human Activities and Hyogo Prefectural Tajima Pasture Park are collaborating to conduct a survey of insects in Hyogo Prefectural Tajima Pasture Park as part of a biodiversity survey. During the three-year survey, a total of 178 participants collected insects in the park as a hands-on program activity, and 592 individuals of 152 species were recorded. Characteristically, 38 species of butterflies (Table 6), such as the *Argyronome ruslana* (Motschulsky) and *Fabriciana adippe pallescens*, which prefers sunny places such as grasslands, and nine species of dung beetles, such as *Aphodius elegans* Allibert, which prefers cow dung (Table 7), were confirmed. This finding inferred that the grazing of Tajima cattle maintains the unique grassland environment. Twenty-three species of butterflies were found during the 2018 survey in this region, while it is rare that more than 20 species are found in a single survey day in other parts of Hyogo Prefecture. It can therefore be assumed that the environment of this area, with its sunny grasslands and deciduous broad-leaved forests, has brought about a high diversity of insects including butterflies.

(Japanese Clouded Apollo (*Parnassius citrinarius*): Papilionidae) (Photo 35)

This species is locally distributed in Hyogo Prefecture and is abundant in the northern and western parts of the prefecture. This species inhabits sunny grasslands such as pastures, riverbeds, and fields, and the larvae feed on



Photo 35 Japanese clouded Apollo

Corydalis incisa (Papaveraceae). However, in recent years, it has been reported that deer have been feeding on the plant, while livestock do not forage for it as it is a poisonous plant, and it is estimated that this has led to the decline of this species (Kondo, 2016). Cattle grazing plays an important role in the habitat of this species at this site.

Table 6 Number of butterflies captured (Location of fixed-point survey: Hyogo Pasture Park in Tando, Town of Shinonsen)

Scientific name	Aug-2018	Jul-2019	Jun-2020	Total	MOE Red List 2017	Hyougo Prefectural Red List
<i>Graphium sarpedon nipponum</i>		1	1	2		
<i>Vanessa indica</i> (Herbst, 1794)	4		1	5		
<i>Parantica sita nipponica</i>		1		1		
<i>Limenitis glorifica</i> (Fruhstorfer, 1909)	1			1		
<i>Parnara guttata</i> (Bremer & Grey, 1852)	2			2		
<i>Guretis acuta paracuta</i>	1	1		2		
<i>Fabriciana adippe pallescens</i>		1	2	3		
<i>Argyronome rulsana</i> (Motschulsky)	2	1		3		
<i>Papilio macilentus</i> (Janson, 1877)	1			1		
<i>Papilio dehaanii</i> C. Felder et R. Felder, 1864	1		2	3		
<i>Papilio machaon</i> Linnaeus, 1758	3	3	1	7		
<i>Eurema mandarina mandarina</i>			1	1		
<i>Eurema hecabe</i> Linnaeus, 1758	6	2		8		
<i>Potanthus flavus flavus</i>		1		1		
<i>Papilio protenor</i>			2	2		
<i>Taraka hamada</i> Herbert Druce, 1875	1			1		
<i>Hestina persimilis japonica</i> C. & R. Felder, 1862	1		1	2		
<i>Araschnia burejana</i> Bremer, 1861	1			1		
<i>Minois dryas</i> (Scopoli)	5	7		12		
<i>Pieris melete</i> Ménétrières, 1857	1	1	2	4		
<i>Everes argiades</i>			3	3		
<i>Eurema laeta betheseba</i>	4		1	5	EN	Atension required
<i>Argyreus hyperbius</i> (Linnaeus, 1763)	3	1		4		
<i>Lepidostoma axis</i>			1	1		
<i>Goccinella septempunctata</i>			1	1		
<i>Vanessa cardui</i> (Linnaeus, 1758)	1	1	2	4		
<i>Ypthima argus</i>			1	1		
<i>Lycaena phlaeas</i> (Linnaeus, 1761)	3	2	2	7		
<i>Neozephyrus japonicus japonicus</i>			1	1		Atension required
<i>Argynnis paphia</i> (Linnaeus, 1758)			1	1		
<i>Papilio maackii</i> Ménétrières, 1859	4	1		5		
<i>Narathura japonica</i>		2		2		
<i>Papilio helenus</i> (Linnaeus, 1758)	3		1	4		
<i>Colias erate</i> Esper, 1805	1		2	3		
<i>Pieris rapae</i> (Linnaeus, 1758)	1	2	2	5		
<i>Neope nipponica</i> (Butler, 1881)	1			1		
<i>Zizeeria maha</i>			1	1		
<i>Celastrina argiolus ladonides</i>			1	1		

(Dung beetles: Scarabaeidae)

There are many different types of scavenging organisms that feed on and decompose animal feces, including earthworms, mites, flies, and others. Among them, beetles of the family Scarabaeoidea, which depend on animal dung for their survival, are called dung beetles.

More than 100 species have been identified in Japan, and about half of them are endemic to Japan. Although dung beetles are not necessarily dependent exclusively on grasslands, pastures rich in dung resources from grazing livestock provide an important habitat for dung beetles. Dung beetle diversity, like other grassland organisms, is feared to have been declining in recent years (Imura, 2007).

At Tajima Pasture Park, a 2017 survey identified *Aphodius haroldianu* and *Aphodius* (*Aphodius*) *elegans* Allibert, and in a 2018 survey, the earth-boring dung beetle (Geotrupidae), *Copris acutidens* Motschulsky, *Liatongus phanaeoides*, *Onthophagus lenzii*, *Onthophagus atripennis*, and *Aphodius urostigma*. The species identified in the 2018 survey are ones that are found in deer dung, while *Aphodius haroldianu* and *Aphodius* (*Aphodius*) *elegans* Allibert prefer cattle dung. These two species and *Liatongus phanaeoides* prefer sunny grasslands, which implies that the grazing of Tajima cattle in the Mikata region may be contributing to maintaining the diversity of these dung beetles.

Table 7 Number of Dung beetles captured (Location of fixed-point survey: Hyogo Pasutire Park in Tando, Town of Shinonse

Scientific name	May-2017*	Aug-2018	Jul-2019	Jun-2020	Total	Hyogo Prefectural Red List
<i>Cetonia roelofsi</i>		1			1	
<i>Aphodius (Aphodius) elegans</i> Allibert, 1847	1				1	
<i>Aphodius (Colobopteris) quadratus</i> Reiche, 1847	1				1	
<i>Rhomborrhina polita</i>		1			1	C
<i>Holotrichia kiotoensis</i> Brenske, 1894				1	1	
<i>Gametis jucunda</i>		1			1	
<i>Melolontha japonica</i>			1		1	
<i>Copris acutidens</i> Motschulsky, 1860		3			3	
<i>Blitopertha orientalis</i> (Waterhouse, 1875)				1	1	
<i>Geotrupes laevistriatus</i> Motschulsky, 1857		1	2	2	5	
<i>Liatongus phanaeoides</i> (Westwood, 1840)		1			1	
<i>Anomala lucens</i>			4		4	
<i>Ectinohoplia obducta</i> (Motschulsky, 1857)				1	1	
<i>Anomala rufocuprea</i>		2			2	
<i>Popillia japonica</i> Newman, 1841				2	2	
<i>Bolbocerodema nigroplagiatum</i>		1			1	
Number of individuals captured	2	11	7	7	27	
Number of beetle species captured	2	8	3	5	16	

*Short preliminary survey

2.2.2.3 Efforts to restore grasslands in Ueyama Highland

The primitive landscape of Ueyama Highland was contracting due to the planting of Japanese cedar (*Cryptomeria japonica*) and hinoki cypress (*Chamaecyparis obtusa*) as well as grazing. NPOs are leading efforts to regenerate natural Japanese beech (*Fagus crenata*) forests and grasslands. They categorize the target areas into areas and zones. Grazing of Tajima cattle of the Mikata district is being used to restore vegetation, mainly Japanese pampas grass (*Miscanthus sinensis*) in the grassland zone in the highland area.

The preservation of grassland conditions also means the preservation of the hunting ground of the golden eagle (*Aquila chrysaetos*). The grassland provides habitats for the Japanese hare (*Lepus brachyurus*), the copper pheasant (*Syrnaticus soemmerringii*), snakes, and the green pheasant (*Phasianus versicolor*). Grasslands are thus preserved as the habitat of the golden eagle (*Aquila chrysaetos*) (Photo 36).

(Source: Ueyama Highland Nature Restoration Plan, March 2015 (revised) by Ueyama Highland Nature Restoration Council)



Photo 36 Golden eagle over grassland

Animals found in Ueyama Highland are listed below.

- Mammals found: 6 orders, 11 families, and 15 species. In the Hyogo Prefecture Red Data Book, the Japanese white-toothed shrew (*Crocidura dsinezumi*) and the Asian black bear (*Ursus thibetanus*) are marked as “attention required”.
- Birds found: 11 orders, 26 families, and 73 species, among which 27 are rare species.
- Amphibians found: 2 orders, 6 families, and 7 species.

Reptiles found: 1 order, 4 families, and 6 species.

- Insects found: 19 orders, 178 families, and 722 species, among which 5 are rare species.



Photo 37: Mammals inhabiting the grazing ground

Vegetation management is conducted to turn areas with dense populations of bamboo grass (*Sasa palmata*) and shrubs into Japanese pampas grass (*Miscanthus sinensis*) fields by combining field burning and grazing by Tajima cattle (Figures 18 and 19). The golden eagle (*Aquila chrysaetos*) has been observed hunting over grasslands, and has become known around the country. Japanese pampas grass (*Miscanthus sinensis*) field preservation activities are also being conducted by receiving funds from private companies.

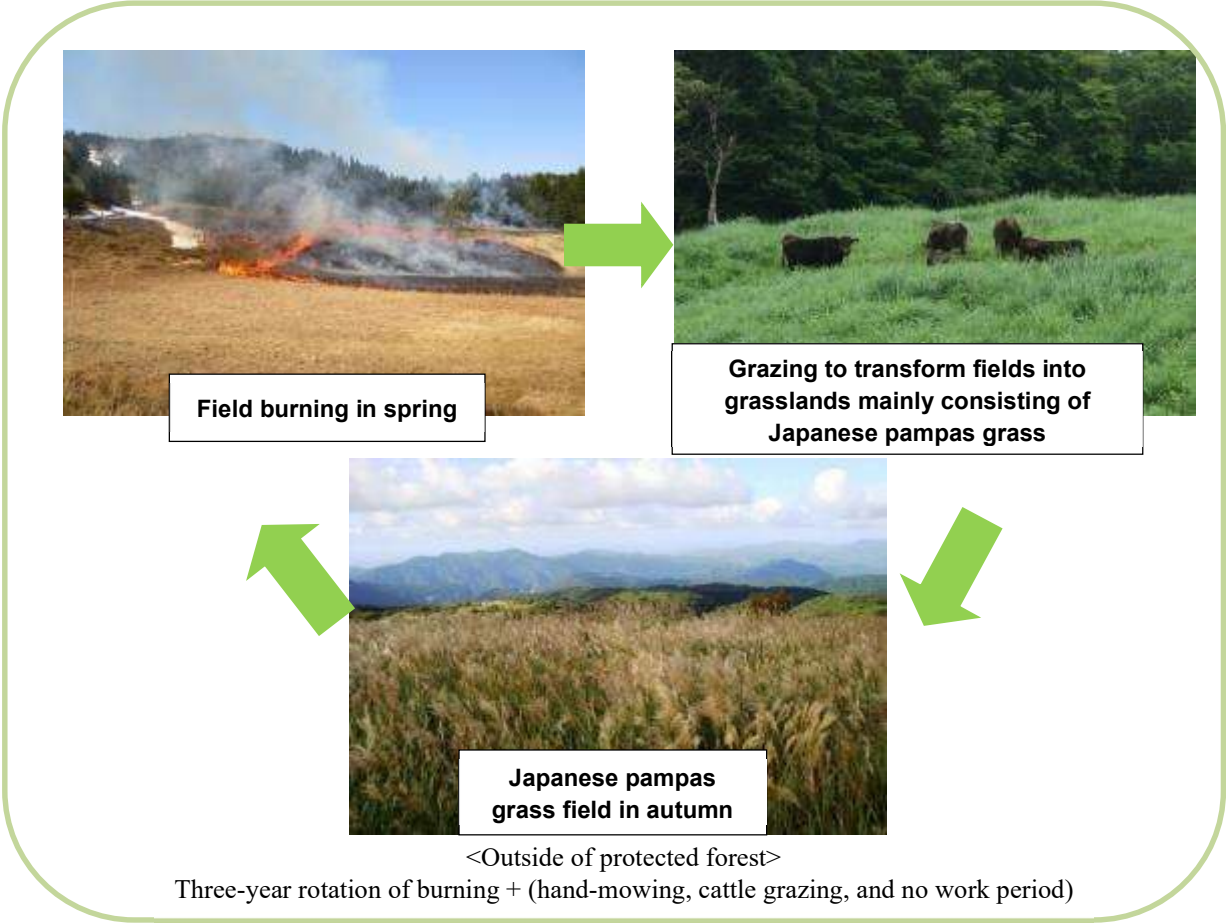


Figure 18 Process of regenerating grassland zones into Japanese pampas grass (*Miscanthus sinensis*) fields

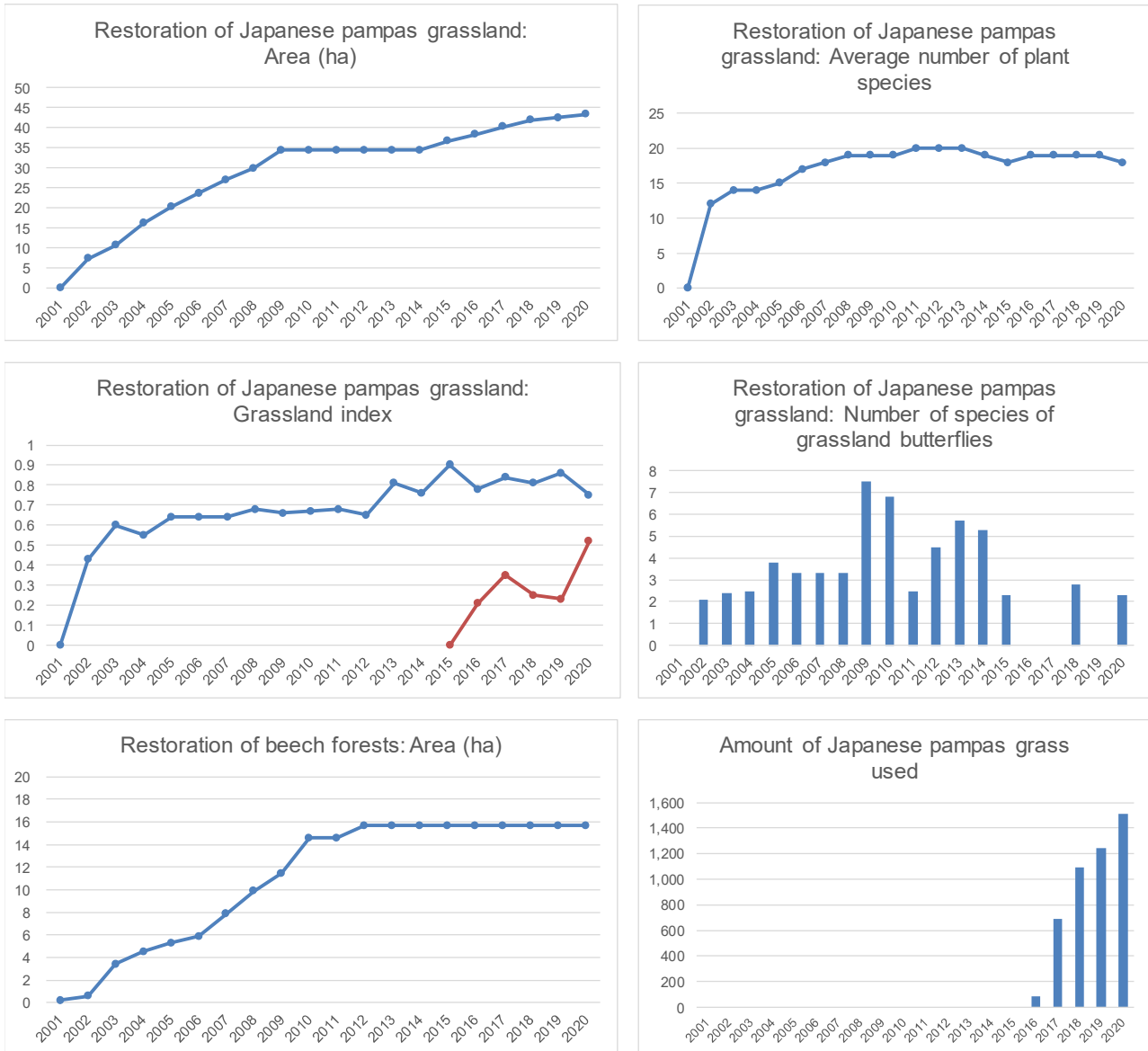


Figure 19 Indicators of Biodiversity in Ueyama Highland (2001 - 2020)

Source: Ueyama Highland Nature Training session’s Text, March 2021 by Ueyama Highland Eco-Museum

2.2.3 Diversity of Tajima cattle of the Mikata district

The proposed site is the center of the production of Tajima cattle, which have produced great beef for generations. The history of Tajima cattle of the Mikata district can be regarded as the history of Tajima cattle, period.

Tajima cattle produced in the Mikata district are a small-built variety among the Japanese Black. Despite their small body size, the body shape is well-balanced. In particular, the central portion of the torso, called the “*chuku*,” is often well developed with a straight back and tight ribs. Among Tajima cattle, those produced in the Mikata district have especially excellent traits.* (*Traits: a general term referring to the skin condition, coat, horns, quality of hoofs, and tightness of the body among other qualities)

The skin is thin and flexible. The coat is delicate and soft. The hoofs are black and hard. The horns are thin and circular in cross section. The narrowest section of the front and hind legs, called the “*kan*,” is

especially narrow, and the entire body is tight without excess fat. Tajima cattle portrayed in an ancient literature (Kokugyu Ju-zu) in the Kamakura Period (1185–1333) exhibits the typical traits of Tajima cattle of the Mikata district (Photo 38). Another important characteristic of Tajima cattle of the Mikata district is that they have extremely strong genetic potential; most of the bulls of Tajima cattle used in Hyogo Prefecture are produced in the proposed site.



Photo 38 Tajima cattle in old literature around 13th century (Agri. Library, UTokyo Collection)

2.2.3.1 Preservation of regional genetic resources

The breed of Tajima cattle of the Mikata district has been improved with focus on bloodlines based on the concept of *tsuru-ushi* (literally, “cattle lineage”) within the small region of the Mikata district located at the northern part of Hyogo Prefecture. As a result, individual small-scale farmers came to produce their own variations of the lineage of mother cows and preserved the resultant unique genetic resources. This is well reflected in the results of original cow investigation (original cow: the ancestral cow that started a lineage found based on the cattle lineage register).

Among the original cows, 68% have less than 10 heads of cattle as descendants alive today, and 3% have more than 100 heads of cattle. This is proof that small-scale farmers kept protecting the genetic resources of rare lineages with characteristics that they have passed on over generations. This indicates that Tajima cattle are partners of the farmers, who carefully protected the lineages of their cattle as family members in the proposed site.

In addition, the improvement of Tajima cattle of the Mikata district based on the concept of *tsuru-ushi* has selected cattle with not only good lineages but also those that reflected specific characteristics in individual regions.

For example, when new lineages were being produced around 1945, the characteristics of *Atsuta-tsuru* in the eastern part of Mikata and *Fuki-tsuru* in the western part were designated as follows.

The characteristics of *Atsuta-tsuru* are: 1) a small built, tight body displaying dignity; 2) thin bones with good bone flavor; 3) soft and flexible skin and coat; 4) good horn quality, hoof shape, and hoof quality; 5) tight ears and tail; and 6) a good, delicate color.

On the other hand, the characteristics of *Fuki-tsuru* are: 1) a well-balanced body with good volume; 2) soft and flexible skin and a delicate coat; 3) tight bones with good flavor; and 4) a dignified facial expression.

Individual regions and farmers also focused on other characteristics and carefully selected cattle that reflected those characteristics. As a result, many cows with characteristic traits still remain, and people are working on increasing genetic diversity using these cows.

2.2.3.2 Genetic resources such as excellent fertility and nursing ability besides quality as beef

A cow usually gives birth to one calf in a year. Compared to the Japanese Black in other regions, Tajima cattle of the Mikata district have a shorter delivery interval (the time from one birth to the next birth). Many cows continue to give births to calves every year, up to more than 10 calves in total, demonstrating the great reproductive ability of this breed.

The period of the calf market was limited in the proposed site. Thus, farmers implemented in seasonal mating with limited time frames so that the mother cows could give birth between January and May and raise the calves from spring to summer when grasses were available in abundance. Despite such limited circumstances, many cows gave birth to calves as planned. This is probably because farmers selected and kept cows of Tajima cattle of the Mikata district with excellent reproductive ability (mother cows that would surely give birth to calves) when they produced mother cows (Table 8). Another characteristic of Tajima cattle of the Mikata district is that many mother cows are excellent at nursing their calves.

Table 8 Average delivery interval of Japanese Black (2016)*

Region	Average (days)
Mikata district	395
Hyogo prefecture	407
National	411

*Number of from the delivery of a calf to the next delivery

Source:Livestock Section, Agriculture and Forestry Bureau, Agricultural Administration and Environment Department, Hyogo Prefecture (2017)

2.2.3.3. Genetic resources related to beef flavor

The largest reason that Tajima cattle of the Mikata district attracted attention for the improvement of wagyu in Japan despite their small size and lower amount of beef was that they had genes for creating especially tasty beef among the breeds of the Japanese Black.

The taste of beef is said to be mainly determined by the marbling of fat among lean muscles. Marbling of fat includes rough marbling with large white flecks of fat and fine marbling with smaller flecks of fat. Tajima cattle of the Mikata district tend to have fine marbling, producing uniform distribution of small flecks of fat on the cut surface of meat.

The taste of beef is also evaluated based on the ratio of fat to lean meat. Monounsaturated fatty acid contained in fat is said to have a strong influence on the taste. Analysis of the fatty acid component in loin rolls of Tajima cattle and the Japanese Black produced in other prefectures found that Tajima cattle had a significantly higher ratio of monounsaturated fatty acid than cattle of other prefectures.

The purpose of cattle fattening is to increase the amount of meat and fat in the body. The trait of the Japanese Black that it is not likely to store excessive fat such as subcutaneous fat and intramuscular fat is considered important for beef cattle. Tajima cattle of the Mikata district display this trait especially strongly. Since their bones are thin, the meat yield is also high.

2.3 Local and Traditional Knowledge Systems

2.3.1 Calendar of agriculture and the Tajima cattle of the Mikata district

One of the factors that allowed this the proposed site to develop as a cattle breeding business site is that the area has abundant grass resources, including grass on ridges and slopes around terraced paddy fields and pastures on mountains because mother cows and calves mainly feed on grass. Meanwhile, cattle fattening requires feed consisting of grain with high nutritional value. Cattle fattening has thus been conducted in areas such as the southern part of Hyogo where the climate is mild, and grain is readily available on many flatlands.

The Tajima cattle of the Mikata district were originally draft cattle that worked on farmlands. Their role shifted to beef production with the times. Still, the cattle are closely related to farming mainly in terraced rice fields in the Mikata district (Figure 20).

(Spring)

- Spring is when the Tajima cattle of the Mikata district give birth.
- When mother cows finish working in paddy fields to prepare for rice planting, they feed on a large amount of soft grass in spring to prepare for mating, recover from giving birth, and produce good milk for their calves.

(Summer)

- After plowing in paddy fields, mother cows of Tajima cattle of the Mikata district focus on calf rearing.
- They are released into the mountains to graze on the abundant summer grass. Calves also grow while building their health and strong bodies by feeding on the grass.
- Farmers take care of the paddy fields and mow the grass on the ridges to feed the cuttings to their cattle.

(Autumn)

- Farmers harvest rice from the paddy fields and collect rice straw as feed and bedding of the cattle.
- Farmers ship the grown calves to the calf market.

(Winter)

- The cattle remain in barns during winter when it snows heavily in the proposed site.
- The cattle feed on rice straw and hay that the farmers mowed and preserved in the summer. They spend the winter in barns under the same roof as the farmer's family.
- The men leave the area to work for sake breweries in the winter.
- The remaining family members produce manure from the cattle feces and prepare soil for rice planting in the next spring.
-

Such small-scale family-run farming businesses have repeated this seasonal cycle over generations.

Livestock farming around the world usually treats cattle as assets and property. In contrast, the people of the proposed site have a strong affection toward their cattle and regard the cattle as family members. They have not only taken good care of the cattle but have also advanced breeding management to produce better cattle as partners in agricultural production. They have used their knowledge and skills for improvement such as creating a cattle lineage register and *tsuru-ushi*, the lineage of excellent cattle, over generations. They have thereby produced cattle that have adapted to the climate of Mikata and preserved the unique genetic resources of the region.

The affection and devotion of the people of the proposed site toward their cattle remains unchanged. Everyone including young farmers who will inherit the breeding business, expand their businesses, and passionately talk about their devotion and commitment to the cattle. They thoroughly observe individual cattle and take very good care of them. They sometimes visit the farms to which their calves are sold to check on the growth of the calves they have produced. Such devotion is rare in other regions.

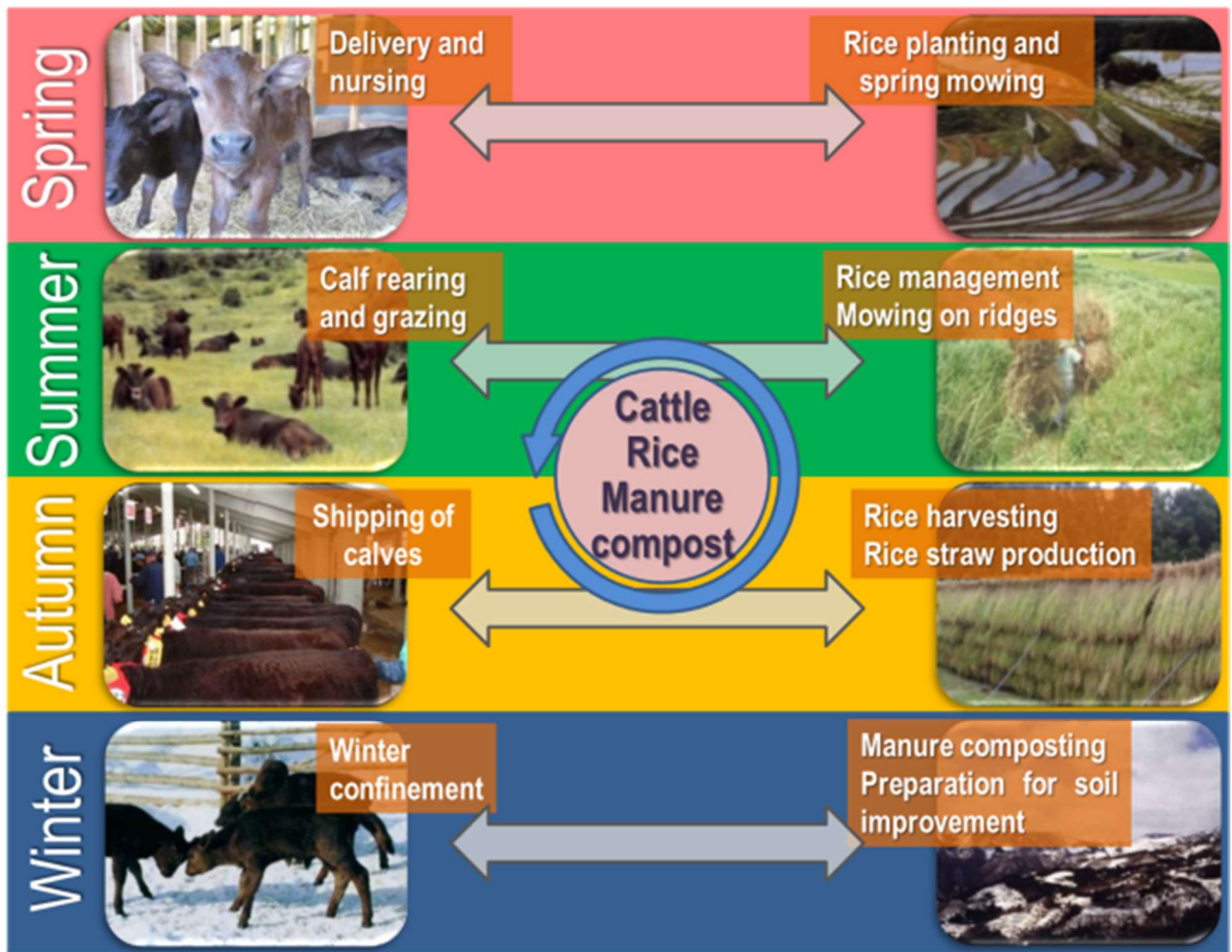


Figure 20 A year with the Tajima cattle of the Mikata district and terraced paddy fields

2.3.2 Regional high-quality cattle preservation system

Communities within the Mikata district formed many lineages of Tajima cattle of the Mikata district called *tsuru-ushi* in the late Edo Period (around the mid-1700s to the mid-1800s). Farmers instinctively knew that breeding within the *tsuru-ushi* system and selecting and keeping good cows from among the newborn cows would lead to the maintenance and improvement of the *tsuru-ushi*.

2.3.2.1 Establishment of organizations

The Mikata District Livestock Association was established around 1897 by volunteers from the Mikata district for the purpose of conducting investigations and studies of cattle breeding and improvement methods and correcting problems in transactions. The Mikata District Cattle Production Union became the first such union to become accredited in Hyogo Prefecture in September 1901 (Photo 39). With the establishment of this union, the improvement of Tajima cattle of the Mikata district became organized and systematized.

- Article 3 Operation

 - 1) To provide enough bulls for cows within the area covered by the union to conduct breeding
 - 2) To promote the protection of the cattle produced
 - 3) To correct problems in cattle transactions
 - 4) To prepare a list of union members
 - 5) To register cattle with excellent traits
 - 6) To provide veterinarians employed by the union
 - 7) To provide livestock lectures
 - 8) To conduct cattle fairs
 - 9) To create cattle registers
 - 10) To establish cattle markets

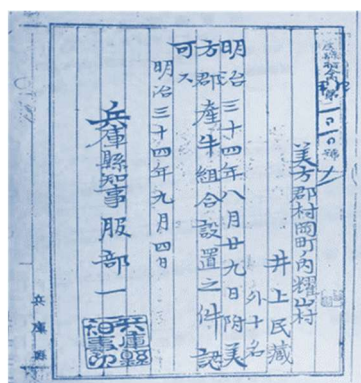


Photo 39 The Mikata District Cattle Production Union certificate in 1901

2.3.2.2 Hosting calf exhibitions and shows

Former Teragi Village and Former Hatta Village in the western part of the Mikata district started livestock fairs (exhibitions and shows) in 1888. After 1892, the fairs were jointly hosted by six towns and villages in the western part of the Mikata district. They selected breeding cows by checking their bloodlines and kept them within the region. In 1903, the first Mikata District Cattle Production Union Cattle Fair (Photo40) was conducted.

Gathering cattle in one location for farmers to compete against each other over the superiority of their cattle is an extremely effective way to check regional standards for improvement and selection and give guidelines to farmers as to how they would treat and improve their cattle.

In addition to regional fairs, Hyogo Prefectural Livestock Fair for the entire prefecture is held. The 100th event was conducted in 2018, with Tajima cattle of the Mikata district winning the cow division.



Photo 40 Government permission for the First Mikata District Cattle Production Union - Cattle Fair in 1903

2.3.2.3 Efforts to keep excellent cows within the region

In 1907, the Mikata district Cattle Production Union established the Excellent Cow Retention Promotion Regulation. This regulation gives a bonus to farmers who select about 10 to 15 excellent cows and use them for breeding for three years. This system of keeping excellent cows within the region was conducted ahead of other regions in Japan.

In July 1916, the Mikata district Cattle Production Union changed its name to the Mikata district Livestock Production Union. The union established the Excellent Cow Retention Promotion Regulation (Photo 41) to give a subsidy to farmers who retain female calves who receive an excellency award in a calf fair to encourage farmers to retain the bloodlines of excellent cows within the region.

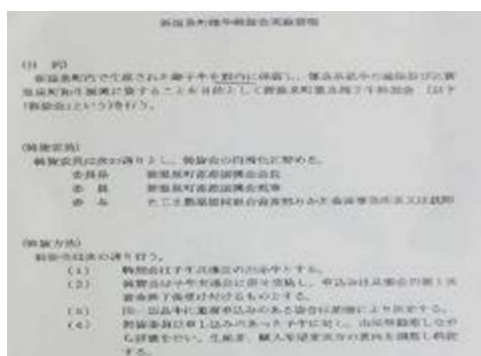


Photo 41 Excellent Cow Retention Promotion Regulation in 1907

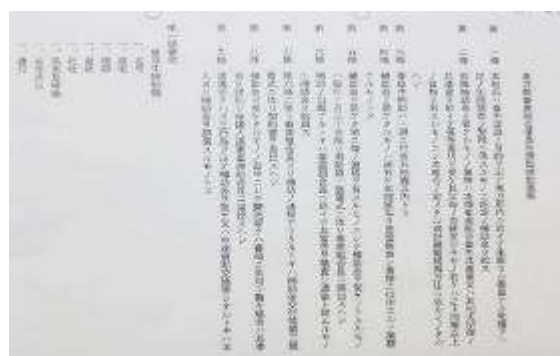


Photo 42 Excellent Cow Promotion and Subsidy Rule in 1916

The Mikata District Livestock Union changed its name to Hyogo Prefecture Mikata District Federation of Cooperatives for Livestock Sale and Farming in September 1948. After World War II, the Atsuta Tsuru-ushi Union and the Fuki Tsuru-ushi Union were established in the eastern and western parts of the Mikata district, respectively. They actively worked on retaining excellent female calves within the district.

The Assen-kai system (literally, “mediation system”) is a system where regional farmers purchase female calves with rare lineages or with excellent traits before they are sold to a livestock market. Female calves shown in calf fairs conducted in municipalities annually in autumn become the subject of Assen-kai (Photo 42). Local farmers have the priority in purchasing and keeping them. This system has made a huge contribution to the improvement of Tajima cattle of the Mikata district, which is still continuing today (Table 9).

Table 9 Number of cattle retained within the former Mikata district and mediated cattle within the past decade (2012 to 2021)

Fiscal year	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Retained cattle	161	191	131	298	257	227	225	242	227	196
Among which mediated cattle	0	3	0	5	9	5	4	14	0	9

Source: JA Tajima (2022)

2.3.3 System to preserve unique genetic resources

2.3.3.1 Establishment of the cattle lineage ledger

The Mikata District Livestock Association, and prepared a cattle lineage record (cattle lineage ledger) (Photo 10) for the purpose of identifying breeding statuses and organizing bloodline information. Individual municipalities of the Mikata district also prepared cattle lineage ledgers by March 1903 and kept all the records of cattle including their location, production and death. Then the prefecture issued the Cattle

Lineage Regulations in December 1904. Municipalities throughout the entire prefecture then gradually prepared cattle lineage ledgers. The cattle lineage ledger became the foundation for proving the lineage of Tajima cattle of the Mikata district when the larger-scale cattle registration system started later. They became the origin of the cattle registration system in Japan. The cattle lineage ledger is still being compiled in hard copies today, even though a database has been created to keep records. Past ledgers are still being preserved as valuable references.

2.3.3.2 Cross-breeding with foreign breeds

Cattle improvement using foreign breeds was promoted under the instruction of prefectures and the national government after 1903. Improvement using Brown Swiss cattle was also conducted in the proposed site. Although it was for cattle improvement, cross-breed calves became popular and sold for more than three times the price of pure breed calves. This led to a boom in cross breeding.

In 1909, however, a pure-breed Tajima Beef cow won the first prize at the first Hyogo Prefecture Livestock Production Fair. This caused the market price of the cross-breed calves of Brown Swiss to drop to half of the peak price in the proposed site in that year. The proposed site then returned to the production of pure-breed Tajima cattle of the Mikata district. The Mikata district used Brown Swiss cattle for about seven years. Still, it took much more time and money to eliminate their genetic influence from the Tajima cattle of the Mikata district.

2.3.3.3 System that led to the elimination of cross-breed genes

The cross-breeding with Brown Swiss cattle improved growth, milk-producing ability, and feed utilization, and caused overall improvement in body shape. On the other hand, the cattle's temperament became violent, and their endurance and working performance fell while their coat color and quality, and shoulder development deteriorated, and most of all, the quality of the beef fell.

Instructions given by the national government at that time specified that female cattle to be crossed with the Brown Swiss cattle should be large-sized cows (122 cm or more in body height). Since Tajima cattle of the Mikata district were small sized, many cows were not selected for cross-breeding.

Even in the midst of the Brown-crossbreeding boom, the Mikata District Cattle Production Union established the Excellent Cow Retention Promotion Regulation in 1907 and continued to improve pure Tajima cattle of the Mikata district.

After the Brown-crossbreeding boom ended, Brown-crossbred cows were specified using the cattle lineage record and the cattle lineage removal record (Photo 43) to return to pure Tajima cattle of the Mikata district. They thereby protected the bloodline of the Tajima cattle of the Mikata district.

They organized crossbreeds in the Taisho Era (1912 to 1926) and started breed improvement through breeding within the lineage. In 1918, they established the Tajima cattle Bloodline Registration Union and started cattle registration (Photo 44). They then created the Tajima cattle physique examination standard and further accelerated the Tajima cattle breed improvement along with the registration work.



Photo 43 Cattle lineage removal record



Photo 44 Registration record

2.3.3.4 System to preserve the characteristics of Tajima cattle of the Mikata district

Characteristic features of Tajima cattle of the Mikata district are their high quality skin and coat. The coat quality includes the thinness and flexibility of the skin as well as the color, quality, density and texture of the coat. The bone quality refers to the skeletal structure, including the thinness of the bones and the shapes of the shoulders, elbows and joints. These are important elements in especially strict selection that have been passed on in the proposed site.

All newborn calves are checked for their traits at a few months old. Calves showing the traits shown in Tables 10 and 11 are sold to the market to become beef cattle without being retained within the region.

Table 10 Expressed traits used as the reference of selection and elimination

Coat	Light color, gray colors around nose and mouth , whirl of hair, inside ears, and inner thighs, rough and hard fur, different color (red), dorsal stripe, white (red) patches, red vent, shaggy coat, tassel (reddish brown)
Skin	Thickness, stiff skin, white patch at the base of nipples, white nipple, white patch at the pubis, white patch at the front of the testicles, white tongue (pink tongue)
Horns and hoofs	Thick horns, poor horn condition, white horns, poor hoof condition
Skeletal structure	Thick arms and legs, enlarged tail head and limbs, loose shoulders and elbows, dent behind shoulders, enlarged hip bone, bulged sacrum

Table 11 Other traits to be eliminated

Abnormality in nipples	Shortage of nipples, adhered nipples, extremely short nipples
Skeletal abnormality	Chicken-like elbow, shoulders appearing to have three bumps instead of two, abnormality in limbs, maldevelopment
Eyes and coat	Blind, stars in eyeballs, birthmark (white, red)

Among the traits expressed in calves, the coat quality and bone quality are examined in detail. In addition, other traits such as dignity in facial expression, the locations and numbers of curly hair on the face and back, and abnormality in the ribs are used as references for retention selection. Female calves with regional traits have been kept within the area based on these selection criteria, which still continue today.

2.3.3.5 Measures against genetic diseases (Organizational Tajima cattle improvement and resilience)

In 1995, an excellent bull of Tajima cattle of the Mikata district named *Tanifukudo* (Photo 45) was found to have a genetic disease called “band 3 deficiency.” This is a recessive hereditary disease. Calves with this disease suffer from fatal hemolytic anemia.

Tanifukudo was also found to have claudine-16 deficiency, and disuse of the bull was determined. In response to this situation, people involved with Tajima cattle including farmers, engineers from agricultural cooperatives, veterinarians, inseminators, cattle merchants, and administrators assembled and participated in regional councils in various parts of Hyogo Prefecture in 1999. They then established the beef cattle restoration vision. The vision



Photo 45 Original sire, *Tanifukudo*

includes the protection of pure breed Tajima cattle and the preservation of genetic diversity, and clarifies

improvement policies. They also set a policy of not selecting male calves with genes of hereditary diseases as candidate bulls. The breed improvement was conducted thereafter based on this vision.

In the case of *Tanifukudo*, local people were able to continue breed improvement while removing the new hereditary disease found in *Tanifukudo* by using bloodlines (*tsuru-ushi*) of various mother cows that remained in the Mikata district. This was possible because small-scale farmers preserved the bloodlines through the mother cows based on the concept of *tsuru-ushi* of Tajima cattle of the Mikata district, and records of bloodlines were kept in documents starting with the cattle lineage record.

The traditional measure of region's quarantine control for disease is not to introduce animals from other regions. This tradition has been kept until today. In addition, calves are vaccinated against respiratory disease. Breeding heifers are vaccinated against arbovirus aberrations.

2.3.4 Preservation of genetic diversity and the restoration of rare lineages

In the proposed site, individual communities in valleys engaged in cattle breeding and formed groups of cattle in lineages called “*tsuru*.” Although Tajima cattle of the Mikata district were small in build, their working performance was excellent. In the Meiji Era (1868 to 1912), more roads were constructed, and crossing of *tsuru-ushi* became frequent. Still, the Atsuta-*tsuru* lineage (Photo 46) in the eastern part of the present Mikata district (former Mikata Town and former Muraoka Town) and Fuki-*tsuru* lineage (Photo 47) in the western region (former Onsen Town and former Hamasaka Town) still continue today.



Photo 46 Atsuta-*tsuru* lineage chart



Photo 47 Fuki-*tsuru* lineage chart

The examination of current Tajima cattle of the Mikata district indicates that most of the cattle are offspring of the Doi lineage in Atsuta-*tsuru* (Photo 48) that produce high-grade beef. The offspring of the Kumanami lineage of Fuki-*tsuru* (Photo 49) have become a rare group.



Photo 48 Original sire of Atsuta-*tsuru*, *Tajiri*



Photo 49 Original sire of Fuki-*tsuru*, *Shigefuku*

It is necessary to increase the number of cattle in the Kumanami lineage to increase the genetic diversity of the Tajima cattle of the Mikata district. The entire region is thus cooperating to protect the Kumanami

lineage and maintain the genetic diversity of the Japanese Black through measures such as: designation of the reestablishment of the Kumanami lineage as the lineage reestablishment project which is one of the main projects of the Wagyu Registry Association; certification of breeding heifers as the prefecture's Tajima cattle improvement promotion measure; and subsidies for retaining calves based on projects to increase the number of cattle in the Kumanami lineage conducted by Shinonsen Town and JA Tajima.

Table 12 History Chronology of Tajima cattle of the Mikata district

year	event
1897	The Mikata district Livestock Association is established.
1898	Set up Japan's first "cattle lineage records" at each village office in Mikata District.
1901	The Mikata district Cattle Production Union certified by Hyogo Prefecture.
1903	Breeding of Brown Swiss bulls begins
1904	Enactment of Cattle and Horse Registration Regulations (prefectural ordinance)
1908	Abolition of cattle and horse registration control regulations. Enactment of Cattle Register Control Regulations (prefectural ordinance)
1909	The 1st Hyogo Prefecture Livestock Production Fair is held.
1910	The Mikata District Cattle Production Union prepares a registry of superior cattle.
1918	Hyogo Prefecture established the Tajima cattle Bloodline Registration Union
1919	The Japanese government adopts a registration system for "improved Japanese breeds"
1921	Establishment of Tajima breed registration regulations (prefectural ordinance)
1938	Japan Livestock Industry Association started issuing registration certificates (all over Japan)
1943	"Atsuta <i>туру</i> " and "Fuki <i>туру</i> " creation union formed
1944	The breed is established as Japanese black breed

2.3.5 Seasonal breeding

The proposed site has been breeding Tajima cattle of the Mikata district as a region of breeding business covering the production and sale of calves. Tajima cattle of the Mikata district have traditionally been produced through "seasonal breeding," where mother cows give birth to calves mainly in spring from the end of January to the end of May. Therefore, mother cows that give birth during this season every year were regarded as cows with good fertility and the numbers of their lineages increased.

Cows go into heat about 40 days after giving birth and repeat the heat cycle in about 21 days. To have them give birth once every year, they must be fertilized during the second or third heat after giving birth. To have them give birth between the end of January and the end of May, cows need to be fertilized between the end of March and the end of July (seasonal fertilization) and become pregnant. The unique regional system described below is the key to the successful continuation of seasonal breeding in the proposed site, despite the restricted breeding conditions.

1) Since the region has heavy snowfall during winter, deep snow made it difficult to transport cows to fertilization sites during winter. 2) After giving birth, mother cows worked in paddy fields to prepare for rice planting in June. 3) Farm work and fertilization are conducted when mother cows are feeding on abundant grass in early summer. Also, grasses are available in abundance in grazing grounds in villages when calves start to feed on grass. 4) Summer grazing during which grasses are in abundance is expected to reduce the work of farmers and improve the nutrition of mother cows, thereby ensuring the healthy growth of the fetus. 5) When the number of cattle to be sold to the calf market in November (male calves) and December (female calves) is kept about the same every year, the calf price is expected to remain high because it is when buyers are shipping their fattened cattle for the New Year's season and are motivated to buy. 6) During winter, masters of farming families take part-time non-farming jobs such as sake making at sake breweries around the country. Calves are born around the time they return from their winter jobs. In

addition, they can ship the calves to calf markets in late autumn when they are about to leave for the winter jobs.

Some farmers started to keep about 10 heads of cattle around 1970 because they wanted to discontinue their winter jobs. Even though the number of cattle kept at farmers has increased, they are continuing seasonal breeding.

Most of the Tajima cattle of the Mikata district are still being conceived through seasonal fertilization even today, with advanced artificial insemination technology and improved transport and economic conditions. This regional seasonal breeding practiced for many generations has indirectly resulted in the preservation of genetic resources related to excellent fertility.

2.3.6 Grazing technology

Shared cattle farming was promoted in the proposed site from the Taisho Era (1912 to 1926) to 1935 to reduce the workload of farmers. Individual communities constructed shared grazing grounds (Photo 50). Grazing in those days was called “Tajima-style grazing.” In summer, farmers took the mother cows and calves (Photo 51) to pastures during the daytime and returned with them to barns at home carrying mowed grasses on their backs in the evening. The grazing grounds in the district also functioned as meadows. Most male farmers left their homes to work at sake breweries in winter. Thus, collecting grasses from grazing grounds in summer was an important task to accumulate feed for the winter.

After World War II, a young chairman of the local livestock association in the Nakatsuji community of former Teragi Village (present-day Shinonsen Town) started day-and-night grazing of mother cows and calves for the first time in Hyogo Prefecture in 1961. The chairman of the Nakatsuji Livestock Association described the difficulties he experienced with day-and-night grazing in his logs. He described how hard it was to spread day-and-night grazing among communities while maintaining grazing grounds by spending the nights there with the cattle, and how local people gradually came to understand him, despite initial skepticism.

Some grazing grounds were turned into skiing grounds as leisure became popular during the rapid economic growth period (around 1954 to 1973). Livestock farmers now conduct day-and-night grazing using ski slopes in multiple areas (Photo 52). Grazing is also used to maintain abandoned agricultural lands. The know-how of grazing accumulated in this region is still being used today.



Photo 50 Application form used in Kebioka



Photo 51 Mothers and calves of Tajima cattle heading to grazing ground



Photo 52 Grazing using a ski slope

2.4 Culture, Value Systems and Social Organizations

2.4.1 Regional worship and Tajima cattle of the Mikata district

A shrine dedicated to Dainichi-san (Dainichi Buddha) that has been worshiped for a long time as the guardian of the cattle is located in Higashigaki, Ojiro-ku (Photo 53). Local people still respectfully worship at the shrine. Livestock farmers of Ojiro-ku visit the shrine together on January 28 every year. Residents of Muraoka-ku visited Dainichi-san in the adjacent Yabu City (former Nakase, Sekinomiya Town) on March 28 every year. The Dainichi-san shrine is the place for livestock farmers to exchange information, support each other, and pray for the good fertility of their cattle. Livestock farmers formed strong relationships using the Dainichi-san shrine as a base.



Photo 53 Shrine as the guardian of cattles

Ojiro Shrine in Ojiro-ku, Kami Town is said to be dedicated to Ukanomitama-no-Mikoto (the personified god of rice) and Ushiromitama-no Mikoto (the personified god of cattle) described in *Tajima Kojiki* (one of Japan's oldest records), showing the strong regional ties with cattle from ancient times.

Ushigamine Shrine is located in Shinonsen Town near the border with Tottori Prefecture. This shrine is dedicated to a guardian god for cattle and is worshiped by livestock farmers of Tajima cattle. A festival is held at the shrine every July 18. Farmers attach paper amulets distributed at the festival to the bridles of calves when shipping them to the market.

Many other relics and stone monuments in the shape of cattle heads are located throughout the district. These are proof that local livestock farmers have prayed for the health and safe and healthy births of calves since ancient times. This form of worship still continues among local residents today.

2.4.2 Dedication to and customs related to the cattle of the Mikata district

Livestock farming around the world usually treat cattle as assets and properties. However, the people of the proposed site have a strong affection toward their cattle and regard the cattle as their partners in farming production and family members. This kind of attitude and recognition still remain all farmers of the proposed site as rural customs. There is no industrial farmer a mind in Mikata District. They all have a passion for Tajima Cattle.

2.4.2.1 Supply of warm feed and warm water during winter

A large cooking stove is located near a cattle barn, and a large iron pot is placed on it. In the cold winter, farmers boiled feeds (dried grass and rice straw called "*magusa*") and gave warm feed to the cattle. The warm *magusa* releases the distinctive aroma of grasses and rice straw, and the cattle love to feed on them. Some farmers still use the cooking oven and giving *magusa* to their cattle. Also, many farmers heat water in the large pot and give warm water to the cattle instead of cold water during winter.

2.4.2.2 Naming of cattle and nicknames

When calves are born, farmers give them names and submit birth notifications for lineage management. Since farmers in the proposed site take good care of their cattle like family members, their dedication is reflected in the names of the cattle.

Since female calves are often used for breeding for a long period of time, farmers often give names of their family members such as their wives, daughters, and granddaughters to the calves. Producers can be traced based on the names of the cattle much more often in the proposed site compared to other regions.

In addition, many farmers in the proposed site name calves based on the names of their mother cows or give “lucky names” wishing for the luck and happiness of the calves. Naming after the mother cows is a local custom reflecting respect for the bloodlines (*tsuru*) of the mother cows. Many Tajima cattle of the Mikata District have names through which their owners and/or lineages can be guessed.

“Lucky names” include those containing “*fuku*” (fortune, prosperity, wealth, etc.) and “*yuki*”, “*sachi*” (happiness, luck, etc.). Cattle in the proposed site are twice as likely to be given such names as cattle in other regions (Table 13). Small-scale farmers usually call their cattle by name.

Table 13 Comparison of "happy" names in the Mikata district and other regions (original data)

	Mikata district		Other areas (Hyogo prefecture)	
	Count/Total	Percentage	Count/Total	Percentage
Names containing "fuku"	501/1961	25.5%	1314/10826	12.1%
Names containing "yuki"	119/1961	6.1%	331/10826	3.1%
Names containing "sachi"	34/1961	1.7%	89/10826	0.8%
Total of names containing "fuku" , "yuki" or "sachi"	654/1961	33.4%	1734/10826	16.0%

2.4.2.3 Handling of cows during labor

Since seasonal breeding has been practiced with Tajima cattle of the Mikata district, deliveries occurred mostly from winter to spring. In winter, many male farmers were absent to work on non-farming jobs outside of Mikata. Farmers’ wives were thus in charge of observing deliveries. They often watched the cows with livestock merchants and/or veteran farmers to prepare themselves for difficult labor. The observation was completed when they watched a calf stand up and start to suckle milk from its mother.

When the delivery was completed, farmers gave dried vegetables (by cooking leaves of Japanese white radish and taro and flavoring them with miso and salt) to supply nutrition to the mother cow.

2.4.2.4 Shipment of calves

In the morning when farmer ship calves to a calf market, they wake up early and put new headstalls on the calves. They attach *ohineri* to the headstall celebrating the departure of the calves and wishing for their good health. *Ohineri* is an offering created by wrapping dried small fish with heads attached to them in *hanshi* rice paper. Some farmers attached amulets of Ushigamine Shrine (Photos 54 and 55).

A farmer’s wife said she felt sad when she sent their precious calves off to the market. She has never taken her calves to the market in over 30 years of being a cattle farmer. On the day of the auction market, she sees her husband and calves off from the barn.



Photo 54 Ohineri



Photo 55 Amulet

2.4.2.5 Draft cattle specialized in plowing, which are the treasure of farmers

Tajima cattle of the Mikata district were used specifically to plow paddy fields and never to carry cargoes. They only carried saddles on their backs to pull the plows. Adults scolded children if they tried to ride on the backs of the cattle. Riding on the backs of the cattle was strictly prohibited as the cattle were the treasure of the farmers. It was also prohibited to step over a newborn calf immediately after a delivery.

2.4.3 Transition of organizations surrounding the Tajima cattle of the Mikata district

Individual farmers have protected the genetic resources of Tajima cattle of the Mikata district. In terms of organizational effort, the Mikata District Livestock Association was established and started activities around 1897. The organization changed its name to the Mikata District Cattle Production Union in September 1901 and the Mikata District Livestock Production Union in July 1916. It then became the Hyogo Prefecture Mikata District Federation of Cooperatives for Livestock Sale and Farming in September 1948 after World War II. It then changed to its current forms and roles including the Kami Town Wagyu Promotion Association, the Shinonsen Town Stock Raising Promotion Association, and agricultural cooperatives.

Furthermore, after World War II, Atsuta Tsuru-ushi Union and Fuki Tsuru-ushi Union were established in the eastern and western parts of the proposed site, respectively, to preserve the *tsuru* (bloodline) of individual regions. They actively worked on retaining excellent female calves within the district. The functions of these organizations were passed onto the Mikata District Wagyu Breeding Union, which is an important organization for the improvement of Tajima cattle of the Mikata district, the preservation of genetic resources, and strengthening of the industry.

2.4.4 The most beautiful villages in Japan campaign

Ojiro-ku in Kami Town (former Mikata Town) is a small section of the town with a population of about 1,500. It is the birthplace of Shusuke Maeda who created Shusuke-*tsuru*, the origin of Tajima cattle of the Mikata district in the late Edo Period (around mid-1800s). This means Ojiro-ku is the hometown of the legendary bull, *Tajiri* whose bloodline has been passed on to 99.9% of wagyu cattle in Japan. The region still exercises deep understanding toward livestock farmers and is passionate toward livestock farming.

The “Most beautiful villages in Japan” campaign is advocated by an NPO, the Most Beautiful Villages in Japan. This campaign is aimed at nurturing pride for one’s hometown by declaring it as the most beautiful village in Japan and giving added value to tourism by protecting landscapes, the environment and traditional culture. Ojiro-ku joined this campaign in October 2012, and local residents are working on creating a beautiful village focusing on landscapes with beautiful mountains, rivers, terraced paddy fields,

and agricultural villages.

Regional resources worthy of special mention include unique events such as Ojiro as the hometown of wagyu cattle, Tajima cattle Leisure Walk tour, and the National Brutal Marathon in Mikata conducted in the midst of the lush natural landscape and the courtesy of the rustic local people.

These events attract many participants as more people are paying attention to health, walking, and agricultural villages in recent years. Tours to visit production sites of the origin of Tajima cattle of the Mikata district are especially popular (Photo 56).



Photo 56 Tajima Cattle Leisure Walk

2.4.5 Classes in local elementary schools and junior high schools, lifestyle with cattle

To communicate the excellence of Tajima cattle of the Mikata district, the hometown treasure for many children, and pass this legacy on to the future, the proposed site is providing lectures about Tajima cattle and hands-on experiences such as cattle brushing, weight measurement, and muzzle pattern printing, targeting children in the fourth grade or older (Photo 57).



Photo 57 Cattle brushing experience

Also, Tajima Beef steak is served to celebrate graduation from junior high schools as a part of dietary education (Photo 58). Tajima Beef produced in the Mikata district is also served in school lunches (Photo 59) at elementary schools for students to learn about this local specialty.



Photo 58 Junior high school graduation lunch at restaurant



Photo 59 School lunch made with Tajima Beef produced in the Mikata district

In Hyogo Prefecture, a series of classes called “Trial Week” based on a job experience program has been conducted, targeting the eighth-grade students in junior high schools since FY 1988. This program is being conducted to allow students to experience work in gas stations, kindergartens, and welfare facilities to use the experience to select their future careers. Among these experiences, working in farms of Tajima cattle of the Mikata district is popular among students.

Students directly go to livestock farmers for five days from Monday to Friday and experience work such as feeding cattle, cleaning excreta, brushing, and taking the cattle out for exercise. Students who do not know that farmers keep cattle or who have only seen cattle from a distance are learning a lot by directly working with the cattle. Some students say that they want become livestock farmers as they learn that Tajima cattle are the treasure of their hometown Mikata, and through the experience of taking care of the cattle while listening to various stories from farmers (Photo 60).

This program is based on the hope that students will understand the importance of Tajima cattle of the Mikata district, empathize with livestock farmers who are proud of and dedicated to the cattle, and become livestock farmers in the future. In addition, the Tajima cattle Painting Exhibition is held every summer in elementary schools in the town, and children paint lively pictures of Tajima cattle as an annual event (Photo 61).



Photo 60 Trial Week



Photo 61 Tajima Cattle Painting Exhibition

2.5 Landscapes and Seascapes Features

The Mikata District is located in the northern part of Hyogo Prefecture, Japan. It is traditionally called Tajima area. The proposed site has the formation of deep valleys created by small volcanoes in the upstream section of rivers flowing into the sea, and terraced paddy fields are distributed on the slopes of mountains. Gentle slopes above the terraced paddy fields consist of grasslands used as the grazing grounds of Tajima cattle of the Mikata district. Further up from the grasslands are the Hyonosen and Ouginosen mountain ranges, covered with primeval beech (*Fagus crenata*) forests which supply water to the terraced paddy fields (Photo 62 ,63, Land use map of the proposed site on page 2,3, and Distribution of Tajima cattle farmers on page 4). Flat lands are only seen around the mouths of rivers such as the Kishida River and the Yada River flowing into the sea. Most communities are located in valleys among the mountains.

About 80% of the 2,247 hectares of farm area is covered by rice paddies indicating that rice is the main farm product of this area. Many rice paddies are in the form of terraced paddy fields. Most farmers engage in small-scale farming with the average of 0.4 hectares of cultivated land. Double cropping is difficult in this area due to the heavy snowfall in winter. About 20% of farm area is used to produce other crops such as adzuki bean, green pepper, green onion, daikon radish, and buck wheat.

The geographical features connecting water systems, terraced paddy fields, grasslands and mountain ranges have enabled regional agriculture such as rice farming in terraced paddy fields and cattle grazing as well as the improvement of Tajima cattle of the Mikata district suited to the local climate and nature. The day-to-night temperature difference is large at the proposed site, and night fog often occurs, resulting in the growth of soft grass in summer. Farmers therefore used ridges around terraced rice paddies and grazing areas as meadows to produce calves of Tajima cattle. Many *tsuru-ushi* were produced at individual water systems, and this system of Tajima cattle of the Mikata district was established. The phrase “Tajima cattle are produced in the mountains and raised on grasses,” reflecting such natural features and local practice, has been used in the proposed site for a long time. A characteristic feature of the proposed site is that about 2,000 breeding cows are kept to produce and calves are sold to other Japanese cattle farming areas.

The proposed site has a diversity of land uses unique to its deep valley topography, including grasslands in pastures, rice paddies and fields with ridges around them, rivers, and forest plantations. Such diversity of topography, environment, and human activities, including the seasonal changes throughout the year and the use of local grass resources by Tajima cattle, have created a complex ecosystem that can be called an environmental mosaic, and maintained the diversity of organisms that live there.



Photo 62 Terraced paddy fields, communities, grasslands, and mountain ranges in proposed site



Photo 63 Deep valley



Photo 64 Beech forest

2.5.1 The function of forest for the system

The proposed site has a forest coverage of 85%. Irrigation water for paddy rice is supplied from the Kishida River system and the Yada River system. These rivers are steep, and water is flowing from a mountainous area at 1,300 meters altitude to the sea in a distance of 25 km, 35 km respectively. There is no dam to regulate the water flow in the basin. Forest soils slow down the flow of rivers by temporarily storing rain.

In winter, the snowfall is over 2 meters deep in the mountainous areas. In March, the snow begins to thaw at the foot of the mountains, and April is the peak of snow water. The abundant water during this period is used for irrigation during rice planting. After that, the snow continues to thaw in the mountainous areas, and the water temporarily retained in the forest soil. After that the water slowly flows out into the rivers,

providing a source of water for the terraced rice paddies and Tajima cattle (Photos 65 and 66). Brooks, springs, and wells, which are the supply sources of forest, account for 66% of the water supplied to the Tajima cattle (Figure 21).

In grazing lands, forests provide shades for animals to avoid direct sunlight in summer and as shelters from a storm.



Photo 65 Snowfall in mountains



Photo 66 Using snow water as irrigation water

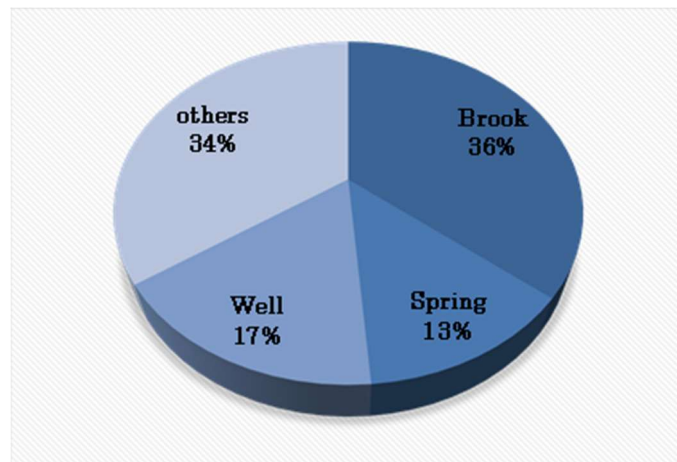


Figure 21 Water source for cattle

Source: Regional Agricultural Extension Center at Shinonsen (2020 original data)

2.5.2 Preservation of terraced paddy fields

The rice produced in terraced paddy fields was a valuable crop before 1960. The rice straw was also an important byproduct as it was used to create rice straw crafts, feed for cattle, and bedding in cattle barns. The cattle also provided essential power to plow rice paddies. When agricultural machinery including cultivators became widely available, farmers stopped using the cattle for their work. The labor required for farming was also reduced with the emergence of chemical fertilizers and agricultural chemicals. While the investment in rice farming increased, an acreage reduction policy started in the 1970s, causing the rice

price to drop and reducing the attractiveness of rice as a cash crop.

Rice farming in terraced paddy fields, which inherently had a geographical disadvantage, became regarded as outdated farming when agricultural policies such as the improvement of agricultural operational efficiency and expansion of the scale of farming business were implemented. Since the proposed site did not have significant industry besides agriculture, many residents gave up their farming businesses and moved to larger cities. This led to the problem of depopulation, and farmers became less motivated to continue rice farming.

In the proposed site, however, rice farming in terraced paddy fields still continues robustly (Photo 67). While many farmers gave up their cattle as agricultural machinery became available, many livestock farmers increased the number of their cattle during this period as the calf price increased after 1975. This caused a serious problem in securing rice straw and grasses for feed for the cattle.

Livestock farmers continued labor-intensive rice farming in their paddy fields and dried rice straw to use them as feed. They also engaged in the following actions to make up for the shortage of rice straw:

- 1) Use rice straw only as feed, not as bedding;
- 2) Receive rice straw from farmers without cattle and give manure compost for their rice paddies in exchange
- 3) Purchase rice straw from farmers without cattle;
- 4) Lease rice paddies from elderly farmers to create rice and rice straw;
- 5) Mow grass on ridges around rice paddies of farmers without cattle;
- 6) Turn rice paddies into meadows; and
- 7) Lease rice paddies from elderly farmers to secure grass on ridges along their rice paddies.

The breeding of Tajima cattle of the Mikata and rice terrace farming have thereby established a mutually supportive relationship, which resulted in terraced paddy fields still kept in great condition today.



Photo 67 Rice terraces (summer)

2.5.2.1 Rack drying of rice straw, which still continues today

Before the combine harvester became widely available, all farmers had dried bundles of rice straw on racks and used the dried rice straw as the feed and bedding of Tajima cattle. Farmers with one to two heads of cattle were able to obtain enough supply of feed for their cattle through the use of grasses from ridges and rice straws from their paddy fields. The use of the combine harvester then increased. Yet, breeding farmers who are committed to using locally produced rice straw and rice farmers who are committed to sun-drying the rice straw continue to practice rack drying (Photos 68, 69 and 70).



Photo 68 Rack drying of rice straw



Photo 69 Rack drying of rice straw and calves of Tajima cattle



Photo 70 Rice terraces after harvest and Rack drying of rice straw

2.5.2.2 Ridges along rice paddies are mosaic-like meadows

Grasses growing on ridges along rice paddies are valuable source of feed for the cattle, and ridges are thus still used as meadows (Photo 71).



Photo 71 Carrying the grass cut on the ridge

The ridges are located among rice paddies like mosaic art. Grasses are mowed three to four times a year, and a beautiful landscape with the contrast of the golden yellow color of rice plants and green ridges appears in autumn. People in this region still cherish the practice of maintaining ridges in good conditions even though the number of cattle-raising farmers has decreased (Photo 72).



Photo 72 Mosaic-like rice paddies and ridges

2.5.3 Upkeep of grasslands through grazing

“Keep the cattle in the village in winter and release them to the mountains in summer.”

The cattle breeding style of letting the cattle graze on grasses in pastures has been continued in this region while evolving into various grazing styles and adopting new pasture systems and grazing techniques.

Tajima cattle of the Mikata district have been used to maintain excellent landscapes while adopting various grazing styles, including grazing on grounds where the Japanese pampas grass (*Miscanthus sinensis*) continuously grows (Photo 73 and 74); grounds restored from abandoned grounds by installing fences, evacuation shelters, and drinking facilities; ski slopes; fallows through the rental-cow system; and old mulberry fields turned into grazing grounds by introducing lawn grasses (Grazing area map on page 66).



Photo 73 Grassland maintained by grazing



Photo 74 Grass taller than cattle

2.5.3.1 Tajima Pasture Park (Grazing area map 1)

From the top of the ski slope in the garden, the former Teragi village can be seen beneath the landscape with grazing ground. The landscape of the park is being maintained through grazing by the Tajima cattle of nearby farmers to control grasses on the ski slope (Photo 75).



Photo 75 The village's pasture has been turned into a ski resort, but is used for grazing during the summer.
(Tando, Town of Shinonsen)

2.5.3.2 Ueyama highland (Grazing area map 2)

A landscape of field burning in spring and swishing Japanese pampas grass (*Miscanthus sinensis*) in autumn can be enjoyed thanks to the cooperative efforts of livestock farmers in Umigami community located at the foot of the highland, and NPOs. Comprehensive conservation of grasslands, forests and human communities is being conducted (Photo 76).



Photo 76 Grazing ground with Ocean View
(Ueyama highland)

2.5.3.3 Kakayama grazing ground (Grazing area map 3)

About 30 hectares of Japanese pampas grass (*Miscanthus sinensis*) field spreads among Japanese emperor oak (*Quercus dentata*) forests. Although there is no farmer keeping Tajima cattle within this region, the local people are leasing cattle from other regions to continue using the field as a grazing ground (Photo 77 and 78).



Photo 77 Grazing ground in autumn (Kakayama)



Photo 78 Grazing ground adjacent to paddy fields (Kakayama)

2.5.3.4 Grazing in ski slopes

Maintaining short grass through grazing is the summer grass management method used on ski slopes.

- Mikata Snow Park (Grazing area map 4), Sky Valley Ski Slope (Grazing area map 5)

2.5.3.5 Midori, Muraoka-ward, Kami Town, a former mulberry field used as a grazing ground (Grazing area map 6)

Abandoned mulberry fields have been continuously used for more than 20 years by introducing lawn grass and using them as grazing grounds with short grass (Photo 79).



Photo 79 Lawn-type grazing ground at the site of a former mulberry orchard (Midori, Muraoka-ward, Town of Kami)

2.5.3.6 Grazing with the rental cow system

This is a grazing system where cultivation farmers lease cattle for grass control in fallows. The basic system is that livestock farmers lend out their cattle, and cultivation farmers take care of them during grazing period (Photo 80).

- Tando Tsurudani Grazing Union (Grazing area map 7), • Miharano grazing area (Grazing area map 8)
- Nioyama Grazing Union (Grazing area map 9), • Haruki Grazing Union (Grazing area map 10),
- Kutoyama Grazing Union (Grazing area map 11), • Moroyose Grazing Union (Grazing area map 12),
- Kumanami Grazing Union (Grazing area map 13, Photo 81)



Photo 80 Heading to feeding areas



Photo 81 Tajima cattle of the Mikata district and lotus flowers



Photo 82 Grazing ground adjacent to paddy fields

2.5.4 Japanese azalea on Uwano

Grazing cattle do not eat the Japanese azalea (*Rhododendron molle subsp. japonicum*), a poisonous plant; thus, grazing grounds in the proposed site area often have colonies of the Japanese azalea (Photo 83).

People gather to view the Japanese azalea colonies in grazing areas on the Uwano Highland. About 2,000 local residents gathered to enjoy viewing the flowers as a local custom (Photo 84). When people in Uwano say “*hanami* (literal translation: flower viewing),” they mean viewing the Japanese azalea flowers. Also, young men and women used to dress up and gathered around the Japanese azalea colonies to meet each other. The azalea colonies which were once a grazing ground and festival site have been developed into a park. The landscape of the Japanese azalea created by Tajima cattle of the Mikata district is still preserved, and an azalea festival is held every year (Photo 85).



Photo 83 Japanese azalea



Photo 84 Azalea festival at a grazing ground (1935)



Photo 85 Azalea festival of today (2017)

2.5.5 Japanese pampas grass on Ueyama Highland

At Ueyama Highland, field burning and shrub cutting are conducted every year in late April to maintain the Japanese pampas grassland and prepare for grazing. Cattle grazing is used to maintain and restore the Japanese pampas grassland.

Japanese pampas grass used to be used to build thatched roofs in addition to cattle feed. The Japanese pampas grass on Ueyama Highland is again being used today to maintain and repair thatched roofs of historical buildings. Flower spikes of Japanese pampas grass in autumn make a beautiful landscape which attracts tourists (Photo 86 and 87).

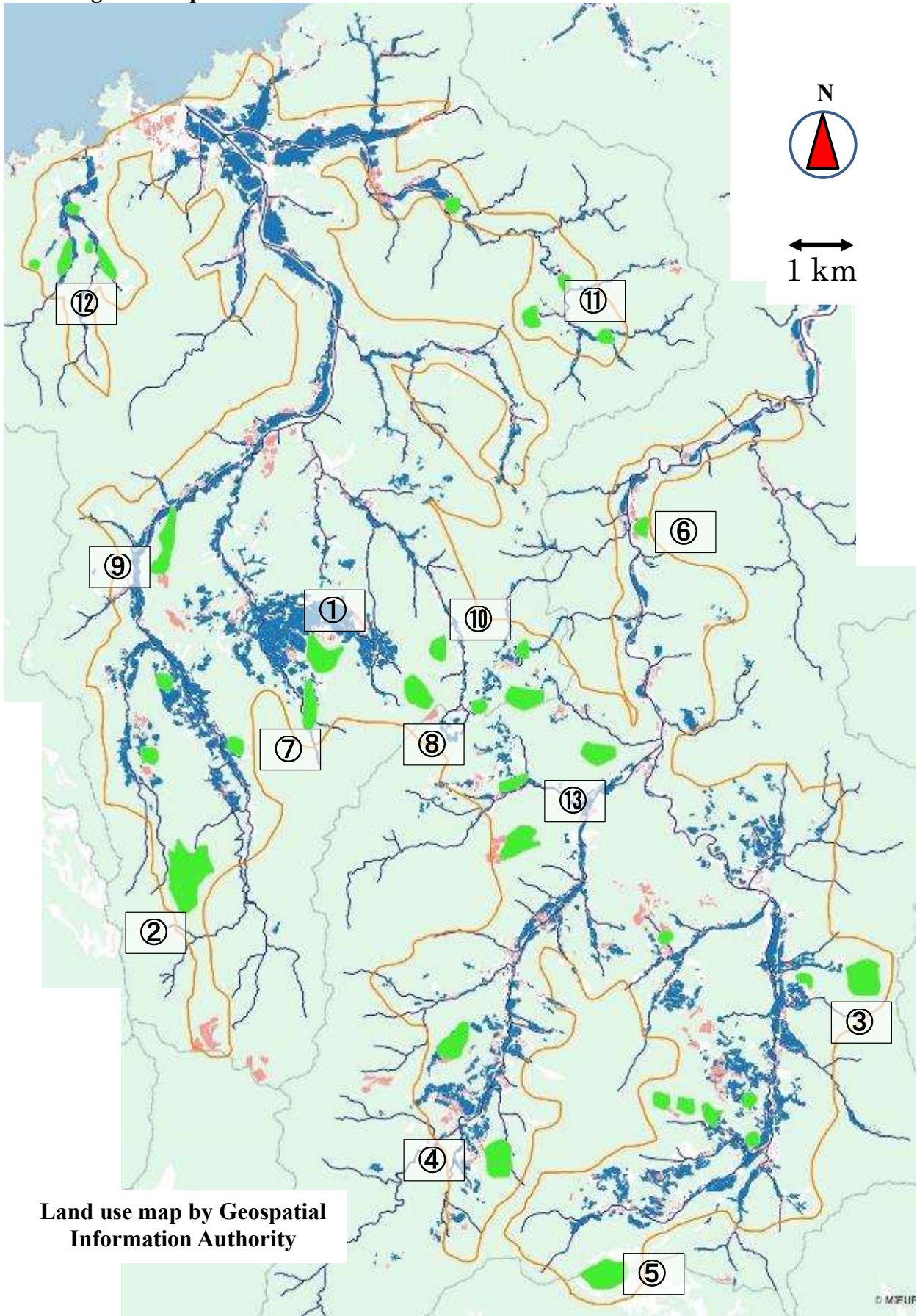


Photo 86 Japanese pampas grass on Ueyama Highland



Photo 87 Misty Ueyama Highland

Grazing area map



**Land use map by Geospatial
Information Authority**

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- 2) Stork Citizens Research Center by Shin Takahashi (Photo 36)
- 3) Shinonsen town by Yoshiharu Sakamoto (Photo 1)
- 4) Shinonsen town by Misao Yamamoto (photos of the proposed site 1 and 4, Photo 2, right photo of Photo 68, and Photo 72)
- 5) Museum of Nature and Human Activities (Photo 35)
- 6) Uwano Highland Outdoor Education Center (Photos 83-85)
- 7) CAMELCo.Ltd. (photos of the proposed site Photo 2, 4, 63, 67, 70, 71, 73, 74, 82, and Photo 87)
- 8) Hiroaki Ishida (upper right of Photos 3, 29, and Photo 30)

Biodiversity List

Biodiversity List (Plants)

No.	Japanese name	Scientific name	Reference	MOE Red List 2017	Hyogo Prefectural Red List
1	Aibaso	<i>Scirpus wichurae</i> Boeck. f. <i>wichurae</i>	5		
2	Aoisumire	<i>Viola hondoensis</i> W.Becker et H.Boissieu	6		
3	Aokaramushi	<i>Boehmeria nivea</i> (L.) Gaudich. var. <i>concolor</i> Makino	2		
4	Aoki	<i>Aucuba japonica</i> Thunb. var. <i>japonica</i>	5,7		
5	Aosuge	<i>Carex leucochlora</i> Bunge	2		
6	Aodamo	<i>Fraxinus lanuginosa</i> Koizd. f. <i>serrata</i> (Nakai) Murata	5,6		
7	Aotsuzurafuji	<i>Cocculus trilobus</i> (Thunb.) DC.	1,2,7		
8	Aohada	<i>Ilex macropoda</i> Miq.	5,7		
9	Aohozuki	<i>Physaliastrum japonicum</i> (Franch. et Sav.) Honda	20	VU	A
10	Aomizu	<i>Pilea pumila</i> (L.) A.Gray	1		
11	Akaitaya	<i>Acer pictum</i> Thunb. subsp. <i>mayrii</i> (Schwer.) H. Ohashi	5		
12	Akashide	<i>Carpinus laxiflora</i> (Siebold et Zucc.) Blume	5,7		
13	Akashoma	<i>Astilbe thunbergii</i> (Siebold et Zucc.) Miq. var. <i>thunbergii</i>	6,7		
14	Akaso	<i>Boehmeria silvestrii</i> (Pamp.) W.T.Wang	1,2,3,5,7		
15	Akane	<i>Rubia argyi</i> (H.Lév. et Vaniot) H.Hara ex Lauener et D.K.Ferguson	3,5		
16	Akanesumire	<i>Viola phalacrocarpa</i> Maxim.	16		
17	Akabana	<i>Epilobium pyrricholophum</i> Franch. et Sav.	5		
18	Akahanawarabi	<i>Botrychium nipponicum</i> Makino	20	—	B
19	Akamono	<i>Gaultheria adenothrix</i> (Miq.) Maxim.	20	—	A
20	Akikaramatsu	<i>Thalictrum minus</i> L. var. <i>hypoleucum</i> (Siebold et Zucc.) Miq.	1,2,5		
21	Akigumi	<i>Elaeagnus umbellata</i> Thunb. var. <i>umbellata</i>	2		
22	Akazakiyatsushironan	<i>Gastrodia confusa</i> Honda et Tuyama	20	—	A
23	Agisumire	<i>Viola verecunda</i> A.Gray var. <i>semilunaris</i> Maxim.	7		
24	Aginashi	<i>Sagittaria aginashi</i> Makino	20	NT	A
25	Akinounagitsukami	<i>Persicaria sieboldii</i>	3		
26	Akinoenokorogusa	<i>Setaria faberi</i> R.A.W.Herm.	1,2		
27	Akinokirinso	<i>Solidago virgaurea</i> L. subsp. <i>asiatica</i> (Nakai ex H.Hara) Kitam. ex H.Hara	1,2,6,7		
28	Akinonogeshi	<i>Lactuca indica</i> L.	2,6		
29	Akimehishiba	<i>Digitaria violascens</i> Link	1		
30	Akushiba	<i>Vaccinium japonicum</i> Miq.	5,7		
31	Akebi	<i>Akebia quinata</i> (Houtt.) Decne.	1,2,3,5		
32	Akebonosumire	<i>Viola rossii</i> Hemsl.	16,20		B
33	Akebonotake	<i>Hygrocybe calyptiformis</i> (Berk. & Br.) Fayod.	9		Attention required
34	Asada	<i>Ostrya japonica</i> Sarg.	9,20		C
35	Asatsuki	<i>Allium schoenoprasum</i> L. var. <i>foliosum</i> Regel	5,16		
36	Ashikaki	<i>Leersia japonica</i> (Honda) Makino ex Honda	2		
37	Ashiboso	<i>Microstegium vimineum</i> (Trin.) A.Camus	2,3		
38	Azukinashi	<i>Aria alnifolia</i> (Siebold et Zucc.) Decne.	5		
39	Azumaichige	<i>Anemone raddeana</i> Regel	9,20		B
40	Azeotogiri	<i>Hypericum oliganthum</i> Franch. et Sav.	1		
41	Azesuge	<i>Carex thunbergii</i> Steud.	1		
42	Azetentsuki	<i>Fimbristylis squarrosa</i> Vahl	20	—	A
43	Azena	<i>Lindernia procumbens</i> (Krock.) Borbás	1		
44	Asebi	<i>Pieris japonica</i> (Thunb.) D.Don ex G.Don subsp. <i>japonica</i>	5,6		
45	Atsumikanaoi	<i>Asarum rigescens</i> F.Maek. var. <i>rigescens</i>	5,6		
46	Abunome	<i>Dopatrium junceum</i> (Roxb.) buch.-Ham.	9,20		C
47	Aburasusuki	<i>Eccoilopus cotulifer</i> (Thunb.) A.Camus	2,3		
48	Arakashi	<i>Quercus glauca</i> Thunb.	5		
49	Aragenatsuhaze	<i>Vaccinium ciliatum</i> Thunb.	20	—	A
50	Arintogusa	<i>Haloragis micrantha</i> (Thunb.) R.Br.	1,6		
51	Awabuki	<i>Meliosma myriantha</i> Siebold et Zucc.	5,7		
52	Iinumamukago	<i>Platanthera iinumae</i> (Makino) Makino	20	EN	A
53	Igusa	<i>Juncus decipiens</i> (Buchenau) Nakai	7		
54	Izumoazami (Togenashiazami)	<i>Cirsium indefensum</i> Kitam.	20	—	A
55	Isosumire	<i>Viola grayi</i> Franch. et Sav.	20	VU	A
56	Isonoki	<i>Frangula crenata</i> (Siebold et Zucc.) Miq.	5		
57	Isoyamatentsuki	<i>Fimbristylis sieboldii</i> Miq. ex Franch. et Sav. var. <i>sieboldii</i>	20	—	C
58	Itadori	<i>Fallopia japonica</i> (Houtt.) Ronse Decr. var. <i>japonica</i>	1,2,3,5,7		
59	Itayakaede	<i>Acer pictum</i> Thunb.	7		
60	Itayameigetsu (Kohauchiwakaede)	<i>Acer sieboldianum</i> Miq.	5		
61	Ichiyakuso	<i>Pyrola japonica</i> Klentze ex Alefeld	6,7		
62	Ichiyoran	<i>Dactyloctenium aegyptium</i> L. fil.	9,20		A
63	Ichirinso	<i>Anemone nikoensis</i> Maxim.	5		
64	Ipponwarabi	<i>Athyrium crenuloserrulatum</i> Makino	20	—	A
65	Itorigemo	<i>Najas japonica</i> Nakai	9,20	NT	C
66	Itohanabitsuki	<i>Bulbostylis densa</i> (Wall.) Hand.-Mazz.	7		
67	Itomo	<i>Potamogeton berchtoldii</i> Fieber	20	NT	B

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68	Inuenjo (Hanemiinuenjo)	<i>Maackia amurensis</i> Rupr. et Maxim.	7		
69	Inukamegoke	<i>Amphidium mougeotii</i> (Bruch & Schimp.) Schimp.	9		B
70	Inugansoku	<i>Pentarhizidium orientale</i> (Hook.) Hayata	5,7		
71	Inushida	<i>Dennstaedtia hirsuta</i> (Sw.) Mett.	5		
72	Inushide	<i>Carpinus tschonoskii</i> Maxim.	1,2		
73	Inutade	<i>Persicaria longiseta</i> (Brujin) Kitag.	1,2,3,5,7		
74	Inutsuge	<i>Ilex crenata</i> Thunb. var. <i>crenata</i>	2,5,7		
75	Inutobana	<i>Clinopodium micranthum</i> (Regel) H.Hara var. <i>micranthum</i>	1,2,5,7		
76	Inuhagi	<i>Lespedeza tomentosa</i> (Thunb.) Siebold ex Maxim.	20	VU	C
77	Inubie	<i>Echinochloa crus-galli</i> (L.) P.Beauv. var. <i>crus-galli</i>	3		
78	Inuwarabi	<i>Anisocampium niponicum</i> (Mett.) Y.C.Liu, W.L.Chiou et M.Kato	1,2,3,7		
79	Inokozuchi (Hikageinokozuchi)	<i>Achyranthes bidentata</i> Blume var. <i>japonica</i> Miq.	1,2,5,7		
80	Inode	<i>Polystichum polyblepharon</i> (Roem. ex Kunze) C.Presl	5,7		
81	Ibaragoke	<i>Calyptrochaeta japonica</i> (Card. & Ther.) Iwats. & Nog.	9		C
82	Ibukitorikabuto	<i>Aconitum japonicum</i> Thunb. subsp. <i>ibukiense</i> (Nakai) Kadota	20	—	B
83	Iboekushinohagoke	<i>Ctenidium pulchellum</i> Card.	9		A
84	Ibokusa	<i>Murdannia keisak</i> (Hassk.) Hand.-Mazz.	1,2,4		
85	Ibota	<i>Ligustrum obtusifolium</i> Siebold et Zucc.	5		
86	Irakusa	<i>Urtica thunbergiana</i> Siebold et Zucc.	5,16		
87	Iwaakabana	<i>Epilobium cephalostigma</i> Hausskn.	9,20		A
88	Iwaomodaka	<i>Pyrrosia hastata</i> (Thunb.) Ching	9,20		A
89	Iwakagami	<i>Schizocodon soldanelloides</i> Siebold et Zucc. var. <i>soldanelloides</i>	7		
90	Iwagasa (Mitsubaiwagasa)	<i>Spiraea blumei</i> G.Don	9,20		C
91	Iwagarami	<i>Schizophragma hydrangeoides</i> Siebold et Zucc.	1,2,6,7		
92	Iwagiriso	<i>Opathandra primuloides</i> (Miq.) B.L.Burt	20	VU	A
93	Iwakimbai	<i>Potentilla dickinsii</i> Franch. et Savat.	9,20		B
94	Iwashobu	<i>Triantha japonica</i> (Miq.) Baker	20	—	A
95	Iwatabako	<i>Conandron ramondioides</i> Siebold et Zucc.	5,7		
96	Iwadaregoke	<i>Hylocomium splendens</i> (Hedw.) Schimp.	9		C
97	Iwadenda	<i>Woodsia polystichoides</i> Eaton	7		
98	Iwanashi	<i>Epigaea asiatica</i> Maxim.	5,6,7		
99	Iwanigana	<i>Ixeris stolonifera</i> A.Gray	5		
100	Iwayashida	<i>Diplazium cavalerianum</i> (Christ) M.Kato	9,20		B
101	Ushikugu	<i>Cyperus orthostachyus</i> Franch. et Sav.	1,3		
102	Ushihakobe	<i>Stellaria aquatica</i> (L.) Scop.	5		
103	Usugeonishimotsuke	<i>Filipendula camtschatica</i> (Pall.) Maxim. forma <i>pilosa</i> Koidz.	9		C
104	Usunoki	<i>Vaccinium hirtum</i> Thunb. var. <i>pubescens</i> (Koidz.) T.Yamaz.	5		
105	Usubasaishin	<i>Asiasarum sieboldii</i> (Miq.) F.Maek.	5,6,9,20		A
106	Usubamiyamanokogirishida	<i>Diplazium deciduum</i> N.Ohta et M.Takamiya	9		B
107	Usuyukiso	<i>Leontopodium japonicum</i> Miq. var. <i>japonicum</i>	20	—	A
108	Uchoran	<i>Ponerorchis graminifolia</i> Rchb.f.	20	VU	A
109	Uchiwadokoro	<i>Dioscorea nipponica</i> Makino	20	—	A
110	Utsugi	<i>Deutzia crenata</i> Siebold et Zucc.	2,3,5,7		
111	Utsubogusa	<i>Prunella vulgaris</i> L. subsp. <i>asiatica</i> (Nakai) H.Hara	1,2,3		
112	Udo	<i>Aralia cordata</i> Thunb.	3,5,6,7		
113	Ubayuri	<i>Cardiocrinum cordatum</i> (Thunb.) Makino	5		
114	Umanoashigata	<i>Ranunculus japonicus</i> Thunb.	5		
115	Umanomitsuba	<i>Sanicula chinensis</i> Bunge	5		
116	Umegasaso	<i>Chimaphila japonica</i> Miq.	20	—	B
117	Umebachiso	<i>Parnassia palustris</i> L. var. <i>palustris</i>	6		
118	Urajirogashi	<i>Quercus salicina</i> Blume	5,7		
119	Uraironoki	<i>Aria japonica</i> Decne.	5		
120	Urikaede	<i>Acer crataegifolium</i> Siebold et Zucc.	5		
121	Urinoki	<i>Alangium platanifolium</i> (Siebold et Zucc.) Harms var. <i>trilobatum</i> (Miq.) Ohwi	5		
122	Urihadakaede	<i>Acer rufinerve</i> Siebold et Zucc.	5,7		
123	Uwabamiso	<i>Elatostema involucratum</i> Franch. et Sav.	3,5,6,7		
124	Uwamizukura	<i>Padus grayana</i> (Maxim.) C.K.Schneid.	5,6,7,16		
125	Unran	<i>Linaria japonica</i> Miq.	20	—	A
126	Egonoki	<i>Styrax japonica</i> Siebold et Zucc.	5,6		
127	Egoma	<i>Perilla frutescens</i> (L.) Britton var. <i>frutescens</i>	7		
128	Ezoshirone	<i>Lycopus uniflorus</i> Michx.	9,20		B
129	Ezotsuribana	<i>Euonymus oxyphyllus</i> Miq. var. <i>magnus</i> Honda	5,6,7		
130	Ezonogishigishi	<i>Rumex obtusifolius</i> L.	5		
131	Ezonohimekuramagoke	<i>Selaginella helvetica</i> (L.) Spring	20	—	A
132	Ezonoyotsubamugura	<i>Galium kamtschaticum</i> Steller	9		C
133	Ezomiso-hagi	<i>Lythrum salicaria</i> L.	20	—	A
134	Ezoyanonegoke	<i>Bryhnia tokubuchii</i> (Broth.) Par.	9		C
135	Ezorindou	<i>Gentiana triflora</i> Pall. var. <i>japonica</i> (Kunsn.) H.Hara	20	—	A
136	Enokigusa	<i>Acalypha australis</i> L.	1,2		
137	Enokorogusa	<i>Setaria viridis</i> (L.) P.Beauv.	3,4		

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138	Ebigaraichigo	<i>Rubus phoenicolasius Maxim.</i>	16		
139	Ebine	<i>Calanthe discolor Lindl.</i>	9,20	NT	C
140	Ebrashida	<i>Gymnocarpium oyamense (Baker) Ching</i>	20	—	A
141	Enkoso	<i>Caltha palustris L. var. enkoso Hara</i>	9,20		B
142	Enreiso	<i>Trillium apetalon Makino</i>	6		
143	Oren	<i>Coptis japonica (Thunb.) Makino</i>	5		
144	Orenshida	<i>Dennstaedtia wilfordii (T.Moore) Christ ex C.Chr.</i>	3		
145	Oakaukikusa	<i>Azolla japonica (Franch. et Sav.) Franch. et Sav. ex Nakai</i>	20	EN	A
146	Oabunome	<i>Gratiola japonica Miq.</i>	20	VU	A
147	Oaburasusuki	<i>Spodiopogon sibiricus Trin.</i>	6		
148	Oarechinogiku	<i>Erigeron sumatrensis Retz.</i>	1,2,3		
149	Oitayameigetsu	<i>Acer shirasawanum Koidz.</i>	7,20		C
150	Oinunofuguri	<i>Veronica persica Poir.</i>	5,16		
151	Oiwakagami	<i>Schizocodon soldanelloides Siebold et Zucc. var. magnus (Makino) H.Hara</i>	5,6,7		
152	Okanikomori	<i>Parasenecio nikomontanus (Matsum.) H.Koyama</i>	7		
153	Okamenoki	<i>Viburnum furcatum Blume ex Maxim.</i>	5,6,7		
154	Okinutaso	<i>Rubia chinensis Regel et Maack var. glabrescens (Nakai) Kitagawa</i>	9,20		A
155	Oketanetsukebana	<i>Cardamine dentipetala Matsum.</i>	5,9,20		C
156	Okokeshinobu	<i>Hymenophyllum badii Hook. et Grev.</i>	20	—	A
157	Osawagoke	<i>Philonotis turneriana (Schwaegr.) Mitt.</i>	9		B
158	Ojishibari	<i>Ixeris japonica (Burm.f.) Nakai</i>	2		
159	Oshirahigeso	<i>Pamassia foliosa Hook.f. et Thoms. var. japonica (Nakai) Ohwi</i>	9,20		B
160	Odaitouhiren	<i>Saussurea nipponica Miq.</i>	20	—	A
161	Otachitsubosumire	<i>Viola kusanoana Makino</i>	5,16		
162	Otamatsurisuge	<i>Carex rouyana Franch.</i>	20	—	B
163	Ochidome	<i>Hydrocotyle ramiflora Maxim.</i>	1,2		
164	Onakirisuge	<i>Carex autumnalis Ohwi</i>	9,20		C
165	Onarukoyuri	<i>Polygonatum macranthum (Maxim.) Koidz.</i>	5,6		
166	Onumahari (Numahari)	<i>Eleocharis mamillata H.Lindb.</i>	9		C
167	Obagiboshi	<i>Hosta sieboldiana</i>	5,6,7,1		
168	Obako	<i>Plantago asiatica L.</i>	4,5,7,2,1		
169	Obajuzunenoki	<i>Damnacanthus macrophyllus Siebold ex Miq.</i>	20	—	C
170	Obashorima	<i>Thelypteris quelpaertensis (Christ) Ching</i>	5,9,20		B
171	Obatanetsukebana	<i>Cardamine regeliana Miq.</i>	5		
172	Ohanaudo	<i>Heracleum dulce Fisch.</i>	9,20		B
173	Obanoyaemugura	<i>Galium pseudoasprellum Makino</i>	5		
174	ObamizohOzuki	<i>Mimulus sessilifolius Maxim.</i>	20	—	A
175	Ohinanosutsubo	<i>Scrophularia kakudensis Franch.</i>	9,20		B
176	Omarubanohoroshi	<i>Solanum megacarpum Koidz.</i>	20	—	A
177	Omomiji	<i>Acer amoenum Carrière</i>	5,7		
178	Omomijigasa	<i>Miricacalia makineana (Yatabe) Kitamura</i>	9,20		B
179	Oyamasagiso	<i>Platanthera sachalinensis F.Schmidt</i>	20	—	A
180	Oyamahakobe	<i>Stellaria monosperma Buch.-Ham. ex D.Don var. japonica Maxim.</i>	7		
181	Okaguruma	<i>Tephrosia integrifolia (L.) Holub subsp. kirilowii (Turcz. ex DC.) B.Nord.</i>	6		
182	Okatoranoo	<i>Lysimachia clethroides Duby</i>	8,20		
183	Okinagusa	<i>Pulsatilla cernua (Thunb.) Berchtold et J.Presl</i>	20	VU	A
184	Okukurumamugura	<i>Galium trifloriforme Kom.</i>	5,7		
185	Okera	<i>Atractylodes japonica Koidz.</i>	9,20		C
186	Osashida	<i>Blechnum amabile Makino</i>	5		
187	Oshida	<i>Dryopteris crassirhizoma Nakai</i>	5		
188	Otogiriso	<i>Hypericum erectum Thunb.</i>	2,6,7		
189	Otokoeshi	<i>Patrinia villosa (Thunb.) Juss.</i>	2,6		
190	Otokoyomogi	<i>Artemisia japonica Thunb.</i>	2		
191	Onamomi	<i>Xanthium strumarium L. subsp. sibiricum (Patrin ex Widder) Greuter</i>	20	VU	EX
192	Onikanawarabi	<i>Arachniodes chinensis (Rosenst.) Ching</i>	7		
193	Onigurumi	<i>Juglans mandshurica Maxim. var. sachalinensis (Komatsu) Kitam.</i>	5,6		
194	Onishiba	<i>Zoysia macrostachya Franch. et Savat.</i>	9,20		C
195	Onishimotsuke (Usugeonishimotsuke)	<i>Filipendula camtschatica (Pall.) Maxim.</i>	20	—	B
196	Onitabirako	<i>Youngia japonica (L.) DC.</i>	1,2,7		
197	Onidokoro	<i>Dioscorea tokoro Makino</i>	2,3,5		
198	Oninogariyasu	<i>Calamagrostis gigas Takeda</i>	9,20		Survey required
199	Oninoyagara	<i>Gastrodia elata Blume</i>	9,20		C
200	Oniyabusotetsu (Yabusotetsu)	<i>Cyrtomium falcatum (L.f.) C.Presl</i>	5		
201	Ohebiichigo	<i>Potentilla anemonifolia Lehm.</i>	1,2,4,5		
202	Ominaeshi	<i>Patrinia scabiosifolia Fisch. ex Trevir.</i>	6		
203	Orandamiminagusa	<i>Cerastium glomeratum Thuill.</i>	2,5		
204	Kaededokoro	<i>Dioscorea quinquelobata Thunb.</i>	1,2,3		
205	Kaganoazami	<i>Cirsium kagamontanum Nakai</i>	7,20		Survey required
206	Kakitsubata	<i>Iris laevigata Fisch.</i>	9,20	NT	B
207	Kakidoshi	<i>Glechoma hederacea L. subsp. grandis (A.Gray) H.Hara</i>	2,5,7		

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208	Kakinoki	<i>Diospyros kaki</i> Thunb.	2		
209	Kakiran	<i>Epipactis thunbergii</i> A. Gray	6,7,9,20		C
210	Kasasuge	<i>Carex dispalata</i> Boott	5		
211	Kajikaede	<i>Acer diabolicum</i> Blume ex Koch	9,20		C
212	Kasumizakura	<i>Cerasus leveilleana</i> (Koehne) H. Ohba	16		
213	Kazekusa	<i>Eragrostis ferruginea</i> (Thunb.) P.Beauv.	3,7		
214	Kasenso	<i>Inula salicina</i> var. <i>asiatica</i> Kitamura	9,20		B
215	Katabami	<i>Oxalis corniculata</i> L.	1,2,3,4,5,7		
216	Kanabikiso	<i>Thesium chinense</i> Turcz.	1,6,7		
217	Kanamugura	<i>Humulus scandens</i> (Lour.) Merr.	1,3		
218	Kanikusa	<i>Lygodium japonicum</i> (Thunb.) Sw.	2		
219	Kamogaya	<i>Dactylis glomerata</i> L.	5		
220	Kayatsurigusa	<i>Cyperus microiria</i> Steud.	1,3,4		
221	Karasuzansho	<i>Zanthoxylum ailanthoides</i> Siebold et Zucc.	5		
222	Karasushikimi	<i>Daphne miyabeana</i> Makino	9,20		B
223	Karasunoendo	<i>Vicia sativa</i>	5		
224	Karasubishaku	<i>Pinellia ternata</i> (Thunb.) Breitenb.	2		
225	Karamushi (Kusamao)	<i>Boehmeria nivea</i> (L.) Gaudich. var. <i>concolor</i> Makino f. <i>nipponivea</i> (Koidz.) Kitam. ex H. Ohba	1,2,3,7		
226	Kawatsurumo	<i>Ruppia maritima</i> L.	20	NT	A
227	Kawarasugana	<i>Cyperus sanguinolentus</i> Vahl	6		
228	Kawarasuge	<i>Carex incisa</i> Boott	5		
229	Kawarahahako	<i>Anaphalis margaritacea</i> subsp. <i>yedoensis</i> (Franch. et Savat.) Kitamura	9,20		B
230	Gankubiso	<i>Carpesium divaricatum</i> Siebold et Zucc. var. <i>divaricatum</i>	5		
231	Kitosuge	<i>Carex alterniflora</i> Franch. var. <i>fulva</i> Ohwi	20	—	A
232	Kikuazami	<i>Saussurea ussuriensis</i> Maxim.	9,20		A
233	Kikubadokoro	<i>Dioscorea septemloba</i> Thunb.	5,7		
234	Kikubayamabokuchi	<i>Synurus palmatopinnatifidus</i> (Makino) Kitam. var. <i>palmatopinnatifidus</i>	5,6,7		
235	Kikumugura	<i>Galium kikumugura</i> Ohwi	5		
236	Kijimushiro	<i>Potentilla fragarioides</i> L. var. <i>major</i> Maxim.	6		
237	Kishobu	<i>Iris pseudacorus</i> L.	16		
238	Kisewata	<i>Leonurus macranthus</i> Maxim.	9,20	VU	A
239	Kisochidori	<i>Platanthera ophrydioides</i> F.Schmidt var. <i>monophylla</i> Honda	7,9		B
240	Kidachinonezumigaya	<i>Muhlenbergia ramosa</i> (Hack.) Makino	5		
241	Kikkohaguma	<i>Ainsliaea apiculata</i> Sch.Bip.	7		
242	Kitsunenobotan	<i>Ranunculus silerifolius</i> H.Lév. var. <i>glaber</i> (H.Boissieu) Tamura	3		
243	Kitsunenomago	<i>Justicia hayatae</i> Yamam.	2,6		
244	Kinutaso	<i>Galium kinuta</i> Nakai et H.Hara	20	—	B
245	Kihada	<i>Phellodendron amurense</i> Rupr.	7		
246	Kibanaakigiri	<i>Salvia nipponica</i> Miq.	7		
247	Kibanakawaramatsuba	<i>Galium verum</i> L. subsp. <i>asiaticum</i> (Nakai) T.Yamaz.	2		
248	Kibanasabanoo	<i>Dichocarpum pterigionocaudatum</i> (Koidz.) Tamura et Lauener	20	VU	A
249	Kibanoamana	<i>Ganea lutea</i> (L.) Ker-Gawl.	9,20		B
250	Kibishirotanpopo	<i>Taraxacum hideoi</i> Nakai ex H.Koidz.	9,20		C
251	Kibushi	<i>Stachyurus praecox</i> Siebold et Zucc.	5,7		
252	Kyaraboku	<i>Taxus cuspidata</i> Sieb. et Zucc. var. <i>nana</i> Hort. ex Rheder	20		B
253	Kyushukogomegusa	<i>Euphrasia insignis</i> Wettst. subsp. <i>iinumae</i> (Takeda) Yamazaki var. <i>kiusiana</i> (Y.Kimura) Yamazaki	9,20		A
254	Kiyozumiokujaku	<i>Dryopteris namegatae</i> (Sa.Kurata) Sa.Kurata	20	—	Survey required
255	Kiranso	<i>Ajuga decumbens</i> Thunb.	5		
256	Kirinso	<i>Sedum aizoon</i> L. var. <i>floribundum</i> Nakai	9,20		B
257	Kinenokoro	<i>Setaria pumila</i> (Poir.) Roem. et Schult.	4		
258	Kinkimamezakura	<i>Cerasus incisa</i> (Thunb.) Loisel. var. <i>kinkiensis</i> (Koidz.) H. Ohba	5,6,16		
259	Kinchayamaiguchi	<i>Leccinum versipelle</i> (Fr. & H?k) Snell	9		Survey required
260	Kinbaiso	<i>Trollius hondoensis</i> Nakai	7		
261	Kinmizuhiki	<i>Agrimonia pilosa</i> Ledeb. var. <i>japonica</i> (Miq.) Nakai	3,7		
262	Kinran	<i>Cephalanthera falcata</i> (Thunb.) Blume	5,9,20	VU	C
263	Ginyoso	<i>Monotropastrum humile</i> (D.Don) H.Hara	6		
264	Ginyosomodoki	<i>Monotropa uniflora</i> L.	6		
265	Kinreika	<i>Patrinia palmata</i> Maxim.	20	—	A
266	Kusaajisai	<i>Cardiandra alternifolia</i> Siebold et Zucc.	6,7		
267	Kusaichigo	<i>Rubus hirsutus</i> Thunb.	5,6,16		
268	Kusagi	<i>Clerodendrum trichotomum</i> Thunb.	5		
269	Kusasotetsu	<i>Matteuccia struthiopteris</i> (L.) Tod.	5,16		
270	Kusaredama	<i>Lysimachia vulgaris</i> L. var. <i>davurica</i> (Ledeb.) R.Kunth	9,20		B
271	Kushibatantopopo	<i>Taraxacum pecutinatum</i> Kitamura	9,20		C
272	Kujakushida	<i>Adiantum pedatum</i> L.	5,7		
273	Kuzu	<i>Pueraria lobata</i> (Willd.) Ohwi	2,3,7		
274	Kumaichigo	<i>Rubus crataegifolius</i> Bunge	5,6,7,16		
275	Kumashide	<i>Carpinus japonica</i> Blume	5,7		

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276	Kumanomizuki	<i>Cornus macrophylla</i> Wall.	5,6		
277	Kumawarabi	<i>Dryopteris lacera</i> (Thunb.) Kuntze	5		
278	Kumonosushida	<i>Asplenium ruprechtii</i> Kurata	9,20		B
279	Kuragarishita	<i>Lepisorus miyoshianus</i> (Makino) Fraser-Jenk.	20	EN	A
280	Kuramagoke	<i>Selaginella remotifolia</i> Spring	2,5		
281	Kuri	<i>Castanea crenata</i> Siebold et Zucc.	5,7		
282	Kurumabana	<i>Clinopodium chinense</i> (Benth.) Kuntze subsp. <i>grandiflorum</i> (Maxim.) H.Hara	2,3,7		
283	Kurumabahaguma	<i>Pertya rigidula</i> (Miq.) Makino	20	—	EX
284	Gurensuge	<i>Carex parviflora</i> Boott	9,20		B
285	Kuroichigo	<i>Rubus mesogaeus</i> Focke var. <i>mesogaeus</i>	20	—	A
286	Kurotakikazura	<i>Hosiea japonica</i> Makino	5		
287	Kurozuru	<i>Tripterium regelii</i> Sprague et Takeda	9,20		B
288	Kurobanahikiokoshi	<i>Isodon trichocarpus</i> (Maxim.) Kudō	1,2,3,6,7		
289	Kuroboshiso	<i>Luzula plumosa</i> E.Mey. subsp. <i>dilatata</i> Z.Kaplan	7		
290	Kuromatsu	<i>Pinus thunbergii</i> Parl.	7		
291	Kuromo	<i>Hydrilla verticillata</i> (L.f.) Royle	20	—	C
292	Kuromoji	<i>Lindera umbellata</i> Thunb.	5,7,16		
293	Kuroyatsushiroran	<i>Gastrodia pubilabiata</i> Y.Sawa	20	—	A
294	Kuwakusa	<i>Fatoua villosa</i> (Thunb.) Nakai	2		
295	Kekitsunenobotan	<i>Ranunculus cantoniensis</i> DC.	5		
296	Keguwa	<i>Morus cathayana</i> Hemsl.	20	—	A
297	Gejigejishida	<i>Thelypteris decursivepinnata</i> (H.C.Hall) Ching	2,3,5		
298	Keshiroyomena	<i>Aster ageratoides</i> Turcz. var. <i>intermedius</i> (Soejima) Mot.Ito et Soejima	5,6		
299	Kechijimizasa	<i>Oplismenus undulatifolius</i> (Ard.) Roem. et Schult. var. <i>undulatifolius</i> f.	7		
300	Kenashimiyamashishuodo (Miyamashishuodo)	<i>Angelica pubescens</i> Maxim. var. <i>matsumurae</i> (Y.Yabe) Ohwi	6,7		
301	Keyaki	<i>Zelkova serrata</i> (Thunb.) Makino	5		
302	Keyamahannoki	<i>Alnus hirsuta</i> (Spach) Turcz. ex Rupr. var. <i>hirsuta</i>	6		
303	Gennoshoko	<i>Geranium thunbergii</i> Siebold ex Lindl. et Paxton	1,2,3,5,7		
304	Koakaza	<i>Chenopodium ficifolium</i> Sm.	3		
305	Koakaso	<i>Boehmeria spicata</i> (Thunb.) Thunb.	1,2		
306	Koichoran	<i>Ephippianthus schmidtii</i> Rchb.f.	20	—	A
307	Kozorina	<i>Picris hieracioides</i> L. subsp. <i>japonica</i> (Thunb.) Krylov	1,2,5,6		
308	Koubou	<i>Anthoxanthum nitens</i> (Weber) Y.Schouten et Veldkamp var. <i>sachalinense</i> (Printz) Yonek.	20	—	A
309	Kouhone	<i>Nuphar japonica</i> DC.	20	—	A
310	Komorikazura	<i>Menispermum dauricum</i> DC.	7,20		B
311	Koyawarabi	<i>Onoclea sensibilis</i> L. var. <i>interrupta</i> Maxim.	1		
312	Koraishiba	<i>Zoysia pacifica</i> (Goudswaard) M.Hotta et Kuroki	7		
313	Kourinka	<i>Tephrosia flammea</i> (Turcz. ex DC.) Holub subsp. <i>glabrifolia</i> (Cufod.) B.Nord.	20	VU	A
314	Kooniyuri	<i>Lilium leichlinii</i> Hook.f. f. <i>pseudotigrinum</i> (Carrière) H.Hara et Kitam.	6		
315	Kokimbai	<i>Geum ternatum</i> (Steph.) Smedmark	20	—	A
316	Kokeiran	<i>Oreorchis patens</i> (Lindl.) Lindl.	5		
317	Kokeotogiri	<i>Hypericum laxum</i> (Blume) Koidz.	1,2		
318	Kokemizu	<i>Pilea peplodes</i> (Gaudich.) Hook. et Arn.	20	—	A
319	Kokemomo	<i>Vaccinium vitis-idaea</i> L.	20	—	A
320	Kogomegayatsuri	<i>Cyperus iria</i> L.	1		
321	Koshiabura	<i>Chengiopanax sciadophylloides</i> (Franch. et Sav.) C.B.Shang et J.Y.Huang	5,7		
322	Kojikiichigo	<i>Rubus sumatranus</i> Miq.	20	—	C
323	Koshirone	<i>Lycopus cavaleriei</i> H.Lév.	3		
324	Kosumire	<i>Viola japonica</i> Langsd. ex DC.	5,6,7		
325	Kotachitsubosumire	<i>Viola grypoceras</i> A. Gray var. <i>exilis</i> (Miq.) Nakai.	16		
326	Kotaniwatari	<i>Asplenium scolopendrium</i> L. subsp. <i>japonicum</i> (Kom.) Rasbach, Reichst. et Viane	5		
327	Kotsubukinenokoro	<i>Setaria pallidifusca</i> (Schumach.) Stapf et C.E.Hubb.	1,2		
328	Konasubi	<i>Lysimachia japonica</i> Thunb.	1,2,3,5		
329	Konara	<i>Quercus serrata</i> Murray	5,7		
330	Kohauchiwakaede	<i>Acer sieboldianum</i> Miq.	2,7		
331	Kohashigoshida	<i>Thelypteris angustifrons</i> (Miq.) Ching	2		
332	Kobanagankubiso	<i>Carpesium faberi</i> Winkler	2,9,20	VU	C
333	Kobanogamazumi	<i>Viburnum erosum</i> Thunb.	5,6		
334	Kobanotonboso	<i>Platanthera tipuloides</i> Lindl. var. <i>nipponica</i> (Makino) Ohwi	9,20		C
335	Kobanofuyuichigo (Marubafuyuichigo)	<i>Rubus pectinellus</i> Maxim.	5		
336	Koharisuge	<i>Carex hakonensis</i> Franch. et Sav.	20	—	A
337	Kobunagusa	<i>Arthraxon hispidus</i> (Thunb.) Makino	1,2,3,4		
338	Komatsunagi	<i>Indigofera pseudotinctoria</i> Matsum.	2		
339	Gomana	<i>Aster glehnii</i> F.Schmidt var. <i>hondoensis</i> Kitam.	6,7		
340	Komayumi	<i>Euonymus alatus</i> (Thunb.) Siebold var. <i>alatus</i> f. <i>striatus</i> (Thunb.) Makino	5,7		
341	Kominekaede	<i>Acer micranthum</i> Siebold et Zucc.	5		
342	Komenamomi	<i>Sigesbeckia glabrescens</i> (Makino) Makino	6		
343	Komochimiyamairakusa	<i>Laportea cuspidata</i> (Wedd.) Friis f. <i>bulbifera</i> (Kitam.) Fukuoka et Kurosaki	7		

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344	Kouyourakutsutsuji	<i>Rhododendron pentandrum</i> (Maxim.) Craven	20	—	B
345	Goretsumizugoke	<i>Sphagnum quiquefarium</i> (Lindb. ex Braitthw.) Warnst.	9		A
346	Saikokukitsuneyanagi	<i>Salix vulpina</i> Andersson subsp. <i>alopochroa</i> (Kimura) H.Ohashi et Yonek.	6		
347	Saihairan	<i>Cremastra appendiculata</i> (D.Don) Makino var. <i>variabilis</i> (Blume) I.D.Lund	5,6		
348	Sakageinode	<i>Polystichum retrosopaleaceum</i> (Kodama) Tagawa	5,7		
349	Sagigoke (Murasakisagigoke)	<i>Mazus miquellii</i> Makino	1		
350	Sakurasumire	<i>Viola hirtipes</i> S.Moore	9,20		B
351	Sasaokagoke (Aomorigagihagoke)	<i>Sasaokaea aomoriensis</i> (Par.) Kanda	9		A
352	Sasagaya	<i>Leptatherum japonicum</i> Franch. et Sav. var. <i>japonicum</i>	5,7		
353	Sasayuri	<i>Lilium japonicum</i> Hoult.	5,6,7		
354	Zazenso	<i>Symplocarpus renifolius</i> Schott ex Tzvelev	5		
355	Zarikomi	<i>Ribes maximowiczianum</i> Kom.	20	—	A
356	Sarutoriibara	<i>Smilax china</i> L.	2,5,7		
357	Sarunashi	<i>Actinidia arguta</i> (Siebold et Zucc.) Planch. ex Miq.	5,7		
358	Sarumame	<i>Smilax biflora</i> Sieb. ex Miq. var. <i>trinervula</i> (Miq.) Hatus.	2,9,20		A
359	Sawaotogiri	<i>Hypericum pseudopetiolatum</i> R.Keller	1,2,5,7		
360	Sawahakobe	<i>Stellaria diversiflora</i> Maxim.	5,6		
361	Sawafutagi	<i>Symplocos sawafutagi</i> Nagam.	5,6,7		
362	Sawaruriso	<i>Ancistrocarya japonica</i> Maxim.	20	—	A
363	Saningiku	<i>Dendranthema indicum</i> var. <i>aphrodite</i> (Kitamura) Kitamura	9,20		B
364	Saninshirokaneso	<i>Dichocarpum nipponicum</i> (Franch.) W.T.Wang et Hsiao var. <i>sarmentosum</i> (Ohwi) Tamura et Kosuge	5,9,20		C
365	Saninhiesuge	<i>Carex jubozanensis</i> J.Oda et A.Tanaka	20	—	A
366	Saninhikiokoshi	<i>Isodon shikokianus</i> (Makino) H.Hara var. <i>occidentalis</i> Murata	5,6,7		
367	Sankakuzuru	<i>Vitis flexuosa</i> Thunb.	5		
368	Sankayo	<i>Diphylleia grayi</i> F.Schmidt	6,20		B
369	Sansho	<i>Zanthoxylum piperitum</i> (L.) DC.	5		
370	Sanshoumo	<i>Salvinia natans</i> (L.) All.	20	VU	A
371	Sanyoubushi	<i>Aconitum sanyoense</i> Nakai	20	—	B
372	Shiogamagiku	<i>Pedicularis resupinata</i> L. subsp. <i>oppositifolia</i> (Miq.) T.Yamaz	6,20		B
373	Shiode	<i>Smilax riparia</i> A.DC.	7		
374	Shikeshida	<i>Deparia japonica</i> (Thunb.) M.Kato	2		
375	Shishiudo	<i>Angelica pubescens</i> Maxim.	1,2		
376	Shishigashira	<i>Blechnum nipponicum</i> (Kunze) Makino	1,2,3,7		
377	Shisokusa	<i>Limnophila aromatica</i> (Lam.) Merr.	9,20		C
378	Shinobukaguma	<i>Arachniodes mutica</i> (Franch. et Sav.) Ohwi	5		
379	Shiba	<i>Zoysia japonica</i> Steud.	2		
380	Shihaisumire	<i>Viola violacea</i> Makino var. <i>violacea</i>	6,7,16		
381	Shibasuge	<i>Carex nervata</i> Franch. et Sav.	6		
382	Shimasuzumenohie	<i>Paspalum dilatatum</i> Poir.	2,3		
383	Shimotsuke	<i>Spiraea japonica</i> L.f. var. <i>japonica</i>	20	—	B
384	Shimotsukeso	<i>Filipendula multijuga</i> Maxim.	7,9,20		B
385	Shaga	<i>Iris japonica</i> Thunb.	3,5		
386	Shaku	<i>Anthriscus sylvestris</i> (L.) Hoffm. subsp. <i>Sylvestris</i>	6		
387	Shakujoso	<i>Monotropa hypopithys</i> L.	9,20		C
388	Jakoso	<i>Chelonopsis moschata</i> Miq.	7		
389	Janohige (ryunohige)	<i>Ophiopogon japonicus</i> (Thunb.) Ker Gawl.	7		
390	Jumonjishida	<i>Polystichum tripterum</i> (Kunze) C.Presl	3,5,7		
391	Shunran	<i>Cymbidium goeringii</i> (Rchb.f.) Rchb.f.	6		
392	Shokiran	<i>Yuania japonica</i> Maxim.	9,20		B
393	Shojobakama	<i>Helonias orientalis</i> (Thunb.) N.Tanaka	1,5,6		
394	Shiraitoso	<i>Chionographis japonica</i> Maxim.	5		
395	Shirasuge	<i>Carex alopecuroides</i> D.Don ex Tilloch et Taylor var. <i>chlorostachya</i> C.B.Clarke	5		
396	Shiranesenkyu	<i>Angelica polymorpha</i> Maxim.	7		
397	Shinewarabi	<i>Dryopteris expansa</i> (C.Presl) Fraser-Jenk. et Jermy	20	—	C
398	Shiranewarabi	<i>Dryopteris expansa</i> (Pr.) Fr.-Jenkins et Jermy	9		C
399	Shirayamagiku	<i>Aster scaber</i> Thunb.	6,7		
400	Shirotsukumekusa	<i>Trifolium repens</i> L.	1,2,3,4		
401	Shirobanakamomezuru	<i>Vincetoxicum sublaeolatum</i> (Miq.) Maxim. var. <i>macranthum</i> Maxim.	20	—	A
402	Shiroyamashida	<i>Diplazium hachioense</i> Nakai	9,20		C
403	Jinjiso	<i>Saxifraga cortusifolia</i> Siebold et Zucc.	5,7		
404	Jinbaiso	<i>Platanthera florenti</i> Franch. et Savat.	9,20		A
405	Suikazura	<i>Lonicera japonica</i> Thunb.	5		
406	Suiba	<i>Rumex acetosa</i> L.	1,2,5,16		
407	Sugi	<i>Cryptomeria japonica</i> (L.f.) D.Don	2,5		
408	Sugina	<i>Equisetum arvense</i> L.	2,3,4,5		
409	Sugiran	<i>Phlegmariurus cryptomerinus</i> (Maxim.) Satou	20	VU	A
410	Susuki	<i>Miscanthus sinensis</i> Andersson	2,3,7		
411	Suzusaiko	<i>Vincetoxicum pycnostelma</i> Kitag.	2,6		

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412	Suzume(no)hakobe	<i>Poa annua</i> L.	5		
413	Suzumenokatabira	<i>Alopecurus aequalis</i> Sobol. var. <i>amurensis</i> (Kom.) Ohwi	1		
414	Suzumenoteppo	<i>Microcarpaea minima</i> (J.Koenig) Merr.	9,20		B
415	Suzumenohie	<i>Paspalum thunbergii</i> Kunth ex Steud.	1,6		
416	Suzumenoyari	<i>Luzula capitata</i> (Miq.) Miq. ex Kom.	1,2,5		
417	Suzuran	<i>Convallaria majalis</i> L. var. <i>manshurica</i> Kom.	20	—	Survey required
418	Sutegobiru	<i>Allium inutile</i> Makino	20	VU	A
419	Sunabikiso	<i>Heliotropium japonicum</i> A.Gray	20	—	C
420	Suberihyu	<i>Portulaca oleracea</i> L.	1		
421	Sumire	<i>Viola mandshurica</i> W.Becker	2,7		
422	Sumiresaishin	<i>Viola vaginata</i> Maxim.	5,6,7,16		
423	Seitakaawadachiso	<i>Solidago altissima</i> L.	2		
424	Seiyotanpopo	<i>Taraxacum officinale</i> Weber ex F.H.Wigg.	5		
425	Sekishoumo	<i>Vallisneria natans</i> (Lour.) H.Hara	20	—	B
426	Sekkoku	<i>Dendrobium moniliforme</i> (L.) Sw.	20	—	A
427	Settsuibota	<i>Ligustrum obusifolium</i> Sieb. et Zucc. forma <i>leiocalyx</i> (Nakai) Murata	9,20		Survey required
428	Seppikotennansho	<i>Arisaema seppikoense</i> Kitam.	20	CR	A
429	Seri	<i>Oenanthe javanica</i> (Blume) DC	2		
430	Serimodoki	<i>Dystaenia ibukiensis</i> (Yabe) Kitagawa	9,20		C
431	Senburi	<i>Swertia japonica</i> (Schult.) Makino	6		
432	Zenmai	<i>Osmunda japonica</i> Thunb.	2,3,5,7		
433	Sobana	<i>Adenophora remotiflora</i> (Siebold et Zucc.) Miq.	6,7		
434	Soyogo	<i>Ilex pedunculosa</i> Miq.	5		
435	Daikonso	<i>Geum japonicum</i> Thunb.	5		
436	Daisenhyotanboku	<i>Lonicera strophiphora</i> Franch. var. <i>glabra</i> Nakai	9,20		B
437	Taitogome	<i>Sedum japonicum</i> Siebold ex Miq. subsp. <i>oryzifolium</i> (Makino) H.Ohba	20	—	C
438	Tawanyamai	<i>Schoenoplectiella wallichii</i> (Nees) Lye	20	—	C
439	Taukogi	<i>Bidens tripartita</i> L.	9,20		C
440	Tajimamuraso	<i>Eclipta thermalis</i> Bunge	2,3,4		
441	Takanegariyasu	<i>Calamagrostis sachalinensis</i> F.Schmidt	20	—	A
442	Takanotsume	<i>Gamblea innovans</i> (Siebold et Zucc.) C.B.Shang, Lowry et Frodin	5,6,7		
443	Takechimaran	<i>Streptopus streptopoides</i> (Ledeb.) Frye et Rigg var. <i>japonicus</i> (Maxim.) Fassett	20	—	A
444	Takonoashi	<i>Penthorum chinense</i> Pursh	20	NT	C
445	Tajimatamuraso	<i>Salvia omerocalyx</i> Hayata	5,7,9,20	VU	C
446	Tachikamebaso	<i>Trigonotis guillelmii</i> (A.Gray) A.Gray ex Gurke	20	—	B
447	Tachikougaizekisho	<i>Juncus krameri</i> Franch. et Sav.	20	—	A
448	Tachishiode	<i>Smilax nipponica</i> Miq.	5,7		
449	Tachisubosumire	<i>Viola grypceras</i> A.Gray var. <i>grypceras</i>	1,2,6,7,16		
450	Tachinekonomeso	<i>Chrysosplenium tosaense</i> (Makino) Makino ex Sutô	5		
451	Taniutsugi	<i>Weigela hortensis</i> (Siebold et Zucc.) K.Koch	5		
452	Tanisoba	<i>Persicaria nepalensis</i> (Meisn.) H.Gross	5,7		
453	Tanitade	<i>Circaea erubescens</i> Franch. et Sav.	6		
454	Tanetsukebana	<i>Cardamine scutata</i> Thunb.	1		
455	Tamagawahotogisu	<i>Tricyrtis latifolia</i> Maxim.	20	—	B
456	Tamagotake	<i>Amanita caesareoides</i> Lyu. N. Vassiljeva	16		
457	Tamushiba	<i>Magnolia salicifolia</i> (Siebold et Zucc.) Maxim.	5,7		
458	Taranoki	<i>Aralia elata</i> (Miq.) Seem.	5		
459	Dankobai	<i>Lindera obtusiloba</i> Blume	5,7		
460	Tannasawafutagi	<i>Symplocos coreana</i> (H.Lév.) Ohwi	5,7		
461	Chigaya	<i>Imperata cylindrica</i> (L.) Raeusch. var. <i>koenigii</i> (Retz.) Pilg.	1,2,3,4		
462	Chikarashiba	<i>Pennisetum alopecuroides</i> (L.) Spreng.	3,7		
463	Chigoyuri	<i>Disporum smilacinum</i> A.Gray	5,6,7		
464	Chishimazasa	<i>Sasa kurilensis</i> (Rupr.) Makino et Shibata	3,5		
465	Chishimanekonomeso	<i>Chrysosplenium kamschatcicum</i> Fisch. ex Ser.	6,9,20		C
466	Chichikogusa	<i>Euchiton japonicus</i> (Thunb.) Anderb.	1		
467	Chijimizasa	<i>Oplismenus undulatifolius</i> (Ard.) Roem. et Schult.	5		
468	Chidomegusa	<i>Hydrocotyle sibthorpioides</i> Lam.	1,5,7		
469	Chimakizasa	<i>Sasa palmata</i> (Lat.-Marl. ex Burb.) E.G.Camus	5		
470	Chasenshida	<i>Asplenium trichomanes</i> L.	5		
471	Chanoki	<i>Camellia sinensis</i> (L.) Kuntze	5		
472	Chabogaya	<i>Torreya nucifera</i> Siebold et Zucc. var. <i>radicans</i> Nakai	5,7		
473	Chojigiku	<i>Arnica mallatopus</i> (Franch. et Savat.) Makino	9,20		B
474	Chojitade	<i>Ludwigia epilobioides</i> Maxim. subsp. <i>Epilobioides</i>	1,3		
475	tsukushiyabusotetsu	<i>Cyrtomium tukusicola</i> Tagawa	20	—	A
476	Tsukubane	<i>Buckleya lanceolata</i> (Siebold et Zucc.) Miq.	5		
477	Tsukubaneso	<i>Paris tetraphylla</i> A.Gray	5,7		
478	Tsuta (Natsuzuta)	<i>Parthenocissus tricuspidata</i> (Siebold et Zucc.) Planch.	1,2,5		
479	Tsutaursushi	<i>Toxicodendron orientale</i> Greene	5,7,16		
480	Tsunohashibami	<i>Corylus sieboldiana</i> Blume var. <i>sieboldiana</i>	5,6,7		

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481	Tsubameomoto	<i>Clintonia udensis</i> Trautv. et C.A.Mey.	20	—	A
482	Tsubokusa	<i>Centella asiatica</i> (L.) Urb.	2,3		
483	Tsubosumire	<i>Viola verecunda</i> A.Gray	5,6,7,16		
484	Tsumatoriso	<i>Lysimachia europaea</i> (L.) U.Manns et Anderb. var. <i>europaea</i>	20	—	A
485	Tsumekusa	<i>Sagina japonica</i> (Sw.) Ohwi	1		
486	Tsuyukusa	<i>Commelina communis</i> L.	2,3,7		
487	Tsuriganeninjin	<i>Adenophora triphylla</i> (Thunb.) A.DC. var. <i>japonica</i> (Regel) H.Hara	1,2,6,7		
488	Tsurifuneso	<i>Impatiens textorii</i> Miq.	1,5,7		
489	Tsuruajisai	<i>Hydrangea petiolaris</i> Siebold et Zucc.	5		
490	Tsuruaridoshi	<i>Mitchella undulata</i> Siebold et Zucc.	5,7		
491	Tsuruumemodoki	<i>Celastrus orbiculatus</i> Thunb. var. <i>orbiculatus</i>	5		
492	Tsurukanokoso	<i>Valeriana flaccidissima</i> Maxim.	5		
493	Tsurukimbai	<i>Potentilla rosulifera</i> H.Lev.	20	—	A
494	Tsurukouji	<i>Ardisia pusilla</i> A.DC. var. <i>pusilla</i>	20	—	C
495	Tsurushikimi	<i>Skimmia japonica</i> Thunb. var. <i>intermedia</i> Komatsu f. <i>repens</i> (Nakai) Ohwi	7		
496	Tsurutachitsubosumire	<i>Viola grypoceras</i> A.Gray var. <i>rhizomata</i> (Nakai) Ohwi	5,6,7,20		A
497	Tsurunigakusa	<i>Teucrium viscidum</i> Blume var. <i>miquelianum</i> (Maxim.) H.Hara	1		
498	Tsuruninjin	<i>Codonopsis lanceolata</i> (Siebold et Zucc.) Trautv.	6,7		
499	Tsurunekonomeso	<i>Chrysosplenium flagelliferum</i> Fr.Schm.	9,20		B
500	Tsurufujibakama	<i>Vicia amoena</i> Fisch. ex Ser.	20	—	A
501	Tsururindo	<i>Tripterispermum japonicum</i> (Siebold et Zucc.) Maxim.	5,7		
502	Tsuresagiso	<i>Platanthera japonica</i> (Thunb.) Lindl.	20	—	A
503	Tetsukaede	<i>Acer nipponicum</i> Hara	9,20		C
504	Dewanotatsunamiso	<i>Scutellaria muramatsui</i> Hara	9,20		C
505	Tenkigusa	<i>Leymus mollis</i> (Trin.) Pilger	9,20		C
506	Tengutake	<i>Amanita pantherina</i>	16		
507	Denjiso	<i>Marsilea quadrifolia</i> L.	20	VU	A
508	Tenninso	<i>Leucoscepterum japonicum</i> (Miq.) Kitam. et Murata	5,6,7		
509	Touki	<i>Angelica acutiloba</i> (Siebold et Zucc.) Kitag. var. <i>acutiloba</i>	20	—	A
510	Togeshiba	<i>Huperzia serrata</i> (Thunb.) Trevis.	5,7		
511	Tobana	<i>Clinopodium gracile</i> (Benth.) Kuntze	1,2,4,5,6		
512	Tokiso	<i>Pogonia japonica</i> Reichb.fil.	9,20	NT	C
513	Tokihokori	<i>Elatostema densiflorum</i> Franch. et Sav. ex Maxim.	20	VU	A
514	Tokiwaikariso	<i>Epimedium sempervirens</i> Nakai ex F.Maek.	2,5,7		
515	Tokiwahaze	<i>Mazus pumilus</i> (Burm.f.) Steenis	3		
516	Tokinso	<i>Centipeda minima</i> (L.) A.Braun et Asch.	1		
517	Dokudami	<i>Houttuynia cordata</i> Thunb.	1,2,3,5,7		
518	Dokutsurutake	<i>Amanita virosa</i>	5,16		
519	Todashiba	<i>Arundinella hirta</i> (Thunb.) Tanaka	1,2,6,7		
520	Tochinoki	<i>Aesculus turbinata</i> Blume	6,7		
521	Tochibaninjin	<i>Panax japonicus</i> (T.Nees) C.A.Mey.	5,7		
522	Toranooshida	<i>Asplenium incisum</i> Thunb.	1,2		
523	Torikabuto-zoku	Genus <i>Aconitum</i>	9		B
524	Tomboso	<i>Platanthera ussuriensis</i> (Regel et Maack) Maxim.	20	—	A
525	Nagaenozami	<i>Cirsium longepedunculatum</i> Kitamura	9		Survey required
526	Nagaemikuri	<i>Sparganium japonicum</i> Rothert	9,20	NT	C
527	Nagabajanohige	<i>Ophiopogon japonicus</i> (Thunb.) Ker Gawl. var. <i>umbrosus</i> Maxim.	1,2		
528	Nagabamomijichigo	<i>Rubus palmatus</i> Thunb. var. <i>palmatus</i>	5,7,16		
529	Nagaminonishiba	<i>Zoysia sinica</i> Hance var. <i>nipponica</i> Ohwi	9,20		C
530	Nagaminotsurukeman	<i>Corydalis raddeana</i> Regel	9,20		C
531	Nagahimesuge	<i>Carex oxyandra</i> (Franch. et Sav.) Kudo	20	—	A
532	Nashigatasoroigoke	<i>Jungermannia pyriformis</i> Steph. var. <i>pyriformis</i>	9		C
533	Nazuna	<i>Capsella bursa-pastoris</i> (L.) Medik.	5		
534	Natsuebine	<i>Calanthe reflexa</i> Maxim.	9,20	VU	B
535	Natsugumi	<i>Elaeagnus multiflora</i> Thunb.	5,6		
536	Natsuzuisen	<i>Lycoris squamigera</i> Maxim.	9,20		Survey required
537	Natsutsubaki	<i>Stewartia pseudocamellia</i> Maxim.	7		
538	Nanakamado	<i>Sorbus commixta</i> Hedl.	5,6,7		
539	Nabena	<i>Dipsacus japonicus</i> Miq.	20	—	B
540	Namikiso	<i>Scutellaria strigillosa</i> Hemsl.	20	—	B
541	Nameko	<i>Pholiota microspora</i> (Berk.) Sacc.	16		
542	Naragashiwa	<i>Quercus aliena</i> Blume	7		
543	Narukosuge	<i>Carex curvicolis</i> Franch. et Sav.	5,7		
544	Narukobie	<i>Eriochloa villosa</i> (Thunb.) Kunth	20	—	C
545	Narukoyuri	<i>Polygonatum falcatum</i> A.Gray	7		
546	Nawashiroichigo	<i>Rubus parvifolius</i> L.	2,5,7,16		
547	Nangokugaiso	<i>Veronicastrum japonicum</i> (Nakai) T.Yamaz. var. <i>humile</i> (Nakai) T.Yamaz.	20	VU	B
548	Nangokunarashida	<i>Arachniodes fargesii</i> (Christ) Seriz.	5		
549	Nioitachitsubosumire	<i>Viola obtusa</i> Makino	7,16		
550	Nigana	<i>Ixeridium dentatum</i> (Thunb.) Tzvelev subsp. <i>dentatum</i>	2,5		

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551	Nishinohonmonjisuge	<i>Carex stenostachys</i> Franch. et Sav. var. <i>stenostachys</i>	1,2		
552	Nishinoyamataimingasa	<i>Parasenecio yatabei</i> (Matsum. et Koidz.) H.Koyama var. <i>yatabei</i>	20	—	A
553	Nikkouharisuge	<i>Carex fulta</i> Franch.	20	—	A
554	Niwazekisho	<i>Sisyrinchium rosulatum</i> E.P.Bicknell	1		
555	Niwatoko	<i>Sambucus racemosa</i> L. subsp. <i>sieboldiana</i> (Miq.) H.Hara	5,7		
556	Nukakibi	<i>Panicum bisulcatum</i> Thunb.	3		
557	Nukabo	<i>Agrostis clavata</i> Trin. var. <i>nukabo</i> Ohwi	5		
558	Nukaboshiso	<i>Luzula plumosa</i> E.Mey. subsp. <i>plumosa</i>	2,5,7		
559	Nusubitohagi	<i>Hylodesmum podocarpum</i> (DC.) H.Obashi & R.R.Mill subsp. <i>oxyphyllum</i> (DC.) H.Obashi & R.R.Mill var. <i>japonicum</i> (Miq.) H.Obashi	2,3,5,7		
560	Numaharii	<i>Eleocharis mamillata</i> H.Lindb. var. <i>cyclocarpa</i> Kitag.	9,20		C
561	Nekonoshita	<i>Melanthera prostrata</i> (Hemsl.) W.L.Wagner et H.Rob.	20	—	B
562	Nekohagi	<i>Lespedeza pilosa</i> (Thunb.) Siebold et Zucc.	2		
563	Nekoyamahigotai	<i>Saussurea modesta</i> Kitam.	20	VU	A
564	Nezasa	<i>Pleioblastus argenteostriatus</i> (Regel) Nakai f. <i>glaber</i> (Makino) Murata	1,2,7		
565	Nejiki	<i>Lyonia ovalifolia</i> (Wall.) Drude var. <i>elliptica</i> (Siebold et Zucc.) Hand.-Mazz.	6		
566	Nejibana	<i>Spiranthes sinensis</i> (Pers.) Ames var. <i>amoena</i> (M.Bieb.) H.Hara	6		
567	Nejireitogoke	<i>Pterygandrum filiforme</i> Hedw.	9		B
568	Nezumigaya	<i>Muhlenbergia japonica</i> Steud.	6		
569	Nenashikazura	<i>Cuscuta japonica</i> Choisy	3,7		
570	Nemunoki	<i>Albizia julibrissin</i> Durazz.	1,2,3		
571	Noazami	<i>Cirsium japonicum</i> Fisch. ex DC.	2,3,5		
572	Noibara	<i>Rosa multiflora</i> Thunb.	5		
573	Nogariyasu	<i>Calamagrostis brachytricha</i> Steud.	1,2		
574	Nokanzo	<i>Hemerocallis fulva</i> L. var. <i>disticha</i> (Donn ex Ker Gawl.) M.Hotta	2,20		B
575	Nogurumi	<i>Platycarya strobilacea</i> Siebold et Zucc.	5		
576	Nogeshi	<i>Sonchus oleraceus</i> L.	2		
577	Nokongiku	<i>Aster microcephalus</i> (Miq.) Franch. et Sav. var. <i>ovatus</i> (Franch. et Sav.) Soejima et Mot.Ito	5,7		
578	Nosasage (Kitsunesasagi)	<i>Dumasia truncata</i> Siebold et Zucc.	2,7		
579	Nodaio	<i>Rumex longifolius</i> DC.	9,20	VU	C
580	Nochidome	<i>Hydrocotyle maritima</i> Honda	2,4		
581	Nohanashobu	<i>Iris ensata</i> Thunb. var. <i>spontanea</i> (Makino) Nakai	6,9,20		C
582	Nobinechidori	<i>Neolindleya camtschatica</i> (Cham.) Nevski	20	—	A
583	Nobiru	<i>Allium macrostemon</i> Bunge	2		
584	Nobuki	<i>Adenocaulon himalaicum</i> Edgew.	6,7		
585	Nobudo	<i>Ampelopsis glandulosa</i> (Wall.) Momiy. var. <i>heterophylla</i> (Thunb.) Momiy.	1,2,3,6,7		
586	Nominofusuma	<i>Stellaria uliginosa</i> Murray var. <i>undulata</i> (Thunb.) Fenzl	1,2,5		
587	Noriutsugi	<i>Hydrangea paniculata</i> Siebold	6		
588	Hainugaya	<i>Cephalotaxus harringtonia</i> (Knight ex Forbes) K.Koch var. <i>nana</i> (Nakai)	5,7		
589	Hainutsuge	<i>Ilex crenata</i> Thunb. var. <i>radicans</i> (Nakai) Mura	6		
590	Baikamo	<i>Ranunculus nipponicus</i> (Makino) Nakai var. <i>submersus</i> Hara	9,20		B
591	Baikeiso	<i>Veratrum album</i> L. subsp. <i>oxysepalum</i> (Turcz.) Hulten	20	—	A
592	Hainumerigusa (Hainumeri)	<i>Sacciolepis spicata</i> (L.) Honda ex Masam. var. <i>spicata</i>	1,2		
593	Hauchiwakaede	<i>Acer japonicum</i> Thunb.	5,7		
594	Bakamatsutake	<i>Tricholoma bakamatsutake</i> Hongo	9		Attention required
595	Hakuunboku	<i>Styrax obassia</i> Siebold et Zucc.	5,7		
596	Hakumoinode	<i>Deparia jilungensis</i> (Ching) Z.R.Wang var. <i>albosquamata</i> (M.Kato)	7		
597	Hakoneshikechishida	<i>Cornopteris christenseniana</i> (Koidz.) Tagawa	5,9,20		C
598	Hashikagusa	<i>Neanotis hirsuta</i> (L.f.) W.H.Lewis var. <i>hirsuta</i>	1,2		
599	Hasunohaichigo	<i>Rubus peltatus</i> Maxim.	5,20	NT	B
600	Hachijoushidamodoki	<i>Pteris oshimensis</i> Hieron.	20	—	A
601	Bakkoyanagi (Yamanekoyanagi)	<i>Salix caprea</i> L.	6		
602	Hanaikada	<i>Helwingia japonica</i> (Thunb.) F.Dietr.	5		
603	Hanaibana	<i>Bothriospermum zeylanicum</i> (J.Jacq.) Druce	1,2,5		
604	Hanazekisho	<i>Tofieldia nuda</i> Maxim.	9,20		C
605	Hanatade	<i>Persicaria posumbu</i> (Buch.-Ham. ex D.Don) H.Gross	7		
606	Habayamabokuchi	<i>Synurus excelsus</i> (Makino) Kitam.	20	—	A
607	Hamaakaza	<i>Atriplex subcordata</i> Kitag.	20	—	C
608	Hamasaji	<i>Limonium tetragonum</i> (Thunb.) A.A.Bullock	20	NT	C
609	Hamanasu	<i>Rosa rugosa</i> Thunb.	20	—	A
610	Hamanigana	<i>Ixeris repens</i> (L.) A.Gray	20	—	C
611	Hamahakobe	<i>Honckenya peploides</i> (L.) Ehrh. subsp. <i>major</i> (Hook.) Hulten	20	—	EX
612	Hmabenogiku	<i>Aster arenarius</i> (Kitam.) Nemoto	20	—	C
613	Hamamugi	<i>Elymus dahuricus</i> Turcz. ex Griseb. var. <i>dahuricus</i>	20	—	EX
614	Baraichigo	<i>Rubus illecebrosus</i> Focke	16		
615	Hariganewarabi	<i>Thelypteris japonica</i> (Baker) Ching	7		
616	Harugaya	<i>Anthoxanthum odoratum</i> L.	6		
617	Harurindo	<i>Gentiana thunbergii</i> (G.Don) Griseb. var. <i>thunbergii</i>	8,20		
618	Hangesho	<i>Saururus chinensis</i> (Lour.) Baill.	9,20		C

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619	Hanshozuru	<i>Clematis japonica</i> Thunb.	5,6		
620	Hikagesuge	<i>Carex lanceolata</i> Boott	2		
621	Hikagenokazura	<i>Lycopodium clavatum</i> L.	5		
622	Hikagewarabi	<i>Diplazium chinense</i> (Bak.) C.Chr.	9,20		B
623	Higeshiba	<i>Sporobolus japonicus</i> (Steud.) Maxim. ex Rendle	20	—	A
624	Higenogariyasu	<i>Calamagrostis longiseta</i> Hack.	9,20		B
625	Higokusa	<i>Carex japonica</i> Thunb.	5		
626	Hisakaki	<i>Eurya japonica</i> Thunb. var. <i>japonica</i>	2,5,7		
627	Hidahaichigoke	<i>Pseudotaxiphyllum densum</i> (Cardot) Z. Iwats.	9		B
628	Bicchuazami	<i>Cirsium bitchuense</i> Nakai	9,20		C
629	Bitchufuro	<i>Geranium yoshinoi</i> Makino ex Nakai	20	—	A
630	Hideriko	<i>Fimbristylis littoralis</i> Gaudich.	3		
631	Hitatsubakisochidori (Kisochidori)	<i>Platanthera ophrydioides</i> F.Schmidt var. <i>monophylla</i> Honda	20	—	A
632	Hitorishizuka	<i>Chloranthus quadrifolius</i> (A.Gray) H.Ohba et S.Akiyama	5		
633	Hinatainokozuchi	<i>Achyranthes bidentata</i> Blume var. <i>fauriei</i> (H.Lév. et Vaniot)	3		
634	Hinachidori	<i>Ponerorchis chidori</i> (Makino) Ohwi	20	VU	A
635	Hinoki	<i>Chamaecyparis obtusa</i> (Siebold et Zucc.) Endl.	5,7		
636	Himeaoki	<i>Aucuba japonica</i> Thunb. var. <i>borealis</i> Miyabe et Kudô	5		
637	Himeashiboso	<i>Microstegium vimineum</i> (Trin.) A.Camus f. <i>willdenowianum</i> (Nees) Osada	5		
638	Himeusugurogoke	<i>Leskeella pusilla</i> (Mitt.) Nog.	9		B
639	Himeutsugi	<i>Deutzia gracilis</i> Siebold et Zucc.	7		
640	Himekangarei	<i>Schoenoplectus mucronatus</i> (L.) Palla var. <i>mucronatus</i>	20	VU	A
641	Himekinmizuhiki	<i>Agrimonia nipponica</i> Koidz.	1,2,5,7		
642	Himekugu	<i>Cyperus brevifolius</i> (Rottb.) Hassk. var. <i>leiolepis</i> (Franch. et Sav.) T.Koyama	1,2,3		
643	Himekuramagoke (Himetachikuramagoke)	<i>Selaginella heterostachys</i> Baker	2		
644	Himekougaizekisho	<i>Juncus bufonius</i> L.	20	—	C
645	Himekozo	<i>Broussonetia monoica</i> Hance	5,6		
646	Himegoso	<i>Carex phacota</i> Spreng.	6		
647	Himekokeshibobu	<i>Hymenophyllum coreanum</i> Nakai	20	—	A
648	Himekomatsu (Goyomatsu)	<i>Pinus parviflora</i> Sieb. et Zucc.	9		C
649	Himejiso	<i>Mosla dianthera</i> (Buch.-Ham. ex Roxb.) Maxim.	7		
650	Himeshida	<i>Thelypteris palustris</i> (Salisb.) Schott	1		
651	Himeshaga	<i>Iris gracilipes</i> A.Gray	20	NT	A
652	Himejoon	<i>Erigeron annuus</i> (L.) Pers.	2,4,5,7		
653	Himeshirasuge	<i>Carex mollicula</i> Boott	5,6		
654	Himeshiroasaza	<i>Nymphoides coreana</i> (H.Lév.) H.Hara	20	VU	A
655	Himesugiran	<i>Huperzia miyoshiana</i> (Makino) Ching	20	—	A
656	Himetade	<i>Persicaria erectominor</i> (Makino) Nakai	9,20	VU	A
657	Himedokoro	<i>Dioscorea tenuipes</i> Franch. et Sav.	2		
658	Himenamiki	<i>Scutellaria dependens</i> Maxim.	20	—	A
659	Himenira	<i>Allium monanthum</i> Maxim.	20	—	A
660	Himehagi	<i>Polygala japonica</i> Houtt.	2,6,7		
661	Himebaraichigo	<i>Rubus minusculus</i> H.Lév.	20	—	A
662	Himehigotai	<i>Saussurea pulchella</i> Fisch.	2,9,20	VU	A
663	Himehiratentsuki	<i>Fimbristylis autumnalis</i> (L.) Roem. et Schult.	1		
664	Himehebiichigo	<i>Potentilla centigrana</i> Maxim.	20	—	A
665	Himemikanso	<i>Phyllanthus ussuriensis</i> Rupr. et Maxim.	1,2		
666	Himemikuri	<i>Sparganium subglobosum</i> Morong	20	VU	A
667	Himemizuwarabi	<i>Ceratopteris gaudichaudii</i> Brongn. var. <i>vulgaris</i> Masuyama et Watano	20	—	C
668	Himemukashiyomogi	<i>Erigeron canadensis</i> L.	1,2		
669	Himemochi	<i>Ilex leucoclada</i> (Maxim.) Makino	5,6		
670	Himeyashabushi	<i>Alnus pendula</i> Matsum.	6		
671	Himeyotsubamugura	<i>Galium gracilens</i> (A.Gray) Makino	1,2		
672	Himeyomogi	<i>Artemisia feddei</i> Lev. et Vaniot	9,20		B
673	Himerenge	<i>Sedum subtile</i> Miq.	5		
674	Hyonosenkatabami	<i>Oxalis acetosella</i> L. var. <i>longicapsula</i> Terao	9,20		B
675	Hiyokuso	<i>Veronica laxa</i> Benth.	20	—	A
676	Hiyodorijogo	<i>Solanum lyratum</i> Thunb.	6		
677	Hiyodoribana	<i>Eupatorium makinoi</i> T.Kawahara et Yahara	6,7		
678	Hirehariso	<i>Symphytum officinale</i> L.	5		
679	Birodosuge	<i>Carex miyabei</i> Franch.	9,20		B
680	Hirohainunohige	<i>Eriocaulon alpestre</i> Hook.f. et Thomson ex Koern.	3		
681	Hirohasusukigoke	<i>Dicranella palustris</i> (Dicks.) Crundw. ex Warb.	9		C
682	Hirohatennansho	<i>Arisaema ovale</i> Nakai	5,7,9,20		C
683	Hirohanootamatsurisuge	<i>Carex arakiana</i> (Ohwi) Ohwi	9,20		C
684	Hirohanokonukagusa	<i>Aniselytron treutleri</i> (Kunze) Soj?k var. <i>japonicum</i> (Hack.) N.X.Zhao	9,20		C
685	Hirohanodojoutsunagi	<i>Glyceria leptolepis</i> Ohwi	20	—	A
686	Hirohahanayasuri	<i>Ophioglossum vulgatum</i> L.	20	—	B
687	Fukagireomomiji	<i>Acer amoenum</i> Carrière f. <i>palmatipartitum</i> (Koidz.) K.Ogata	5,7		

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688	Fuki	<i>Petasites japonicus</i> (Siebold et Zucc.) Maxim.	1,2,3,5,7,16		
689	Fukuoso	<i>Prenanthes acerifolia</i> (Maxim.) Matsum.	9,20		B
690	Fukujuso	<i>Adonis ramosa</i> Franch.	20	—	A
691	Fukuroshida	<i>Woodsia manchuriensis</i> Hook.	9,20		C
692	Fusazakura	<i>Euptelea polyandra</i> Siebold et Zucc.	5		
693	Fuji	<i>Wisteria floribunda</i> (Willd.) DC.	1		
694	Fujikanzo	<i>Hylodesmum oldhamii</i> (Oliv.) H. Ohashi & R.R. Mill	7		
695	Fushiguro	<i>Silene firma</i> Siebold et Zucc.	6		
696	Fujibakama	<i>Eupatorium japonicum</i> Thunb.	20	NT	A
697	Fukkiso	<i>Pachysandra terminalis</i> Sieb. et Zucc.	9,20		B
698	Fuderindo	<i>Gentiana zollingeri</i> Fawc.	6,7		
699	Futoi	<i>Schoenoplectus tabernaemontani</i> (C.C. Gmel.) Palla	20	—	Survey required
700	Buna	<i>Fagus crenata</i> Blume	5,6,7,16		
701	Funabaraso	<i>Cynanchum atratum</i> Bunge	9,20	VU	A
702	Fumotosumire	<i>Viola sieboldii</i> Maxim.	6,7,16		
703	Fuyunohanawarabi	<i>Botrychium ternatum</i> (Thunb.) Sw.	2		
704	Furoso	<i>Climacium dendroides</i> (Hedw.) Web. & Mohr.	9		B
705	Heikeinuwarabi	<i>Athyrium eremicola</i> Oka et Sa Kurata	20	VU	A
706	Hekusokazura	<i>Paederia foetida</i> L.	2,3,5,7		
707	Benibanaborogiku	<i>Crassocephalum crepidioides</i> (Benth.) S. Moore	16		
708	Hebiichigo	<i>Potentilla hebiichigo</i> Yonek. et H. Ohashi	5		
709	Hochakuso	<i>Disporum sessile</i> D. Don ex Schult. et Schult.f.	5,6		
710	Honoki	<i>Magnolia obovata</i> Thunb.	5,7		
711	Hokuchiazami	<i>Saussurea gracilis</i> Maxim.	6,20		B
712	Hokurikunekonome	<i>Chrysosplenium fauriei</i> Franch.	5		
713	Hokobasumire	<i>Viola mandshurica</i> W. Becker var. <i>ikedana</i> (W. Becker ex Taken.) F. Maek.	6,7		
714	Hozakiyadorigi	<i>Loranthus tanakae</i> Franch. et Sav.	20	—	A
715	Hoshikusa	<i>Eriocaulon cinereum</i> R.Br.	9,20		C
716	Hosuge	<i>Carex senanensis</i> Ohwi	20	—	A
717	Hosobainutade	<i>Persicaria trigonocarpa</i> (Makino) Nakai	20	NT	A
718	Hosobainuwarabi	<i>Athyrium iseanum</i> Rosenst.	3		
719	Hosobairakusa	<i>Urtica angustifolia</i> Fisch. ex Hornem. var. <i>angustifolia</i>	20	—	A
720	Hosobakansuge	<i>Carex morrowii</i> var. <i>temnolepis</i> (Franch.) Ohwi	9,20		B
721	Hosobashuroso	<i>Veratrum maackii</i> Regel var. <i>maackioides</i> (O. Loes.) H. Hara	20	—	B
722	Hosobashirosumire	<i>Viola patrinii</i> DC. var. <i>angustifolia</i> Regel	6,7,9,20	VU	A
723	Hosobatenansho	<i>Arisaema angustatum</i> Franch. et Sav.	20	—	C
724	Hosobakansuge	<i>Anaphalis margaritacea</i> (L.) Benth. et Hook. f. subsp. <i>japonica</i> (Sch.-Bip.) Kitamura	9,20		A
725	Hosobashirosumire	<i>Campanula punctata</i> Lam. var. <i>punctata</i>	6		
726	Hosobanoyamahahako	<i>Clematis apiifolia</i> DC. var. <i>apiifolia</i>	1,2,3		
727	Hotarubukuro	<i>Cirsium matsumurae</i> Nakai var. <i>dubium</i> Kitam.	5,6,7		
728	Botanzuru	<i>Elliottia paniculata</i> (Siebold et Zucc.) Hook. f.	5,6,7		
729	Hokokuazami	<i>Lepisorum annuifrons</i> (Makino) Ching	9,20		B
730	Hotsutsuji	<i>Berchemia longiracemosa</i> Okuyama	5		
731	Hoteshida	<i>Odontosoria chinensis</i> (L.) J. Sm.	2		
732	Hosogoso	<i>Sciaphila nana</i> Blume	20	VU	B
733	Honagakumayanagi	<i>Lyophyllum shimeji</i> (Kawam.) Hongo	9		Attention required
734	Horashinobu	<i>Rhododendron degranianum</i> Carriere subsp. <i>heptamerum</i> (Maxim.) Hara var. <i>hondoense</i> (Nakai) Hara	5,9,20		C
735	Madaïou	<i>Rumex madaïo</i> Makino	20	—	A
736	Matatabi	<i>Actinidia polygama</i> (Siebold et Zucc.) Planch. ex Maxim.	5,6,7		
737	Matsukasasusuki	<i>Scirpus mitsukurianus</i> Makino	20	—	B
738	Matsubusa	<i>Schisandra repanda</i> (Siebold et Zucc.) Radlk.	6		
739	Matsumushiso	<i>Scabiosa japonica</i> Miq. var. <i>japonica</i>	20	—	A
740	Mamegumi	<i>Elaeagnus montana</i> Makino	9,20		B
741	Mayumi	<i>Euonymus sieboldianus</i> Blume	5		
742	Marubaaodamo	<i>Fraxinus sieboldiana</i> Blume	5		
743	Marubahamanosuzukusa	<i>Aristolochia contorta</i> Bunge	20	VU	A
744	Marubakoigoke	<i>Diplophyllum obtusifolium</i> (Hook.) Dumort.	9		C
745	Mrubsankirai	<i>Smilax stans</i> Maxim.	20	—	A
746	Marubasumire	<i>Viola keiskei</i> Miq.	16		
747	Mrubanekonomeso	<i>Chrysosplenium ramosum</i> Maxim.	20	—	A
748	Marubanoichiyakuso	<i>Pyrola nephrophylla</i> (H. Andres) H. Andres	9,20		A
749	Marubanosawatogarashi	<i>Deinostema adenocaulum</i> (Maxim.) Yamazaki	9,20		B
750	Marubamansaku	<i>Hamamelis japonica</i> Siebold et Zucc. var. <i>discolor</i> (Nakai) Sugim. f. <i>obtusata</i> (Makino) H. Ohashi	5,6,7		
751	Mannensugi	<i>Lycopodium obscurum</i> L.	9		B
752	Mikuri	<i>Sparganium erectum</i> L.	9,20	NT	C
753	Mikurizekisho	<i>Juncus ensifolius</i> Wikstr.	20	—	Survey required
754	Mizu	<i>Pilea hamaoi</i> Makino	1		

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755	Mizuaoi	<i>Monochoria korsakowii</i> Regel et Maack	20	NT	A
756	Mizuobako	<i>Ottelia alismoides</i> (L.) Pers.	9,20	VU	C
757	Mizuki	<i>Cornus controversa</i> Hemsl. ex Prain	5,6,7		
758	Mizutabirako	<i>Trigonotis brevipes</i> (Maxim.) Maxim. ex Hemsl.	5		
759	Mizuchidori	<i>Platanthera hologlottis</i> Maxim.	9,20		B
760	Mizutonbo	<i>Habenaria sagittifera</i> Reichb.fil.	9,20	VU	C
761	Mizunara	<i>Quercus crispula</i> Blume	5,6,7		
762	Mizunira	<i>Isoetes japonica</i> A.Br.	9,20	NT	C
763	Mizubasho	<i>Lysichiton camtschatcensis</i> (L.) Schott	20	—	A
764	Mizuhiki (Mizuhikiso)	<i>Persicaria filiformis</i> (Thunb.) Nakai ex W.T.Lee	5,7		
765	Mizumatsuba	<i>Rotala pusilla</i> Tulasne	9,20	VU	C
766	Misumiso (incl. Suhamaso and Kesuhamaso)	<i>Hepatica nobilis</i> Schreb. var. <i>japonica</i> Nakai	7,9,20		B
767	Mizume	<i>Betula grossa</i> Siebold et Zucc.	5,6,7		
768	Mizoshida	<i>Thelypteris pozoi</i> (Lag.) C.V.Morton subsp. <i>mollissima</i> (Fisch. ex Kunze) C.V.Morton	1,2,3,5,7		
769	Mizosoba	<i>Persicaria thunbergii</i> (Siebold et Zucc.) H.Gross	2,3,4,7		
770	Mizohozuki	<i>Mimulus nepalensis</i> Benth.	1,5		
771	Michinokuyorogusa (Kenashimiyamashishuodo)	<i>Angelica sachalinensis</i> Maxim. var. <i>glabra</i> (Koidz.) T.Yamaz.	5		
772	Michibatagarashi	<i>Rorippa dubia</i> Hara	9,20		C
773	Mitsugashiwa	<i>Menyanthes trifoliata</i> L.	20	—	A
774	Mitsukadoshikaku	<i>Eleocharis petasata</i> (Maxim.) Zinserl.	20	—	B
775	Mitsudekaede	<i>Acer cissifolium</i> (Sieb. et Zucc.) K.Koch	9,20		C
776	Mitsuba	<i>Cryptotaenia canadensis</i> (L.) DC. subsp. <i>japonica</i> (Hassk.) Hand.-Mazz.	5		
777	Mitsubaakebi	<i>Akebia trifoliata</i> (Thunb.) Koidz.	1,2,5		
778	Mitsubatsuchiguri	<i>Potentilla freyniana</i> Borm.	1,2,5,6		
779	Mitsubafuro	<i>Geranium wilfordii</i> Maxim.	5		
780	Mitsumotoso	<i>Potentilla cryptotaeniae</i> Maxim.	9,20		B
781	Midoriueboshigoke	<i>Dolichomitriopsis crenulata</i> Okam.	9		B
782	Midoriwarabi	<i>Deparia viridifrons</i> (Makino) M.Kato	3		
783	Miminagusa	<i>Cerastium fontanum</i> Baumg. subsp. <i>vulgare</i> (Hartm.) Greuter et Burdet var. <i>angustifolium</i> (Franch.) H.Hara	5,6		
784	Miyakoazami	<i>Saussurea maximowiczii</i> Herd.	9,20		A
785	Miyakoinuwarabi	<i>Athyrium frangulum</i> Tagawa	9,20		C
786	Miyakoibara	<i>Rosa paniculigera</i> (Koidz.) Makino ex Momiy.	1		
787	Miyamainunohanahige	<i>Rhynchospora yasudana</i> Makino	20	—	A
788	Miyamairakusa	<i>Laportea cuspidata</i> (Wedd.) Friis	5,7		
789	Miyamainwasuge (Kansaiwasuge)	<i>Carex odontostoma</i> Kuk.	20	—	A
790	Miyamakatabami	<i>Oxalis griffithii</i> Edgew. et Hook.f.	5,7		
791	Miyamagamazumi	<i>Viburnum wrightii</i> Miq.	5,6,7		
792	Miyamakaramatsu	<i>Thalictrum filamentosum</i> Maxim. var. <i>tenerum</i> (H.Boiss) Ohwi	9,20		B
793	Miyamakansuge	<i>Carex multifolia</i> Ohwi var. <i>multifolia</i>	7		
794	Miyamakikeman	<i>Corydalis pallida</i> (Thunb.) Pers. var. <i>tenuis</i> Yatabe	5,6		
795	Miyamakumawarabi	<i>Dryopteris polylepis</i> (Franch. et Sav.) C.Chr.	5		
796	Miyamasasagaya	<i>Leptatherum nudum</i> (Trin.) C.H.Chen, C.S.Kuoh et Veldkamp	5		
797	Miyamashikeshida	<i>Deparia pycnosora</i> (Christ) M.Kato	9,20		B
798	Miyamashishigashira	<i>Blechnum castaneum</i> Makino	9,20		B
799	Miyamajuzusuge	<i>Carex dissitiflora</i> Franch.	5		
800	Miyamatanisoba	<i>Persicaria debilis</i> (Meisn.) H.Gross ex W.T.Lee	5		
801	Miyamatanitade	<i>Circaea alpina</i> L. subsp. <i>alpina</i>	20	—	C
802	Miyamanarukoyuri	<i>Polygonatum lasianthum</i> Maxim.	5,7		
803	Miyamanigauri	<i>Schizopepon bryoniaefolius</i> Maxim.	7,9,20		B
804	Miyamanukabo	<i>Agrostis flaccida</i> Hack.	20	—	A
805	Miyamanokishinobu	<i>Lepisorus ussuriensis</i> (Regal et Maack) Ching	9,20		C
806	Miyamahane-goke	<i>Plagiochila hakkodensis</i> Steph.	9		A
807	Miyamahahaso	<i>Meliosma tenuis</i> Maxim.	5		
808	Miyamafutamagoke	<i>Melzgeria furcata</i> (L.) Dumort.	9		A
809	Miyamafuyuchigo	<i>Rubus hakonensis</i> Franch. et Sav.	5		
810	Miyamabenishida	<i>Dryopteris monticola</i> (Makino) C.Chr.	5		
811	Miyamamakakona	<i>Melampyrum laxum</i> Miq. var. <i>nikkoense</i> Beauverd	5		
812	Miyamamugura	<i>Galium paradoxum</i> Maxim. subsp. <i>franchetianum</i> Ehrend. et Schonb.-Tem.	20	—	C
813	Miyamayabutabako	<i>Carpesium triste</i> Maxim.	20	—	A
814	Miyamawarabi	<i>Phegopteris connectilis</i> (Michx.) Watt	20	—	A
815	Mukagoirakusa	<i>Laportea bulbifera</i> (Siebold et Zucc.) Wedd.	3,7		
816	Mukagoso	<i>Herminium lanceum</i> (Thunb.) Vujik var. <i>longicirure</i> (Wright) Hara	9,20	EN	B
817	Mutsuoregusa	<i>Glyceria acutiflora</i> Torr. subsp. <i>japonica</i> (Steud.) T.Koyama et Kawano	20	—	C
818	Muyouran	<i>Lecanorchis japonica</i> Blume	20	—	B
819	Murasakikeman	<i>Corydalis incisa</i> (Thunb.) Pers.	5		
820	Murasakishikibu	<i>Calliandra japonica</i> Thunb.	7		
821	Murasakitsumekusa (Akatsumekusa)	<i>Trifolium pratense</i> L.	2,3		

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822	Murasakinigana	<i>Paraprenanthes sororia</i> (Miq.) Chang ex C. Shih	7		
823	Murasakimayumi	<i>Euonymus lanceolatus</i> Yatabe	5,7		
824	Megusurinoki	<i>Acer nikoense</i> Maxim.	9,20		C
825	Metakarako	<i>Ligularia stenocephala</i> (Maxim.) Matsum. et Koidz.	7,9,20		A
826	Medohagi	<i>Lespedeza cuneata</i> (Dum.Cours.) G.Don	2,6		
827	Menamomi	<i>Sigesbeckia pubescens</i> (Makino) Makino	7		
828	Menomannengusa	<i>Sedum uniflorum</i> Hook. et Arnott subsp. japonicum (Sieb. ex Miq.) H. Ohba	5,9,20		C
829	Mehishiba	<i>Digitaria ciliaris</i> (Retz.) Koeler	1,2,3,4		
830	Merikenkarukaya	<i>Andropogon virginicus</i> L.	2		
831	Mokugenji	<i>Koeleruteria paniculata</i> Laxm.	20	—	A
832	Momijigasa	<i>Parasenecio delphinifolius</i> (Siebold et Zucc.) H. Koyama	7		
833	Momijikaramatsu	<i>Trautvetteria palmata</i> Trautv. et C.A.Mey. var. palmata	20	—	A
834	Moriazami	<i>Cirsium dipsacolepis</i> (Maxim.) Matsum.	20	—	B
835	Yakushiso	<i>Crepidiastrum denticulatum</i> (Houtt.) J.H.Pak et Kawano	6		
836	Yagurumaso	<i>Rodgersia podophylla</i> A.Gray	7		
837	Yashabishaku	<i>Ribes ambiguum</i> Maxim.	5,9,20	NT	B
838	Yachisuge	<i>Carex limosa</i> L.	20	—	A
839	Yadorigi	<i>Viscum album</i> L. subsp. coloratum Kom.	5,6		
840	Yanagisubuta	<i>Blyxa japonica</i> (Miq.) Maxim. ex Ascherson et Guerke	9,20		C
841	Yanagitanpopo	<i>Hieracium umbellatum</i> L.	6,7,20		A
842	Yabukanzo	<i>Hemerocallis fulva</i> L. var. kwanso Regel	5		
843	Yabukoji	<i>Ardisia japonica</i> (Thunb.) Blume	2,5,7		
844	Yabujirami	<i>Torilis japonica</i> (Houtt.) DC.	5		
845	Yabusotetsu	<i>Cyrtomium fortunei</i> J.Sm. var. clivicola (Makino) Tagawa	7		
846	Yabutabirako	<i>Lapsanastrum humile</i> (Thunb.) J.H.Pak et K.Bremer	5		
847	Yabutsuruazuki	<i>Vigna angularis</i> (Willd.) Ohwi et H. Ohashi var. nipponensis (Ohwi) Ohwi et H. Ohashi	3		
848	Yabudemari	<i>Viburnum plicatum</i> Thunb. var. tomentosum Miq.	5,6		
849	Yabuhebiichigo	<i>Potentilla indica</i> (Andrews) Th. Wolf	5		
850	Yabumame	<i>Amphicarpaea bracteata</i> (L.) Fernald subsp. edgeworthii (Benth.) H. Ohashi	2,7		
851	Yabumurasaki	<i>Callicarpa mollis</i> Siebold et Zucc.	7		
852	Yaburan	<i>Liriope muscari</i> (Decne.) L.H.Bailey	5		
853	Yamaajisai	<i>Hydrangea serrata</i> (Thunb.) Ser. var. serrata	5,6,7		
854	Yamaitachishida	<i>Dryopteris bissetiana</i> (Baker) C. Chr.	5		
855	Yamaurushi	<i>Toxicodendron trichocarpum</i> (Miq.) Kuntze	5,7		
856	Yamaengosaku	<i>Corydalis lineariloba</i> Siebold et Zucc.	5		
857	Yamatokikeman	<i>Corydalis ophiocarpa</i> Hook.f. et Thomson	20	—	A
858	Yamakitsunenobotan	<i>Ranunculus silerifolius</i> H.Lév. var. silerifolius	5		
859	Yamaguwa	<i>Morus australis</i> Poir.	2,5,6,7		
860	Yamazakura	<i>Cerasus jamasakura</i> (Siebold ex Koidz.) H. Ohba	6		
861	Yamazatotampopo	<i>Taraxacum arakii</i> Kitam.	20	NT	C
862	Yamashigure	<i>Viburnum urceolatum</i> Siebold et Zucc.	5		
863	Yamajinogiku	<i>Aster hispidus</i> Thunb. var. hispidus	16,20		C
864	Yamajinohotogisu	<i>Tricyrtis affinis</i> Makino	5,6,7		
865	Yamasuzumehie	<i>Luzula multiflora</i> (Ehrh.) Lejeune	2,5		
866	Yamazeri	<i>Ostericum sieboldii</i> (Miq.) Nakai	9,20		A
867	Yamasotetsu	<i>Plagiogyria matsumurana</i> Makino	5,7		
868	Yamatsutsuji	<i>Rhododendron kaempferi</i> Planch. var. kaempferi	2,5,6		
869	Yamatobana	<i>Clinopodium multicaule</i> (Maxim.) Kuntze	5,7		
870	Yamatokiso	<i>Pogonia minor</i> (Makino) Makino	9,20		C
871	Yamatokihokori	<i>Elatostema laetevirens</i> Makino	7		
872	Yamatogusa	<i>Theligonum japonicum</i> Okubo et Makino	20	—	A
873	Yamadorizemmai	<i>Osmundastrum cinnamomeum</i> (L.) C.Presl var. fokiense (Copel.) Tagawa	20	—	C
874	Yamadorizenmai	<i>Osmunda cinnamomea</i> L.	9		C
875	Yamanarashi	<i>Populus tremula</i> L. var. sieboldii (Miq.) Kudô	7		
876	Yamanigana	<i>Pterocypsela elata</i> (Hemsl.) C. Shih	5,6		
877	Yamanukabo	<i>Agrostis clavata</i> Trin. var. clavata	1,2		
878	Yamanekonomeso	<i>Chrysosplenium japonicum</i> (Maxim.) Makino	5		
879	Yamanoimo	<i>Dioscorea japonica</i> Thunb.	1,2,3,7		
880	Yamahagi	<i>Lespedeza bicolor</i> Turcz.	1,3,5,7		
881	Yamahaze	<i>Toxicodendron sylvestri</i> (Siebold et Zucc.) Kuntze	5		
882	Yamahakka	<i>Isodon inflexus</i> (Thunb.) Kudô	2,6		
883	Yamabukishoma	<i>Arunceus dioicus</i> (Walter) Fernald var. kamtschaticus (Maxim.) H.Hara	5,6		
884	Yamafuji	<i>Wisteria brachybotrys</i> Siebold et Zucc.	5		
885	Yamabudo	<i>Vitis coignetiae</i> Pulliat ex Planch.	5,6		
886	Yamaboshi	<i>Cornus kousa</i> Buerger ex Hance subsp. kousa	5,6,7		
887	Yamahozuki	<i>Archiphysalis chamaesarachoides</i> (Makino) Kuang	20	EN	A
888	Yamahoroshi	<i>Solanum japonense</i> Nakai	7		
889	Yamamizu	<i>Pilea japonica</i> (Maxim.) Hand.-Mazz.	7		
890	Yamayanagi	<i>Salix sieboldiana</i> Blume	6		

No.	Japanese name	Scientific name	Reference	MOE Red List 2017	Hyogo Prefectural Red List
891	Yamaruriso	<i>Omphalodes japonica</i> (Thunb.) Maxim.	5		
892	Yarinohogoke	<i>Calliergonella cuspidata</i> (Hedw.) Loeske	9		A
893	Yuusuge	<i>Hemerocallis citrina</i> Baroni var. <i>vespertina</i> (H.Hara) M.Hotta	20	—	C
894	Yukigunimitsubatsutsuji	<i>Rhododendron lagopus</i> var. <i>niphophilum</i> (Yamazaki) Yamazaki	5,6,9,20		C
895	Yukizasa	<i>Maianthemum japonicum</i> (A.Gray) LaFrankie	5,6		
896	Yukinoshita	<i>Saxifraga stolonifera</i> Curtis	5		
897	Yuzuriha	<i>Daphniphyllum macropodum</i> Miq.	7		
898	Yourakuran	<i>Oberonia japonica</i> (Maxim.) Makino	20	—	A
899	Yoshi	<i>Phragmites australis</i> (Cav.) Trin. ex Steud.	1		
900	Yoshinoazami	<i>Cirsium nipponicum</i> (Maxim.) Makino var. <i>yoshinoi</i> (Nakai) Kitam.	1,2		
901	Yotsubahagi	<i>Vicia nipponica</i> Matsum.	20	—	A
902	Yotsubahiyodori	<i>Eupatorium glehnii</i> F.Schmidt ex Trautv.	5,6,7		
903	Yotsubamugura	<i>Galium trachyspermum</i> A.Gray	5		
904	Yomena	<i>Aster yomena</i> (Kitam.) Honda	1,2,3		
905	Yomogi	<i>Artemisia indica</i> Willd. var. <i>maximowiczii</i> (Nakai) H.Hara	1,2,3,4,5,7		
906	Ryobu	<i>Clethra barbinervis</i> Siebold et Zucc.	2,5,6,7		
907	Ryomenshida	<i>Arachniodes standishii</i> (T.Moore) Ohwi	1,7		
908	Rindo	<i>Gentiana scabra</i> Bunge	2,6,7		
909	Ruiyoshoma	<i>Actaea asiatica</i> H.Hara	9,20		B
910	Rengetsutsuji	<i>Rhododendron molle</i> (Blume) G.Don subsp. <i>japonicum</i> (A.Gray) K.Kron	6,16		
911	Rokkakui	<i>Schoenoplectus mucronatus</i> (L.) Palla var. <i>ishizawae</i> K.Kohno, Iokawa et Daigobo	20	EN	A
912	Wasabi	<i>Eutrema japonicum</i> (Miq.) Koidz.	16		
913	Wachigaiso	<i>Pseudostellaria heterantha</i> (Maxim.) Pax var. <i>heterantha</i>	20	—	B
914	Warabi	<i>Pteridium aquilinum</i> (L.) Kuhn subsp. <i>japonicum</i> (Nakai) Á. et D.Löve	1,2,5,7		

Biodiversity List (Animals)

No.	Classification	Japanese name	Scientific name	Reference	MOE Red List 2017	Hyogo Prefectural Red List
1	Shellfish	Iboibonamekuji	<i>Granullimax fuscicornis</i>	13	NT	A
2	Shellfish	Uejimameshijimi	<i>Pisidium uejii</i>	13		C
3	Shellfish	Kurirokiserugaimodoki	<i>Mirus andersonianus</i>	13	NT	B
4	Shellfish	Kurodakawanina	<i>Semisulcospira kurodai</i>	13	NT	C
5	Shellfish	Kehadabirodomaimai	<i>Nipponochloritis fragilis</i>	13	NT	B
6	Shellfish	Kokoromaimai	<i>Satsuma cardiostoma</i>	13	VU	A
7	Shellfish	Sadoyamatogai	<i>Japonia sadoensis</i>	13	NT	Attention required
8	Shellfish	Sujikibi	<i>Parakallela ruida</i>	13	NT	B
9	Shellfish	Suhananamekuji (tentative)	<i>Nipponolimax sp.</i>	13		C
10	Shellfish	Takayamamameshijimi (tentative)	<i>Neopisidium sp.</i>	13		B
11	Shellfish	Nikuiroshibukitsubo	<i>Fukuia kurodai</i>	13	NT	A
12	Shellfish	Nisematsukasagai	<i>Inversiunio yanagawensis</i>	13	VU	A
13	Shellfish	Birodomaimai	<i>Nipponochloritis oscitans</i>	13	DD	B
14	Shellfish	Futokiserugaimodoki	<i>Mirus japonicus</i>	13		C
15	Shellfish	Marutanishi	<i>Cipangopaludina chinensis laeta</i>	13	VU	C
16	Shellfish	Yamakoranamekuji	<i>Nipponolimax monticola</i>	13	NT	A
1	Brackish water/freshwater fish	Akaza	<i>Liobagrus reinii</i>	14	VU	Regionally rare species
2	Brackish water/freshwater fish	Aburahaya	<i>Phoxinus lagowskii steindachneri</i>	14		C
3	Brackish water/freshwater fish	Ukigori	<i>Gymnogobius urotaenia</i>	14		C
4	Brackish water/freshwater fish	Oyoshinobori	<i>Rhinogobius fluviatilis</i>	14		C
5	Brackish water/freshwater fish	Kajika	<i>Cottus pollux</i>	14	NT	C
6	Brackish water/freshwater fish	Kamakiri	<i>Cottus kazika</i>	14	VU	B
7	Brackish water/freshwater fish	Kitanomedaka (hybrid population)	<i>Oryzias sakaizumii</i>	14	VU	B
8	Brackish water/freshwater fish	Kuroyoshinobori	<i>Rhinogobius brunneus</i>	14		Survey required
9	Brackish water/freshwater fish	Sakuramasu (Yamame)	<i>Oncorhynchus masou masou</i>	14	NT	Survey required
10	Brackish water/freshwater fish	Saninkogatasujishimadojo	<i>Cobitis minamori saninensis</i>	14	EN	A
11	Brackish water/freshwater fish	Sunayatsume-nanposhu	<i>Lethenteron sp. S.</i>	14	VU	B
12	Brackish water/freshwater fish	Dojo	<i>Misgurnus anguillicaudatus</i>	14	DD	Attention required
13	Brackish water/freshwater fish	Nikkoiwana	<i>Salvelinus leucomaenis pluvius</i>	14	DD	Survey required
14	Brackish water/freshwater fish	Nihonunagi	<i>Anguilla japonica</i>	14	EN	C
15	Brackish water/freshwater fish	Minamedaka	<i>Oryzias latipes</i>	14	VU	Attention required
1	Insects	Ainuhanmyo	<i>Cicindela gemmata aino</i>	11		C
2	Insects	Aoitotonbo	<i>Lestes sponsa (Hansemann, 1823)</i>	16,18		
3	Insects	Aokamikirimodoki	<i>Xanthochroa waterhousei</i>	17		
4	Insects	Aosanae	<i>Nihonogomphus viridis</i>	11		C
5	Insects	Aosuziageha	<i>Graphium sarpedon nipponum</i>	18		
6	Insects	Aosujikamiriki	<i>Xystrocera globosa (Olivier, 1795)</i>	17		
7	Insects	Aohanamuguri	<i>Cetonia roelofsi</i>	16		
8	Insects	Akaushiabu	<i>Tabanus chrysurus</i>	18,19		
9	Insects	Akasujikasumikame	<i>Stenotus rubrovittatus (Matsumura)</i>	9,10		
10	Insects	Akatateha	<i>Vanessa indica (Herbst, 1794)</i>	16		
11	Insects	Akanekisujitorakamiriki	<i>Cyrtoclytus monticallissus</i>	11		Attention required
12	Insects	Akiakane	<i>Sympetrum frequens</i>	11,16		Attention required
13	Insects	Akiosamushi	<i>Carabus chugokuensis</i>	11		Attention required
14	Insects	Asagimadara	<i>Parantica sita (Kollar, 1844)</i>	9,10		
15	Insects	Asagimadara	<i>Parantica sita nipponica</i>	18		
16	Insects	Asamaichimonji	<i>Limnitis glorifica (Fruhstorfer, 1909)</i>	16		
17	Insects	Aburazemi	<i>Graptosaltria nigrofuscata (Motschulsky, 1866)</i>	16,18		
18	Insects	Ishiwatamadarakagero	<i>Ephemerella ishiwatai</i>	11		C
19	Insects	Ichiminjiseseri	<i>Parnara guttata (Bremer & Grey, 1852)</i>	16		
20	Insects	Inagomodoki	<i>Parapleurus alliaceus</i>	18		
21	Insects	Ibobatta	<i>Trilophidia annulata japonica Saussure, 1888</i>	16,18		
22	Insects	Iyoshiroobiabu	<i>Tabanus iyoensis</i>	19		
23	Insects	Ushiabu	<i>Tabanus trigonus</i>	19		
24	Insects	Usuiroonagashijimi	<i>Antigonus butleri butleri</i>	11		Attention required
25	Insects	Usuirohyomonmodoki	<i>Melittaea profotomedia</i>	11	CR	A
26	Insects	Usubakagero	<i>Hagenomyia micans</i>	18		
27	Insects	Usubakitonbo	<i>Pantala flavescens (Fabricius, 1798)</i>	16,18		
28	Insects	Usubashirocho	<i>Parnassius citrinarius Motschulsky, 1866</i>	16		
29	Insects	Urakinshijimi	<i>Ussuriana stygiana</i>	11,16,18		Attention required
30	Insects	Uraginsujihyomon	<i>Argyronome laodice japonica</i>	11	VU	B
31	Insects	Uraginhyomon	<i>Fabriciana adippe (Butler)</i>	9,10,18		
32	Insects	Uragomadarashijimi	<i>Artopoeles pryri pryri</i>	11		Attention required
33	Insects	Urajimidorishijimi	<i>Favonius saphirinus saphirinus</i>	11		Attention required
34	Insects	Uranamijanome	<i>Ypthima multistriata nipponica</i>	11	VU	B
35	Insects	Urihamushimodoki	<i>Atrachya menetriesi (Faldermann)</i>	16		
36	Insects	Enmakorogi	<i>Teleogryllus emma (Ohmachi et Matsuura, 1951)</i>	16,18		
37	Insects	Enmakogane	<i>Orthopagus</i>	17		
38	Insects	Oitotonbo	<i>Paracercion sieboldii</i>	11		B
39	Insects	Ouraginsujihyomon	<i>Argyronome rulsiana (Motschulsky)</i>	16,18		
40	Insects	Ouraginhyomon	<i>Fabriciana nerippe (C.&R.Felder)</i>	9,10	CR	絶滅
41	Insects	Obabotaru	<i>Lucidina accensa</i>	18		
42	Insects	Okuwagata	<i>Dorcus hopei binodulosus</i>	11	VU	B
43	Insects	Ogokiburi	<i>Panesthia angustipennis spadica</i>	16		
44	Insects	Osuzumebachi	<i>Vespa mandarinia (Smith, 1852)</i>	17		
45	Insects	Ochairohanamuguri	<i>Osmoderma opicum</i>	11	NT	B
46	Insects	Ochabaneseseri	<i>Zinaida pellucida Murray, 1875</i>	9,10		
47	Insects	Onjuyahoshitento	<i>Epilachna vigintioctomaculata</i>	18		

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48	Insects	Ohakiribachi	<i>Megachile sculpturalis</i>	18		
49	Insects	Ofutahoshimagusokogane	<i>Aphodius (Aphodius) elegans</i> Alliberi, 1847	16		
50	Insects	Omagusokogane	<i>Aphodius (Colobopteris) quadratus</i> Reiche, 1850	16		
51	Insects	Omadobotaru	<i>Lychnurus discicollis</i>	18		
52	Insects	Omaruhanabachi	<i>Bombus hypocrita hypocrita</i>	18		
53	Insects	Omizuo	<i>Actias aliena</i> (Butler, 1879)	16		
54	Insects	Omurasaki	<i>Sasakia charonda charonda</i>	11	NT	C
55	Insects	Ojirosanae	<i>Stylogomphus suzukii</i> (Matsumura in Oguma, 1926)	17		
56	Insects	Onagaageha	<i>Papilio macilentus</i> (Janson, 1877)	16		
57	Insects	Onagashijimi	<i>Araragi enthea enthea</i>	11		B
58	Insects	Onikuwagata	<i>Prismognathus angularis</i>	11		Attention required
59	Insects	Oniyama	<i>Anotogaster sieboldii</i> Selys, 1854	16		
60	Insects	Obobotaru	<i>Lucidina biplagiata</i> (Motschulsky, 1866)	17		
61	Insects	Onzuishiributojokai	<i>Yukikoa onzuensis</i>	11		Survey required
62	Insects	Onubatta	<i>Atractomorpha lata</i> (Mochulsky, 1866)	16		
63	Insects	Katatsumuritobikera	<i>Helicopsyche yamadae</i>	11		C
64	Insects	Kadamaruenmakogane	<i>Orthophagus (Strandius) lenzii</i> Harold, 1874	16		
65	Insects	Kanetataki	<i>Ornebius kanetataki</i> Matsumura	17		
66	Insects	Kabutomushi	<i>Trypoxylus dichotomus</i> (L. 1771)	17		
67	Insects	Kamenokotento	<i>Aiolocaria hexaspilota</i> (Hope, 1831)	17		
68	Insects	Kamenokotento	<i>Aiolocaria hexaspilota</i>	18		
69	Insects	Kayakorogi	<i>Euscyrus japonicus</i>	11,16		B
70	Insects	Karasuageha	<i>Papilio dehaanii</i> C. Felder et R. Felder, 1864	16		
71	Insects	Karasushijimi	<i>Fixsenia w-album fentoni</i>	11		B
72	Insects	Kantan	<i>Oecanthus longicauda</i> Matsumura, 1904	16		
73	Insects	Kiageha	<i>Papilio machaon</i> Linnaeus, 1758	16,18		
74	Insects	Kirosanae	<i>Asiagomphus pryeri</i>	11		B
75	Insects	Kisujabu	<i>Tabanus fulvemedioides</i>	19		
76	Insects	Kitakicho	<i>Eurema mandarina mandarina</i>	9,10		
77	Insects	Kicho	<i>Eurema hecabe</i> Linnaeus, 1758	16,18		
78	Insects	Kinutsuyamizukusahamushi	<i>Plateumaris sericea</i>	11		C
79	Insects	Kinoshitashiroabu	<i>Tabanus kinoshitai</i>	19		
80	Insects	Kibanaseseri	<i>Burara aquilinq aquilina</i>	11		C
81	Insects	Gifucho	<i>Luehdorfia japonica</i>	11	VU	B
82	Insects	Kiboshiashinagabachi	<i>Polistes nipponensis</i>	16		
83	Insects	Kiboshikamikiri	<i>Psacotha hilaris maculata</i>	17		
84	Insects	Kimadaraseseri	<i>Potanthus flavus flavus</i>	18		
85	Insects	Kimadararuritsubame	<i>Spindasis takanonis takanonis</i>	11	NT	B
86	Insects	Kimawari	<i>Plesiophthalmus nigrocyaneus nigrocyaneus</i>	18		
87	Insects	Kirigirisu	<i>Gampsocleis</i> spp.	16,18		
88	Insects	Ginichimonjiseseri	<i>Leptalina unicolor</i>	11	NT	B
89	Insects	Kinkikorurikuwagata	<i>Platycerus takakuwai akitai</i>	11		Attention required
90	Insects	Kusagikamemushi	<i>Halyomorpha halys</i> Stal	16		
91	Insects	Kusakiri	<i>Homorocoryphus lineosus</i> (Walker, 1869)	16,18		
92	Insects	A species of Kushikometsuki	<i>Melanotus</i> sp.	18		
93	Insects	Kuchinagahabachi	<i>Nipponorthynchus mirabilis</i>	11	DD	C
94	Insects	Kutsuwamushi	<i>Mecopoda nipponensis</i>	11		C
95	Insects	Kumabachi	<i>Xylocopa appendiculata circumvolans</i>	18		
96	Insects	Kumogatahyomon	<i>Nephargynnis anadyomene ella</i>	11		C
97	Insects	Kurumabatta	<i>Gastrimargus mamoratus</i> (Thunberg, 1815)	16		
98	Insects	Kurumabattamodoki	<i>Oedaleus infernalis</i>	16,18		
99	Insects	Kuroari	<i>Camponotus japonicus</i> Mayr, 1866	16		
100	Insects	Kuroanabun	<i>Rhomborrhina polita</i>	11,16		C
101	Insects	Kurokamikiri	<i>Spondylis buprestoides</i>	16		
102	Insects	Kuroshijimi	<i>Niphanda fusca fusca</i>	11	EN	A
103	Insects	Kuronagaosamushi	<i>Carabus (Leptocarabus) procerulus</i>	17		
104	Insects	Kuroboshitsutsuhamushi	<i>Cryptocephalus signaticeps</i>	17		
105	Insects	Kuroyamaari	<i>Formica japonica</i> Motschulsky, 1866	16		
106	Insects	Kurururitogehamushi	<i>Rhadinosa nigrocyanea</i>	17		
107	Insects	Kuwakamikiri	<i>Apriona japonica</i>	11		Survey required
108	Insects	Gengoro	<i>Cybister chinensis</i>	11	VU	A
109	Insects	Genjibotaru	<i>Luciola cruciata</i> Motschulsky, 1854	17		
110	Insects	Koahanamuguri	<i>Gametis jucunda</i>	16		
111	Insects	Goishishijimi	<i>Taraka hamada hamada</i>	11		Attention required
112	Insects	Goishishijimi	<i>Taraka hamada</i> Herbert Druce, 1875	16		
113	Insects	Koezozemi	<i>Lyristes bihamatus</i> (Motschulsky, 1861)	17		
114	Insects	Kooniyamma	<i>Sieboldius albardae</i> Selys, 1886	18		
115	Insects	Kokimadaraseseri	<i>Ochlodes venatus venatus</i>	11		C
116	Insects	Kokuwagata	<i>Dorcus (Macrodercus) rectus</i> (Motschulsky, 1857)	16		
117	Insects	Kosanae	<i>Trigomphus melampus</i>	11		C
118	Insects	Kobaneaitotonbo	<i>Lestes japonicus</i>	11	EN	A
119	Insects	Kobaneinago	<i>Oxya yezoensis</i> Shiraki, 1910	16		
120	Insects	Koharaakamorihiatagomimushi	<i>Colpodes (Lissagonum) lampros</i> (Bates, 1873)	9,10		
121	Insects	Kofukikogane	<i>Melolontha japonica</i>	18		
122	Insects	Kobumaruenmakogane	<i>Orthophagus atripennis</i> Waterhouse, 1875	16		
123	Insects	Gohondaikokukogane	<i>Copris acutidens</i> Motschulsky, 1860	16		
124	Insects	Gomadarakamikiri	<i>Anoplophora malasiaca</i> (Thomson, 1865)	17		
125	Insects	Gomadaracho	<i>Hestina persimilis japonica</i> C.&R. Felder, 1862	16		
126	Insects	Komaruhanabachi	<i>Bombus ardens ardens</i>	18		

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127	Insects	Koyamatombo	<i>Macromia amphigena amphigena</i> Selys, 1871	16		
128	Insects	Sakahachicho	<i>Araschnia burejana</i> Bremer, 1861	16		
129	Insects	Sarasayanma	<i>Sarasaeschna pryeri</i>	11		B
130	Insects	Shiokaratonbo	<i>Orthetrum albistylum speciosum</i> (Uhler, 1858)	16,18		
131	Insects	Shioyaabu	<i>Promachus yesonicus</i>	18		
132	Insects	Janomecho	<i>Minois dryas</i> (Scopoli)	16,18		
133	Insects	Jushichihoshinamuguri	<i>Paratrachius septemdecimguttatus</i>	11		B
134	Insects	Shoryobatta	<i>Oriental longheaded locust</i>	16,18		
135	Insects	Shoryobattamodoki	<i>Gonista bicolor</i> (Haan, 1842)	17		
136	Insects	Shirosujkogane	<i>Polyphylla albolineata</i>	11		B
137	Insects	Shirofuabu	<i>Tabanus trigeminus</i>	19		
138	Insects	Sugitanirurishijimi	<i>Celastrina sugitanii sugitanii</i>	11		Attention required
139	Insects	Sukibahojaku	<i>Hemaris radians</i>	18	VU	
140	Insects	Sugehamushi	<i>Plateumaris sericea</i>	17		
141	Insects	Sujiguroshirocho	<i>Pennis melete</i> Menétrés, 1857	16,18		
142	Insects	Sujigurochabanaseseri	<i>Thymelicus leoninus leoninus</i>	11	NT	A
143	Insects	Sujikuwagata	<i>Dorcus (Macrodercus) striatipennis</i> (Motschulsky, 1861)	17		
144	Insects	Sujikuwagata	<i>Dorcus binervis binervis</i>	18		
145	Insects	Sujibosoyamakicho	<i>Gonepteryx aspasia nipponica</i>	11		Attention required
146	Insects	Suzumushi	<i>Homoeogryllus japonicus</i>	11		Attention required
147	Insects	Sunekebukahirokobanekamikiri	<i>Merionoeda hirsuta</i>	11		C
148	Insects	Seakaosamushi	<i>Hemicarabus tuberculatus</i>	11		Survey required
149	Insects	Senchikogane	<i>Geotrupes laevistriatus</i> Motschulsky, 1857	16,18		
150	Insects	Takanetonbo	<i>Somatochlora uchidai</i>	11,18		Attention required
151	Insects	Chichizemi	<i>Kosemia radiator</i> (Uhler, 1896)	17		
152	Insects	Tsukutsukuboshi	<i>Meimuna opalifera</i> (Walker, 1850)	16		
153	Insects	tsugenomeiga	<i>Glyphodes perspectalis</i>	18		
154	Insects	Tsunokogane	<i>Liatongus phanaeoides</i> (Westwood, 1840)	16		
155	Insects	Tsumakicho	<i>Anthocharis scolymus</i> (Butler)	17		
156	Insects	Tsumaguroinagomodoki	<i>Stethophyma magister</i>	17		
157	Insects	Tsumagurokicho	<i>Eurema laeta betheseba</i>	11,16	EN	Attention required
158	Insects	Tsumagurobatta (Tsumaguroinago)	<i>Stethophyma magister</i> (Rehn, 1902)	16		
159	Insects	Tsumagurohyomon	<i>Argyreus hyperbius</i> (Linnaeus, 1763)	16,18		
160	Insects	Tsuyakogane	<i>Anomala lucens</i>	18		
161	Insects	Teonokakutsutsobikera	<i>Lepidostoma axis</i>	11		C
162	Insects	Tokytoborakamikiri	<i>Chlorophorus yedoensis</i>	11		C
163	Insects	Tonosamabatta	<i>Locusta migratoria</i> Linnaeus, 1758	16,18		
164	Insects	Tobirokeari	<i>Lasius japonicus</i>	9,10		
165	Insects	Toramaruhanabachi	<i>Bombus diversus diversus</i>	18		
166	Insects	A species of Nagatamamushi	<i>Agrilus</i> sp.	18		
167	Insects	Nachikishitadokuga	<i>Ilema nachiensis</i>	11		Survey required
168	Insects	Natsuakane	<i>Sympetrum darwinianum</i> (Selys, 1883)	17,18		
169	Insects	Nanahoshitento	<i>Coccinella septempunctata</i> Linnaeus, 1758	17		
170	Insects	Nanahoshitento	<i>Coccinella septempunctata</i>	18		
171	Insects	Namitento	<i>Harmonia axyridis</i> (Pallas, 1773)	17		
172	Insects	Niniizemi	<i>Platyleura kaempferi</i> (Fabricius, 1794)	16,18		
173	Insects	Nisekanmrikakutsutsobikera	<i>Lepidostoma pseudemarginatum</i>	11		C
174	Insects	Nipponshirohuabu	<i>Tabanus nipponicus</i>	19		
175	Insects	Nipponhanadakabachi	<i>Bembix niponica</i>	11	VU	C
176	Insects	Nihonamikamodoki	<i>Deuterophlebia nipponica</i>	11	VU	Survey required
177	Insects	Niwanmyo	<i>Cicindela japana</i>	16		
178	Insects	Neakayoshiyanma	<i>Aeschnophlebia anisoptera</i>	11	NT	B
179	Insects	Nokogirikuwagata	<i>Prosopocollis inclinator</i> (Motschulsky, 1857)	16		
180	Insects	Noshimetombo	<i>Sympetrum infuscatum</i> (Selys, 1883)	17		
181	Insects	Hanaabu	<i>Eristalis tenax</i>	18		
182	Insects	Hanaabu-ru	Syrphidae	9,10		
183	Insects	Hananagainago	<i>Oxya japonica</i> (Thunberg, 1824)	16		
184	Insects	Hananagafukibatta	<i>Ognevia longipennis</i> (Shiraki, 1910)	16		
185	Insects	Hayashimidorishijimi	<i>Favonius ultramarinus ultramarinus</i>	11		B
186	Insects	Harahishibatta	<i>Tetrix japonica</i>	9,10		
187	Insects	Higurashi	<i>Tanna japonensis</i> Distant, 1892	16,18		
188	Insects	Hisamatsumidorishijimi	<i>Chrysozephyrus hisamatsusanus hisamatsusanus</i>	11		C
189	Insects	A species of Hishibatta	<i>Tetrix</i> sp.	16		
190	Insects	Hidakuchinagahabachi	<i>Nipponorhynchus bimaculatus</i>	11	DD	C
191	Insects	Hitotentsuyahosobae	<i>Sepsis monostigma</i> Thomson, 1869	9,10		
192	Insects	Hinakamakiri	<i>Amantis nawai</i>	11		C
193	Insects	Hinabatta	<i>Chorthippus biguttulus</i> (Linnaeus, 1758)	16,18		
194	Insects	Himeakataheha	<i>Vanessa cardui</i> (Linnaeus, 1758)	16,18		
195	Insects	Himeakane	<i>Sympetrum parvulum</i> (Bartenev, 1912)	11		Attention required
196	Insects	Himeokuwagata	<i>Dorcus montivagus</i>	11		C
197	Insects	Himekamakiri	<i>Acromantis japonica</i>	11		Attention required
198	Insects	Himegisu	<i>Eobiana engelhardti subtropica</i> BEY-BIENKO, 1949	16		
199	Insects	Himekogane	<i>Anomala rufocyprea</i>	16		
200	Insects	Himesakurakogane	<i>Anomala geniculata</i>	11		Survey required
201	Insects	Himesanae	<i>Sinogomphus flavolimbatus</i>	11		B
202	Insects	Himeharuzemi	<i>Euterpnosia chibensis chibensis</i>	11		Attention required
203	Insects	Himebirodokamikiri	<i>Acalolepta degener</i>	11		C
204	Insects	Himebotaru	<i>Luciola parvula</i>	11		Attention required
205	Insects	Hyonosenfukibatta	<i>Parapodisma hyonosenensis hyonosenensis</i>	17		

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206	Insects	Hirasanae	<i>Davidius moiwanus tarui</i>	11		A
207	Insects	Hirobimidorishijimi	<i>Favonius cognatus latifasciatus</i>	11		B
208	Insects	Fujikiobi	<i>Schistomitra funeralis</i>	11		B
209	Insects	Fujimidorishijimi	<i>Shibatanozephyrus fujisanus fujisanus</i>	11		Attention required
210	Insects	Fuchigurotoeedashaku	<i>Nyssiodes lefuarius</i>	11		Survey required
211	Insects	Fuchikemagusokogane	<i>Aphodius (Aganocrossus) postpilosus Reitter, 1895</i>	16		
212	Insects	Heikebotaru	<i>Luciola lateralis</i>	11		Attention required
213	Insects	Betsuhiratakamikiri	<i>Euryopoda batesi</i>	11		C
214	Insects	Benishijimi	<i>Lycaena phlaeas (Linnaeus, 1761)</i>	16,18		
215	Insects	Benishitaba	<i>Catocala electa zalmunna Butler, 1877</i>	17		
216	Insects	Herigurochabaneseseri	<i>Thymelicus sylvaticus sylvaticus</i>	11		C
217	Insects	Hoshichabaneseseri	<i>Aeromachus inachus inachus</i>	11	EN	A
218	Insects	Hosohanmyo	<i>Cylindera gracilis</i>	11	VU	C
219	Insects	Hosomotsunentonbo	<i>Indolestes peregrinus</i>	17		
220	Insects	Hotaruhamushi	<i>Monolepta dichroa Harold, 1877</i>	9,10		
221	Insects	Horubatoabu	<i>Atylotus horvathi</i>	19		
222	Insects	Maemonshidemushi	<i>Nicrophorus maculifrons Kraatz, 1877</i>	17		
223	Insects	Magusokuwagata	<i>Nicagus japonicus</i>	11		Survey required
224	Insects	Madarakiboshikiriga	<i>Dimorphicosmia variegata</i>	11		Survey required
225	Insects	Madarabatta	<i>Atolopus thalassinus tamulus (Fabricius, 1798)</i>	16,18		
226	Insects	Mamekogane	<i>Popillia japonica Newman, 1841</i>	9,10		
227	Insects	Mayasankobuyahazukamikiri	<i>Mesochthistatus furciferus</i>	11		C
228	Insects	Marugatagengoro	<i>Graphoderus adamsii</i>	11	VU	C
229	Insects	Mizusumashi	<i>Gyrinus japonicus</i>	11		C
230	Insects	Mitsukadokorogi	<i>Loxoblemmus doenitzi Stein, 1881</i>	17		
231	Insects	Midorishijimi	<i>Neozephyrus japonicus japonicus</i>	11		Attention required
232	Insects	Midorihyomon	<i>Argynnis paphia (Linnaeus, 1758)</i>	9,10		
233	Insects	Mimizuku	<i>Ledra auditura</i>	18		
234	Insects	Miyamaakane	<i>Sympetrum pedemontanum elatum</i>	11		C
235	Insects	Miyamakarasuageha	<i>Papilio maackii Ménétries, 1859</i>	16,18		
236	Insects	Miyamakuwagata	<i>Lucanus maculifemoratus Motschulsky, 1861</i>	16,18		
237	Insects	Miyamasanae	<i>Anisogomphus maacki</i>	11		C
238	Insects	Miyamachabaneseseri	<i>Pelopidas jansoni</i>	11		Attention required
239	Insects	Miyamanogikawagera	<i>Yoraperla uenoi</i>	11		C
240	Insects	Ninminzemi	<i>Hyalessa maculaticollis (Motschulsky, 1866)</i>	16		
241	Insects	Mukashitonbo	<i>Epiophlebia superstes</i>	11		Attention required
242	Insects	Mukashiyama	<i>Tanypteryx pryeri</i>	11		B
243	Insects	Munakobuhanakamikiri	<i>Xenophyrama purpureum</i>	11		B
244	Insects	Muneakasenichikogane	<i>Bolbocerodema nigroplagiatum</i>	16		
245	Insects	Murasakimomiji	<i>Narathura japonica</i>	18		
246	Insects	Motonotonbo	<i>Mortonagrion selenion</i>	11	NT	A
247	Insects	Monkiageha	<i>Papilio helenus (Linnaeus, 1758)</i>	16		
248	Insects	Monkicho	<i>Colias erate Esper, 1805</i>	16		
249	Insects	Monshirocho	<i>Pieris rapae (Linnaeus, 1758)</i>	16,18		
250	Insects	Monsuzumebachi	<i>Vespa crabro flavofasciata</i>	18		
251	Insects	Yabukiri	<i>Tettigonia orientalis Uvarov, 1924</i>	17		
252	Insects	Yamakimadarahikage	<i>Neope nipponica (Butler, 1881)</i>	16		
253	Insects	Yamakudamakimodoki	<i>Holochlora longifissa</i>	16		
254	Insects	Yamatoabu	<i>Tabanus rufidens</i>	16,19		
255	Insects	Yamatosujiguroshirocho	<i>Pieris nesis japonica</i>	11		Attention required
256	Insects	Yamatotamamushi	<i>Buprestidae Leach, 1815</i>	16		
257	Insects	Yamamayu (Yamamayuga)	<i>Antheraea yamamai Guérin-Méneville, 1861</i>	16		
258	Insects	Yotsukiboshikamikiri	<i>Epiglenea comes</i>	18		
259	Insects	Rurikuwagata	<i>Platycerus delicatulus</i>	11		Attention required
260	Insects	Rurihiratamushi	<i>Cucujus mniszehi</i>	11		C
261	Insects	Ruriboshikamikiri	<i>Rosalia (Rosalia) batesi Harold, 1877</i>	17		
262	Insects	Ruriboshiyanma	<i>Aeshna juncea juncea</i>	11		C
1	Other invertebrates	Aogurohashirigumo	<i>Dolomedes raptor Bösenberg & Strand, 1906</i>	6		
2	Other invertebrates	Akaogumo	<i>Araneus pinguis</i>	14		Survey required
3	Other invertebrates	Azumakishidagumo	<i>Pisaura lama Bösenberg & Strand, 1906</i>	6		
4	Other invertebrates	Amagiebisugumo	<i>Lysiteles coronatus (Grube, 1861)</i>	6		
5	Other invertebrates	Ishisawaonigumo	<i>Araneus ishisawai Kishida, 1928</i>	17		
6	Other invertebrates	Itachigumo	<i>Prochora praticola (Bösenberg & Strand, 1906)</i>	6		
7	Other invertebrates	Inabayachigumo	<i>Coelotes inabaensis</i>	14		C
8	Other invertebrates	Iwamahimegumo	<i>Cryptachaea riparia (Blackwall 1834)</i>	6		
9	Other invertebrates	A species of Uzugumo-zoku	<i>Octonoba sp.</i>	6		
10	Other invertebrates	Ususujiaetori	<i>Yaginumaella striatipes (Grube 1861)</i>	6		
11	Other invertebrates	Uzukikomorigumo	<i>Pardosa astrigera L. Koch 1878</i>	6		
12	Other invertebrates	Ezoashinagagumo	<i>Tetragnatha yesoensis S. Saito 1934</i>	6		
13	Other invertebrates	Oshirokanegumo	<i>Leucauge celebesiana (Walckenaer 1842)</i>	6		
14	Other invertebrates	A species of Odoyogumo-zoku	<i>Metleucauge sp.</i>	6		
15	Other invertebrates	Ohimegumo	<i>Parasteatoda tepidariorum (C. L. Koch 1841)</i>	6		
16	Other invertebrates	Okadangomushi	<i>Armadillidium vulgare</i>	18		
17	Other invertebrates	A species of Osukurohaetorigumo-zoku	<i>Mendoza sp.</i>	6		
18	Other invertebrates	Katotsukeogumo	<i>Phrynacarne kato</i>	14		C
19	Other invertebrates	Kabakkomachigumo	<i>Cheiracanthium japonicum Bösenberg & Strand, 1906</i>	6		
20	Other invertebrates	Karakaragumo	<i>Theridiosoma epeiroides Bösenberg & Strand, 1906</i>	6		
21	Other invertebrates	Karafutoonigumo	<i>Plebs sachalinensis (Saito, 1934)</i>	6		
22	Other invertebrates	Karafutoyasesaragumo	<i>Sachaliphantes sachalinensis</i>	14		Survey required

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23	Other invertebrates	Kizashionigumo	<i>Gibbaranea abscessa</i> (Karsch, 1879)	6		
24	Other invertebrates	Kitasenshogumo	<i>Ero furcata</i>	14		Survey required
25	Other invertebrates	Kinoborikinukirigumo	<i>Herbiphantes longiventris</i>	14		A
26	Other invertebrates	Kinoboritotategumo	<i>Conothele fragaria</i>	14	NT	A
27	Other invertebrates	Kinyogumo	<i>Menosira ornata</i>	14		C
28	Other invertebrates	Kumadahanagumo	<i>Ebelingia kumadai</i> (Ono, 1985)	6		
29	Other invertebrates	Kuroyachigumo	<i>Coelotes exiliis</i>	17		
30	Other invertebrates	Koashidakagumo	<i>Heteropoda venatoria</i> (Linnaeus, 1767)	17		
31	Other invertebrates	A species of Koshisaragumo-zoku	<i>Neriene</i> sp.	6		
32	Other invertebrates	Koonigumomodoki	<i>Pronoides brunneus</i> Schenkel, 1936	6,14		B
33	Other invertebrates	Kokeonigumo	<i>Araneus seminiger</i>	14		C
34	Other invertebrates	Koshirokanegumo	<i>Leucauge subblanda</i> Bösenberg & Strand, 1906	6		
35	Other invertebrates	Kohanagumo	<i>Diaea subdola</i> O. Pickard-Cambridge, 1885	6		
36	Other invertebrates	Sapporofukurogumo	<i>Clubiona sapporensis</i> Hayashi, 1986	6		
37	Other invertebrates	Sanrodoyogumo	<i>Meta japonica</i>	14		Survey required
38	Other invertebrates	Jigumo	<i>Atypus karschi</i> Dönitz, 1887	6		
39	Other invertebrates	Shinobigumo	<i>Sinobius orientalis</i>	14		B
40	Other invertebrates	Shibogumomodoki	<i>Zora spinimana</i>	14		B
41	Other invertebrates	Shirosujishojogumo	<i>Hypsosinga sanguinea</i> (C. L. Koch, 1844)	6		
42	Other invertebrates	Sujikahashirigumo	<i>Dolomedes silvicola</i> Tanikawa & Miyashita, 2008	6		
43	Other invertebrates	Sujibutokomorigumo	<i>Alopecosa virgata</i>	14		A
44	Other invertebrates	Sesujikakejigumo	<i>Taira flavidorsalis</i> (Yaginuma, 1964)	6,14		C
45	Other invertebrates	Daisenyachigumo	<i>Coelotes ehrai</i>	14		C
46	Other invertebrates	Takaneebisugumo	<i>Lysiteles maior</i>	14		C
47	Other invertebrates	Takayuhimegumo	<i>Takayus takayensis</i> (Saito, 1939)	6		
48	Other invertebrates	Tajimahorahimegumo	<i>Nesticus nishikawai</i>	14		A
49	Other invertebrates	Chikunidooyogumo	<i>Metteucauge chikunii</i> Tanikawa, 1992	6		
50	Other invertebrates	Chakouranamekuji	<i>Lehmannia valentianus</i>	18		
51	Other invertebrates	Chugatakoganeigumo	<i>Argiope boesenbergi</i>	18		
52	Other invertebrates	Chobihigenukagumo	<i>Walckenaeria golovatchi</i>	14		Survey required
53	Other invertebrates	Tsuyugumo	<i>Micrommata virescens</i> (Clerck, 1757)	6		
54	Other invertebrates	Nishikionigumo	<i>Araneus variegatus</i> Yaginuma, 1960	6		
55	Other invertebrates	Niseakamunegumo	<i>Gnathonarium excisatum</i> (Bösenberg & Strand, 1906)	6		
56	Other invertebrates	Nekohaetori	<i>Carthotus xanthogramma</i> (Latreille, 1819)	6		
57	Other invertebrates	A species of Haetorigumo-ka	Gen. sp.	6		
58	Other invertebrates	Hashiguronankingumo	<i>Neserigone nigriterminorum</i> (Oi, 1960)	6		
59	Other invertebrates	Harigekomorigumo-fukugogun	<i>Pardosa laura</i> complex	6		
60	Other invertebrates	A species of Hishigatagumo-zoku	<i>Episinus</i> complex	6		
61	Other invertebrates	Himeashidakagumo	<i>Sinopoda stellatops</i>	14		B
62	Other invertebrates	A species of Fukurogumo-zoku	<i>Clubiona</i> sp.	6		
63	Other invertebrates	Herjirosaragumo	<i>Neriene odedicata</i> van Helsdingen, 1969	6		
64	Other invertebrates	Honkuroboshikanigumo	<i>Xysticus atrimaculatus</i> Bösenberg & Strand, 1906	6		
65	Other invertebrates	Maganeasahihaetori	<i>Phintella arenicolor</i> (Grube, 1861)	6		
66	Other invertebrates	Mamikurohaetori	<i>Evarcha fasciata</i> Seo, 1992	6		
67	Other invertebrates	Miyamauzumushi	<i>Phagocata vivida</i>	13		Survey required
68	Other invertebrates	Mutsutogisekigumo	<i>Ordgarius sexspinosus</i>	14		C
69	Other invertebrates	Mutsuboshionigumo	<i>Araniella yaginumai</i> Tanikawa, 1995	6		
70	Other invertebrates	Munegurosaragumo	<i>Ketambea nigripectoris</i> (Oi, 1960)	6		
71	Other invertebrates	Meganedoyogumo	<i>Metteucauge yunohamensis</i> (Bösenberg & Strand, 1906)	6		
72	Other invertebrates	Yamaonigumo	<i>Araneus uyemurai</i> Yaginuma, 1960	6		
73	Other invertebrates	Yamajidooyogumo	<i>Zhinu reticuloides</i> (Yaginuma, 1958)	6		
74	Other invertebrates	A species of Yamayachigumo-zoku	<i>Tegeocoelotes</i> sp.	6		
75	Other invertebrates	Yorimegumo	<i>Conculus lyugadinus</i>	14		Attention required
76	Other invertebrates	Wakabagumo	<i>Oxytate striatipes</i> L. Koch, 1878	6		
77	Other invertebrates	Warajimushi	<i>Porcellio scaber</i>	18		
1	Birds	Aogera	<i>Picus awokera</i>	12		C
2	Birds	Aoji	<i>Emberiza spodocephala</i>	12		A
3	Birds	Aoshigi	<i>Gallinago solitaria</i>	12		B
4	Birds	Aobazuku	<i>Ninox scutulata</i>	12		B
5	Birds	Aobato	<i>Treron sieboldii</i> (Temminck, 1835)	17		
6	Birds	Akagashirasagi	<i>Ardeola bacchus</i>	12		Attention required
7	Birds	Akagera	<i>Dendrocopos major</i>	12		C
8	Birds	Akashobin	<i>Halcyon coromanda</i>	12		B
9	Birds	Akamozi	<i>Lanius cristatus superciliosus</i>	12	EN	B
10	Birds	Arisui	<i>Jynx torquilla</i>	12		B
11	Birds	Ikaruchidori	<i>Charadrius placidus</i>	12		B
12	Birds	Isuka	<i>Loxia curvirostra</i>	12		Survey required
13	Birds	Isoshigi	<i>Actitis hypoleucos</i>	12		C
14	Birds	Inuwashi	<i>Aquila chrysaetos japonica</i>	12	EN	A
15	Birds	Iwatsubame	<i>Delichon urbica</i> (Linnaeus, 1758)	9,10		
16	Birds	Uguisu	<i>Horornis diphone</i> (Kittlitz, 1830)	9,10		
17	Birds	Uzura	<i>Coturnix japonica</i>	12	VU	A
18	Birds	Uso	<i>Pyrrhula pyrrhula</i> Linnaeus, 1758	17		
19	Birds	Oakagera	<i>Dendrocopos leucotos</i>	12		B
20	Birds	Okonohazuku	<i>Otus lempiji</i>	12		B
21	Birds	Ojishigi	<i>Gallinago hardwickii</i>	12	NT	B
22	Birds	Osorihashishigi	<i>Limosa lapponica baueri</i>	12	VU	B
23	Birds	Otake	<i>Accipiter gentilis fujiyamae</i>	12	VU	B
24	Birds	Ohakucho	<i>Cygnus cygnus</i>	12		B

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25	Birds	Omashiko	<i>Carpodacus roseus</i>	12		Survey required
26	Birds	Oyoshikiri	<i>Acrocephalus orientalis</i>	12		Attention required
27	Birds	Oruri	<i>Cyanoptilia cyanomelana</i>	12		Attention required
28	Birds	Oshidori	<i>Aix galericulata</i>	12	DD	B
29	Birds	Ojirowashi	<i>Haliaeetus albicilla albicilla</i>	12	VU	B
30	Birds	Obashigi	<i>Calidris tenuirostris</i>	12		C
31	Birds	Kakesu	<i>Garrulus glandarius (Linnaeus, 1758)</i>	17		
32	Birds	Kashiradaka	<i>Emberiza rustica Pallas, 1776</i>	9,10		
33	Birds	Kawagarasu	<i>Cinclus pallasii</i>	12		C
34	Birds	Kawasemi	<i>Alcedo atthis</i>	12		Attention required
35	Birds	Kawarahiwa	<i>Carduelis sinica (Linnaeus, 1766)</i>	9,10		
36	Birds	Kiji	<i>Phasianus versicolor Vieillot, 1825</i>	9,10		
37	Birds	Kijibato	<i>Streptopelia orientalis (Latham, 1790)</i>	9,10		
38	Birds	Kibitaki	<i>Ficedula narcissina</i>	12		Attention required
39	Birds	Kumataka	<i>Nisaeetus nipalensis orientalis</i>	12	EN	A
40	Birds	Kuroji	<i>Emberiza variabilis</i>	12		B
41	Birds	Keashinosuri	<i>Buteo lagopus</i>	12		B
42	Birds	Konotori	<i>Ciconia boyciana</i>	12	CR	A
43	Birds	Kogara	<i>Poecile montanus</i>	12		Attention required
44	Birds	Kosamebitaki	<i>Muscicapa dauurica</i>	12		C
45	Birds	Koshiakatsubame	<i>Hirundo daurica Linnaeus, 1771</i>	9,10		
46	Birds	Gojukara	<i>Sitta europaea</i>	12		B
47	Birds	Kochogenbo	<i>Falco columbarius</i>	12		C
48	Birds	Konohazuku	<i>Otus sunia</i>	12		A
49	Birds	Komadori	<i>Luscinia akahige</i>	12		B
50	Birds	Komimizuku	<i>Asio flammeus</i>	12		B
51	Birds	Komukudori	<i>Agropsar philippensis</i>	12		Attention required
52	Birds	Koyoshikiri	<i>Acrocephalus bistrigiceps</i>	12		C
53	Birds	Koruri	<i>Luscinia cyane</i>	12		B
54	Birds	Sasagoi	<i>Butorides striata</i>	12		C
55	Birds	Sashiba	<i>Bulastur indicus</i>	12	VU	B
56	Birds	Sanshokui	<i>Pericrocotus divaricatus divaricatus</i>	12	VU	C
57	Birds	Shinorigamo	<i>Histrionicus histrionicus</i>	12		B
58	Birds	Shime	<i>Coccothraustes coccothraustes (Linnaeus, 1758)</i>	17		
59	Birds	Juichi	<i>Hierococcyx hyperythrus</i>	12		C
60	Birds	Jobitaki	<i>Phoenicurus aureus (Pallas, 1776)</i>	9,10		
61	Birds	Shirochidori	<i>Charadrius alexandrinus dealbatus</i>	12	VU	A
62	Birds	Shirohara	<i>Turdus pallidus Gmelin, 1789</i>	17		
63	Birds	Suzume	<i>Passer montanus</i>	15		
64	Birds	Sendaimushikui	<i>Phylloscopus coronatus (Temminck & Schlegel, 1847)</i>	17		
65	Birds	Sorhashishigi	<i>Xenus cinereus</i>	12		B
66	Birds	Daihakushigi	<i>Numenius arquata</i>	12		B
67	Birds	Tashigi	<i>Gallinago gallinago</i>	12		B
68	Birds	Chigohayabusa	<i>Falco subbuteo</i>	12		C
69	Birds	Chusagi	<i>Egretta intermedia intermedia</i>	12	NT	C
70	Birds	Tsugumi	<i>Turdus eunomus Temminck, 1831</i>	9,10		
71	Birds	Tsubame	<i>Hirundo rustica Linnaeus, 1758</i>	9,10		
72	Birds	Tsumi	<i>Accipiter gularis</i>	12		B
73	Birds	Tobi	<i>Milvus migrans (Boddaert, 1783)</i>	9,10		
74	Birds	Nojiko	<i>Emberiza sulphurata</i>	12	NT	A
75	Birds	Nosuri	<i>Buteo buteo</i>	12		B
76	Birds	Nobitaki	<i>Saxicola torquatus</i>	12		A
77	Birds	Haiirochuhi	<i>Circus cyaneus</i>	12		C
78	Birds	Haitaka	<i>Accipiter nisus nisosimilis</i>	12	NT	C
79	Birds	Hashibutogarasu	<i>Corvus macrorhynchos</i>	15		
80	Birds	Hashibosogarasu	<i>Corvus corone</i>	15		
81	Birds	Hachikuma	<i>Pernis ptilorhynchus orientalis</i>	12	NT	B
82	Birds	Hayabusa	<i>Falco peregrinus japonensis</i>	12	VU	B
83	Birds	Harioamatsubame	<i>Hirundapus caudacutus (Latham, 1802)</i>	9,10		
84	Birds	Hikuina	<i>Porzana fusca erythrothorax</i>	12	NT	B
85	Birds	Himeamatsubame	<i>Apus nipalensis</i>	12		B
86	Birds	Hiyodori	<i>Hypsipetes amaurotis</i>	15		
87	Birds	Bupposo	<i>Eurystomus orientalis calonyx</i>	12	EN	A
88	Birds	Benihiwa	<i>Carduelis flammea</i>	12		Survey required
89	Birds	Hoaka	<i>Emberiza fucata</i>	12		A
90	Birds	Hojiro	<i>Emberiza cioides Brandt, 1843</i>	9,10		
91	Birds	Magan	<i>Anser albifrons albifrons</i>	12	NT	C
92	Birds	Mamijiro	<i>Zoothera sibirica</i>	12		B
93	Birds	Misago	<i>Pandion haliaetus haliaetu s</i>	12	NT	A
94	Birds	Miyamahojiro	<i>Emberiza elegans Temminck, 1836</i>	17		
95	Birds	Miyubishigi	<i>Calidris alba</i>	12		B
96	Birds	Mebosomushikui	<i>Phylloscopus xanthodryas</i>	12		B
97	Birds	Mozu	<i>Lanius bucephalus Temminck & Schlegel, 1847</i>	9,10		
98	Birds	Yairocho	<i>Pitta nympha</i>	12	EN	Survey required
99	Birds	Yatsugashira	<i>Upupa epops</i>	12		Survey required
100	Birds	Yabusame	<i>Urosphena squameiceps (Swinhoe, 1863)</i>	9,10		
101	Birds	Yamashigi	<i>Scolopax rusticola</i>	12		B
102	Birds	Yamasemi	<i>Megaceryle lugubris</i>	12		B
103	Birds	Yamadori	<i>Syrnaticus soemmerringii</i>	12		Attention required

No.	Classification	Japanese name	Scientific name	Reference	MOE Red List 2017	Hyogo Prefectural Red List
104	Birds	Yukihojiro	<i>Plectrophenax nivalis</i>	12		Survey required
105	Birds	Yotaka	<i>Caprimulgus indicus jotaka</i>	12	NT	A
106	Birds	Ruribitaki	<i>Tarsiger cyanurus</i>	12		A
1	Reptiles	Shiromadara	<i>Dinodon orientale</i>	14		C
2	Reptiles	Takachihohebi	<i>Achalinus spinalis</i>	14		C
3	Reptiles	Nihonishigame	<i>Mauremys japonica</i>	14	NT	C
4	Reptiles	Nihonkanahebi	<i>Lacerta tachydromoides</i> Schlegel, 1838	9,10		
5	Reptiles	Nihonmamushi	<i>Gloydus blomhoffii</i> (Boie, 1826)	9,10		
6	Reptiles	Hibakari	<i>Hebius vibakari</i>	14		Attention required
1	Mammals	Akanezumi	<i>Apodemus speciosus</i> (Temminck, 1844)	17		
2	Mammals	Araiguma	<i>Procyon lotor</i>	15		
3	Mammals	Kikugashirakomori	<i>Rhinolophus ferrumequinum</i>	14		Survey required
4	Mammals	Kobemogura	<i>Mogera wogura</i> (Temminck, 1842)	9,10		
5	Mammals	Kokikugashirakomori	<i>Rhinolophus cornutus</i>	14		Survey required
6	Mammals	Kotengukomori	<i>Murina ussuriensis</i>	14		Survey required
7	Mammals	Sumisunozumi	<i>Eothenomys smithii</i>	14		Survey required
8	Mammals	Tanuki	<i>Nyctereutes procyonides</i>	15		
9	Mammals	Tsukinowaguma	<i>Ursus thibetanus</i>	14	LP	Attention required
10	Mammals	Nihonanaguma	<i>Meles anakuma</i>	15		
11	Mammals	Nihonitachi	<i>Mustela itatsi</i>	6		
12	Mammals	Nihoninoshishi	<i>Sus scrofa leucomystax</i>	15		
13	Mammals	Nihonzaru	<i>Macaca fuscata</i>	15		
14	Mammals	Nihonjika	<i>Cervus nippon</i>	15		
15	Mammals	Nihonjinezumi	<i>Crocidura dsinezumi</i>	14		Attention required
16	Mammals	Nihonnousagi	<i>Lepus brachyurus</i>	6		
17	Mammals	Nutoria	<i>Myocastor coypus</i>	15		
18	Mammals	Hakubishin	<i>Paguma larvata</i>	15		
19	Mammals	Hatanezumi	<i>Microtus montebelli</i> Milne-Edwards, 1872	17		
20	Mammals	Himizu	<i>Urotrichus talpoides</i> Temminck, 1841	17		
21	Mammals	Himenezumi	<i>Apodemus argenteus</i> (Temminck, 1844)	17		
22	Mammals	Hondogitsune	<i>Vulpes vulpes japonica</i> Gray, 1868	9,10		
23	Mammals	Hondoten	<i>Martes melampus melampus</i> Wagner, 1840	6,9,10		
24	Mammals	Musasabi	<i>Petaurista leucogenys</i>	14		A
25	Mammals	Momjirakomori	<i>Myotis macrodactylus</i>	14		Survey required
26	Mammals	Yamane	<i>Glirulus japonicus</i>	14		A
27	Mammals	Yubinagakomori	<i>Miniopterus fuliginosus</i>	14		Survey required
1	Amphibians	Akaharaimori	<i>Cynops pyrrhogaster</i>	14	NT	Attention required
2	Amphibians	Abesanshouo	<i>Hynobius abei</i>	14	CR	A
3	Amphibians	Osanshouo	<i>Andrias japonicus</i>	14	VU	B
4	Amphibians	Kajikagaeru	<i>Buergeria buergeri</i>	14		C
5	Amphibians	Kasumisanshouo	<i>Hynobius nebulosus</i>	14	VU	B
6	Amphibians	Shuregeruaogaeru	<i>Rhacophorus schlegelii</i>	14		C
7	Amphibians	Tagogaeru	<i>Rana tagoi tagoi</i>	14		C
8	Amphibians	Tonosamagaeru	<i>Pelophylax nigromaculatus</i> (Hallowell, 1861)	17,18	NT	
9	Amphibians	Nagaretagogaeru	<i>Rana sakuraii</i>	14		B
10	Amphibians	Nihonakagaeru	<i>Rana japonica</i>	14		C
11	Amphibians	Nihonamagaeru	<i>Hyla japonica</i>	18		
12	Amphibians	Hakonesanshouo	<i>Onychodactylus japonicus</i>	14		B
13	Amphibians	Hikiagaeru	<i>Bufo japonicus japonicus</i>	14		C
14	Amphibians	Hidasanshouo	<i>Hynobius kimurae</i>	14	NT	B
15	Amphibians	Moriaogaeru	<i>Rhacophorus arboreus</i>	14		B
16	Amphibians	Yamaakagaeru	<i>Rana ornativentris</i>	14		C

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Red List of the Ministry of the Environment

- EX: Extinct
- EW: Extinct in the Wild
- CR: Critically Endangered
- EN: Endangered
- VU: Vulnerable
- NT: Near Threatened
- DD: Data Deficient
- LP: Local Population

Hyogo Prefectural Red List

- Rank A: Corresponding to "Critically Endangered" or "Endangered" in the Red List of the Ministry of the Environment. Species that require urgent/strict conservation measures such as those in danger of extinction in Hyogo Prefecture
- Rank B: Corresponding to "Vulnerable" in the Red List of the Ministry of the Environment. Species that require utmost efforts to preserve their habitats/homes such as those facing increasing risk of extinction in Hyogo Prefecture
- Rank C: Corresponding to "Near Threatened" in the Red List of the Ministry of the Environment. Species with a fragile foundation for living in Hyogo Prefecture
- Attention required: Species that provide an indication of the excellence of natural environment and other rare species
- Regionally rare species: Species that are not so rare in Hyogo Prefecture as a whole but as rare as Rank A, B or C, or "Attention required" level in specific regions, and regarded as "population deemed particularly important in academic fields," "biogeographically important population," or "population deemed important as a conservation unit"
- Survey required: Species whose importance cannot be assessed at present because of insufficient data on their habitation in Hyogo Prefecture, but that can be identified as rare species depending on the results of future surveys

Biodiversity List (Agricultural Products)

No.	Japanese name	Scientific name	Classification
1	Asuparagasu	<i>Asparagus officinalis</i> L.	Vegetables
2	Ichigo	<i>Fragaria ananassa</i>	Vegetables
3	Udo	<i>Aralia cordata</i>	Vegetables
4	Egoma	<i>Perilla frutescens</i>	Vegetables
5	Edamame	<i>Glycine max</i>	Vegetables
6	Endo	<i>Pisum sativum</i>	Vegetables
7	Okura	<i>Abelmoschus esculentus</i>	Vegetables
8	Kabu	<i>Brassica campestris</i> L.	Vegetables
9	Kabocha	<i>Cucurbita moschata</i>	Vegetables
10	Kiui-Fururu	<i>Actinidia deliciosa</i>	Vegetables
11	Kiku (Shokuyo-giku)	<i>Chrysanthemum morifolium</i> Ramatuelle.	Vegetables
12	Kyabetsu	<i>Brassica oleracea</i> var. <i>capitata</i>	Vegetables
13	Kyuri	<i>Cucumis sativus</i> L.	Vegetables
14	Yamanoimo	<i>Dioscorea japonica</i>	Vegetables
15	Gurandokaba	<i>Pachysandra</i>	Vegetables
16	Tsurureishi (Goya)	<i>Momordica charantia</i> var. <i>pavel</i>	Vegetables
17	Gobo	<i>Arctium lappa</i> L.	Vegetables
18	Komatsuna	<i>Brassica rapa</i> var. <i>perviridis</i>	Vegetables
19	Sasage	<i>Vigna unguiculata</i>	Vegetables
20	Satsumaimo	<i>Ipomoea batatas</i>	Vegetables
21	Satoimo	<i>Colocasia esculenta</i>	Vegetables
22	Nasu	<i>Solanum melongena</i>	Vegetables
23	Shungiku	<i>Glebionis coronaria</i>	Vegetables
24	Shoga	<i>Zingiber officinale</i>	Vegetables
25	Shiroazuki	<i>Vigna angularis</i>	Vegetables
26	Suika	<i>Citrullus lanatus</i>	Vegetables
27	Soba	<i>Fagopyrum esculentum</i>	Vegetables
28	Soramame	<i>Vicia faba</i>	Vegetables
29	Daikon	<i>Raphanus sativus</i> var. <i>longipinnatus</i>	Vegetables
30	Tamanegi	<i>Allium cepa</i>	Vegetables
31	Togarashi	<i>Capsicum annuum</i>	Vegetables
32	Tomorokoshi	<i>Zea mays</i>	Vegetables
33	Tomato	<i>Solanum lycopersicum</i>	Vegetables
34	Naganegi	<i>Allium fistulosum</i>	Vegetables
35	Ninjin	<i>Daucus carota</i> subsp. <i>Sativus</i>	Vegetables
36	Ninniku	<i>Allium sativum</i>	Vegetables
37	Hakusai	<i>Brassica rapa</i> var. <i>pekinensis</i>	Vegetables
38	Hasu (Renkon)	<i>Nelumbo nucifera</i>	Vegetables
39	Ebisugusa (Habucha)	<i>Senna obtusifolia</i>	Vegetables
40	Bareisho	<i>Solanum tuberosum</i> L.	Vegetables
41	Rakkasei	<i>Arachis hypogaea</i>	Vegetables
42	Piman	<i>Capsicum annuum</i> L.	Vegetables
43	Hie	<i>Echinochloa esculenta</i>	Vegetables
44	Fuki	<i>Petasites japonicus</i>	Vegetables
45	Burokkori	<i>Brassica oleracea</i> var. <i>italica</i>	Vegetables
46	Horenso	<i>Spinacia oleracea</i>	Vegetables
47	Myoga	<i>Zingiber mioga</i>	Vegetables
48	Yakon	<i>Smilaxnthus sonchifolius</i>	Vegetables
49	Retasu	<i>Lactuca sativa</i>	Vegetables
50	Wasabi	<i>Wasabia japonica</i>	Vegetables
51	Kurodaizu	<i>Glycine max</i>	Vegetables
52	Aosayaingen	<i>Phaseolus vulgaris</i>	Vegetables
53	Aosayaendo (excl. Usuiendo)	podded pea	Vegetables
54	Dainagonazuki	<i>Vigna angularis</i>	Vegetables
55	Ichijiku	<i>Ficus carica</i> L.	Fruit trees

No.	Japanese name	Scientific name	Classification
56	Ume	<i>Prunus mume</i>	Fruit trees
57	Kaki	<i>Diospyros kaki</i>	Fruit trees
58	Ginnan	<i>Ginkgo biloba</i>	Fruit trees
59	Kuri	<i>Castanea crenata</i>	Fruit trees
60	Keyaki	<i>Zelkova serrata</i>	Fruit trees
61	Sumomo	<i>Prunus salicina</i>	Fruit trees
62	Tochi	<i>Aesculus turbinata</i>	Fruit trees
63	Hassaku	<i>Citrus hassaku</i>	Fruit trees
64	Hinoki	<i>Chamaecyparis obtusa</i>	Fruit trees
65	Budo	<i>Vitis vinifera</i> L.	Fruit trees
66	Buruberi	<i>Vaccinium corymbosum</i> .	Fruit trees
67	Unshumikan	<i>Citrus unshiu</i>	Fruit trees
68	Momo	<i>Amygdalus persica</i> L.	Fruit trees
69	Yuzu	<i>Citrus junos</i>	Fruit trees
70	Ringo	<i>Malus domestica</i> Borkh.	Fruit trees
71	Sansho	<i>Zanthoxylum piperitum</i>	Fruit trees
72	Asakurazansho	<i>Zanthoxylum piperitum</i> f.inerme	Fruit trees
73	Nihonnashi	<i>Pyrus pyrifolia</i> var.culta	Fruit trees
74	Kosumosu	<i>Cosmos</i> Cav.	Flowering/ornamental plants
75	Himawari	<i>Helianthus annuus</i>	Flowering/ornamental plants
76	Renge	<i>Astragalus sinicus</i> L.	Flowering/ornamental plants
77	Hasu	<i>Nelumbo nucifera</i>	Flowering/ornamental plants
78	Kiku	<i>Chrysanthemum morifolium</i> Ramatuelle.	Flowering/ornamental plants
79	Ezogiku (Asuta)	<i>Callistephus chinensis</i>	Flowering/ornamental plants
80	Keito	<i>Celosia argentea</i>	Flowering/ornamental plants
81	Rindo	<i>Gentiana scabra</i> Bunge var. buergeri (Miq.) Maxim.	Flowering/ornamental plants
82	WCS Ine	<i>Oryza sativa</i> .	Forage crops
83	Itarianraigurasu	<i>Lolium multiflorum</i> Lam.	Forage crops
84	Enbaku	<i>Avena sativa</i>	Forage crops
85	Sudangurasu	<i>Sorghum × drummondii</i>	Forage crops
86	Sorugamu (Sorugo)	<i>Sorghum bicolor</i> (L.) Moench.	Forage crops
87	Hie	<i>Echinochloa esculenta</i>	Forage crops
88	Raimugi	<i>Secale cereale</i>	Forage crops