

Appendix 4

**Management plan and other plans
applying to the nominated site**

4-A Management Plan for the Shiretoko World Natural Heritage Nominated Site

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1. Introduction

The Shiretoko World Heritage Natural Property Nominated Site (Nominated Site) and its surrounding marine areas are located in the southernmost area for the seasonal sea ice in the Northern Hemisphere and the sea ice triggers high levels of plankton which forms the base of the food cycle that supports a diverse range of wildlife in the area.

The chum salmon *Oncorhynchus keta*, pink salmon *Oncorhynchus gorbuscha*, masu salmon *Oncorhynchus masou masou* and dolly varden *Salvelinus malma* of Shiretoko travel between the sea and rivers and support a wide range of wildlife including large mammals such as the brown bear *Ursus arctos* and endangered birds of prey such as Blakiston's fish-owl *Ketupa blakistoni blakistoni*, Steller's sea eagle *Haliaeetus pelagicus* and white-tailed eagle *H. albicilla* as well as various marine mammals and seabirds in Shiretoko. The diverse ecosystems consist of northern and southern species of fauna and flora which reflect the complex interactions of the natural environment of land and sea. The beauty of the nature is outstanding as the site is filled with an assortment of landscapes including the steep peaks of the Shiretoko mountain ranges formed by volcanic activities, virgin forests which cover the mountainside, sheer cliffs along the coastline and various marshes, lakes and swamps.

The natural environment of Shiretoko which contains globally unique ecosystems and landscapes is a valuable resource for all mankind and should be preserved in good form for future generations.

2. Objectives

In the course of recommending Shiretoko as a World Natural Heritage site, this management plan was prepared to appropriately conserve and manage the extremely diverse, unique and valuable natural environment of the Nominated Site for future generations.

The management plan clarifies the basic policies related to the issues such as operating relevant legislations and promoting various programs in order to implement an adequate and effective administration for the Nominated Site by realizing close collaboration and cooperation among the governmental agencies responsible for the various systems related to the conservation and administration of the Nominated Site (Ministry of the Environment, Forestry Agency, Agency for Cultural Affairs and Hokkaido prefectural government), local governments (Shari town and Rausu town), other concerned governmental agencies and organizations closely involved in the

conservation, management and utilization of the Nominated Site such as organizations related to fishery and tourism (related bodies).

3. Overview of the Nominated Site

(1) Location

The Nominated Site is situated within the peninsula located at the northeastern tip of Hokkaido flanked by the Sea of Okhotsk and the Nemuro Strait between 43° 56' 58" N to 44° 21' 08" N and 144° 57' 57" E to 145° 23' 02" E.

The relevant municipalities for the site are Shari town, Shari-gun and Rausu town, Menashi-gun in Hokkaido prefecture.

(2) Area size

The size of the Nominated Site is approximately 56,100 hectares (including approx. 7,400 ha of marine area).

The nominated site consists of the areas described below which were determined by taking into consideration conditions such as the characteristics of the natural and social environments as well as conservation status based on the protective systems.

The Core area of the Nominated Site covers the area (approx. 34,000 ha) surrounding the central mountain ranges of the Shiretoko Peninsula including some parts of the coastline on the Shari town side. Most of the area is covered by the Onnebetsudake Wilderness Area, the Special Protection Zone and Class 1 Special Zone in the Shiretoko National Park as well as the Preservation Zone in the Shiretoko Forest Ecosystem Reserve and the Special Protection Area in the Shiretoko National Wildlife Protection Area.

The Buffer area covers the area (approx. 22,100 ha including some 7,400 ha of sea) surrounding the Core area and the sea area within one kilometer from the coastline (shoreline). It consists of the Special Protection Zone, Class 1, 2 and 3 Special Zones and the Ordinary Zone in the Shiretoko National Park, the Conservation and Utilization Zone in the Shiretoko Forest Ecosystem Reserve and the Shiretoko National Wildlife Protection Area.

(3) General description

The Nominated Site is one of the few rare locations in Japan where the virgin natural environment has been preserved. The steep peaks and sheer cliffs created by volcanic activities have protected the rich nature and supported its diverse wildlife.

The Nominated Site is an outstanding example of an integrated ecosystem that con-

sists of a terrestrial ecosystem interlinked with a marine ecosystem which reflects the unique characteristics of the seasonal sea ice area at the world's lowest latitude. The nutrients supplied by sea ice proliferates blooms of phytoplankton such as ice algae (algae growing on the bottom surface of the sea ice) which are the starting point of the food chain including fish, birds and mammals that dynamically links the ecosystems of the sea, rivers and forests. In addition, the Nominated Site features a unique composition and distribution of fauna and flora such as the coexistence of southern and northern species reflecting the geographical location and diverse natural conditions. Further, the Nominated Site is an important breeding or wintering ground for many globally rare species such as Blakiston's fish-owl *Ketupa blakistoni blakistoni*, Steller's sea eagle *Haliaeetus pelagicus* and white-tailed eagle *H. albicilla* and therefore, it is an essential habitat for the conservation of these species. Furthermore, the natural beauty of the Nominated Site is outstanding with its virgin landscape which dramatically changes with the four seasons.

The Nominated Site includes a number of protected areas (Onnebetsudake Wilderness Area, Shiretoko National Park, Shiretoko Forest Ecosystem Reserve and the Shiretoko National Wildlife Protection Area) designated by the Ministry of the Environment and the Forestry Agency which ensure that the natural environment is secured and preserved undamaged from the effects of human activities.

(4) Natural environment

a. Topography and geology

The Nominated Site is located in the Shiretoko Peninsula which is a narrow peninsula approximately 25 kilometers wide at its base and protrudes 70 kilometers out to the southern boundary of the Sea of Okhotsk. It is flanked by the Sea of Okhotsk on the west and the Nemuro Strait in the east. A volcanic group higher than 1,500 meters above sea level are situated along the center of the Peninsula including the highest peak of Mt. Rausu (altitude 1,661m). Apart from some marine terraces, the landscape on the peninsula is steep with little flat ground between the peaks and the coastline. The peninsula was formed by various topographic forces such as plate movements, volcanic activities and sea erosion which formed a wide range of landscapes including curious rock formations, sea cliffs and volcanic terrain. Among the active volcanoes in the peninsula, Mt. Iou (altitude 1,563 m) is world famous for spewing molten sulfur for eight months in 1936.

b. Climate

The climate of the Nominated Site is largely affected by the sea. In addition, the existence of the Shiretoko mountain ranges has a large impact on the climate and there is a significant difference in temperature and precipitation between east and west parts of the peninsula. The Rausu side receives a high precipitation as the humid southeastern winds from the sea blow towards the Shiretoko mountain ranges in summer and low temperatures are frequent due to the development of sea fog. In

winter, there is relatively heavy snowfall and temperatures are higher than the Shari side due to the influence of the marine climate. On the other hand, the Shari side has hot summers with little precipitation because of the foehn phenomenon on the north of the Shiretoko mountain ranges and of the effects of the Soya Current. The temperature is low in winter due to the seasonal northwestern winds and the sea ice which reflects sunlight and blocks the heat radiation from the sea water to the atmosphere.

c. Sea ice

Due to topographical and geographical conditions, the Sea of Okhotsk is the most southern (lowest latitude) ocean in the world as a seasonal sea ice area. This is due to the following three unique conditions: The Sea of Okhotsk has a double-layered structure with a large difference in salinity between the surface layer and lower layer. The sea is surrounded by land and there is little exchange of sea water with the open sea. The cold air from Siberia blows over the area and effectively chills the sea water. The sea ice that forms in the Sea of Okhotsk reaches as far south as the Nominated Site and the surrounding area. The sea ice leads the occurrence of phytoplankton which becomes food source for the zooplankton and supports an extensive food chain for the higher level consumers such as fish, marine mammals and terrestrial wildlife.

d. Plants

The majority of the vegetation of the Nominated Site is preserved in virgin condition. While the altitude changes is only some 1,600 meters from the coast to the mountain peaks, alpine plants such as Japanese stone pine *Pinus pumila* and other alpine plant communities are developed at relatively low altitudes, and diverse vegetation is distributed vertically at the site.

In the coastal area of the Shiretoko Peninsula, the vegetation consists mainly of alpine/arctic to subalpine/subarctic plants which covers areas such as rocky coasts and the surrounding area with little development of soil.

The forest vegetation in the low altitude areas consists of a mosaic of three types of forests:

- the cool temperate deciduous broad-leaved forest with species such as Japanese oak *Quercus mongolica* var. *grosseserrata* and painted maple *Acer mono* etc.
- the subarctic evergreen coniferous forest with species such as Sakhalin fir *Abies sachalinensis* and Sakhalin spruce *Picea glehnii* etc.
- the mixed forest which is a combination of the above cool temperate deciduous broad-leaved forest and subarctic evergreen coniferous forest.

The area near the timberline is extensively covered by Japanese stone pine scrub. The alpine vegetation creates a stunning and beautiful landscape, despite the relatively low altitude of the vegetation.

The flora is rich in variety as it contains both northern and southern species. The vascular plant flora is diverse as there are many northern species in alpine plants, while in plants excluding alpine plants, southern species co-exist in large proportion. The terrestrial vascular plant flora of the Shiretoko Peninsula contains 104 families and 817 species, and alpine plants account for more than one quarter of them with 233 species. Among the alpine plants are the *Viola kitamiana* which is endemic to the Shiretoko Peninsula and rare species such as the *Dendranthema arcticum*. Due to the effects of the Soya current which is the only warm current in the Sea of Okhotsk, there are both cold current-based seaweeds (which distribute also around the Kuril Islands and Sakhalin) and warm current-based seaweeds (which are mainly distributed around Hokkaido and further south) in the coastal waters of the Shiretoko Peninsula in spite of being situated in a seasonal sea ice area. The seaweed flora is unique in that it contains many species of warm current-based seaweeds. There are 134 species of seaweed recorded along the Rausu coast and the area around Utoro. Among them, there are seaweeds with a limited distribution range such as *Cymathaere japonica*.

e. Animals

The Nominated Site supports a diverse fauna which combines northern species from Sakhalin and southern species from the main island of Japan. Almost all the terrestrial mammals and birds that widely inhabited Hokkaido in history are found at the Nominated Site due to its pristine virgin nature.

With regard to mammals, 35 species of terrestrial mammals and 28 species of marine mammals have been identified in the Shiretoko Peninsula and its surrounding coastal areas. Among them, there are globally rare species such as the Hawker's least shrew *Sorex minutissimus hawkeri*, Ikonnikov's whiskered bat *Myotis ikonnikovi* and Steller sea lion *Eumetopias jubatus*. In addition, the high densities of large mammals such as the brown bear *Ursus arctos* and Yezo sika deer *Cervus nippon yesoensis* also indicate that the Shiretoko Peninsula is a high quality habitat for terrestrial mammals. In particular, the density of the brown bear population is among the highest in the world. Furthermore, the coastal waters of the Shiretoko Peninsula are the important wintering, feeding and breeding area for marine mammals.

With regard to birds, 264 species of birds have been recorded in the Shiretoko Peninsula including globally rare species such as the Blakiston's fish-owl, Steller's sea eagle and white-tailed eagle. Furthermore, the Nominated Site is identified to be a breeding ground for Blakiston's fish-owl, white-tailed eagle and black woodpecker *Dryocopus martius* as well as the wintering ground for Steller's sea eagle. These species are all designated as the Natural Monuments due to their scientific significance.

With regard to fish, 42 species of freshwater fish and 223 species of marine fish have been identified in the Shiretoko Peninsula and its coastal waters. The nearshore waters of the Shiretoko Peninsula are mainly populated with northern fishes. However, due to the Soya current which is the only warm ocean current in the Sea of Okhotsk, there are many species of southern fishes usually seen in tropical and subtropical seas. As a result, the area is unique within the Sea of Okhotsk in terms of the fish fauna.

In addition, there are seven species of reptiles, three species of amphibians and more than 2,500 species of insects reported to inhabit the Shiretoko Peninsula.

(5) Social environment

a. History

The nature of the Nominated Site has been preserved in a virgin condition due to the harsh environmental conditions which hindered development and a high level of interest among the local inhabitants on nature protection.

Prehistoric artifacts dating up to several thousand years ago have been found in the Shiretoko Peninsula. The Ainu people worshiped the Blakiston's fish-owl, brown bear and killer whale *Orcinus orca* as their gods and developed a culture that valued the bountiful nature. There were several attempts to settle the area from the Taisho era (early 1900s) on the Shari town side. However, due to the combination of harsh natural and social conditions, all settlers had left the area by 1966. Around the same time, there was increasing interest in nature conservation which led to the designation of the Shiretoko National Park in 1964. This was followed by other protected areas such as designating the Onnebetsudake Wilderness Area, Shiretoko Forest Ecosystem Reserve and the Shiretoko National Wildlife Protection Area. In addition, a joint program by residents and the local municipality, the Shiretoko 100 Square-Meter Forest Trust, was started in 1977 with the aim to protect abandoned settlements from unregulated development and recover them as forest areas.

b. Utilization of the site

Currently, approximately 2.30 million tourists annually visit the Shiretoko National Park and its adjacent areas which cover a large portion of the Nominated Site. In particular, the Shiretoko-goko lakes, Horobetsu, Kamuiwakka, Shiretoko Pass and Rausu hot spring are popular tourist sites and for example, some 500,000 visitors explore the nature of the Shiretoko-goko lakes every year.

There has been a change in the types of visitors and their activities are becoming more diversified. In addition to the traditional type of tourists who join sightseeing and nature exploration tour groups such as sightseeing tours by coach or tour boats, there have been an increase in visitors who participate in more active programs

such as mountain climbing, trekking and sea kayaking.

c. Primary industries

A large part of the Nominated Site is covered by National Forest which is mostly designated or planned as the Shiretoko Forest Ecosystem Reserve and there are no forestry activities aiming for timber production.

Fishery is a main industry for the area. The sustainable use of marine resources such as salmon, trout and kelp is supported by a highly productivity of the sea.

d. Land ownership

National Forest, which is administered by the Forestry Agency, accounts for 95 percent of the Nominated Site. In addition, the Nominated Site also includes lands owned by the national government, Hokkaido prefectural government, Shari town, Rausu town and the private sector.

4. Framework for the Management

(1) Basic policies

In order to maintain the value of the Nominated Site as a World Natural Heritage for future generations, a comprehensive administration scheme will be implemented for the entire site taking into account the various systems described below. In addition, the plan will aim to facilitate close collaboration and cooperation among the government agencies, local municipalities and other related government agencies in charge of various systems as well as to promote the participation and cooperation from local residents, related bodies and experts from various fields in order to enhance the effectiveness and quality of the management program.

(2) Overview of the various protected areas

The Nominated Site is designated as the Onnebetsudake Wilderness Area, the Special Protection Zone, Special Zones and the Ordinary Zone in the Shiretoko National Park, the Preservation Zone and Conservation and Utilization Zone in the Shiretoko Forest Ecosystem Reserve, and the Protection Area, Special Protection Area and Designated Special Protection Area in the Shiretoko National Wildlife Protection Area.

In addition, the wildlife in the area include species such as the brown bear *Ursus arctos*, Blakiston's fish-owl *Ketupa blakistoni blakistoni*, Steller's sea eagle *Haliaeetus pelagicus* and white-tailed eagle *H. albicilla* and some of these wildlife are protected in accordance with the Law for Conservation of Endangered Species of Wild Fauna and Flora and Law for the Protection of Cultural Properties.

With regard to the fishery, the sustainable use of fishery resources is designed through measures such as domestic laws and regulations as well as voluntary restrictions by the fishery industry.

a. Wilderness Area

Wilderness Areas are designated and administered by the Minister of the Environment based on the Nature Conservation Law. Its purpose is to provide necessary protection for virgin natural environments of a significant scale without being influenced by human activities.

Based on the above law, the area surrounding Mt. Onnebetsu was excluded from the Shiretoko National Park and designated as the Onnebetsudake Wilderness Area in February 1980. The Wilderness Area is included in the nominated site.

All activities that may impact the preservation of the natural environment are prohibited in the Wilderness Area except for special circumstances such as scientific research. Examples of prohibited activities include: construction, reconstruction and extension of structure; logging and related activities; capturing or gathering animals or plants; gathering fallen leaves and branches; open fires.

b. National Park

National Parks are designated and administered by the Minister of the Environment based on the Natural Parks Law. Its purpose is to protect the places of scenic beauty as well as promote its utilization as a resource for the health, recreation and culture of the people.

Based on the above law, an area was designated as the Shiretoko National Park in June 1964. The entire area of the Park is included in the Nominated Site. The Park is classified into several zones and each is protected according to the relevant requirements in the protection plan: The Special Zone is an area important for the protection and the utilization of the park. Activities such as the construction of new facilities and logging require the permission of the Minister of the Environment. The Special Protection Zone is an area necessary to ensure the protection of the core parts of the Park and is protected with more stringent requirements. In addition to the construction of new facilities and logging, activities such as the capturing or gathering of animals or plants, gathering fallen leaves and branches, and open fires require the permission of the Minister of the Environment. In the Ordinary Zone, activities such as reclamation of the surface of water require the notification to Minister of the Environment. Furthermore, footpaths and visitor centers are developed in accordance with the utilization plan for the park in order to ensure the protection of nature and to promote adequate utilization.

c. Forest Ecosystem Reserve

Forest Ecosystem Reserves are designated and administered by the Forestry Agency based on the Law on the Administration and Management of National Forests. Its purpose is to maintain the natural environment of the forest ecosystem, protect plants and animals, preserve genetic resources, develop forest operation and management technique, and promote scientific research etc. by preserving areas of virgin natural forests in reasonable scales which represent the forest zones in Japan. In its National Forest Operation Plan, details on plan creation for the actual administration activities of each region are set out in the National Forests Administration and Management Bylaw and Procedures for the Designation of Protected Forests.

Based on the regime as described above, the central part of the Shiretoko Peninsula was designated as the Shiretoko Forest Ecosystem Reserve in April 1990. Further, it was decided to extend the area up to the Onnebetsudake Wilderness Area west of the Shiretoko Crossroad effective in April 2004, and legal formalities to achieve this are in process. The Preservation Zone contains forest in the most virgin condition and measures are being implemented to ensure that this forest ecosystem is strictly preserved. Excluding special circumstances such as academic research activities and natural disaster relief, in principle, the area is left to follow its natural course without human intervention. The Conservation and Utilization Zone works as a buffer in order to prevent the environmental changes of the surrounding area to impacting on the forests in the Preservation Zone. In this zone, forest operation for wood production is not allowed. However, in accordance with the natural conditions, the area may be utilized as an educational resource or a recreational site without involving any large-scale development.

d. National Wildlife Protection Area

National Wildlife Protection Areas are designated by the Minister of the Environment based on the Wildlife Protection and Hunting Law. Its purpose is to provide protection of wildlife and to enforce appropriate requirements on hunting to ensure the biodiversity of the wildlife which in turn enables people to enjoy the bounties of nature.

The area designated as the Wildlife Protection Area and Special Protection Area in November 2001 based on the above law, overlaps with the Nominated Site. Activities such as capturing wildlife and collecting eggs are prohibited in the area designated as Wildlife Protection Area. Areas deemed to be an important habitat and breeding site for wildlife are designated as Special Protection Areas and certain development activities are prohibited in such areas. In addition, a part of the Special Protection Zone is designated as Designated Special Protection Area which is under more stringent protection requirements. In addition to capturing or collecting animals and plants as well as collecting fallen leaves and branches, the following activities are

prohibited in the Designated Special Protection Area: Entering with dogs and other animals that may be harmful to the wildlife; monitoring or taking pictures of the wildlife which may affect their nesting behavior; etc.

e. National Endangered Species

National Endangered Species are endangered wildlife species that inhabit or grow in Japan which are designated by the government ordinance according to the Law for Conservation of Endangered Species of Wild Fauna and Flora.

Among the animals which inhabit the Nominated Site, species such as the Blakiston's fish-owl, Steller's sea eagle, white-tailed eagle have been designated as the National Endangered Species and activities such as capturing, killing or damaging and transfer of organisms of endangered species are prohibited.

f. Natural Monuments

Natural Monuments are designated by the Minister of Education, Culture, Sports, Science and Technology based on the Law for the Protection of Cultural Properties. Its purpose is to protect animals or plants (including their habitats, breeding sites, stopover points for migratory birds and native habitats) and geological minerals (including areas of unique natural phenomenon) which have significant scientific value for the country.

Among the wildlife in the Nominated Site, four species of birds which are the Blakiston's fish-owl, Steller's sea eagle, white-tailed eagle and black woodpecker *Dryocopus martius*, as well as one species of insect *Vaciniina optilete Knoch* have been designated as Natural Monuments.

An activity that would alter the state of the Natural Monuments or affect their preservation requires permission from the Director-General of the Agency for Cultural Affairs.

In addition, the "Rausu geyser" in the site is designated as a "Hokkaido designated Natural Monument" based on the "Hokkaido Cultural Properties Protection Regulation" and any activity that would alter the state of or affects its condition requires permission from the Director of the Hokkaido Board of Education.

g. Fishery Resources Management Program

With regard to the conservation of fishery resources, the following restrictions are imposed in accordance with the Regulation of Sea Fisheries Adjustment in Hokkaido and Regulation of Inland Fisheries Adjustment in Hokkaido based on the Fisheries Law and Fishery Resources Protection Law. Implemented measures include: The restrictions or prohibitions include capturing Sakhalin surf clams and sea urchins based on their sizes; restrictions or prohibitions of fishing methods such as

capturing fish by running electric currents in the water; designations of closed area or period for fishing.

With regard to the salmon and trout, the major fishery resources for Shiretoko, their capture in inland waters as well as in the sea near the mouths of the Iwaubetsu River, the Onnebetsu River, the Rausu River and the Sashirui River is prohibited to ensure the capture of adult fish for the artificial production and fry release program.

In addition, the Onnebetsu River is designated as protected water according to the Fishery Resources Protection Law and the capture of aquatic animals is prohibited year around.

(3) Management Systems

a. Basic concept

The Nominated Site will be comprehensively managed by the Ministry of the Environment, Forestry Agency, Agency for Cultural Affairs and Hokkaido prefectural government which are responsible for the various systems described above. These agencies will collaborate and cooperate with Shari town, Rausu town, other related government agencies and related bodies to enhance the management scheme. In addition, other related local organizations will cooperate in the appropriate conservation and management activities for of the Nominated Site.

In order to facilitate effective collaboration and cooperation with related government agencies and related bodies, the “Shiretoko Nominated Site Regional Liaison Committee” (Regional Liaison Committee) was established for discussion and coordination among the above government agencies and related bodies in the management of the Nominated Site.

A wide range of opinions and suggestions from local residents and related bodies will be considered in the discussions at the Regional Liaison Committee.

Additionally, a council consisting of experts will be established to provide advice on scientific matters in order to evaluate the research, survey and monitoring projects on the natural environment of the Nominated Site and to promote conservation and management activities based on the results.

Further collaboration, cooperation and information sharing are planned among the parties that are involved in conservation, management, research, survey and monitoring regarding the Nominated Site. These parties include Shiretoko Foundation, Natural Parks Foundation, related public facilities (Shiretoko Museum of Shari town, Shiretoko Nature Center, Shiretoko Wildlife Protection Area Management Center, Rausu Visitor Center, and Shiretoko Forest Center) and experts etc.

b. Organization of the relevant government agencies responsible for administration of the Nominated Site

i. East Hokkaido Regional Office for Nature Conservation, Nature Conservation Bureau, Ministry of the Environment (Utoro Ranger Office for Nature Conservation, Rausu Ranger Office for Nature Conservation)

The Utoro and Rausu Ranger Offices for Nature Conservation are responsible for the administration of the National Park, Wilderness Area and Wildlife Protection Area. In addition, they are also responsible for activities such as the Rehabilitation of Natural Habitats and Maintenance of Viable Population for the Blakiston's fish-owl.

ii. Kitami Branch Office, Hokkaido Regional Forest Office, Forestry Agency (Shiretoko Forest Center, Abashiri South District Forest Office [Utoro Forest Ranger Office, Minehama Forest Ranger Office]), Obihiro Branch Office, Hokkaido Regional Forest Office, Forestry Agency (Konsen East District Forest Office [Rausu Forest Ranger Office])

The Shiretoko Forest Center and the Utoro, Minehama and Rausu Forest Ranger Offices are responsible for the administration, maintenance and conservation of the National Forest in the areas such as the Shiretoko Forest Ecosystem Reserve. In addition, they are also responsible for activities such as the Rehabilitation of Natural Habitats and Maintenance of Viable Population for the Blakiston's fish-owl.

iii. Hokkaido prefectural government (Abashiri Subprefectural Office, Nemuro Subprefectural Office)

The Environment and Lifestyle Division, Fisheries Division and Forestry Affairs Division of the Abashiri and Nemuro Subprefectural Office are responsible for the following activities. Environmental matters: Supporting the management of the National Park and conservation and management of the wildlife in the area. Fishery matters: Promoting the fishery industry and managing fishery resources through measures such as the authorization and control of fishing activities. Forestry: Providing guidance in the maintenance and conservation of privately held forests.

iv. Shari town

The Environment Conservation Division is responsible for activities such as nature conservation, conservation and management of wildlife, environmental control, and the administration of the 100 Square-Meter Forest Movement. In addition, the town has established the Shiretoko Foundation which is responsible for activities such as the fieldwork for wildlife conservation and management and the 100 Square-Meter Forest Movement.

The Fishery and Forestry Division is responsible for promoting the fishery industry, managing the fishing ports and the administration/guidance of privately owned forests.

The Shiretoko Museum of Shari town conducts activities such as the research and study of wildlife, awareness activities and the conservation and management of Natural Monuments and injured wildlife.

v. Rausu town

The Environment Division is responsible for environmental conservation activities related to nature conservation and conservation and management of wildlife. The division also provides information and offers awareness programs in these areas. In addition, the Rausu Visitor Center provides information, guidance and instructions on the appropriate utilization of the Park to the visitors.

The Fishery Division conducts activities to promote the fishing industry and to manage the fishing ports.

5. Management Plan

(1) Basic policies

a. Conservation of the virgin condition

The Nominated Site is one of a few National Parks in Japan where the virgin nature is preserved on a significant scale. This is due to the fact that the access to the peninsula is limited by the number of auto routes leading to the peninsula and trails within the site. Therefore, particular attention is to be given to conserve this virgin nature for future generations, when managing the Nominated Site.

b. Comprehensive management of the terrestrial and marine area

The value of the Nominated Site as a World Natural Heritage lies in a rich marine ecosystem consisting of a wide range of marine life, its link with a virgin terrestrial ecosystem, and a diverse fauna and flora. Depending on these unique features, the site serves as an important habitat for globally rare species including the Blakiston's fish-owl, Steller's sea eagle and white-tailed eagle.

Based on the conditions of terrestrial and marine indicator species, status of plant communities and vegetation, and environmental state of water quality and flow, monitoring will be conducted on the integration and soundness of the terrestrial and marine ecosystems of the Nominated Site. When there are any indications of changes that may affect the natural environment, a scientific survey will be conducted to analyze the cause and to determine recovery measures. Necessary

actions will be taken to comprehensively conserve and manage the terrestrial and marine ecosystems.

In order to achieve the above objectives, a system to facilitate collaboration and cooperation among relevant government agencies, related bodies and researchers will be established. Information sharing as well as developing and securing of human resources will be accommodated for survey, research and monitoring projects.

c. Core and Buffer areas

A significant area with a well preserved natural environment which requires stringent conservation and management will be designated as a Core area. To conserve the natural environment in the Core area, the area adjacent to the Core area will be designated as a Buffer area.

The basic policy on conservation for the Core area is focused on allowing nature to follow its natural transition without human intervention. All activities which may interfere with nature conservation is strictly prohibited through various conservation systems, with exceptions for special circumstances such as scientific research. In case of reconstruction and extension of the existing structures, elaborate measures will be taken to minimize the impact to the natural environment.

According to need, certain activities will be restricted in the terrestrial Buffer area to maintain the present environmental state. In particular, any activity that may impact the natural environment in the Core area will be strictly controlled. Since the marine Buffer area is in the Ordinary Zone of the Shiretoko National Park, any activity such as the reclamation of the sea surface must be dealt appropriately so that it does not influence the natural environment in both terrestrial and marine area.

d. Coexistence with primary industries

Most of the National Forests, which account for 95 percent of the nominated site (terrestrial part), are either designated or planned as the Shiretoko Forest Ecosystem Reserve and there is no forestry activity for timber production conducted within the site. Although there is a small area of privately owned forests within the site, forestry activities are limited to forest management operations such as planned tree thinning which takes into account the virgin natural landscape.

Due to the plankton nurtured by sea ice, the Shiretoko coastal waters are extremely rich in biological resources compared with other sea areas. The viability of the fishery industry relies on a healthy marine environment. Supported by the bountiful coastal waters of Shiretoko, the fishery industry in Shiretoko realizes sustainable use of marine resources by taking necessary measures to assure coexistence with

the wildlife of Shiretoko.

e. Appropriate utilization of nature

The utilization of the Nominated Site is controlled on the condition that the virgin natural environment and the diverse ecosystem composed of abundant wildlife are preserved for future generations. Activities such as sightseeing, nature exploration and fishing will be appropriately conducted without impacting the natural environment. Specific restrictions and rules will be imposed as necessary. The measures will be implemented to realize the conservation of the virgin natural environment and promotion of tourism, the local major industry which provides an unforgettable experience to the visitors.

(2) Conservation of the terrestrial ecosystem and natural landscape

a. Basic approach

In order to conserve the virgin nature, rich ecosystem, diverse wildlife and stunning landscapes of the Nominated Site for future generations, the basic approach focuses on maintenance of the natural transition and cycles of the ecosystems.

The Core area will be managed appropriately with an approach, in principle, to allow nature to follow its natural transition. In the Buffer area, human intervention will be controlled and the natural environment will be managed in order to minimize the impact on the ecosystem and natural landscape in the core area.

b. Conservation and management of wild fauna and flora

i. Plants

The Nominated Site contains diverse plant communities such as forest communities including mixed forests of Japanese oak, painted maple, Sakhalin fir and Sakhalin spruce and Japanese stone pine scrub, alpine plant communities along the mountain ridges, moor plant communities around the mountain lakes and marshes, coastal plant communities in the coastal gravel field, surrounding cliffs and steep slopes, and tall-herb communities in the wind-exposed site on top of the sea cliffs. The Nominated Site which contains such diverse plant communities has been designated as the Onnebetsudake Wilderness Area, the Special Protection Zone and Special Zone in the Shiretoko National Park as well as the Shiretoko Forest Ecosystem Reserve. Based on the above protective systems, the site is adequately managed through coordination and cooperation built among relevant government agencies, experts and other related bodies.

While taking into account the diversity of the plant communities as well as the distribution of endemic or rare species, research and monitoring will be conducted in the areas important for the conservation of such species. The results will be used to determine appropriate conservation measures to mitigate human impact.

In particular, the study on vegetation damage by human trampling will be continued in mountain ridges and the Shiretoko Pass to determine appropriate measures such as the designation of entry restricted area, adequate guidance and projects to restore the vegetation. In addition, enhanced patrolling activities will be introduced through coordination and cooperation with relevant government agencies to prevent the illegal collection of endemic or rare species such as the *Viola kitamiana* and *Dendranthema arcticum*.

With regard to the grazing pressures of the Yezo sika deer, a survey will be conducted to identify the damage to the vegetation and to analyze necessary measures. In herbaceous communities on wind-exposed site and tall herb communities of the Shiretoko Cape, significant damages to vegetation are caused by deer's grazing and trampling. In these particular areas, deer fences are installed for each type of vegetation to conserve endemic gene resources. In addition, monitoring projects will be conducted to investigate the recovery status of vegetation by removal of grazing pressure. Further conservation measures will be reviewed reflecting the results of these studies.

In the Area of the 100 Square-Meter Forest Movement within the buffer area, an operation to restore the forest is conducted with the participation from a wide range of citizens taking into account the harmonization with the surrounding forest.

ii. Animals

The Nominated Site is designated as the Onnebetsudake Wilderness Area, the Special Protection Zone and Special Zone of the Shiretoko National Park as well as the Shiretoko Forest Ecosystem Reserve. These schemes ensure the protection of habitats for a diverse wildlife from large animals with an extensive home range such as brown bears and Blakiston's fish-owl to amphibians, reptiles and insects restricted to specific environments. Furthermore, capturing, killing or damaging of wildlife is prohibited in the Wilderness Area and the Special Protection Zone of the National Park. In addition, most of the Nominated Site is designated as the Shiretoko National Wildlife Protection Area in which hunting is prohibited and capturing wildlife requires a permission of the Minister of the Environment. The above measures have been taken to ensure the appropriate management of wildlife.

According to the "Shiretoko National Wildlife Protection Area, Master Plan" (March 2003), wildlife conservation and management activities will be implemented based on the following principles. In addition, since a number of wildlife may move within and outside the Nominated Site, the surrounding areas will also be considered in determining the appropriate conservation. Management measures will be taken through the collaboration and coordination with related gov-

ernment agencies.

- A. The basic concepts for habitat conservation focuses on maintaining the natural transition and cycles of the ecosystems. However, for significantly increased or decreased wildlife species due to human interventions, scientific research will be conducted to review necessary countermeasures.
- B. Survey and research will be conducted to study wildlife status, population trends, habitats and behaviors. Conservation and management plans will be developed for each wildlife species as necessary. In the operation of the plan, the present state will be monitored to feedback in reviewing the plan.
- C. Awareness programs for the coexistence of people and wildlife will be promoted including guidance on appropriate usage of the site, instruction of not feeding the wildlife and taking waste home, and information on wildlife behavior and habits.
- D. In the basins of Rusha and Teppanbetsu rivers which is designated as the Designated Special Protection Area of the Wildlife Protection Area, activities that affect the wildlife such as gathering or damaging plants, open fires, use of horses or vehicles, and photographing are restricted.
- E. The details of specific management policies for each wildlife species are described below.

(a) Yezo sika deer

The population trend will be studied by aerial distribution survey during the snowfall period, age estimation using collected dead carcasses, and light censuses (conducted mainly by Shari town and Rausu town). In addition, vegetation damages caused by the grazing of Yezo sika deer will be monitored. The results of these studies will be reflected in the management plan for the deer in the Shiretoko area including the Nominated Site. It will be conducted with the cooperation of related government agencies, related bodies and other experts.

(b) Brown bear

In order to conserve and manage the density of the brown bear population in the Nominated Site which is among the highest in the world, the population dynamics will be studied through projects such as behavior survey using radio transmitters and survey on the utilization status of the habitat. In particular, actions to reduce the conflicts between local residents and the bears include the removal of attractants and measures to scare away the bears as well as establishing rules including restricted actions, maintaining appropriate facilities, promoting awareness and offering information to visitors.

(c) Blakiston's fish-owl

The Blakiston's fish-owl has been designated as a National Endangered Species according to the Law for Conservation of Endangered Species of Wild Fauna and Flora and as a Natural Monument according to the Law for the Protection of Cultural Properties. Capturing, maiming and killing the owl are prohibited. In addition, "Rehabilitation of Natural Habitats and Maintenance of Viable Population" program is established based on the former law and the relevant operations are conducted by the collaboration and cooperation of related government agencies.

Few Blakiston's fish-owls in Shiretoko are dependent upon artificial food supplies and most of them are breeding in natural conditions. Therefore, the site is a crucial habitat for the conservation of this species. It is also suggested that the site is a "source" of owls to the surrounding area as chick from the breeding pairs distribute and relocate to adjacent areas.

Based on these conditions, extra effort is conducted to maintain the natural environment of the areas around the rivers where breeding pairs have been identified and measures to improve habitat conditions are implemented as necessary. In addition, visitors are instructed not to approach too closely and impact the owls' habitat when taking photographs. Ongoing projects include monitoring on breeding behavior and banding to identify the relocation, distribution and survival of fledged chicks.

(d) Steller's sea eagle and white-tailed eagle

Both the Steller's sea eagle and white-tailed eagle have been designated as National Endangered Species according to the Law for Conservation of Endangered Species of Wild Fauna and Flora and as Natural Monuments according to the Law for the Protection of Cultural Properties. The capturing, maiming and killing the eagles are prohibited.

The coastal slopes of the Shiretoko are extensively covered with forests which are a perfect habitat for the eagles. The site is the most important location in Hokkaido as it is the essential wintering ground. In addition, the site is an important breeding ground for white-tailed eagles with a high density of nests and breeding pairs. Therefore, measures are implemented to protect the forest on the coastal slopes. Furthermore, guidance and awareness programs are provided to prevent reckless approach of visitors to the nesting sites during the breeding season.

In addition, using lead bullets for hunting Yezo sika deer in Hokkaido is strictly prohibited to prevent lead poisoning of the Steller's sea eagle and white-tailed eagle.

Furthermore, to implement a comprehensive protection program for the Steller's sea eagle and white-tailed eagle, studies will be conducted to determine the migration route and behavior patterns and a "Rehabilitation of Natural Habitats and Maintenance of Viable Population" program will be developed based on the Law for Conservation of Endangered Species of Wild Fauna and Flora.

c. Preservation of the natural landscape

Activities are controlled appropriately based on systems such as Wilderness Area, National Park and Forest Ecosystem Reserve, in order to preserve the stunning natural landscapes of Shiretoko represented by its mountains, lakes and marshes, waterfalls and coastal terraces. The restricted activities include; construction, reconstruction, extension of structure, felling of trees or bamboo, and mining of minerals or gathering of soil or stones.

In addition, garbage which has drifted onto the coastline is removed through the collaborative and coordinated efforts of related government agencies, local residents and related groups.

d. Conservation of the river environment

Dolly vardens are widely distributed in most of the rivers in the Nominated Site. As a unique characteristic of the Shiretoko, the peninsula is the southernmost distribution for the sea-run form of this species and the fish is an important food source for other wildlife. On the other hand, the population of masu salmon has declined significantly in recent years. The anadromous salmon species such as chum salmon and pink salmon in the rivers are an important food source for large mammals and birds of prey such as brown bears, Blakiston's fish-owl, Steller's sea eagle and white-tailed eagle. These species are on the top of the food pyramid. The river environment also plays an important role in linking the sophisticated integration of the terrestrial and marine ecosystems through the circulation of water and other substances. Therefore, it is essential to enforce measures to conserve as well as improve the river environment as appropriate.

In addition to implementing measures against pollution, the installation and management of all artificial facilities will be studied so that they may not impact the natural environment.

In some of the rivers in the Nominated Site, adult chum salmon and pink salmon are captured for the artificial reproduction program. In the rivers where there are no such interruptions, the natural run and spawning of these species are ensured. Furthermore, discussions will be continued with relevant parties to enhance measures to enable natural run and spawning in the rivers where the adult fish are captured.

e. Measures against exotic species

In order to prevent the impacts of exotic species to the ecosystem, studies will be conducted with the collaboration and cooperation with relevant government agencies to determine the establishment of exotic species and investigate their import routes as well as identify effective prevention measures.

Among the invading exotic plants which have become established in the Nominated Site, species such as Spear thistle *Cirsium vulgare* are significantly expanding and threatening the existing ecosystem. These species will be removed, starting with the most high priority plants. In addition, as the seeds attached to shoes, etc. have been suspected as the cause for the introduction of some exotic plants, appropriate rules will be established to prevent such entry of exotic species to the Nominated Site.

In the area adjacent to the Nominated Site, there have been reports of raccoons *Procyon lotor* which are threatening to wildlife such as the Blakiston's fish-owl. In locations where the raccoon's tracks or feces has been identified, capturing of the animal will be implemented. Specific foreign animals such as raccoons kept as pets must be registered according to the Regulation of Hokkaido on the Protection and Control of Animals. In addition, awareness programs on the responsibilities of owners will be conducted to ensure that foreign animals will be adequately taken care of and not abandoned.

The introduction of five fish species including brown trout *Salmo trutta* and brook charr *Salvelinus fontinalis* are prohibited by Regulation of Inland Fisheries Adjustment in Hokkaido and awareness program will be implemented.

(3) Conservation of the marine area

a. Basic concept

The coastal waters of Shiretoko have a high level of biological productivity based on the plankton nurtured by sea ice. The biological productivity supports numerous fish, marine mammals and birds. In addition, the chum salmon and pink salmon which swim upstream to spawn are closely integrated with the terrestrial ecosystem since they play an important role as a food source for brown bears, birds of prey, marine mammals and seabirds.

Therefore, in the marine area, the conservation of marine life and the sustainable use of fishery resources will be pursued by taking into consideration the link with the terrestrial ecosystem as well as the local fishing activities.

b. Management of fishery resources

Supported by the high biological productivity of the sea, the fishery in the coastal

waters of Shiretoko has maintained a sustainable yield level. The marine resource will continue to be appropriately managed through requirements which are determined by laws and regulations on fishery as well as the voluntary actions by the fisherman (e.g. designation of non-fishing zones and periods, taking back all wastes).

In particular, set net fishing and artificial production and fry release programs for salmon and trout will be conducted to ensure both stable catches and the natural run and spawning of the fish in the rivers.

c. Conservation of marine mammals and seabirds

With regard to Pinnipedia, five species of seals are subject to the Wildlife Protection and Hunting Law from 2003. Actions are underway to determine the habitat status and to appropriately manage the population. With regard to the set nets for catching salmon and trout, their operation is restricted to a fishing season only and the nets are removed during the off-season. As a result, Pinnipedia migrating to the area in winter are less likely to be accidentally caught in the nets. Even during the fishing season, in case marine mammals are accidentally caught in the nets, they are to be released whenever possible. Further cooperation is needed among relevant parties to ensure practical measures to prevent accidental captures.

The Steller sea lions migrate to Hokkaido along the Sea of Japan coast and Shiretoko usually from the end of October to May of the following year. The feeding habits of the sea lions causes significant damage to the fishery particularly along the Sea of Japan coastline. However, hunting and capturing of the sea lions are restricted from 1994 according to the guidance by the Hokkaido Fishing Zone Coordination Commission based on the Fishery law. In order to realize the coexistence of the fishery and the sea lions, measures to reduce the impact of the sea lions to the fishery industry throughout Hokkaido include the introduction of small set nets made with reinforced netting which are less damageable by sea lions and the development and introduction of reinforced gill nets. With regard to the Steller sea lions in the Shiretoko coastal waters, together with the development of effective damage prevention measures, research and studies have been conducted on the migration pattern, feeding habits, ecology and interaction with fishing activities. These results and findings will contribute to conservation and management of the entire marine ecosystem including the sea lions in the coastal waters of Shiretoko.

The Shiretoko Peninsula is also an important habitat for a diverse seabirds and measures will be implemented to preserve their colonies and the surrounding areas. Since information on life cycles and interaction with fishing activities and marine recreational activities are not available for species such as the spectacled guillemot *Cephus carbo* and marbled murrelet *Brachyramphus marmoratus*, information gathering will be continued and the results will be used to determine necessary

measures taking into consideration the local fishery activities.

d. Anti-pollution measures against marine oil spills, etc.

Effective measures against any oil spills will be immediately implemented during the initial phase of the accident in the Nominated Site and its coastal waters.

Relevant agencies will collect, prepare and share necessary information in order to determine actions required during oil spills such as surveys to identify environmental impacts and programs to protect the wildlife.

Hokkaido prefectural government has prepared the “Manual on Measures for Oil Spill Accidents” in March 2000, designating a prompt and effective system to collect and remove spilled oil through the cooperation and shared responsibilities of relevant agencies in the incidence of a large scale oil spill accident in the coastal waters of Hokkaido. In addition, the manual sets out activities such as environmental impact surveys (studies to determine the damage to fishery resources and necessary measures; monitoring water quality; studies to determine the impact to the coastal vegetation; studies to determine the impact to seabirds) and programs to protect and rehabilitate wildlife. Based on this manual, the existing system will be enhanced to increase coordination and cooperation between relevant agencies.

Furthermore, an ecosystem in the sea is unique in the sense that it is connected to an expansive area as the sea transports living and non-living things. Therefore, any development or usage of land in the surrounding area which results in soil or other contaminants entering the river and sea may have negative effects on the ecosystem and fishery resources of the Nominated Site. Consequently, to prevent such damage, potential environmental impacts will be considered when developing or using land in the surrounding area.

In addition, actions will be taken to enhance coordination with neighboring countries on the extensive preservation of the marine environment including the appropriate measures for the prevention and handling of natural disasters which may have a significant impact on the marine ecosystem.

(4) Appropriate usage of the natural environment

a. Basic concept

With regard to the usage of the Nominated Site for tourism, nature exploration and fishing, each activity should be conducted appropriately according to the type of usage so that the value as a World Natural Heritage will be maintained for future generations. To this effect, “Shiretoko Rules” which is pertinent to the virgin nature of Shiretoko will be established to define specific restrictions as necessary. In addition, to prevent excessive concentration of usage, activities will be conducted to promote

methods, information and programs regarding the utilization of resources related to the diverse nature and culture of the Nominated Site and the surrounding area in order to even out usage and guide visitors properly.

These actions will be implemented to realize the two objectives of conserving the virgin natural environment and offering a high quality experience to enthrall visitors. In addition, studies will be continued to determine appropriate types of eco-tourism which takes account the natural environment while facilitating development of the local area.

With regard to the awareness programs for tourist safety, visitors will be instructed to take necessary precautions against accidents and manage their own risks.

Relevant government agencies will collaborate and cooperate to conduct ongoing monitoring activities on usage and its effects on the natural environment. The results from these activities will be used to design appropriate measures.

b. Policies on key usage types

i. Sightseeing excursions

The most popular type of usage of the Nominated Site is sightseeing excursions by automobiles or tour boats. Areas within the Nominated Site which is open to sightseeing excursions by automobiles include Kamuiwakka, Shiretoko-goko lakes, Shiretoko Pass and Rausu hot spring. However, since there are relatively few auto routes, possible excursion areas are limited. Visitors can enjoy the scenery at various tourist spots or go on nature exploration and observation trips on foot.

In accordance with the importance of preserving the virgin natural environment of the Nominated Site, new automobile roads, which may create problems of increased traffic, will not be constructed in principle. Existing outlook points and tourist spots will be appropriately maintained so that the tourists can use the facilities comfortably and enjoy the natural landscapes and other points of interest while adequate consideration will be given to prevent excessive usage and impacts to the natural environment.

If there is any indication of negative impacts to the natural environment due to the increase in automobile use or if there is any negative effects on users' convenience, measures to reduce the impact such as restricting personal cars and introducing alternative transport and low-emission cars will be studied. Effective measures will be determined with input from relevant local groups to limit the number of cars to an appropriate level and to establish an environmentally friendly transportation system. In particular, the possibility and effects of proactively introducing a shuttle bus as a mean to preserve the natural environment and offer a high quality experience will be studied. With regard to

the measure to restrict the number of cars during the summer to popular areas such as Shiretoko-goko lakes or the Kamuiwakka area which have limited number of access roads, the effects of the enforced measures will be reviewed and further enhancements will be studied by widely inviting input from relevant local parties.

Since usage is particularly concentrated in the Shiretoko-goko lakes area within the Nominated Site, studies will be conducted to determine effective usage restriction measures, guidance and awareness programs, appropriate facility management schemes, brown bear conservation and management programs. Necessary measures will be taken in order to prevent issues caused by excessive usage and any conflict between people and brown bears which heavily populates the area.

With regard to the Shiretoko Crossroad which traverses through an alpine zone with Japanese stone pine vegetation, visitors may only pass through the area. Parking at the Shiretoko Pass is controlled to minimize the impact to the natural environment. The existing roadside parking restrictions will be continued in addition to other measures to appropriately maintain and manage the road. Furthermore, studies will also be conducted to determine appropriate usage of Lake Rausu which is becoming popular with visitors recently.

There is also a concern that the activities such as feeding wildlife and disposing waste may have a negative effect on the wildlife population. In order to prevent such impacts on the wildlife, necessary rules will be established, and extensive warnings, instructions and other public awareness programs will be implemented.

ii. Mountain climbing and trekking

Mountain climbing and trekking are mainly conducted in the mountain areas in the Nominated Site.

Since these activities involve areas with virgin natural environments such as rare alpine vegetation and habitats or breeding grounds for rare wildlife, it is necessary to prevent negative impacts on the natural environment. In addition, as these activities take place in areas with a dense brown bear population, encounter with bears are possible. Precautions are necessary to reduce conflicts with bears as much as possible.

For the above reason, guidance and awareness programs will be provided on subjects such as necessary precautions to protect the natural environment, appropriate reactions when encountering bears and proper management of waste and food. Further studies will be conducted to determine the negative impact caused by the visitors to the natural environment and the behavioral patterns of the bears. Appropriate measures such as usage restrictions (e.g. closed period for trails, access

restrictions by area or period) will be implemented as necessary. At the same time, trails and other facilities will be maintained to conserve the vegetation and prevent danger to mountain climbers.

With regard to camping by the mountain climbers and trekkers, extensive instruction will be provided to prevent damage to plants and vegetation by thoughtless setting of tents and other activities even in camping grounds. In addition, in campsites where food lockers for protection against brown bears are available, campers will be instructed to use the lockers for their safety. In other locations, campers will be instructed through awareness programs to bring food containers. Furthermore, studies will be conducted on necessary measures such as awareness programs on rules and etiquette on human waste management in order to prevent negative effects to the ecosystem and landscape.

iii. Recreational use of the sea area

There is a concern that reaching terrestrial areas such as the Shiretoko Cape by motor boats for sightseeing may be harmful to the natural environment. Measures to restrict such landings for sightseeing will be strictly enforced with the collaboration and cooperation among relevant government agencies based on the arrangements including the “Agreement on the instructions for usage restrictions of the Shiretoko Cape area.”

In addition, the coast and marine area of the Nominated Site is a habitat and breeding ground for marine mammals and seabirds such as spectacled guillemot, Japanese cormorant *Phalacrocorax capillatus* and slaty-backed gull *Larus schistisagus*. It is concerned that sightseeing and pleasure boats, jet skis, feeding of wild life and other reckless activities may harm marine mammals and seabirds. Therefore, necessary rules will be established to prevent negative impacts on the seabirds and marine mammals, and awareness programs will be implemented.

Some visitors to the Nominated Site circle the peninsula or travel to points of interest by sea kayak. There are cases these visitors need to land on shore to camp or wait for better wind. To prevent negative impacts to the coastal vegetations and wildlife, necessary rules will be established to ensure that the visitors will adequately use the site.

During the run of chum and pink salmon, visitors can enjoy fishing from tour boats and from land around the river mouths. With regard to fishing for salmon, trout and other fish, measures to prevent damage to the natural environment include determining the landing points for fishing purposes, ensuring adherence to relevant laws and regulations, actively instructing visitors to take waste home and to correctly handle catches. Collaboration and cooperation will be sought from those involved in leisure fishing activities for the implementation of the above

measures.

Furthermore, appropriate consideration will be given to prevent disturbance to fishery production activities when determining rules for the usage of boats, jet skis and sea kayaks for sightseeing and leisure purposes as well as for other marine leisure activities such as fishing.

iv. Other types of use

Wildlife such as Yezo sika deer and brown bear are commonly seen in the Nominated Site and it is important that photographing or observing will not frighten the wildlife or interfere with their breeding activities. In addition, it is necessary to protect fragile vegetation in areas such as the alpine zone and marshes from being damaged by visitors straying off the trails to take photographs. Therefore, instructions and awareness programs will be provided to prevent such harmful behavior. The brown bear population is especially large in the basins of the Rusha and Teppanbetsu rivers and there are professional photographers and other visitors entering the area to photograph the bears. For this reason, Designated Special Protection Area of the Wildlife Protection Area was designated. The appropriate instruction and management will be carried out to prevent harmful effects from activities such as photographing.

Since recreational activities on the snow during winter may negatively impact breeding and other activities of rare birds such as the white-tailed eagle, visitors will be provided with instruction and awareness programs to take adequate actions to prevent damage to the natural environment. Visitors will also be provided with necessary information on dangerous areas such as potential avalanche sites.

Use of snowmobiles and landing of airplanes are restricted in the Onnebetsudake Wilderness Area and Shiretoko National Park. These areas will be patrolled to prevent any offenders from entering the site illegally. In addition, since low-flying aircrafts may spoil other visitors' trips or be harmful to the wildlife, necessary request will be made to relevant parties to refrain from such flights.

Furthermore, recreational activities on the sea ice will take into consideration the effects on the wildlife and landscape. Relevant rules will be established if necessary.

c. Capacity building of nature guides

Although the most popular visitor activities are sightseeing tours by car or tour boat, it is important to promote experience oriented tours such as walking in the natural environment and observing wildlife in order to deepen understanding of the natural environment and the importance of its conservation which will lead to maintaining the value of Shiretoko for future generations.

Planned action to promote such activities include developing human resources to provide nature guided tours and lectures at exhibition facilities as well as creating and implementing the relevant programs. The necessary human resources will be developed utilizing the knowledge and detailed information of the local people with the cooperation of related government agencies and parties. In addition, the necessary guidelines will also be studied so that conducting such nature guide tours will not cause damage to the natural environment.

d. Administration policies for major facilities

The facilities for the conservation, management and appropriate usage of the Nominated Site will be administered based on the following policies. In addition, the facilities are expected to collaborate and share information.

i. Shiretoko Nature Center

With the aim to preserve and restore the virgin natural environment as well as to promote its careful and sustainable use, the Center will be the key facility for providing nature observation programs and information and awareness programs on nature conservation themes, in addition to playing a role as the Center for developing and guiding volunteers and generating safety instructions and other information.

ii. Shiretoko Wildlife Protection Area Management Center

The center will conduct research and studies on the population, distribution and behavior of the wild flora and fauna as well as the conservation and management of the wildlife and Wildlife Protection Area.

iii. Rausu Visitor Center

As a key information generating facility in the Rausu hot spring district, the center will manage and administer the relevant facilities as well as promote correct usage of the National Park through the collaboration and cooperation with related government agencies, parties, volunteers and others. The Center conducts surveys on natural environment and collects, archives and provides information. Through these activities, the Center will enhance its functions and facilities as a core unit for environmental education and research. The Center also plans expanding the range of volunteer nature guide programs while facilitating the capacity building of park volunteers.

Furthermore, the Center will proactively collect accurate, real-time onsite information to improve its visitor information service.

iv. Shiretoko Forest Center

The Center promotes awareness on the multi-functional features of the forest

through activities such as educational programs on the necessity to conserve the ecosystem and precious forests of Shiretoko, inspecting the “educational forest for nature observations”, management and maintenance of facilities, signs, etc. and studies of the forest, flora and fauna.

v. Shiretoko Museum

Activities of the museum include research and study of the wildlife, awareness programs, conservation and management of the Natural Monuments and injured animals as well as collecting, archiving and providing informational material.

e. Providing information and awareness programs

Signs, direction plates, etc. to instruct visitors on the appropriate use of the Nominated Site are placed where necessary.

Major facilities in the Nominated Site provide visitors with information on nature, exhibition rules and recommended behavior, and lectures on rules, etc.

In particular, visitors entering areas that require appropriate attention to the natural environment will receive prior instructions on precautions against wildlife including brown bears, avoiding dangers and recommended behavior.

In addition, media such as websites will be used to provide information on the nature of the Nominated Site, visitors' information, preservation and management programs to people within and outside Japan.

With regard to access points, visitors to the area must pass through either Utoro or Rausu. The two locations provide accommodation as well as access to transportation. Therefore, both locations will be equipped with suitable amenities as entry points. In addition, activities will be conducted to enhance these functions such as providing detailed information on nature, history, culture and use, as well as increasing awareness on the importance of nature conservation, promoting awareness on visitor rules and recommended behavior, in collaboration and cooperation with the local tourism industry and local citizens' groups.

In order to effectively implement the above actions and enhance the functions of facilities which play a role in providing information and educational programs, studies will be conducted on the allocation of functions and collaboration between the facilities for visitors and facilities providing information within and outside the Nominated Site.

(5) Implementation of conservation and management programs

The following conservation and management programs will be implemented to ap-

appropriately preserve the Nominated Site for future generations.

a. Inspections by related government agencies, etc.

Inspectional patrols of the Nominated Site are conducted by the Ministry of the Environment's Rangers, Forestry Agency's Forest Officers, Shiretoko Wildlife Protection Area's Superintendents and Hokkaido's Nature Preservation Guardians as well as by the staff of Shiretoko Foundation and Natural Parks Foundation. The inspection programs will be further enhanced to correctly determine the level of usage and the status of the natural environment and to provide guidance to visitors and control illegal actions.

In addition, the joint inspection program of the Shiretoko Cape conducted by related government agencies during the high season of summer will be continued.

b. Conservation and management programs implemented

From the results of the above inspections as well as the research, survey and monitoring activities, the following measures will be implemented when determined necessary for the conservation of the natural environment: Installation of signs, ropes, fences, etc. to prevent visitors from straying off the path; operations to restore vegetation in damaged or naked areas; elimination of exotic species. Other ongoing programs include clean-up operations of the Nominated Site, detailed maintenance of visitors' facilities, as well as inspections, awareness programs and installation of fire fighting equipment to prevent forest fires. In the event of a natural disaster such as forest fires, appropriate measures will be implemented through the collaboration of related government agencies.

(6) Research, survey and monitoring activities

a. Basic concept

Scientific researches and surveys and long-term monitoring projects will be conducted on the integration and soundness of the ecosystems of the land and sea to collect basic data necessary for managing the Nominated Site properly and to create a database using GIS (the Geographic Information System).

For this purpose, a system will be established to encourage collaboration and cooperation among relevant government agencies, related bodies and researchers. Furthermore, a program to share and effectively use the information from the research, study and monitoring activities will be implemented at the same time.

In order to collect continuous data on the natural environment, some of the nationwide monitoring sites (approx. 1,000 sites) will be located in Shiretoko to conduct long-term monitoring on the ecosystems of the land and sea.

b. Wild flora and fauna

i. Flora

Information on the vegetation has been collected through the National Survey on the Natural Environment and other localized vegetation studies. Macro-level changes to the vegetation will continue to be monitored through the analysis of satellite images and aerial photographs.

The change in vegetation of key locations will be identified through studies at survey areas determined by the type of vegetation and through set-location photographs taken over a long period. In addition, research, survey and monitoring will be conducted for important plants such as endemic or rare species.

In areas such as along climbing routes where visitors may stray off the trail, opportunities such as inspection tours will be utilized to monitor the effects of visitors to the vegetation.

In areas such as the wind-exposed sites and tall herb communities on the Shiretoko Cape and the forests in Horobetsu and other districts, fences have been installed to protect the vegetation from grazing and trampling by Yezo sika deer. The effects of the fences in recovering the vegetation will be continuously monitored, and the results will be compared with those from non-fenced areas.

Ongoing monitoring activities of the vegetation and soil will be conducted to determine the effects of acid rain.

ii. Fauna

Research, survey and monitoring of the various fauna including the amphibians, reptiles and insects in the Nominated Site will be conducted as part of a long-term monitoring project of the ecosystem.

The research, survey and monitoring of the specific animals which indicate the ecosystem status are described below:

A. Yezo sika deer

The population trend has been studied by aerial distribution survey during the snowfall period, age estimation using collected carcasses, and light censuses at night.

In addition to the above ongoing activities, a study will be conducted to study the relation between the population density and its impact on the forest ecosystem. The study will monitor the damages to the trees and other vegetation by the grazing of Yezo sika. The result of the study will be used to identify effective measures and reflected in creating or revising the management plan.

B. Brown bear

In order to maintain the current population density in the Shiretoko Peninsula, basic studies will be continued on the bears' utilization of the environment, distribution and behavior patterns to determine effective measures.

In addition, results of ongoing studies to collect and analyze the various conflicts between people and bears will be used to determine measures to prevent accidents. In particular, where there is a strong likelihood of visitors and local residents to encounter bears, the behavioral patterns of the bears will be determined by using radio transmitters attached to the bears as well as by observations to prevent any accidents or unfortunate incidents.

C. Blakiston's fish-owl

In order to maintain the population in the Shiretoko Peninsula which is the densest area in Hokkaido and therefore acts as a "source" of owls to the surrounding area, ongoing activities in the "Rehabilitation of Natural Habitats and Maintenance of Viable Population" program include studies on distribution and breeding status as well as the banding of fledged chicks.

D. Steller's sea eagle and white-tailed eagle

Since 1980, monitoring survey on numbers of wintering Steller's sea eagles and White-tailed eagles in the eastern Hokkaido including Shiretoko have been conducted. This study will be continued to obtain information on year-to-year changes of the wintering population.

In addition, further studies will be conducted including surveys on breeding status as well as migratory routes using radio transmitter on Steller's sea eagles.

E. Marine mammals and seabirds

There is little information available on distribution, behavior such as migratory patterns, feeding habits of seabirds and sea mammals such as Steller sea lions, seals, dolphins and whales. Researches are planned to collect, analyze and accumulate data including sighting information, in the collaboration and cooperation of related government agencies, fishery industry participants, researchers and other groups conducting conservation and research activities in order to understand the state of the marine ecosystem. While conducting such studies, information of accidentally captured animals shall be effectively used. Furthermore, the cooperation of neighboring countries will be requested to collect information on the above wildlife.

c. Landscape

Several locations will be selected to obtain set-point landscape photographs to moni-

tor year-to-year changes of the natural landscapes.

d. Exotic species

It is understood that the invasions of exotic plant species such as the *Cirsium vulgare* cause severe damage to the indigenous plants. Therefore, necessary studies will be conducted to understand the distribution of exotic species and to determine effective countermeasures including the removal of the exotic species from the ecosystem.

With regard to raccoons, there is danger that once naturalized, they will damage the ecosystem. Therefore, opportunities such as various surveys and inspection activities will be utilized to immediately identify any invasion of raccoons to the area.

With regard to other exotic species, invasion will be closely studied for early detection through monitoring the ecosystem and other activities.

e. Marine ecosystem, etc.

Data on fishery production, marine life, climate, sea ice, etc. will be collected and organized through collaboration and cooperation of researchers and local relevant parties. In addition, the condition of the marine ecosystem of the coastal waters of the Shiretoko Peninsula will be monitored through activities such as sharing information on research and study results.

f. Usage levels

In order to prevent any excessive impact on the natural environment, data will be collected to determine usage levels of key facilities and areas, the number and type of visitors, and the impact on the natural environment.

6. Implementation of the Plan and Other Issues

(1) Implementation of the plan, etc.

In order to effectively implement the actions detailed in the Management Plan and to ensure appropriate conservation and management of the Nominated Site, the specific roles of relevant government agencies and related bodies will be further studied and the utmost effort will be made under the collaboration and cooperation among the agencies and other relevant parties.

In addition, a council consisting of experts from relevant fields will be established to provide scientific advice with the collaboration and cooperation with the Regional Liaison Committee in order to assess the status of the natural environment of the

Nominated Site and to adopt appropriate measures based on scientific data.

With regard to details on the management of the natural environment of the Nominated Site and measures against specific issues which are not described in the Management Plan, further studies will be conducted taking into consideration results of monitoring projects, etc. to realize appropriate administration of the Nominated Site. In this process, the Regional Liaison Committee will contribute in establishing a consensus with the input and suggestions from local residents, related bodies and experts in relevant fields. Discussions and conclusion of these studies, basic data and other information will be disclosed and shared as necessary. In the process of determining the appropriate management for the Nominated Site, the necessity to balance both objectives of meeting the requirements for the conservation of the natural environment and for the day-to day lives of local residents and industry will be considered.

In addition, cooperative relationships will be created with local citizens' groups in the course of preserving, administrating and adequately using the Nominated Site. Such relationships will provide basis to invite active participation and cooperation from the local residents and establish activities that involve the local community.

The Management Plan will be reviewed as necessary taking into account the results of the natural environment monitoring projects and changes in the social environment. In order to properly review the Plan, the process will involve investigations by the Regional Liaison Committee which will obtain inputs from local residents, related bodies and professionals in relevant fields.

(2) Programs by local governments

The populations of the towns of Shari and Rausu which overlap the Nominated Site are approximately 13,000 and 7,000 respectively and many people live in areas adjacent to the Nominated Site as well. In order to comprehensively conserve and manage the Nominated Site, it is important to promote and realize lifestyles and productive activities that are environmentally conscious in areas surrounding the Nominated Site as well as inside. In addition to the programs to preserve the virgin natural environment of Shiretoko which is a valuable local resource, the two towns have already implemented various programs to preserve the immediate environment and to create a community that coexists with nature. Such programs include: anti-pollution measures for the rivers and sea; reduction of waste; resource saving and recycling; clean-up operations; introduction of low-emission vehicles; environmental study courses and nature experience programs for local children. Such activities will be further encouraged to enhance environmental awareness of local residents and to promote the establishment of a vibrant community.

7. Conclusion

Shiretoko which was reverently called by the Ainu people as “*sir:etok* (the end of Mother Earth)” is one of the few locations in Japan where the natural environment is preserved in virgin condition due to its rugged landscape and harsh climate. It is densely populated with brown bears and Blakiston’s fish-owls which the Ainu worshiped as their “*Kamui* (gods).” These animals are at the top of the diverse ecosystem consisting of a wide range of wildlife in the sea, rivers and mountains which are intimately integrated.

Instead of damaging the nature, the people living in the peninsula adapted their lives to realize sustainable use of the nature’s bounties and created a unique local lifestyle, industry and culture. It is essential to study the culture of the Ainu people and the traditional wisdom and skills of the local residents in order to determine the methods to preserve, manage and realize sustainable use of the natural environment.

The Shiretoko Charter was formulated by Shari town and Rausu town with their people in 1974 to commemorate the 10th anniversary of the designation of the National Park. The Charter declares that the virgin nature of Shiretoko is a valuable property for all mankind and that it must be adequately protected and used to ensure that the environment will be preserved for future generations. In addition, there is a long range project spearheaded by the local community which has gained nationwide support to purchase abandoned settlements to protect them from reckless development and return the lands to virgin forests. It cannot be ignored that the concern for nature among the local residents and the grass-root activities has contributed to preserving the precious nature of Shiretoko.

Various programs will be implemented through not only the collaboration and cooperation of related government agencies responsible for administration of the site but also through the active participation and cooperation with others such as local residents and related bodies in order to enhance the nature of the World Natural Heritage Nominated Site and to increase the vitality of the community coexisting with the nature.

4-B Designation Document and Conservation Plan for Onnebetsudake Wilderness Area

February 4, 1980
Environment Agency

Designation Document for Onnebetsudake Wilderness Area

1. Basis for the designation

The area covers the region around Mt. Onnebetsu (1330.5m) which is located at the base of Shiretoko Peninsula in the eastern end of Hokkaido. The location is a natural habitat for Japanese stone pine *Pinus pumila* and other alpine plants.

Due to harsh geographical as well as weather conditions, the natural environment is free from human intervention and the pristine wilderness remains in good condition.

Thus the area is one of the few domestic locations where the virgin wilderness is preserved and it shall be designated as a "Wilderness Area" to ensure its strict protection.

2. Outline of the natural environment

Virgin wilderness is preserved in the area around Mt. Onnebetsu. The vegetation below the altitude of approximately 600 meters (1000m along glens) is mixed forests of Yezo spruce *Picea jezoensis* and Erman's birch *Betula ermanii* while the area above this altitude is covered by an alpine scrub consisting mainly of Japanese stone pine. In addition, there is a small alpine plant communities on the eastern slope of Mt. Onnebetsu and some swamp plants around the group of small lakes and marshes on the western side.

The area's terrain is complex. While erosion on the east side of Mt. Onnebetsu has created a steep slope and the ridge is narrow, there are relatively gentle slopes below the cliffs. The west face is also steep near the summit but away from the peak, the ground forms a gentle slope dotted with small lakes and marshes. The soil consists of andesites and other rocks of volcanic origin.

3. Area

(1) Outline of the area

The area covers the east and west side of the ridgeline of Mt. Onnebetsu consisting

primarily of alpine scrub and the group of small lakes and marshes on the western mountainside.

(2) Location and the area

Shari-town, Shari-gun, Hokkaido

National Forest, Abashiri area development section Shari subsection

(within the jurisdiction of Shari District Forestry Office, Kitami Regional Forestry Office)

All areas covered by Unit 233 Subunit (i), Unit 234 Subunit (ro), Unit 235 Subunit (i), Unit 306 and Unit 308 Subunit (i).

Rausu-town, Menashi-gun, Hokkaido

National Forest, Konsen area development section, Shibetsu subsection

(within the jurisdiction of Shibetsu District Forestry Office, Obihiro Regional Forestry Office)

All areas covered by Unit 207 Subunit (ro), Unit 210 Subunit (i).

(3) Acreage

1895.18 hectares

(4) Ownership

The entire area is national land

Conservation Plan for Onnebetsudake Wilderness Area

1. Basic issues on wilderness conservation

(1) Policy on designating a restricted entry zone and regulations for wilderness conservation

No restricted entry zone is designated since there are few visitors to this area due to its geographical conditions and other factors.

(2) Policy on wilderness conservation facilities

Signs and other related equipment will be prepared as conservation facilities.

2. Issues on designated areas

A restricted entry zone will not be designated.

Summary Table

Category	Restricted entry zone		Other zones		Total	
	National Land	Public land	National Land	Public land	National Land	Public land
Ownership						
Area size (ha) by ownership	0	0	1,895.18	0	1,895.18	0
Area size by zone (ha)	0		1,895.18		1,895.18	
Ratio of each zone (%)	0		100		100	

3. Details of the Preservation Facilities

Item/type of facility	Location	Scale/structure	Type of Installation	Remarks
Signs and other related facilities	Shari-town, Shari-gun, Hokkaido Rausu-town, Menashi-gun, Hokkaido		New installation	Signs, warnings, boundary stakes, etc. will be prepared where necessary.

4-C Shiretoko National Park Park Plan (Overview)

1. Basic Principles

(1) Principles on Protection

a. Special Protection Zone

There are areas which have retained virgin wilderness such as the core parts of the volcanic range which forms the backbone of the Shiretoko Peninsula, the vicinity of the volcanic lakes and marshes, and the costal zone with well developed sea cliffs. These areas have been designated as Special Protection Zones to ensure their protection.

b. Class I Special Zone

The areas that retain a level of virgin wilderness only applied by those areas designated as Special Protection Zones are designated as Class I Special Zones to ensure their protection.

c. Class II Special Zone

The areas along the main throughway of the park are designated as Class II Special Zones to ensure that their scenic beauty is protected.

d. Class III Special Zone

Areas which are designated as Class III Special Zone include land used for ordinary activities such as fishery as well as special zones not included in Special Protection Zones and Class I, II Special Zones.

(2) Principles on Utilization

Utilization of the park will be focused on activities that are coordinated with protection of the virgin nature of the park.

Therefore, facilities for visitors will be restricted to those servicing the current activities conducted in the park such as sightseeing by motor vehicles, nature exploration, mountain climbing (general level) and camping. The facility Plan in the back-country in the virgin wilderness should not be designated. In addition, development of facilities will be in conjunction with the promotion of adequate utilization.

2. Regulatory Plan

(See the following tables)

2. (1) Regulation for Protection

Summary Table of Acreage by Zone and Ownership

(Units: acreage, ha; ratio, %)

Category	Special Zone												Total (land)		
	Special Protection Zone			Class I Special Zone			Class II Special Zone			Class III Special Zone			National	Public	Private
Zone Category	National	Public	Private	National	Public	Private	National	Public	Private	National	Public	Private	National	Public	Private
Ownership															
Area size by ownership (ratio)	22,159	1,251	116	3,816	0	6	2,225	658	366	8,015	8	13	36,215 (93.7)	1,917 (5.0)	501 (1.3)
Area size by zone (ratio)	23,526 (60.9)			3,822 (9.9)			3,249 (8.4)			8,036 (20.8)					
Area size by category (ratio)							15,107 (39.1)								
Area size by region (ratio)							38,633 (100.0)						38,633 (100.0)		

Summary Table of Acreage by Zone and Municipality

(Unit: ha)

Zone Category	Special Zone				Total (land)		
	Special Protection Zone	Class I Special Zone	Class II Special Zone	Class III Special Zone	National	Public	Private
Municipality							
Shari-town, Shari-gun	15,089	2,149	2,336	3,437	23,011		
Rausu-town, Menashi-gun	8,437	1,673	913	4,599	15,622		
Total	23,526	3,822	3,249	8,036	38,633		

2. (2) Designated Lakes, Marshes or Swamps

Name	Location	Zone	Brief description	Size	Relation with the previous plan
Shiretok o-goko lakes	Shari-town, Shari-gun, Hokkaido	Special Protection Zone	A group of five lakes formed by groundwater collected in the depressions in the Iwaobetsu lava plateau. A famous scenic site surrounded by virgin forest.	12.0ha	Notice: June 15, 1984
Shiretok o swamp	Rausu-town, Menashi-gun, Hokkaido	Special Protection Zone	A small swamp situated on the Poromoi plateau on the tip of the Shire-toko Peninsula at an altitude of about 900m. The surrounding area is covered with alpine moors.	2.4ha	Notice: June 15, 1984
Lake Rausu	Rausu-town, Menashi-gun, Hokkaido	Special Protection Zone	A naturally dammed lake situated at the northeastern base of Mt. Chinishibetsu at an altitude of about 700m. The perimeter of the lake is 6km, making it the largest lake in the park. The surrounding area is covered with swamp vegetation.	43.7ha	Notice: June 15, 1984

2. (3) Restricted Zones on the use of Horses, Vehicles, etc.

Name	Zone	Zone Category	Brief description	Area	Remarks
Shiretoko	The entire area designated as Special Zones(excluding the Special Protection Zones, roads, plazas, paddies, fields, pastures and residential areas)	Class I Special Zone Class II Special Zone Class III Special Zone	<p>The area is situated in the subarctic zone. From the coastal area to the base of the mountain range, the vegetation is broad-leaved forest consisting of Japanese oak <i>Quercus mongolica</i> var. <i>grosseserrata</i>, painted maple <i>Acer mono</i>, <i>Cercidiphyllum japonicum</i> and Japanese linden <i>Tilia japonica</i>. Above this vegetation there is the mixed forest of Japanese oak, Erman's birch <i>Betula ermanii</i>, Sakhalin fir <i>Abies sachalinensis</i> and Yezo spruce <i>Picea jezoensis</i>. At altitudes of 600m and above, there are Japanese stone pine <i>Pinus pumila</i> communities. In addition, there are moors and alpine plants in the mountain ridges and forest floors covered with dwarf bamboos such as <i>Sasa kurelensis</i> and <i>S. senanensis</i>. Most of the vegetation is virgin forest with little evidence of human intervention.</p> <p>In addition to large wildlife such as Yezo sika deer <i>Cervus nippon yesoensis</i> and brown bear <i>Ursus arctos yesoensis</i>, there are rare birds such as white-tailed eagle <i>Haliaeetus albicilla</i>, Steller's sea eagle <i>H. pelagicus</i>, Blakiston's fish owl <i>Keuapa blakistoni blakistoni</i> and black woodpecker <i>Dryocopus martius</i> as well as marine mammals such as Steller sea lion <i>Eumetopias jubatus</i> and seals. Recently, there have been an increasing number of visitors entering this area on snow mobiles during the snow season. These visitors have damaged plants, affected wildlife habitats and disposed litter which have become a social problem. The entire Special Zone is designated as a restricted zone to protect the wildlife which inhabits all areas of the National Park.</p>	15,107 ha	Initial designation(Notice: December 1, 1990)Revision in accordance with the reclassification from a Special Zone to a Special Protection Zone. (Notice: February 21, 1995)

3. Facilities Plan

(See the following tables)

3. (1) Facility Complex

No.	Name	Zone	Goal	Installation section and	Facility installation policy	Area(ha)	Relation with the previous plan
1	Rausu hot spring	Rausu-town, Menashi-gun, Hokkaido Sections of Unit 229, 230 and 233 in the National forest, under the management of the Konsen East Forest Office A part of Yunosawa, Oaza, Rausu-town, Menashi-gun, Hokkaido	This zone is a visitors' base situated in the southeast part of the park. It includes the area around Rausu-onsen. Plans include develop-ing accommodation for nature explorers and a climbing base for mountaineers as well as educational and rest facilities for travelers of the Utoro-Rausu road.	Facility installation section-Central Facility installation section-West Facility installation section-Rausu river-banks Road (Automobile)	Since this section is situated between the roadway and river, layout of facilities will be considered carefully when develop-ing accommodation and other buildings for nature explorers and mountaineers. Develop camp grounds and parking lots to serve as a base for nature explorers and mountaineers Improving the existing visi-tors' center as well as develop-ing parking lots, plazas, etc. as a base of Rausu hot spring facility complex zone. Develop trails and plazas for exploration and walking along the Rausu riverbanks. Develop as the approach way for Shiretoko pass and Shiretoko-goko lakes. In addition, land-scaping of vegetation will be undertaken actively since the road passes through the zone.	8 6.5 16.6 -	June 1, 1964: Authorization of utilization plan August 23, 1968: Designation of zones and authorization of detailed plan June 15, 1984: Reexamination of the plan February 21, 1995: Revision of zone and detailed plan
				Total area size	National 26.2 Public 2.9 31.1	Private 2	

3. (2) Individual Facilities

No.	Type of facility	Location	Facility installation policy	Relation with the previous plan
1	Picnic Area	Shari-town, Shari-gun, Hokkaido (Kamuiwakka)	Develop a small scale rest facility at the starting point of Mt. Iou mountain trail.	Notice: June 1, 1964
2	Picnic Area	Shari-town, Shari-gun, Hokkaido (Shiretoko-goko lakes)	Develop a facility to provide a rest spot, guidance and other services for visitors at the gateway of Shiretoko-goko lakes.	Notice: June 1, 1964
3	Lodging	Shari-town, Shari-gun, Hokkaido (Iwabetsu hot spring)	Develop simple accommodation facilities for nature explorers and mountaineers.	Notice: June 1, 1964
4	Camp ground	Shari-town, Shari-gun, Hokkaido (Iwabetsu hot spring)	Develop a simple camp ground mainly for mountaineers.	Notice: June 1, 1964
5	Lodging	Shari-town, Shari-gun, Hokkaido (Iwabetsu)	Prepare a simple facility for nature explorers.	Notice: June 15, 1984
6	Picnic Area	Shari-town, Shari-gun, Hokkaido (Horobetsu)	Develop necessary facilities such as rest stops at the turnout from the roadway for visitors to the Utoro side of the park. Build facilities for visitors who wander and explore around the coastline.	Notice: June 15, 1984
7	Camp ground	Shari-town, Shari-gun, Hokkaido (Horobetsu)	Develop necessary facilities for nature explorers to use as a camping base at the Utoro side of the park.	Notice: June 15, 1984
8	Parking lot	Shari-town, Shari-gun, Hokkaido (Horobetsu)	Develop a parking lot for visitors to the Horobetsu district as well as to limit the number of visitors towards the Shiretoko-goko Lakes and Shiretoko pass.	Notice: June 1, 1964
9	Visitor center	Shari-town, Shari-gun, Hokkaido (Horobetsu)	Develop a facility to display and introduce the nature of the park as well as to provide guidance and instructions.	Notice: June 15, 1984
10	Picnic Area	Shari-town, Shari-gun and Rausu-cho, Menashi-gun, Hokkaido (Shiretoko pass)	Visitors to the lookout point can only stay in a short time in the area, therefore, the minimum facilities will be of-	Notice: June 15, 1984
11	Camp ground	Rausu-town, Menashi-gun, Hokkaido (Rusa)	Develop a simple camping facility for nature explorers visiting the east coastline of the park.	Notice: June 15, 1984

3. (3) Roads

No.	Route	Section	Key attraction points along the route	Facility installation policy	Relation with the previous plan
1	Horobetsu/ Kamuiwakka	Start: Shari-town, Shari-gun, Hok-kaido(Horobetsu turnoff) End: Shari-town, Shari-gun, Hokkaido(Shiretoko-goko lakes)End: Shari-town, Shari-gun, Hokkaido (Shiretoko Ohashi)	Iwabetsu Kamuiwakka	The route turns off from the Utoro/Rausu route and extends to the Shiretoko-goko lakes and Shiretoko-Ohashi. Since it is a major passage for visitors to the park, preservation of scenic landscapes will be considered in the development process.	A section of the former Shiretoko-goko route as well as a new route. (Notice: June 15, 1984)
2	Iwao-betsu hot spring	Start: Shari-town, Shari-gun, Hok-kaido (Iwabetsu turnoff) End: Shari-town, Shari-gun, Hokkaido (Iwabetsu hot spring)	-	The route turns off from the Horobetsu/Kamuiwakka route and extends to Iwabetsu hot spring. It is used by visitors to the Iwabetsu hot spring and climbers to Mt. Rausu. Scale of the facility will be maintained at the existing level.	Notice: June 1, 1964
3	Utoro/ Rausu	Start: Shari-town Shari-gun, Hokkaido (National Park boundary at Horo-betsu) End: Rausu-town, Menashi- gun, Hok-kaido (Rausu hot spring National Park boundary)	Shiretoko Pass	Linking the Utoro side and Rausu side of the park, the route is the major passage for visitors. The route passes areas of virgin nature such as Japanese stone pine scrub. Effects on the natural environment and landscape will be considered in the development of facilities including those for disaster prevention and snow protection.	Sections of former Utoro/Rausu route and former Utoro/Lusa route. (Notice: June 15, 1984)
4	Rusa/Aidomari	Start: Rausu-town, Menashi- gun, Hokkaido (National Park boundary at Rusa) End: Rausu-town, Menashi- gun, Hok-kaido (Aidomari)	Konbuhamma Seseki	The route is for visiting the eastern coastline of the park. Maintenance of scenic landscapes along the roadside will be considered in the development process.	Notice: June 1, 1964

3. (4) Footpaths

No.	Route	Section	Key attraction points along the route	Facility installation policy	Relation with the previous plan
1	Mt. Iou climbing route	Start: Shari-town, Shari-gun, Hokkaido (Kamuiwakka) End: Shari-town, Shari-gun and Rausu-cho, Menashi-gun, Hokkaido(Mt. Chienbetu)	New crater Mt. Iou	Develop as a mountain climbing route from Kamuiwakka to Mt. Iou via the new crater as well as the passage to the Rausu-daira/Mt. Chienbetu route.	A section of the former Mt. Iou climbing route Notice: June 15, 1984
2	Rausu-daira/Mt. Chienbetu route	Start: Shari-town, Shari-gun and Rausu-town, Menashi-gun, Hokkaido (Rausudaira) End: Shari-town, Shari-gun and Rausu-town, Menashi-gun, Hokkaido (Mt. Chienbetu)	Mitsumine Mt. Sashirui Mt. Okkabake Mt. Minami	Develop as a traversing route that turns off from the Mt. Rausu climbing route and connects to the Mt. Iou climbing route via the maintain range of Shiretoko Peninsula.	Sections of the former Mt. Rausu /Mt. Iou traversing route and former Mt. Iou climbing route Notice: June 15, 1984
3	Mt. Rausu climbing route	Start: Shari-town, Shari-gun, Hokkaido (Iwabestu turnoff) End: Shari-town, Shari-gun and Rausu-town, Menashi-gun, Hokkaido(Mt. Rausu) End: Rausu-town, Menashi-gun, Hokkaido (Rausu hot spring)	Iwabestu-hot spring Rausu-daira	Develop as a climbing route to Rausu-daira from the Rausu hot spring facility complex and Iwabestu zone.	A section of the former Mt. Rausu /Mt. Iou traversing route and a new section. Notice: June 15, 1984
4	Shiretoko goko lakes circling route	Start: Shari-town, Shari-gun, Hokkaido(Shiretoko-goko lakes) End: Shari-town, Shari-gun, Hokkaido(Shiretoko goko lakes)		Develop as a nature sightseeing route which circles the Shiretoko-goko lakes.	Notice: June 15, 1984

No.	Route	Section	Key attraction points along the route	Facility installation policy	Relation with the previous plan
5	Lake Rausu route	Start: Rausu-town, Menashi-gun, Hokkaido (Mikaeri pass turnoff) End: Rausu-town, Menashi-gun, Hokkaido (Lake Rausu)		Develop as a nature sightseeing route which extends to Lake Rausu. Preservation of moors will be given sufficient consideration in the development process.	Notice: June 15, 1984
6	Hokkaido Nature Trail	Start: Shari-town, Shari-gun, Hokkaido (National Park boundary at Horobetsu) End: Shari-town, Shari-gun, Hokkaido (Horobetsu)Start: Rausu-town, Menashi-gun, Hokkaido(National Park boundary at Rausu hot spring) End: Rausu-town, Menashi-gun, Hokkaido(Rausu hot spring)	HorobetsuRausu hot sprint	Development of the section of the Hokkaido Nature Trail from the National Park boundary to Horobetsu and Rausu hot spring as a sightseeing trail.	Notice: August 20, 2003

4. References

(See the following tables)

4. (1) Designated plants

Species name		Reason of designation	
PTERIDOPHYTA	Lycopodiaceae	<i>Lycopodium alpinum</i>	i
	Lycopodiaceae	<i>Lycopodium annotinum</i> var. <i>acrifolium</i>	
	Lycopodiaceae	<i>Lycopodium sabinaefolia</i> var. <i>sitchense</i>	i
	Selaginellaceae	<i>Selaginella halvetica</i>	c Northern Limit
	Selaginellaceae	<i>Selaginella selaginoides</i>	i
	Selaginellaceae	<i>Selaginella sibirica</i>	b
	Selaginellaceae	<i>Selaginella tamariscina</i>	b
	Ophioglossaceae	<i>Botrychium lunaria</i>	g
	Dryopteridaceae	<i>Dryopteris fragrans</i> var. <i>remotiuscula</i>	b
	Athyriaceae	<i>Athyrium brevifrons</i>	i
	Athyriaceae	<i>Gymnocarpium dryopteris</i>	
	Polypodiaceae	<i>Polypodium virginianum</i>	d
SPERMATOPHYTA	Pinaceae	<i>Pinus pumila</i>	
	Cupressaceae	<i>Juniperus chinensis</i> var. <i>sargentii</i>	
	Cupressaceae	<i>Juniperus conferta</i>	
	Cupressaceae	<i>Juniperus sibirica</i>	f c Southern Limit
SPERMATOPHYTA ANGIOSPERMAE DICOTYLEDONEAE CHORIPETALAE	Santalaceae	<i>Thesium refractum</i>	
	Polygonaceae	<i>Polygonum ajanense</i>	d
	Polygonaceae	<i>Polygonum weyrichii</i> var. <i>weyrichii</i>	d
	Polygonaceae	<i>Polygonum weyrichii</i> var. <i>alpinum</i>	d
	Polygonaceae	<i>Polygonum bistorta</i>	e
	Polygonaceae	<i>Oxyria digyna</i>	ik
	Polygonaceae	<i>Rumex arifolius</i>	
	Caryophyllaceae	<i>Arenaria merckiioides</i>	a ad
	Caryophyllaceae	<i>Cerastium fischerianum</i>	a
	Caryophyllaceae	<i>Dianthus superbus</i> var. <i>sperbus</i>	
	Caryophyllaceae	<i>Dianthus superbus</i> var. <i>speciosus</i>	b
	Caryophyllaceae	<i>Pseudostellaria sylvatica</i>	
	Caryophyllaceae	<i>Stellaria fenzlii</i>	
	Caryophyllaceae	<i>Stellaria radians</i>	
	Caryophyllaceae	<i>Stellaria ruscifolia</i>	bd
	Ranunculaceae	<i>Aconitum gigas</i>	
	Ranunculaceae	<i>Aconitum maximum</i> var. <i>misaoanum</i>	a
	Ranunculaceae	<i>Aconitum yesoense</i> var. <i>yesoense</i>	b
	Ranunculaceae	<i>Aconitum lucidusculum</i>	b
	Ranunculaceae	<i>Actaea erythrocarpa</i>	
	Ranunculaceae	<i>Adonis ramosa</i>	
	Ranunculaceae	<i>Anemone debilis</i>	i
	Ranunculaceae	<i>Anemone narcissiflora</i>	i
Ranunculaceae	<i>Anemone yezoensis</i>	i	

Species name		Reason of designation
Ranunculaceae	<i>Aquilegia flabellata</i>	b
Ranunculaceae	<i>Caltha palustris</i> var. <i>barthei</i>	k
Ranunculaceae	<i>Clematis ochotensis</i>	
Ranunculaceae	<i>Clematis fusca</i>	
Ranunculaceae	<i>Coptis trifolia</i>	i
Ranunculaceae	<i>Ranunculus acris</i> var. <i>nipponicus</i>	i
Ranunculaceae	<i>Thalictrum foetidum</i> var. <i>glabrescens</i>	b bf
Ranunculaceae	<i>Trautvetteria japonica</i>	i
Ranunculaceae	<i>Trollius riederianus</i>	i
Ranunculaceae	<i>Trollius riederianus</i> var. <i>japonicus</i>	i
Berberidaceae	<i>Diphylleia grayi</i>	
Nymphaeaceae	<i>Nuphar pumilum</i>	k
Nymphaeaceae	<i>Nymphaea tetragona</i> var. <i>tetragona</i>	k
Aristolochiaceae	<i>Asarum heterotropoides</i>	a
Guttiferae	<i>Hypericum kamschaticum</i>	d
Guttiferae	<i>Hypericum yezoense</i>	b
Droseraceae	<i>Drosera rotundifolia</i>	b j
Papaveraceae	<i>Dicentra peregrina</i>	a d
Cruciferae	<i>Arabis lyrata</i> var. <i>kamschatica</i>	a d
Cruciferae	<i>Arabis serrata</i> var. <i>glauca</i>	d
Cruciferae	<i>Cochlearia oblongifolia</i>	c Southern Limit b
Cruciferae	<i>Draba borealis</i>	b f
Cruciferae	<i>Macropodium pterospermum</i>	k
Crassulaceae	<i>Sedum iwarenge</i> var. <i>boehmeri</i>	f
Crassulaceae	<i>Sedum ishidae</i>	b d
Crassulaceae	<i>Sedum rosea</i>	b
Saxifragaceae	<i>Boykinia lycoctonifolia</i>	i
Saxifragaceae	<i>Parnassia palustris</i>	k
Saxifragaceae	<i>Ribes triste</i>	b
Saxifragaceae	<i>Saxifraga cherlerioides</i> var. <i>rebunshirensis</i>	b d
Saxifragaceae	<i>Saxifraga fortunei</i> var. <i>incislobata</i>	f
Saxifragaceae	<i>Saxifraga fusca</i>	k
Saxifragaceae	<i>Saxifraga merkii</i> var. <i>merkii</i>	b d
Saxifragaceae	<i>Saxifraga sachalinensis</i>	b
Rosaceae	<i>Geum calthaeifolium</i> var. <i>nipponicum</i>	b
Rosaceae	<i>Geum pentapetalum</i>	i
Rosaceae	<i>Potentilla dickinsii</i>	b
Rosaceae	<i>Potentilla fruticosa</i>	
Rosaceae	<i>Potentilla megalantha</i>	f
Rosaceae	<i>Potentilla miyabei</i>	b d
Rosaceae	<i>Prunus nipponica</i>	
Rosaceae	<i>Rosa acicularis</i>	
Rosaceae	<i>Rosa davurica</i>	

Species name		Reason of designation	
	Rosaceae	<i>Rosa rugosa</i>	f
	Rosaceae	<i>Rubus pedatus</i>	
	Rosaceae	<i>Sanguisorba stipulata</i>	d
	Rosaceae	<i>Spiraea betulifolia</i>	d
	Rosaceae	<i>Spiraea betulifolia</i> var. <i>aemiliana</i>	d
	Rosaceae	<i>Spiraea media</i> var. <i>sericea</i>	
	Rosaceae	<i>Spiraea salicifolia</i>	
	Leguminosae	<i>Thermopsis lupinoides</i>	f
	Leguminosae	<i>Trifolium lupinaster</i>	c Northern Limit f
	Geraniaceae	<i>Geranium erianthum</i>	
	Geraniaceae	<i>Geranium sibiricum</i> var. <i>glabrius</i>	
	Geraniaceae	<i>Geranium yesoense</i>	
	Geraniaceae	<i>Geranium yesoense</i> var. <i>pseudo-palustre</i>	
	Violaceae	<i>Viola blandaeformis</i>	
	Violaceae	<i>Viola hultenii</i>	j
	Onagraceae	<i>Epilobium foucaudianum</i>	i k
	Onagraceae	<i>Epilobium montanum</i>	k
	Cornaceae	<i>Cornus canadensis</i>	
	Cornaceae	<i>Cornus suecica</i>	
	Umbelliferae	<i>Conioselinum kamschaticum</i>	
	Umbelliferae	<i>Peucedanum multivittatum</i>	i 6
	Umbelliferae	<i>Tilingia ajanensis</i>	j
SPERMATOPHYTA	Diapensiaceae	<i>Diapensia lapponica</i> var. <i>obovata</i>	b
ANGIOSPERMAE	Pyrolaceae	<i>Monotropastrum globosum</i>	c
DICOTYLEDONEAE	Pyrolaceae	<i>Pyrola secunda</i>	
SYMPETALAE	Pyrolaceae	<i>Pyrola alpina</i>	
	Pyrolaceae	<i>Pyrola renifolia</i>	
	Ericaceae	<i>Andromeda polifolia</i>	b j
	Ericaceae	<i>Arctericia nana</i>	g
	Ericaceae	<i>Arctous alpinus</i> var. <i>japonicus</i>	g
	Ericaceae	<i>Bryanthus gmelinii</i>	g
	Ericaceae	<i>Cassiope lycopodioides</i>	b
	Ericaceae	<i>Gaultheria miqueliana</i>	
	Ericaceae	<i>Harrimanella stelleriana</i>	b
	Ericaceae	<i>Ledum palustre</i> var. <i>decumbens</i>	j
	Ericaceae	<i>Ledum palustre</i> var. <i>diversipilosum</i>	j
	Ericaceae	<i>Loiseleuria procumbens</i>	g
	Ericaceae	<i>Phyllodoce aleutica</i>	j
	Ericaceae	<i>Phyllodoce caerulea</i>	j
	Ericaceae	<i>Phyllodoce nipponica</i> var. <i>oblongo-ovata</i>	b b
	Ericaceae	<i>Rhododendron aureum</i>	g i
	Ericaceae	<i>Rhododendron brachycarpum</i>	

Species name		Reason of designation
Ericaceae	<i>Rhododendron tschonoskii</i>	g
Ericaceae	<i>Rhododendron camtschaticum</i>	b g
Ericaceae	<i>Tripetaleia bracteata</i>	
Ericaceae	<i>Vaccinium microcarpum</i>	j
Ericaceae	<i>Vaccinium oxycoccus</i>	j
Ericaceae	<i>Vaccinium praestans</i>	
Ericaceae	<i>Vaccinium uliginosum</i>	a
Ericaceae	<i>Vaccinium vitis-idaea</i>	
Empetraceae	<i>Empetrum nigrum</i> var. <i>japonicum</i>	a g
Primulaceae	<i>Glaux maritima</i> var. <i>obtusifolia</i>	e
Primulaceae	<i>Lysimachia thyrsoiflora</i>	j
Primulaceae	<i>Primula cuneifolia</i>	i
Primulaceae	<i>Primula jesoana</i> var. <i>pubescense</i>	b ei
Primulaceae	<i>Primula modesta</i> var. <i>fauriei</i>	b
Primulaceae	<i>Trientalis europaea</i> var. <i>europaea</i>	
Primulaceae	<i>Trientalis europaea</i> var. <i>arctica</i>	j
Gentianaceae	<i>Gentiana nipponica</i>	i
Gentianaceae	<i>Gentiana triflora</i> var. <i>japonica</i>	j
Gentianaceae	<i>Gentiana triflora</i> var. <i>horomuiensis</i>	j
Gentianaceae	<i>Gentiana triflora</i> var. <i>montana</i>	
Gentianaceae	<i>Gentianella auriculata</i>	g
Gentianaceae	<i>Halenia corniculata</i>	d g
Gentianaceae	<i>Swertia tetrapetala</i>	f
Gentianaceae	<i>Swertia micrantha</i>	d g
Menyanthaceae	<i>Menyanthes trifoliata</i>	jk
Boraginaceae	<i>Mertensia asiatica</i>	f
Boraginaceae	<i>Mertensia pterocarpa</i> var. <i>yezoensis</i>	b b d
Boraginaceae	<i>Myosotis sylvatica</i>	
Labiatae	<i>Dracocephalum argunense</i>	
Labiatae	<i>Scutellaria pekinensis</i> var. <i>ussuriensis</i>	
Labiatae	<i>Thymus quinquecostatus</i>	b d g
Scrophulariaceae	<i>Pedicularis apodochila</i>	g
Scrophulariaceae	<i>Pedicularis schistostolegia</i>	
Scrophulariaceae	<i>Pedicularis yezoensis</i>	ei
Scrophulariaceae	<i>Pentstemon frutescens</i>	a d
Scrophulariaceae	<i>Veronica schmidtiana</i>	b b
Scrophulariaceae	<i>Veronica stelleri</i> var. <i>longistyla</i>	i
Orobanchaceae	<i>Orobanche coerulescens</i>	f
Lentibulariaceae	<i>Pinguicula vulgaris</i>	b
Caprifoliaceae	<i>Linnaea borealis</i>	
Caprifoliaceae	<i>Lonicera caerulea</i> var. <i>edulis</i>	
Caprifoliaceae	<i>Lonicera chrysantha</i>	
Caprifoliaceae	<i>Lonicera sachalinensis</i>	
Caprifoliaceae	<i>Weigela middendorffiana</i>	

	Species name		Reason of designation
	Valerianaceae	<i>Patrinia gibbosa</i>	
	Campanulaceae	<i>Adenophora pereskiaefolia</i> var. <i>heterotricha</i>	b
	Campanulaceae	<i>Campanula dasyantha</i>	bg
	Campanulaceae	<i>Campanula lasiocarpa</i>	i
	Campanulaceae	<i>Lobelia sessilifolia</i>	jk
	Compositae	<i>Achillea ptarmica</i> var. <i>macrocephala</i>	
	Compositae	<i>Arnica unalascensis</i> var. <i>tschonoskyi</i>	j
	Compositae	<i>Artemisia arctica</i>	g
	Compositae	<i>Artemisia iwayomogi</i>	f
	Compositae	<i>Artemisia koidzumii</i> var. <i>koidzumii</i>	b
	Compositae	<i>Artemisia schmidtiana</i>	bd
	Compositae	<i>Chrysanthemum yezoense</i>	f
	Compositae	<i>Erigeron acris</i>	d
	Compositae	<i>Erigeron thunbergii</i> var. <i>glabratus</i>	i
	Compositae	<i>Leontopodium discolor</i>	a g
	Compositae	<i>Ligularia hodgsonii</i>	
	Compositae	<i>Matricaria tetragonosperma</i>	f
	Compositae	<i>Picris hieracioides</i> var. <i>alpina</i>	d
	Compositae	<i>Saussurea riederi</i> var. <i>yezoensis</i>	b
	Compositae	<i>Senecio pseudo-arnica</i>	f
	Compositae	<i>Solidago virga-aurea</i> var. <i>leiocarpa</i>	
	Compositae	<i>Chrysanthemum vulgare</i> var. <i>boreale</i>	c Southren Limit
	Compositae	<i>Taraxacum shikotanense</i>	b
SPERMATOPHYTA ANGIOSPERMAE MONOCOTYLEDONEAE	Liliaceae	<i>Allium schoenoprasum</i> var. <i>schoenoprasum</i>	
	Liliaceae	<i>Allium splendens</i>	d
	Liliaceae	<i>Clintonia udensis</i>	
	Liliaceae	<i>Fritillaria camtschaticensis</i> subsp. <i>camtschaticensis</i>	
	Liliaceae	<i>Gagea lutea</i>	
	Liliaceae	<i>Gagea vaginata</i>	b
	Liliaceae	<i>Hemerocallis yezoensis</i>	
	Liliaceae	<i>Hemerocallis dumortieri</i> var. <i>esculenta</i>	j
	Liliaceae	<i>Hosta rectifolia</i> var. <i>rectifolia</i>	
	Liliaceae	<i>Lilium maculatum</i> var. <i>dauricum</i>	f
	Liliaceae	<i>Lilium medeoloides</i>	
	Liliaceae	<i>Lloydia serotina</i>	bg
	Liliaceae	<i>Tofieldia coccinea</i>	gi
	Liliaceae	<i>Trillium kamtschaticum</i>	
	Liliaceae	<i>Trillium smallii</i>	
	Liliaceae	<i>Trillium tschonoskii</i>	
	Iridaceae	<i>Iris setosa</i>	j
	Juncaceae	<i>Luzula wahlenbergii</i>	d
	Juncaceae	<i>Luzula oligantha</i>	g

Species name		Reason of designation
Gramineae	<i>Agrostis flaccida</i>	g
Gramineae	<i>Agrostis mertensii</i>	e
Gramineae	<i>Calamagrostis purpurascens</i>	g
Gramineae	<i>Deschampsia atropurpurea</i> var. <i>paramushirensis</i>	a g
Gramineae	<i>Hierochloe alpina</i>	gi
Gramineae	<i>Trisetum sibiricum</i>	
Araceae	<i>Calla palustris</i>	k
Sparganiaceae	<i>Sparganium hyperboreum</i>	a k
Cyperaceae	<i>Carex flavocuspis</i>	dg
Cyperaceae	<i>Carex gmelinii</i>	f
Cyperaceae	<i>Carex hakkodensis</i>	ik
Cyperaceae	<i>Carex limosa</i>	j
Cyperaceae	<i>Carex middendorffii</i>	j
Cyperaceae	<i>Carex pyrenaica</i>	i
Cyperaceae	<i>Carex stenantha</i> var. <i>taisetsuensis</i>	a d
Cyperaceae	<i>Carex subspathacea</i>	l
Cyperaceae	<i>Eriophorum vaginatum</i>	j
Cyperaceae	<i>Scirpus maximowiczii</i>	k
Orchidaceae	<i>Calanthe tricarinata</i>	
Orchidaceae	<i>Cremastra appendiculata</i>	
Orchidaceae	<i>Goodyera maximowiczianum</i>	
Orchidaceae	<i>Goodyera repens</i>	
Orchidaceae	<i>Gymnadenia camtschatica</i>	
Orchidaceae	<i>Liparis makinoana</i>	
Orchidaceae	<i>Listera cordata</i> subsp. <i>japonica</i>	
Orchidaceae	<i>Neottia nidus-avis</i>	c
Orchidaceae	<i>Dactyrorchis aristata</i>	i
Orchidaceae	<i>Oreorchis patens</i>	
Orchidaceae	<i>Platanthera hologlottis</i>	jk
Orchidaceae	<i>Platanthera metabifolia</i>	c Southern Limit
Orchidaceae	<i>Platanthera takedae</i>	
Orchidaceae	<i>Platanthera tipuloides</i>	
BRYOPHYTA	Schistostegales	<i>Schistostega osmundacea</i>
	Sphagnaceae	Sphagnum

- 1 The symbol “ ” indicates that the specie is listed at the relevant National Park or Quasi-National Park and its type locality is located in the relevant park.
- 2 Symbols “ c(S)” or “ c(N)” indicate that the relevant National Park or Quasi-National Park is the southern or northern limit (or is situated near the limit) for the specie.

Criterion for designation

	Species with unique distributions.
a	Endemic species (i.e. the distribution range of the plant is limited to a few locations), Isolated species
b	Sub-endemic species (i.e. the distribution range of the plant is limited to a region)
c	Species at their distribution limit (i.e. the location is the southern or northern limit in Japan for the specie.)
	Rare species (i.e. the population of the plant is especially small in Japan)
	The type locality (source of type specimen) of the specie is located in the relevant park.
	Species which have a symbiotic relationship with other organisms
a	Plants which grow in the habitat of a rare creature (e.g. alpine butterfly) and those which have a close interspecies relationship (e.g. as a feed plant) with the creature
b	Insectivorous plants
c	Saprophytic plants (plants which only grow on undecomposed organic matter accumulated on the forest floor)
d	Epiphytic (arboreal) plants (plants with beautiful forms such as subtropical orchids and evergreen ferns)
	Plants which grow in extreme habitats
a	Volcanoes (i.e. plants that grow on eroded slopes, lava fields, etc. and can survive in conditions which include a combination of shifting gravel, ash fall, volcanic gases, etc.)
b	Rock faces and crevices (i.e. plants which can survive on meager deposits of soil in rock crevices and the nutrients, etc. contained in the rainwater that trickles down from above)
c	Unique rocky land (i.e. plants that grow in places rich in limestone and ultrabasic rock [serpentine rock]. This type of land has poor accumulation of soil in addition to the special conditions imposed by the contents of the base rock. Therefore, invasions by other plants are restricted and the plant is usually a relict specie.)
d	Disintegrating gravel fields (i.e. plants that grow on unstable weathered rock debris such as high altitude slopes with frequent avalanches, wind-swept coasts, etc.)
e	Heavy snowfall areas, slopes with frequent avalanches (Tall herbaceous plants which grow in these areas are resistant to pressure caused by avalanches. These plants tend to have beautiful flowers and when they bloom in the brief season of July and August, they add color to the monotonous subalpine vegetation.)
f	Costal terraces, sand dunes (Only plants with special structures to resist salt damage and dry conditions grow in these areas. The special properties include a well developed root system and fleshy stem and leaves covered by cuticular wax to withstand the strong wind from the sea and ultraviolet light.)

Criterion for designation (continued)

	Plants which grow in extreme habitats
g	Wind-swept sites (Transpiration of plants is greatly affected in wind-swept sites resulting in the development of vegetation composed of dwarf trees (shrubs). The vegetation is wind-swept grassland in areas with extremely strong winds.)
h	Wind caves (A location which receives cold air from caves year around. It is a habitat for alpine plants.)
i	Snow patches (Around snow patches with a large amount of snow remaining up to late summer, there are bands of different types of vegetation from dwarf trees (shrubs) to colonies of moss at the bottom of the snow patch.)
j	High and intermediate moors (An area perpetually saturated with water. Due to the low supply of oxygen, trees are unable to invade the area which results in a wetland vegetation consisting of a few types of herbaceous plants. The landscape does not allow good drainage and the rainwater collected from the surrounding area creates an environment low in inorganic nutrients and high in acidity.)
k	Ponds and perimeters of flowing water (There are many ponds in subalpine areas with heavy snow fall. The water leached from the high and intermediate moors are rich in organic matter but are not highly nutritious due to their high acidity and low temperatures. The ponds which contain such water are habitats for floating-leaved plants which are adapted to low nutrient conditions. On the other hand, along the banks of streams which flow through the moors, there is oxygen rich water and plenty of inorganic nutrients. This results in completely different vegetation from the surrounding area.)
l	Estuarine wetland (Muddy bogs which are periodically affected by ocean tides. Only a few certain salt-tolerant plants which can withstand submersion in seawater grow in this area.)
	Species which play a major role in landscapes (Especially plants which have beautiful flowers that bloom in unison as a colony, creating an effective landscape in each season of spring, summer and fall.)
	Ornamental species, species which are collected by the horticultural industry, herbal medicine industry and hobbyists (species which have high commercial value and are collected by professionals)

4. (2) Chronology

June 1, 1964	Designation of the park area, authorization of the park plan, designation of Special Zones, designation of Special Protection Zones
August 23, 1968	Designation of Rausu-onsen facilities complex and authorization of detailed plan
February 4, 1980	Reallocation of zones (park area, Special Zone, Special Protection Zone) and revision of the park plan in accordance with the designation of Onnebetsudake Wilderness Area
June 15, 1984	Revision of the park area, park plan, Special Zone and Special Protection Zone in accordance with the review
December 1, 1990	Designation of a Restricted Zone on the use of Horses, Vehicles, etc.
February 21, 1995	Partial revision of park plan, Special Zone and Special Protection Zone
August 20, 2003	Revision of park plan (Addition of a facility planning for trails)

4-D Regional Administration and Management Plan (for National Forests: Extract)

. Eastern Abashiri Forest Planning Area

1. Basic Matters Related to the Management of National Forest Land

(1) Basic Policy for the Management of National Forest Land

The subject of this plan is the national forest land of 244,000 ha in the Eastern Abashiri Forest Planning Area.

(Outline of forests in the planning area)

(Unit: 1,000 ha)

Watershed area	Forest area		Forest coverage rate (%)	Rate of national forest land (%)
	National forest	Other forest		
595	396	244	67	62

The said planning area is located east of the Abashiri Branch. The national forest land consists of (1) natural forest of 146,000 ha, which consists of conifers, such as Sakhalin fir and Ezo spruce, and broad-leaved trees, such as Japanese oak, Japanese basswood and birches, (2) artificial forest of 74,000 ha, which consists of Sakhalin fir, larch, Sakhalin spruce, etc., and (3) other forest of 24,000 ha. The portions of it are designated as Shiretoko National Park, Akan Quasi-National Park, Abashiri Quasi-National Park, and Sharidake Prefectural Natural Park. The Shiretoko Peninsula is also designated as the Shiretoko Forest Ecosystem Reserve.

(snip)

There is increasing expectation for the exertion of the public-interest functions of forests. Especially, there is a growing awareness of using forests on a global scale and in a sustainable way from the viewpoint of preventing global warming and ensuring biological diversity. In addition, the people have come to request forests for more diversified functions, such as more expectation for contact with forests. In such circumstances, this plan aims to:

- (i) maintain and improve land conservation function and other public-interest functions of national forest land;
- (ii) supply forest products in a sustainable and planned way; and
- (iii) use national forest land to contribute to the development of industry or the improvement of the welfare of residents in the region.

First of all, management for maintaining and improving public-interest functions

will be promoted. National forest land will be divided into types according to its function to be intensively exerted, and appropriate forestry operations and forest management will be promoted according to the functional type in order to meet the people's request adequately.

(snip)

Specifically, individual portions of national forest land are to be divided into three types—"forests for water and soil conservation" aimed at conserving land and water resources, "forests for the people" aimed at maintaining and conserving a rich ecosystem and being used for recreational purposes, and "forests for cyclical use of forest resources" aimed at stable and efficient supply of timber (Table 1). Thus, they are to be managed according to their purposes.

Table 1 Division of National Forest Land by Functional Type

Functional type	Idea of functional type	Idea of management
Forests for water and soil conservation	Forests that focus on ensuring safe and comfortable national life, such as those which prevent sediment discharge and collapse or conserve water resources	Promote the conservation of tree roots and surface soil, the multi-storied forest operation by which lower vegetation is expected to develop, and long-cycle logging
Forests for the people	Forests that focus on the conservation of precious natural environment, such as the primitive forest ecosystem, and the utilization as a place for the people to have contact with nature	Protect and maintain forests where wildlife grows and inhabits, create places for health/cultural/educational activities, such as forest therapy and nature observation, and maintain natural landscape
Forests for cyclical use of forest resources	Forests that focus on the efficient production of timber, which is the material with the least amount of adverse impact on the environment	Promote appropriate renewal, breeding and thinning to ensure sound forests and grow forest trees that meet diversified demands for timber

(snip)

d. Catchment Basin such as that of the Shari River

This catchment basin spreads in the area covering Kiyosato, Satturu, Midori, Kawamoto, Shari, Koshikawa, Minehama, and Utoro. Regarding forests, there are the artificial forests of larches, Sakharin firs, and other trees near settlements, while there are natural forests, which are mixes of conifers, such as Sakharin firs and *Ezo* spruces, and broad-leaved trees, such as Japanese oaks, Japanese

basswoods and birches, on the mountainside and at the middle-low part of the Shiretoko Peninsula.

The majority of the Shiretoko Peninsula is covered by primitive natural forests. By conserving them, the aim is to maintain the natural environment as a forest ecosystem, protect wildlife and conserve genetic resources. In addition, the forests are designated as the Shiretoko Forest Ecosystem Reserve for the purpose of their use in the development of forestry operation/management techniques and academic research. They are thus expected to contribute to maintaining the natural environment.

(2) Matters Related to Management According to Functional Type

(snip)

(ii) Guidelines for Management of Forests for the People and Other Matters Related to such Forests

Forests for the people shall be treated under two types—forests for nature conservation and those for landscape and recreation.

In this planning area, 70% of forests for the people are for nature conservation, and remaining 30% are for landscape and recreation.

a. Forests for nature conservation

National forest land for nature conservation shall be in principle left to natural transition, and shall be managed in consideration of the conservation of natural habitats for wildlife. However, mountain trails and other existing facilities shall be appropriately utilized and repaired so as not to have an adverse effect on surrounding vegetation.

With respect to forests for nature conservation, those consisting of a primitive forest ecosystem, those necessary for contributing to the inhabitation and growth of precious wildlife and those necessary for conserving genetic resources are designated as protected forests. Such forests will be appropriately managed according to the purpose of designation. Specifically, they shall be treated according to III.2(1) of the separately bound “Guidelines for Forest Management.”

(snip)

2. Matters Related to the Maintenance and Conservation of National Forest Land

(1) Matters Related to Patrol

(i) Forest Conservation Patrol to Prevent Forest Fires, etc.

This planning area includes Shiretoko National Park and Abashiri Quasi-National Park. Therefore, many people enter forests to use them as a place for recreation or health rest. In particular, the risk of forest fires increases in the

spring due to factors, such as the season for collecting edible wild plants, the dry season, high temperature by foehn phenomenon and strong wind.

Therefore, publicity and educational activities for forest fire prevention shall be carried out in collaboration with the Abashiri District Council on Measures to Prevent and Extinguish Forest Fires, local residents, etc. In addition, forest conservation patrol shall be strengthened to make all possible efforts for forest fire prevention.

In relation to forest land patrol, the conservation and management of national forest land will be aimed at by taking appropriate measures based on the understanding of the status of inhabitation and growth of wildlife, the status of occurrence of damages to forests by disease, insects or animals, the status of installation of various signs and other factors.

Moreover, in terms of the conservation and management of forests in the Shiretoko Forest Ecosystem Reserve and other places, protection activities will be carried out with the cooperation of local volunteer groups, etc.

(snip)

(3) Matters Related to Forests that Require Special Protection

Since there are many precious forest ecosystems and plant communities, including the Shiretoko Forest Ecosystem Reserve, in this planning area, 33 locations are designated as protected forests. Their appropriate protection and management will be aimed according to the purposes of their designation.

The spread and mutual exchange of precious wildlife will also be aimed for by establishing a “Green Corridor” that connects the Shiretoko Forest Ecosystem Reserve and the Sharidake/Unabetsudake/Onnebetsudake Plant Community Reserves, for more effective conservation of forest ecosystems.

Furthermore, for locations that require measures to prevent and restore the devastation to vegetation due to the effects of persons’ entry, appropriate measures will be taken in collaboration with related organizations, etc. In areas where people can enter, effort will be made to improve pavements and other facilities so that many people can use forests for learning occasions, etc. It will also be aimed to disseminate and educate about knowledge related to forest ecosystem.

Other than these, information will be actively provided, including the offering of protected forests for academic research fields.

(Reference)

Extract from Guidelines for Forest Management (Eastern Abashiri Forest Planning Area)

III. Standards with Respect to Each Functional Type

2. Forests for the People

(1) Forests for Nature Conservation

With the goal of creating forests that retain a good natural environment and are suitable for the habitat of academically precious animals and plants, forests for nature conservation will be managed (including treatment eliminating human work) to maintain and form the environment to be conserved according to the characteristics of the forest ecosystem, animals, plants, etc. to be protected with attention to the following matters.

a. Management method

The management method will be in principle management by utilizing natural forests.

b. Cutting down trees

Trees will not be cut down except in the following cases:

- (a) cutting down trees to maintain and create natural habitats suitable for the ecological characteristics of animals and plants to be protected;
- (b) cutting down trees to maintain the status quo of forest stands in a transitional phase;
- (c) cutting down trees for academic research purposes;
- (d) cutting down trees and bamboo that interrupt minor facilities such as pavements or the use of such facilities;
- (e) thinning artificial forests; and
- (f) other kinds of cutting necessary to maintain functions, such as cutting down damaged trees.

c. Establishment of facilities

- (a) To establish road networks for management that is necessary to conserve natural environment as needed, with sufficient consideration to avoid the aggravation of the environment to be protected
- (b) To conduct operations, such as the establishment of forest conservation facilities to maintain land conservation function, as needed in forests around primitive natural forests that are conserved relying on natural transition
- (c) For protected forests, to install signs as needed

d. Protection/management

- (a) To make efforts to understand the status and environment of the inhabitation and growth of precious animals and plants through patrol
- (b) For protected forests, to conduct monitoring, the warning and prevention of forest fires, educational and diffusing activities as needed

e. Treatment of protected forests

Protected forests shall be basically treated on the basis of the treatment standards with respect to each kind of protected forests as listed below, as well as the above a. to d.

(a) Forest Ecosystem Reserve

- (i) Forests in conserved areas shall not be tampered with by humans in principle and shall be left to natural transition.
- (ii) For forests in areas used for conservation, trees shall not be cut down in principle so that the forests serve as buffer belts for conserved areas. However, dead trees and damaged trees shall be cut down to avoid damages to local facilities and prevent danger to persons entering forests.

. Kushiro/Nemuro Forest Planning Area

1. Basic Matters Related to the Management of National Forest Land

(Outline of the forest planning area)

(Unit: 1,000 ha)

Watershed area	Forest area		Forest coverage rate (%)	Rate of national forest land (%)
	National forest	Other forest		
949	560	286	274	59

(1) Basic Policy for the Management of National Forest Land

The subject of this plan is the national forest land of 286,099 ha in the Kushiro/Nemuro Forest Planning Area. This planning area covers the whole area under the jurisdiction of both the Kushiro and Nemuro Branches, and it is located in the eastern part of Hokkaido. National forest land in this planning area is located in mountain forests stretching from the Akan mountain range to Shiretoko mountain range, hilly mountain forests extending from the foot of the Akan mountain range to the Pacific Ocean side, hilly areas along the Pacific Ocean and on the Konsen Plateau, and windbreak forests. In addition, the area includes designated areas, such as not only the Shiretoko Forest Ecosystem Reserve but also Shiretoko National Park, Akan National Park, Sharidake Prefectural Natural Park, Onnebetsudake Wilderness Area, and Bekanbeushi Marsh which is designated under the Ramsar Convention.

(snip)

There is increasing expectation for the exertion of the public-interest functions of forests. Especially, there is a growing awareness of using forests on a global scale and in a sustainable way from the viewpoint of preventing global warming and ensuring biological diversity. In addition, the people have come to request forests for more diversified functions, such as more expectation for contact with forests. In such circumstances, this plan aims at the following in managing national forest land as “National Forest”:

- (1) maintain and improve land conservation function and other public-interest functions of national forest land;
- (2) supply forest products in a sustainable and planned way; and
- (3) use national forest land to contribute to the development of industry or the improvement of the welfare of residents in the region.

(snip)

Specifically, portions of national forest land in the relevant forest planning area are to be divided into the following three types with attention to conformity to the areas

of forests managed by the public-interest function, which are prescribed in the regional forest plan of national forest land: “forests for water and soil conservation” aimed at conserving national land and water resources, “forests for the people” aimed at maintaining and conserving a rich ecosystem and being used for recreational purposes, and “forests for cyclical use of forest resources” aimed at sustainable and efficient supply of timber. Thus, they are to be managed according to their purposes.

(snip)

b. Nemuro area

The area is located in the eastern part of the Kushiro/Nemuro Forest Planning Area, and its northern part borders the Eastern Abashiri Forest Planning Area at Shiretoko mountain range that has Mt. Rausu, Mt. Shuri and other mountains around 1,500 m high. The western part borders the Kushiro area, the southeastern part borders the Pacific Ocean at the south and the Nemuro Strait at the east with the boundary at the Nemuro Peninsula. The hilly area of Kosen Plateau spreads in the central part, and windbreak forests are placed in lattice configuration.

As for the Shiretoko Forest Ecosystem Reserve, the Onnebetsudake Wilderness Area, and Special Protection Zones of Akan and Shiretoko National Park, the maintenance and conservation of primitive natural forests is expected. In addition, this area includes the area that has been confirmed as the habitat of Blakiston’s Fish-Owl, which is rare wildlife. Therefore, special efforts must be made in national forests around the area to conserve the natural habitat. Such area shall be managed under the classification of “forests for the people.”

(2) Matters Related to Management according to Functional Type

According to division by functional type, forests for water and soil conservation, which are focused on exerting water resource conservation functions, account for 61% of all forests, and forests for the people account for 31%. Thus, 93% of all forests shall be managed as forests for public interest.

(snip)

(ii) Guidelines for Management of Forests for the People and Other Matters Related to such Forests

Forests for the people shall be treated under two types—forests for nature conservation and forests for landscape and recreation.

a. Forests for nature conservation

National forest land for nature conservation shall be in principle left to natural transition and shall be managed in consideration of the conservation of natural habitats of wildlife. The appropriate use of existing mountain trails will be promoted by repairing those which are liable to have an effect on surrounding vegetation due

to the status of their use.

With respect to forests for nature conservation, those consisting of a primitive forest ecosystem, those necessary for contributing to the inhabitation and growth of precious wild animals and plants, and those necessary for conserving genetic resources shall be designated as protected forests, and their appropriate management shall be aimed.

Specifically, such forests will be treated in accordance with III.2(1) of separately bound “Guidelines for Management.”

(snip)

2. Matters Related to the Maintenance and Conservation of National Forest Land

(1) Matters Related to Patrol

(i) Forest Conservation Patrol to Prevent Forest Fires, etc.

In this planning area, many people enter and use forests for recreational purposes. Since the season for collecting edible wild plants and the dry season coincide, there is a higher risk of occurrence of forest fires. For this reason, utmost effort will be made to prevent forest fires through publicity and educational activities in close collaboration with local residents, local municipalities and other related persons as well as appropriate implementation of forest conservation patrol.

In addition, national forest land will be conserved and managed through implementation of appropriate measures based on an understanding of the status of inhabitation of wildlife, the status of damage by diseases, insects, animals, or birds to forests, and the status of installation of various signs through patrol.

(ship)

(3) Matters Related to Forests that Require Special Protection

Since this planning area includes many natural forests, etc., which form a precious natural environment, 29 locations are designated as protected forests. Each forest shall be appropriately protected and managed according to the purposes of its designation.

In particular, a new Specific Animal Habitat Reserve will be designated to protect the habitats of Blakiston’s Fish-Owl, and a new Plant Community Reserve will be designated with respect to forests spreading at the foot of Mt. Oakan where a good primitive state has been kept. At the “Green Corridor on the Shiretoko Peninsula,” which connects the Shiretoko Forest Ecosystem Reserve and the Shari-dake/Unabetsudake/Onnebetsudake Plant Community Reserves, the spread and mutual exchange of precious wildlife will be sought for more effective conservation of forest ecosystems.

Note: Guidelines for Management are the same as those for the Eastern Abashri

Forest Planning Area.