



Shiretoko-goko lakes and Shiretoko mountain range
photo by MACHIDA Yasuyoshi

5. Factors Affecting the Property

- 5a. Development pressures**
- 5b. Environmental pressures**
- 5c. Natural disasters and preparedness**
- 5d. Visitor and tourism pressures**
- 5e. Number of inhabitants within the property**



5a. Development pressures

Most of the national forests, which account for 95 percent of the terrestrial part of the nominated site, are either designated or planned to be designated 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, and therefore these activities do not affect the natural environment of the nominated site. Furthermore, there are no other ongoing activities such as farming or mining conducted at the site and consequently, there is no pressure from development activity on land at the nominated site.

On the other hand, supported by a high production level of the rich sea, fishery activities such as placing set nets and gill nets as well as aquaculture are conducted in the sea. Existing measures to realize sustainable use of resources include fishery control by the Fisheries Law and other related laws such as the Fishery Resources Protection Law, regulations issued by Hokkaido, voluntary restrictions by the fishery industry (such as designating non-fishing areas) and artificial production and fry release programs for salmon and trout. These measures will be continued to ensure the appropriate management of resources, and therefore, fishing pressures are not likely to increase.

With regard to the natural run of salmon and trout, natural waterways are ensured for those not captured in the set nets to swim upstream. In addition, in the rivers where adult salmon are captured for the artificial production and fry release program, the fish are allowed to swim upstream once the required level of adult fish is captured. These measures will be continued in the future.

5b. Environmental pressures

Climate change is the environmental pressure which may have impact on the value of the nominated site. As the site lies at the most southern seasonal sea ice area in the world, the volume of sea ice is very sensitive to the fluctuation of air temperature. Thus, the sea ice is an excellent indicator of climatic change. The possible effects of temperature fluctuations on sea ice are studied by Aota (2003) using climatic and sea ice observation records spanning more than 100 years (1892 - 2000). He pointed out that in the Hokkaido coastal area which lies in the southern extreme of the Sea of Okhotsk, the temperature was becoming warmer and sea ice concentration showed the declining tendency, and from a simple physical analysis, there is a possibility that a rise of 4 °C in air temperature would prevent the coastal waters from freezing.

In addition, oil spill in the sea area is considered to be a possible environmental pressure which may affect the value of the nominated site. In particular, oil spills may have a crucial impact on the marine ecosystem, and effective measures against any oil spills will be immediately implemented during the initial phase of the accident. Each relevant agency 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 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 on the coastal vegetation; studies to determine the impact on seabirds) and programs to care and rehabilitate wildlife. Based on this manual, the existing system will be enhanced to increase coordination and cooperation between relevant agencies.

5c. Natural disasters and preparedness

Natural disasters such as landslides in mountain areas are expected in the nominated site and necessary measures such as restoration of vegetation cover and the installation of soil conservation structures are being implemented to stabilize degraded areas and prevent erosion in order to minimize the damage. The measures employ construction methods that take into consideration the run of fish such as salmon.

In addition, natural disasters such as mudslides and mudflows are expected in the nominated site and measures such as the designation of Soil Erosion Control Area and the installation of soil control facilities including landslide barriers and concrete dams are being implemented to minimize the damage in valleys where there are threats of large scale slides of rock and debris in order to protect houses and public facilities in the lower parts.

Furthermore, there are a number of steep slopes facing the roads along the coastline and roadblocks occur due to incidences such as rock falls by heavy rain, heavy snowfall in winter and avalanches during the snow-melt season.

Relevant agencies have installed preventive measures such as rock fall barriers, prevention nets and concrete grids as well as avalanche barriers in high risk areas to ensure continued operation of the roads and user safety. These measures take into consideration the natural environment and landscape of the area.



With regard to volcanic activity, specific measures are set out by the Hokkaido Disaster Management Council in the “Hokkaido Regional Disaster Management Plan” (Chapter 7: Volcanic Disaster Prevention Plan) which describes the preventive measures as well as emergency activities and recovery programs for disasters in the Hokkaido region according to the Disaster Measures Basic Law. For activities of volcanoes including Mt. Iou and Mt. Rausu, Chapter 7 describes disaster prevention measures conducted by Hokkaido, municipalities near volcanoes and agencies responsible for disaster management. These measures include evacuation programs, awareness programs on natural disasters, and information systems of volcanic activity.

5d. Visitor and tourism pressures

5d.1 General introduction

The national parks of Japan are designated to “protect the places of scenic beauty and also promote utilization and contribute to the health and culture of the people.” Designated as a national park in 1964, Shiretoko is unique in the sense that its main purpose is to preserve one of the most unaffected natural environments in Japan from human activities. Further protection was conferred in 1980, when part of the national park (including the summit of Mt. Onnebetsu) was reclassified as Wilderness Area and furthermore, in 1990, when the Forestry Agency designated the Forest Ecosystem Reserve.

Thus, several protected area zones have been designated within the nominated site with the aim of maintaining its natural environment, as it is evident that the virgin natural environment of the site is attracting a large number of visitors. The number of visitors to Shiretoko including the surrounding areas of the nominated site has increased from 400,000 in 1964 when it was designated as national park, to the current level of 1.6 million to 1.8 million on the Shari town side and 600,000 to 800,000 on the Rausu town side. In addition, the type of visitors has changed recently from tour groups to individual travelers and there is also an increase in demand for activity-oriented trips. There are now more tourists who participate in outdoor sports such as mountain climbing, trekking, canoeing and fishing and consequently, the nature and type of tourist activities is changing and diversifying.

As a result, there are concerns that excessive visitor use may be damaging the natural environment as well as diminishing visitor enjoyment through perceptions of overcrowding. There is also concern that uncontrolled entry into the backcountry (such as the tip of the Shiretoko Peninsula) may be harmful to the natural environment and also pose risks of accidents to the tourists. From the fiscal year of 2001, the Ministry of the Environment started reviewing the use of the national park, to develop some rules for ensuring the conservation of the virgin natural landscapes and diverse ecosystems in Shiretoko.



Gateway to Kamuiwakka hot spring
photo by Ministry of the Environment



Kamuiwakka hot spring
photo by MACHIDA Yasuyoshi

5d.2 Details of visitor activities

In recent years, the annual number of visitors to the Shiretoko National Park and accommodation facilities in the surrounding areas is some 2.3 million. This number can be roughly categorized into three groups based on their recreational activities: sightseeing, mountain climbing and wilderness trekking in the backcountry.

Most visitors who participate in sightseeing activities do not penetrate far into the site. Mainly they explore the Shiretoko-goko lakes (approx. 500,000 every year), or Kamuiwakka by car or tour couches, or view the sea cliffs and mountain range of the peninsula from tour boats, or admire the scenery from Shiretoko Pass.

On the Shari town side of the Shiretoko Mountain range, there are entry points to the climbing routes at Iwaobetsu hot spring and Kamuiwakka; these take climbers to Mt. Rausu (altitude: 1,661 m) and Mt. Iou (altitude: 1,563 m) respectively. It is estimated that some 10,000 visitors climb Mt. Rausu and 1,000 climb Mt. Iou each year. It is also estimated that approximately 500 of these climbers use the Shiretoko mountain range traverse route between Mt. Rausu and Mt. Iou.

There is also a climbing route to Mt. Rausu from Rausu hot spring on the Rausu town side which is used by some 400 climbers each year. In addition, there is a nature trail that wanders among several ponds and swamps in the surrounding area of Lake Rausu on the northeastern slope of the Mt. Chinishibetsu at an altitude of about 700 meters. The lake is a naturally dammed lake and there are communities of alpine plants and marsh plants along the trail which is used by some 2,000 visitors annually.

Compared with the above two types of tourists, it is estimated that there are much fewer visitors who enter into backcountry. These visitors reach the Shiretoko Cape by walking along the ridgeline of the Shiretoko Peninsula or along the coastline, or by sea kayak or motorboat. There are also some climbers who trek to Mt. Shiretoko, Shiretoko swamp or Mt. Onnebetsu (in early spring).

The tourist activities described above are not yet significant pressures like those tourist activities in other national parks in Japan. However, the following environmental impacts could occur if there is not proper management of the likely future increase in visitors.

5.d.2.1 Feeding wildlife (including disposal of refuse)

Yezo sika deer *Cervus nippon yesoensis*, red fox *Vulpes vulpes schrencki* and occasionally the brown bear *Ursus arctos* may be observed in the nominated site. With the increase in the number of visitors, there are some who feed the wildlife and it has been suggested that such feeding is altering the animals' behavior patterns. Existing measures to raise awareness of the problem include plaques appealing not to feed the wildlife as well as direct instructions to visitors. In particular, feeding brown bears imposes a serious risk to both the visitors' safety and the bear population. Therefore, extra efforts will be focused on providing educational programs and appropriate information on this issue.



Red fox *Vulpes vulpes schrencki* on the road
photo by Ministry of the Environment



5.d.2.2 Impact on rare bird species

The nominated site is one of the major breeding or wintering grounds in Japan for rare bird species such as Blakiston's fish-owl *Ketupa blakistoni blakistoni* and white-tailed eagle *Haliaeetus albicilla* and the site is an important area for the preservation of these species. A protection and breeding program has been implemented for Blakiston's fish-owl with the installation of nest boxes and the banding of chicks.

As the number of visitors increase, more sightseeing tourists might enter the nesting area and photograph these birds recklessly. There is a concern that such careless activities may pose a threat to the birds' breeding behavior. As a measure against such activities, Rurika district which is considered to be the most important habitat for birds such as Blakiston's fish-owl was designated as Designated Special Protection Area of the National Wildlife Protection Area in November 2001. In this area, photographing and sound recording of wildlife are now prohibited.

In areas other than the Rurika district, visitors are requested to refrain from entering the forest except for using the roads and park facilities. Additional protection measures are necessary in the future, especially during the breeding season from winter to spring.

5d.2.3 Influence of exotic plants

Exotic plant species such as spear thistle *Cirsium vulgare*, oxeye daisy *Chrysanthemum leucanthemum*, common yarrow *Achillea millefolium* and common mullein *Verbascum thapsus* have been already found along the roadside and the surrounding slopes and there is a concern that the increase in visitors will promote their invasion. Planned actions include ranking the plants by area in terms of their level of impact on the native species and ecosystem and taking appropriate measures starting with the most invasive plants. In addition, other measures to prevent the invasion of exotic species will also be investigated.

5d.2.4 Impact of the increase in car traffic

The increase in the number of visitors entering the site with their own cars is a concern due to the possible damage to plants by air pollution from exhaust fumes and soot. As a countermeasure, a restriction on personal cars has been imposed since the fiscal year of 1999 and alternative public transportation is provided. The objectives of the restriction are to protect the natural environment while maintaining visitors' convenience and it is enforced from late July to mid August in the 12 kilometers between Shiretoko-goko lakes and Kamuiwakka. During this period, personal cars are prohibited to enter this area and a shuttle bus is provided for visitors. This program is planned to be continued.



Shuttle bus for the vehicle-restricted area
photo by Shiretoko Nature Foundation

5d.2.5 Damage to the climbing routes, and climbers straying from the route and harming vegetation

Mt. Rausu which was included in the “Best 100 Mountains in Japan” by Kyuya Fukada is the most popular mountain for climbers among the Shiretoko mountain range. It is estimated that some 10,000 visitors climb this peak every year. There are two entry points to the climbing route to Mt. Rausu, one at Iwaobetsu hot spring on the Shari town side and another at the Rausu hot spring on the Rausu town side. Most of the climbers use the Iwaobetsu hot spring entry point and a portion of the route has become damaged due to gully erosion. On the climbing route on the Rausu town side, some maintenance activities such as trimming the bush on the route which does not affect the natural environment are conducted within the area about four kilometers from the entry point but no other activities are conducted on other parts of the climbing route. There is a concern that the increase of climbers may further damage the climbing route and the relevant agencies have been conducting maintenance and repair operations such as piling sandbags, facilitating drainage and installing plaques and ropes since the fiscal year of 1992. In addition to continuing these operations, there are plans to implement measures to prevent the damages to the Shiretoko mountain range traverse route and Mt. Iou climbing route and to protect the fragile vegetation in areas such as marshes.

On the trail leading to Lake Rausu, one-third of the three-kilometer trail has been covered with a boardwalk to protect the vegetation. As the number of visitors increase, there have been some damages to the other portion of the path without boardwalk and to the vegetations by visitors stepping off the trail in some areas. Measures already taken against these damages to protect the vegetation include the installation of fences, ropes, installing boards and steps to prevent tourists from straying off the trail. Planned future actions include reviewing appropriate policies and measures to prevent uncontrolled use.

5d.2.6 Sewage in the mountain area

Since there are no restrooms except those at the entry points along the climbing routes in the Shiretoko mountain range, sewage treatment as well as litter disposal are becoming problems in some of the rest stops and camping sites. The problems may become more serious as the number of climbers increase. There is also a concern that the water quality is deteriorating in areas around the camping site such as Futatsu pond on the mountain ridge. Awareness programs on proper sewage treatment will be conducted.

5d.2.7 Damages to the backcountry (virgin natural environment)

Landing on Shiretoko Cape for leisure purposes has been regulated since 1984 with the cooperation of relevant organizations. However, the number of visitors entering into backcountry is expected to further increase in the future. Therefore, since the fiscal year of 2001, the Ministry of the Environment and other relevant agencies initiated a review to develop new rules. These rules are to provide adequate opportunities to experience the nature and to allow sustainable usage from the viewpoint of preserving the natural environment of the Shiretoko National Park.



5e. Number of inhabitants within the property

There is no person living within the core area and 17 people reside permanently in the buffer area.