

3c. Form and date of most recent records of property

Topography/Geology

- Geological Survey of Japan (Currently; National Institute of Advanced Industrial Science and Technology, Geological Survey of Japan) has issued 1:50,000 scale geologic maps including the nominated site from 1965 to 1971.

Climate

- Japan Meteorological Agency annually issues AMeDAS (Automated Meteorological Data Acquisition System) observations that include data on air temperature, precipitation, wind direction/speed, sunshine duration and snow depth (Japan Meteorological Agency, 2002).
- In addition to Japan Meteorological Agency stations, the Hokkaido Regional Development Bureau has established monitoring sites to collect data on daily precipitation, average air temperature, average road surface temperature, average wind speed, maximum average wind speed, snowfall, average snow depth, average visibility, minimum visibility and average atmospheric pressure.

Sea Ice

- Japan Coast Guard constantly monitors the condition of the sea ice via its sea ice monitoring radars and the information on sea ice is available on its website.
(<http://www1.kaiho.mlit.go.jp/KAN1/1center.html>)

Plants

- The vegetation map of the area including the nominated site has been created through a follow-up study by the Environment Agency's Third National Survey on the Natural Environment and published as a report in 1987 (Environment Agency, 1987).
- A list of the vascular plant of the Shiretoko Peninsula is described in the Environment Agency's Onnebetsudake Wilderness Area Survey Report (Sato, K. *et al.*, 1985).
- The Shiretoko Museum makes out a flora list of the Shiretoko Peninsula. This list is constantly updated and made available on the website.
(<http://www.ohotuku26.or.jp/shari/museum/>) (in Japanese)
- Important plant communities in the nominated site were identified in a follow-up study by the Environment Agency's Fifth National Survey on the Natural Environment and published as a report in 2000 (Environment Agency 2000).
- The location of trees larger than 3 meters in girth of the tree trunk were identified in a follow-up study by the Environment Agency's Sixth National Survey on the Natural Environment and published as a report in 2001 (Environment Agency 2001).

Mammals

- A list of terrestrial and marine mammals of the Shiretoko Peninsula is described in the book edited by the Shiretoko Museum (2000). This list is constantly updated and made available on the website.
(<http://www.ohotuku26.or.jp/shari/museum/>) (in Japanese)



Brown bear *Ursus arctos* photo by Ministry of the Environment

- With regard to the density of the brown bear population, the minimum number of bears in the area is estimated by Aoi (1981) and Yamanaka *et al.* (1995) based on the number of bears reported to be sighted and live-captured by traps. The results are published in reports.
- The number of visiting Steller sea lions is reported annually in the “Report on the Project to Establish a Fishery System which maintains the Marine ecosystem” by the Japan Marine Fishery Resources Research Center.
- With regard to the number of the Yezo sika deer in the entire Shiretoko Peninsula, the results of helicopter censuses were reported at the 2003 annual conference of the Mammalogical Society of Japan (Yamanaka *et al.*, 2003). In addition, with regard to population dynamics, censuses have been conducted annually for more than 10 years in Horobetsu/Iwaobetsu, Shiretoko Cape, Rausu town districts and once in 1995 at the Rusha/Teppanbetsu district (Shiretoko Nature Foundation, 2003).

Birds

- A list of birds is described in the research report by the Shiretoko Museum (1999). The list is constantly updated and the data is accumulated by the Museum.
- The number of migratory Steller’s sea eagles and white-tailed eagles has been annually recorded by the Working Group for White-tailed Eagles and Steller’s Sea Eagles in their White-tailed eagle/Steller’s sea eagle joint simultaneous survey since 1980 (Working Group for White-tailed Eagles and Steller’s Sea Eagles 1988 and unpublished).
- Nesting status of seabird is summarized by Fukuda (2000).

Reptiles and Amphibians

- A list of reptiles and amphibians is made out by the Shiretoko Museum. The list is constantly updated and is made available on the website. (<http://www.ohotoku26.or.jp/shari/museum/>) (in Japanese)

Fishes

- The information is summarized and published as “Fishes of Shiretoko” by the Shiretoko Museum of Shari town (Shiretoko Museum, 2003).

- Hokkaido prefectural government assesses the fish stock, and issues “Manual of the conservation and management of fishery resources in Hokkaido” annually (Hokkaido, 2003).

3d. Present state of conservation

The nature of the nominated site is well conserved. Within the nominated site, more than 90 percent of the terrestrial area is covered in natural vegetation and there is little impact of human activity.

Although the nominated site contains some privately owned lands that are mostly abandoned settlements, nearly all such lands have been purchased through a program to reclaim land for nature conservation initiated by Shari town. Currently, there are actions to regenerate the forest using native trees on the land repurchased through the program. This program, “The Shiretoko 100 Square-Meter Forest Trust” was started in 1977. There was high interest throughout Japan in this program and with its initiation, donations started pouring in. Twenty years after the start of the program, the target amount of donation was achieved in March 1997. The number of participants reached 49,000 and the total amount of donations reached 520 million yen. Approximately 97 percent of the land targeted for repurchase has already been conserved and some 420,000 seedlings have been planted. With the achievement of its target, Shari town passed a new regulation designating a total area of 862 hectares on the mountainside of the Shiretoko mountain range (a combined area of some 460 hectares conserved through the program, plus the surrounding land owned by the town), as a “non-transferable area” in order to ensure its permanent conservation.

Furthermore, in order to promote the restoration of the virgin forest that once covered this area and to revive the abundant wildlife and the natural ecosystem, “The 100 Square-Meter Forest Movement Trust” was started in June 1997. The nature restoration plan for the movement is based on an intensive discussion by a committee with experts from various fields. The unique features of the plan are: i) the objective is not



Protection of the barks from deer in the Forest of the “100 Square-Meter Movement Forest Trust”
photo by Shiretoko Nature Foundation

to create an artificial forest but to establish a natural forest which eventually lead to the recovery of virgin forests with an extremely long range view; ii) the objective is to restore not only the forest but also the entire ecosystem which includes the number of wildlife and the cycle of the ecosystems. There are also conservation activities regarding the river basins. Examples of the activities conducted since 1999 include: restoration and conservation of forests along the riverbanks; recovering natural spawning of chum salmon *Oncorhynchus keta* and pink salmon *Oncorhynchus gorbuscha*; reintroduction of the masu salmon *Oncorhynchus masou masou* in order to restore the fauna which once existed in the rivers of the trust land.

In the ecosystem of the nominated site, brown bears are the largest mammal and the high density of their population is an important indicator of rich and virgin condition of the natural environment. In the nominated site, a minimum of 21 bears inhabit in 60 square kilometers (approximately 0.35 bear/square kilometer) which is a high population density.

The population density of the Yezo sika deer for the entire nominated site was estimated by helicopter censuses conducted in 2003. In addition, there have been censuses conducted in four locations within the nominated site to determine the Yezo sika deer population density. The results of these censuses are organized by the Shiretoko Nature Foundation (2003) and used in the conservation and management of wildlife (Table 3-3).

Table 3-3 Density studies of the Yezo sika deer in the Shiretoko Peninsula

| District | Method | Date | Density or No. of deer |
|---------------------|--------------------|------------------------|--|
| Entire area | Helicopter census | 2003 | 4,333 – 6,235 deer |
| Horobetsu/Iwaobetsu | Searchlight census | Oct. 2002 | Horobetsu: 4.4 deer/km Iwaobetsu: 7.0 deer/km |
| Shiretoko Cape | Airplane census | 2002 | 512 deer |
| Rausu town | Searchlight census | Jan. 2002 Feb. 2002 | 12.7 deer/km 7.0 deer/km |
| Rusha/Teppanbetsu | Searchlight census | 1995 | 3.4 deer/km |



Yezo sika deer *Cervus nippon yesoensis* photo by Ministry of the Environment

With regard to the globally threatened Steller's sea eagle (VU, IUCN Red List) and white-tailed eagle (LR, IUCN Red List), several hundred birds of each species have been observed to visit the Shari/Rausu areas in recent years (Working Group for White-tailed Eagles and Steller's Sea Eagles, unpublished) and while there are some yearly fluctuations, the figures indicate that an excellent wintering site is being maintained (Table 3-4).

Table 3-4 The number of Steller's sea eagles and white-tailed eagles observed

| Year | No. of Steller's sea eagles | No. of white-tailed eagles |
|------|-----------------------------|----------------------------|
| 1993 | 274.2 | 101.8 |
| 1994 | 143.6 | 78.4 |
| 1995 | 227.3 | 141.7 |
| 1996 | 615.6 | 257.4 |
| 1997 | 227.1 | 118.9 |
| 1998 | 169.1 | 124.9 |
| 1999 | 904.6 | 276.4 |
| 2000 | 845.4 | 265.6 |
| 2001 | 767.9 | 240.1 |
| 2002 | 262.1 | 116.0 |

N.B. The numbers include decimals because the number of unidentified eagles (either Steller's sea eagle or white-tailed eagle) are divided according to the ratio of identified eagles and added.



Steller's sea eagle *Haliaeetus pelagicus* photo by ISII Eiji

With regard to the Blakiston's fish-owl (EN, IUCN Red List), conservation efforts are ongoing through the "Rehabilitation of Natural Habitats and Maintenance of Viable Population" program for this species by the Ministry of the Environment and Forestry Agency, and 56 nest boxes have been installed in the nominated site. Since 1986, breeding of Blakiston's fish-owl has been confirmed every year, and 61 chicks that have hatched in these nest boxes were banded (Table 3-5) and have been monitored.

Table 3-5: The number of nest boxes installed for the Blakiston's fish-owl and the number of chicks banded

| Year | No. of nest boxes installed | No. of chicks banded |
|-------|-----------------------------|----------------------|
| 1983 | 6 | |
| 1984 | 9 | |
| 1985 | 4 | |
| 1986 | 1 | 1 |
| 1987 | 5 | 2 |
| 1988 | 5 | 1 |
| 1989 | 4 | 2 |
| 1990 | 1 | 1 |
| 1991 | 2 | 1 |
| 1992 | 0 | 3 |
| 1993 | 2 | 5 |
| 1994 | 2 | 2 |
| 1995 | 3 | 5 |
| 1996 | 3 | 6 |
| 1997 | 3 | 8 |
| 1998 | 2 | 1 |
| 1999 | 3 | 5 |
| 2000 | 0 | 1 |
| 2001 | 1 | 5 |
| 2002 | 0 | 8 |
| 2003 | — | 4 |
| Total | 56 | 61 |

Description

Artificial production and fry release programs for salmon and trout are mainly conducted in four rivers, and the population surveys are carried out in many rivers within the Shiretoko Peninsula. In addition to legal systems such as Fisheries Law and Hokkaido Inland Water Control Rules, these research results contribute to sustainable management of the salmon and trout stocks. In particular, the population density of dolly varden *Salvelinus malma* and masu salmon in the 37 rivers in the Shiretoko Peninsula is more than 20 salmon per 100 square meters (Taniguchi *et al.*, 2002) and there is almost no change from the corresponding figure in 1991 (Shimoda *et al.*, 1993). In general, fishery resources are controlled by Fisheries Laws, regulations of Hokkaido prefectural government and voluntary restrictions by the fishery industry.



Bird banding on Blakiston's fish-owl
Ketupa blakistoni blakistoni
photo by Ministry of the Environment

3e. Policies and programs promoting the property

Since there are only a limited number of roads and trails within the nominated site, visitors are restricted to specific routes and the integrity of the rest of the virgin natural environment is preserved. It is therefore considered imperative that close attention is paid to ensuring that the virgin natural environment is well conserved for future generations when offering access to and providing awareness programs about the nominated site.

Issues regarding visitor access and awareness programs have been managed by the Ministry of the Environment, Forestry Agency, local governments, and other related organizations. However, it is going to be coordinated by a regional liaison committee, which has established for the effective conservation and management of the nominated site.

With regard to the usage of the nominated site for tourism, nature exploration, angling and other activities, it should be managed properly according to the nature of each activity. To this effect, it is planned to establish new rules for utilization of the site, “Shiretoko Rules”, that are pertinent to the virgin nature of Shiretoko. These rules will be formulated by relevant government agencies together with experts from various fields, related local groups, and so on.

In addition, the Ministry of the Environment, Forestry Agency and local governments, in cooperation with local NPOs, are going to promote the diversification of usage of the site to prevent excessive concentration. It is planned to disperse visitors through the provision of information and programs on the use of various natural and cultural resources in and around the nominated site. With these actions, it is aimed to conserve virgin natural environment and to offer a high quality experience giving a deep impression to the visitors at the same time. Further, it enhances the understanding of ecotourism that can contribute to development of the area taking into account the nature conservation.

With regard to tourist safety, visitors are instructed to take necessary precautions against accidents and to be aware of their responsibility for managing risks to their own person.

Relevant agencies will collaborate and conduct intermittent monitoring activities on usage and its impacts on the natural environment, and according to the results of these monitoring, appropriate countermeasures will be taken.