IUCN Conservation Outlook Assessment 2017 **(archived)**
Finalised on 09 November 2017

Please note: this is an archived Conservation Outlook Assessment for Shiretoko. To access the most up-to-date Conservation Outlook Assessment for this site, please visit https://www.worldheritageoutlook.iucn.org.

Shiretoko

SITE INFORMATION

Country:
Japan
Inscribed in: 2005
Criteria:
(ix) (x)

Site description:
Shiretoko Peninsula is located in the north-east of Hokkaido, the northernmost island of Japan. The site includes the land from the central part of the peninsula to its tip (Shiretoko Cape) and the surrounding marine area. It provides an outstanding example of the interaction of marine and terrestrial ecosystems as well as extraordinary ecosystem productivity, largely influenced by the formation of seasonal sea ice at the lowest latitude in the northern hemisphere. It has particular importance for a number of marine and terrestrial species, some of them endangered and endemic, such as Blackiston’s fish owl and the Viola kitamiana plant. The site is globally important for threatened seabirds and migratory birds, a number of salmonid species, and for marine mammals including Steller’s sea lion and some cetacean species. © UNESCO

SUMMARY

2017 Conservation Outlook

Good with some concerns

Both the conservation values specifically recognized under the Convention (World Heritage Committee, 2013) and broader conservation values are intact and not subject to fundamental pressures at this point in time or in the foreseeable near future. The property has an adequate and evolving legal, policy and management framework and human and financial resources are not major limiting factors. The State Party has been demonstrating its willingness and capacity to respond to challenges, including to challenges identified by the World Heritage Committee. On land, tourist and Sika deer populations require permanent management attention, as has been the case since before the World Heritage inscription. In rivers, there have been some modifications made to existing small dams, but clearly more work is needed, including further modifications and removal of dams and continued monitoring to determine if fish passage and spawning activity has improved.The management of the marine areas is more complex, which by implication directly affects the terrestrial ecosystems as well. The most demanding challenge is probably fisheries management balancing commercial and conservation interests, which obviously exceeds the mandate and scope of protected area management. It is clear that the best possible coordination and cooperation is needed beyond the property boundaries, including to the degree possible with neighboring States Parties. While the continued culling of Steller sea lion does not jeopardize the survival of the species, it is a most questionable practice at best, especially when considering that the population of the locally present subspecies is recovering from dramatic past collapse and the fact that the population is not even well understood (State Party of Japan, 2016). The practice of killing marine mammals in a World Heritage property to protect assets and commercial fish stocks constitutes a reputational risk for the property and the credibility of World Heritage more broadly and should therefore be stopped. As for climate change, the expected effects on the sea ice formation deserves to be singled out, as it would directly affect the exceptional productivity of the area, which is recognized

as contributing to the World Heritage value of the property. While per se beyond the scope of property management, investment in specific monitoring of change and realistic future scenarios will enhance the foundation for the best possible preparedness.

Current state and trend of VALUES

Low Concern
Trend: Stable

Overall, the specific and formally recognized World Heritage values (World Heritage Committee, 2013) have not been subject to fundamental change. The property continues to provide important marine and terrestrial habitats to a large array of species, none of which is existentially threatened in the property. The productivity of the marine ecosystem and its intricate linkages with the adjacent terrestrial ecosystems remains functional.

Overall THREATS

High Threat

The relatively small property is exposed to a range of current threats, likely to be aggravated by anticipated climate change and increased visitation. One particularity is that ecologically important species, which are explicitly among the main conservation values of the property are directly affected by human impacts, the most drastic example being the culling of Steller's Sea Lion to protect commercial fisheries. Human-made modifications of water courses continue to affect fish migration. On land, the property is not spared from the well-known effects of excessive levels of Yezo Sika deer. Other threats include localized tourism impacts, risks associated with marine traffic and changing climate patterns.

Overall PROTECTION and MANAGEMENT

Some Concern

Funding and staffing constraints are not major limiting factors and terrestrial management is overall effective. There is room for further analysis and follow-up to the State Party commitment to restore salmonid habitat to “as natural a state as possible” (State Party of Japan, 2016). The high visitor numbers require permanent management attention, as well as the populations of Sika deer. The

complexity is higher in the marine area and it deserves to be recalled that this has effects on the terrestrial area as well given that the property is explicitly recognized for its intricate linkages between land and sea. The most demanding challenges are fisheries management at the appropriate scales, which implies international coordination and cooperation and the best possible understanding of future climate change scenarios to underpin preparedness.

FULL ASSESSMENT

Description of values

Values

World Heritage values

- **Outstanding example of the interaction of marine and terrestrial ecosystems**
  Criterion:(ix)

  Shiretoko provides an outstanding example of the interaction of overlapping marine and terrestrial ecosystems. The most obvious living linkages are migratory fish species, including many salmon species, which transport nutrients from the productive sea to the terrestrial ecosystems and foodwebs via the numerous rivers and creeks. Numerous mammals, including a dense population of brown bear (Ursus arctos) and countless birds prey on the salmons (UNEP-WCMC, 2011).

- **Extraordinary ecosystem productivity**
  Criterion:(ix)

  The combination of sea ice and warm summer currents contributes to the enormous productivity of the marine ecosystem. The explosive growth of phytoplankton underpins an extremely abundant marine life. The sea ice formation occurs at the lowest latitude anywhere in the northern hemisphere. The peculiar conditions result in a layered water structure in the Sea of Okhotsk, with the surface and lower layers of the water having a large difference in salinity (World Heritage Committee, 2013; UNEP-WCMC, 2011; IUCN, 2005). Phytoplankton is the primary producer in the marine ecosystem, and thus the essential foundation of the food web for krill and zooplankton, then small fish, crustaceans and shellfish, as well as terrestrial mammals and

birds via the salmon migrations (IUCN, 2005; World Heritage Committee, 2013).

► **Important habitat for both marine and terrestrial species, a number of which are threatened or endangered**
Criterion:(x)

Located on a peninsula in northeastern Hokkaido reaching into the Sea of Okhotsk, Shiretoko conserves important habitat for a number of endangered and endemic species at the biogeographic meeting point of northern continental Asia and species from the Japanese islands to the south, in particular Honshu. Shiretoko is particularly important for several salmonid species, Walleye Pollock (Theragra chalcogramma), as well as marine mammals, including the Steller Sea Lion (subspecies Eumetopias jubatus ssp. jubatus, EN; note that status of the overall species was changed from “EN” to “NT” and status in the Japanese Redlist was changed from “VU” to “NT” in 2012 because the Asian population (including Sakhalin and Kuril and adjacent areas) of this subspecies increased from 27000 in 1960s, 13000 in late 1980s to 16000 in 2005). Other marine mammal species seasonally or occasionally using the property include spotted seal, orca, minke and sperm Whale, Dall’s porpoise and the endangered fin whale (World Heritage Committee, 2013). The property is also recognized as a significant habitat for globally threatened sea birds and its importance to migratory birds. An impressive 264 species of birds have been recorded on the peninsula, the most charismatic ones comprising the endangered Blakiston’s fish or eagle owl (Ketupa blakistoni) and wintering populations of the spectacular Steller's sea eagle (Haliaeetus pelagicus, VU), the world's largest eagle (IUCN, 2005; World Heritage Committee, 2013). Viola kitamiana deserves to be noted as an plant endemic to the Shiretoko mountain range.

Other important biodiversity values

► **Representations of various important forest types**

The IUCN evaluation (IUCN, 2005) notes important samples of (i) cool temperate deciduous broad-leaved forest; (ii) sub-arctic evergreen coniferous forest; and (iii) mixed forest combining elements of the above forest types.

The forests within the property attract limited attention in the World Heritage documentation and are not singled out as being among the most striking natural features from a narrow World Heritage perspective. Nevertheless, there are of course important and integral elements of the ecosystem protected in the property.

Assessment information

Threats

Current Threats

High Threat

A range of current threats directly affect important species, which perform important ecological roles and are among the specific conservation values of the property. Human-made modifications of water courses continue to affect fish migration; and commercial fishing puts both pressure on the target species and Steller Sea Lion, which continues to be culled even within the property. On land, the property is not spared from the well-known effects of excessive levels of Yezo Sika deer. Other threats include localized tourism impacts, risks associated with marine traffic and changing climate patterns.

▶ Shipping Lanes

Low Threat
Inside site, widespread(15-50%)
Outside site

While the State Party reports the impacts and risks of international shipping as minimal, it is committed to assessing the usefulness and feasibility of the establishment of a Particularly Sensitive Sea Area (PSSA) (State Party of Japan, 2012). The World Heritage Committee (2017) recently reminded the State Party to report on the implementation of this commitment.

▶ Dams/ Water Management or Use

High Threat

Inside site, widespread(15-50%)
Outside site

Fish migrations, including important runs of numerous salmonids, are a key ecological feature and conservation value of the property, underpinning the intricate linkages between the land and the sea and as an important element of the local food webs. Despite the protection status, dams and river modifications have been constructed on several rivers and creeks, which are barriers to migration and affect spawning habitat (UNEP-WCMC, 2011, IUCN, 2005). The State Party refers to such structures as “check dams”, described to aim at asset protection and human safety. In the case of the Rusha River some dams were apparently built to protect salmon hatcheries. Since the inscription the State Party has been encouraged to optimize fish habitat by removing or adapting human-made structures in or across watercourses. Important progress has since been made with monitoring indicating positive effects on several salmon species (State Party of Japan, 2012). The salmon hatchery on the Rusha River has been decommissioned, which could facilitate the removal of dams on that river intended to protect the hatchery. Despite the considerable effort and commitment, as well as documented improvements, the fact remains that key species continue to be affected by human-made river modifications (IUCN Salmonid Specialist Group, 2013).

► Livestock Farming / Grazing

Low Threat
Inside site, widespread(15-50%)

Japan's Ministry of the Environment acknowledges impacts of excessive levels of Yezo Sika deer in the property and elsewhere in Hokkaido (https://www.env.go.jp/nature/isan/worldheritage/en/shiretoko/measure/index.html). Population control is inevitable and as long as it is in place the impacts appear manageable.

► Fishing / Harvesting Aquatic Resources

High Threat
Inside site, throughout(>50%)
Outside site

Individuals of Steller’s Sea Lion belonging to the Asian group of the Western subspecies are seasonally present in and around the property (UNESCO et al., 2017). In response to predation on commercial fish stocks and damage to

gillnets, the Hokkaido Fishing Zone Coordination Commission sets an “Annual Catch Limit” (ACL), under the supervision of the Fisheries Agency of Japan and the Hokkaido government. There are serious challenges in terms of establishing reliable numbers, as acknowledged by the State Party (State Party of Japan, 2016). The subspecies occurring seasonally in the property, Eumetopias jubatus ssp. jubatus, is classified as “endangered” in the IUCN Red List. To cull and use non-lethal deterrence against an endangered species in a natural World Heritage property without a clear understanding of the population number and dynamics is questionable at best.

► Fishing / Harvesting Aquatic Resources

High Threat
Inside site, widespread(15-50%)
Outside site

Walleye Pollock has been "generally declining throughout the Sea of Okhotsk" (Rao et al. 2008). The State Party reports a stabilization of the species while acknowledging that populations have not returned to pre-1989 levels (World Heritage Centre et al., 2012).

► Tourism/ Recreation Areas

High Threat
Inside site, localised(<5%)

Some visitor impacts have been observed in some locations, including trail erosion (UNEP-WCMC, 2011) and disturbance of marine life from sports fishing (UNESCO et al., 2017, State Party of Japan, 2016).

Potential Threats

High Threat

The main concern and uncertainty relates to the anticipated effects of climate change, which might harm the delicate role of sea ice among other ecological factors. The long-term impacts of climate change should be assessed by development of a monitoring programme which identifies both long and short term impacts of climate change and specifically monitors parameters such as the extent of sea ice and the impacts on populations of key indicator species (IUCN et al., 2008). Tourism, already a localized concern, might become another major threat if increasing numbers will not be responded to with

adequate management.

► Habitat Shifting/ Alteration

High Threat
Inside site, throughout(>50%)
Outside site

Initial discussions have taken place involving the Kushiro Nature Conservation Office, the Hokkaido Regional Forest Office, and the Hokkaido Government through the Scientific Council in order to better understand climate change impacts on Shiretoko with particular reference to the significant risk to the sea ice (State Party of Japan, 2012). Rao et al. (2008) argue that sea ice is the foundation of important conservation values and particularities of the property, strongly contributing to its Outstanding Universal Value. Changing temperatures would directly affect ice formation and could thereby have considerable impacts on the property.
Climate change impacts on sea ice dynamics need to be better integrated into broader natural resource monitoring programmes (World Heritage Centre et al., 2012).

Protection and management

Assessing Protection and Management

► Relationships with local people

Some Concern

The property faces a classic conflict between conservation and commercial use of
natural resources, epitomized by the culling of marine mammals to protect fisheries and gear. It is clear that there are differing interests and perceptions between stakeholders which inevitably reflect on relationships. Similarly, the differing views on the river modification indicate some tensions. At the same time there are no hints at major conflicts. It deserves to be noted that the property name is of indigenous origin, meaning the "the end of mother earth" in the language of the Ainu people (IUCN, 2005). IUCN (2005) called for the involvement of the contemporary Ainu in the

management of the property.

► Legal framework

Mostly Effective

Multiple laws and regulations at the national level are applicable, including the Nature Conservation Law (1972), the Natural Parks Law (1957), the Law on Administration and Management of National Forests (1951) and the Law for Conservation of Endangered Species of Wild Fauna and Flora (1992) (World Heritage Committee, 2013). Additional national legislation is applicable to the marine part as regards pollution and regulations for fisheries management based on the Fisheries Law.

► Enforcement

Mostly Effective

Hokkaido Prefectural Government enforced “Hokkaido Shiretoko World Natural Heritage Site Ordinance” in 2016. It consists of 18 articles that describe the goal of the heritage conservation, obligations and roles of stakeholders, decision-making process, capacity building and relationships with other laws and ordinances, but without prescribed penalties.

► Integration into regional and national planning systems

Mostly Effective

The Ministry of the Environment, the Forestry Agency, the Agency for Cultural Affairs, and the Hokkaido Government in collaboration, developed the Management Plan for the site and manage the site on the basis of the plan. A Regional Liaison Committee has been established to promote conservation management through collaboration and cooperation with the local community. Similarly a Scientific Council has been established and promotes adaptive conservation management that reflects scientific knowledge. (UNESCO PR, 2011)

► Management system

Mostly Effective

The terrestrial management is based on clear mandates and follows structured management planning with strong elements of participation of

sub-national government levels and local communities. Management of tourism and wildlife are focal areas of terrestrial management. Management of the marine areas is more complex due to the coincidence of conservation objectives and important commercial interests, identified as a key question mark in the evaluation of the World Heritage nomination (IUCN, 2005). The dilemma is inherent to the setting and set-up of the property and will require integrated management planning at all times.

► Management effectiveness

Some Concern

The management effectiveness of the terrestrial areas does not raise noteworthy concerns, as long as tourism management remains effective and responds to possibly increasing future demands and pressures and sika deer numbers remain under control. In terms of identifying the exact management objectives with regard to the continued existence of river modifications, the State Party is engaged in ongoing efforts to assess and optimize the migration routes and spawning habitat. The management effectiveness of the marine parts is less clear-cut, as the area is subject to different interests and objectives. While, by and large, there are no indications of a major clash between the overall objectives to conserve and harvest the marine resources, the continued killing of marine mammals inside the property illustrates the need for integrated management. The effectiveness of the marine management also requires coordination beyond the property itself, including with neighboring countries.

► Implementation of Committee decisions and recommendations

Some Concern

The State Party has responded to all six Committee decisions so far, and has continuously been implementing requests and recommendations. One positive example is the update of the overall management plan strengthening the integration of marine and terrestrial components (World Heritage Centre et al., 2012). Some other areas are also being addressed, but further progress is needed, including salmon management with the continued existence of human-made impacts on migration and spawning habitat, for example on the Rusha River; cooperation with neighboring countries on the management of fisheries and Steller’s Sea Lion; and sika

deer management. The State Party is committed and management responses are in progress.

► Boundaries

Some Concern

The terrestrial boundaries adequately cover key natural features, whereas the marine boundaries somewhat schematically extend 3 kilometers from the shoreline, corresponding to a depth of 200 meters. (World Heritage Committee, 2013). It is clear that the management of fisheries and marine mammals has to fully consider the surrounding seas and requires cooperative efforts with neighboring countries (State Party of Japan, 2012).

► Sustainable finance

Highly Effective

Conservation funding relies mostly on governmental sources from national to local level, with around three quarters covered by the federal Ministry of the Environment and the Forestry Agency (UNEP-WCMC, 2011). The same source mentions some non-governmental contributions. Funding is not a decisive bottleneck in this property.

► Staff training and development

Mostly Effective

UNEP-WCMC (2011) reports a total of 82 staff. The State Party of Japan (2012) reports most staff to be employed full time, while noting staffing levels below the optimum, particularly as regards education. Furthermore, whilst there are some training opportunities for staff, there are no opportunities for local capacity development.
Shiretoko Foundation plays an important role in Shiretoko, supported by the municipality.

► Sustainable use

Serious Concern

Direct consumptive use and indirect touristic use are key factors. The negative impact of the fishing industry’s culling of the Steller Sea Lions, and the unsustainable harvesting of Walleye Pollock by Russia are both current

threats to the OUV of the site. The State Party reports that these impacts are being lessened due to on-going measures addressing these threats. (State Party Report, 2012).

► Education and interpretation programs

Some Concern

Education and interpretations appears to be limited despite high visitor numbers (State Party of Japan, 2012). A local non-governmental organization reports various relevant activities in this regard (Shiretoko Nature Foundation, n.d.).

► Tourism and visitation management

Some Concern

To appreciate the scale of visitation, it is useful to understand that visitor numbers exceeded 2.3 million even prior to the World Heritage inscription (UNEP-WCMC, 2011). Peaks are the summer months, while the sea ice at the time attracted some 300,000 people in mid-winter (IUCN, 2005). It is fair to assume that visitor numbers have since increased. Trail erosion and risks posed by the unusually high population density of brown bear noted in the World Heritage evaluation (IUCN, 2005) indicate a need for intensive management, but there are no reports of major impacts.

► Monitoring

Mostly Effective

There is ongoing monitoring, including in response to World Heritage Committee decisions, namely as regards the sustainability of the Walleye Pollock fisheries, the seasonal presence of Steller Sea Lion, salmonid migration and spawning and Sika deer in and near the property (State Party of Japan, 2016, 2015, 2012 and 2008). UNEP-WCMC (2011) report longstanding monitoring of brown bear and Sika deer, with otherwise a sound baseline through a solid body of published scientific work in and around the property.

► Research

Highly Effective

There is a wealth of research being undertaken at all levels by a range of actors, including governmental institutions and research agencies. A local non-governmental organization lists research among its main activities (Shiretoko Nature Foundation, n.d.). The Onnebutsedake Wilderness has been subject to particular intensive study for decades (UNEP-WCMC, 2011). A scientific committee consisting of experts in both terrestrial and marine conservation and management advises management (State Party of Japan, 2016).
Shiretoko Forest was used in the cover page of the special feature issue on “forest biodiversity and ecosystem services” in Journal of Applied Ecology 54(1) (2017, British Ecological Society).

Overall assessment of protection and management

Some Concern

Funding and staffing constraints are not major limiting factors and terrestrial management is overall effective. There is room for further analysis and follow-up to the State Party commitment to restore salmonid habitat to “as natural a state as possible” (State Party of Japan, 2016). The high visitor numbers require permanent management attention, as well as the populations of Sika deer. The complexity is higher in the marine area and it deserves to be recalled that this has effects on the terrestrial area as well given that the property is explicitly recognized for its intricate linkages between land and sea. The most demanding challenges are fisheries management at the appropriate scales, which implies international coordination and cooperation and the best possible understanding of future climate change scenarios to underpin preparedness.

▶ Assessment of the effectiveness of protection and management in addressing threats outside the site

Some Concern

Given the overall high management effectiveness of the property itself and systematic and promising efforts to address identified challenges, the main threats requiring management responses stem from outside the property. However, there is still a number of important issues within the boundaries of the property, particularly the existence of a number of small dams that limit salmon migration. As is common in protected area management, this raises

important questions in terms of mandate and capacity to address complex issues at scales beyond protected area boundaries. Examples include the management of Sika deer populations, but more importantly the marine areas. This includes fisheries management, which obviously requires a scale beyond the property and the best possible harmonization with neighboring countries. Despite important progress in this regard (State Party of Japan, 2016 and 2012), there is room for further harmonizing fisheries management with the users of the Sea of Ochotsk. The continued culling of Steller Sea Lion, a species migrating across long distances, which is subject to full protection elsewhere, epitomizes the need for more sophisticated species management beyond selected areas. Finally, there is major uncertainty in terms of the expected impacts of climate change on the property. While the State Party reports on a series of initial discussions through the Scientific Council, further measures are recommended to understand and assess vulnerability in order to underpin preparedness efforts (World Heritage Centre et al., 2017 and 2012).

► Best practice examples

The IUCN evaluation noted shortcomings in the spatial configuration of the marine part of the then nominated property and recommended an important extension of the marine part of the nominated area (IUCN, 2005). In response, the State Party expanded the area as proposed, an encouraging example of a nomination initiative not only awarding existing conservation efforts but resulting in concrete conservation gains.

State and trend of values

Assessing the current state and trend of values

World Heritage values

► Outstanding example of the interaction of marine and terrestrial ecosystems

High Concern
Trend:Improving

The most striking manifestation of linkages between the marine and terrestrial ecosystems of the property are the migrations of salmonids, which are known to influence nutrient cycles and food webs in many ways. The salmon runs support, for example, the important aggregations of wintering Steller sea eagle, white-tailed eagle and brown bear. It can reasonably be argued that the management of the species and the ongoing efforts to optimize habitat and remove migration barriers amount to a positive trend given that monitoring confirms tangible results.

► Extraordinary ecosystem productivity

Low Concern
Trend:Data Deficient

The spectacular and highly particular sea-ice formation in the property directly contributes to the high ecosystem productivity in the Sea of Okhotsk, including the property. Thereby, the phenomenon directly contributes to Shiretoko’s Outstanding Universal Value. At this stage, the phenomenon and its effects continue to exist. While the site management is in no position to influence the future of the phenomenon under the overall scenario of climate change, it is clear that the best and probably only option at the site level is to invest in the best possible understanding of change and realistic future scenarios to underpin preparedness.

► Important habitat for both marine and terrestrial species, a number of which are threatened or endangered

Low Concern
Trend:Improving

The management framework could be much improved since the World Heritage inscription, namely through the successful revision of the management plan based on previously somewhat dispersed management guidance. Thereby, there is well-structured and comprehensive guidance on all key aspects. The habitat for the terrestrial species of particular conservation interest is well protected. While the management of the more complex migrations of several species of salmonids continues to face challenges and question marks, important progress has been made and there are strong and credible commitments to further invest in analysis and follow-up. The most striking question mark is the culling of Steller sea lion

even though its presence is a noteworthy conservation value in its own right.

Summary of the Values

▶ **Assessment of the current state and trend of World Heritage values**

Low Concern

Trend: Stable

Overall, the specific and formally recognized World Heritage values (World Heritage Committee, 2013) have not been subject to fundamental change. The property continues to provide important marine and terrestrial habitats to a large array of species, none of which is existentially threatened in the property. The productivity of the marine ecosystem and its intricate linkages with the adjacent terrestrial ecosystems remains functional.

▶ **Assessment of the current state and trend of other important biodiversity values**

Low Concern

Trend: Data Deficient

The only hints at threats are related to high pressure from high populations of Sika deer which are known to seriously affect native vegetation across Hokkaido's forests (UNEP-WCMC, 2011, IUCN, 2005). The challenge is well documented and understood by management. Otherwise, there are no known major threats to the important forests in the property, and details are beyond the scope of this assessment, as forests are not among the specifically recognized World Heritage values of the property.

Additional information

Benefits

Understanding Benefits

► Fishing areas and conservation of fish stocks

The fishing industry is of major importance locally and in the wider region, benefiting from the conservation of the property but also risking to exceed its capacity unless carefully monitored and managed.

► History and tradition, Sacred natural sites or landscapes

The property's name originates from the Ainu words for "the end of mother earth", a place of high significance for the indigenous inhabitants of the peninsula and Hokkaido more broadly (IUCN, 2005).

Ainu people, language and culture are critically endangered.

► Outdoor recreation and tourism, Natural beauty and scenery

The property is well-known for its scenic values and is today an attractive outdoor destination with a broad range of activities carried out on land and sea.

► Importance for research

Both the unusually high marine productivity and the interactions between marine and terrestrial ecosystems in an area with a relatively high degree of naturalness provide important research opportunities.

► Carbon sequestration, Soil stabilisation, Coastal protection, Flood prevention

The natural terrestrial vegetation, mostly comprised of various forest types, provides the broad range of forest ecosystem services, while the modest scale puts their importance beyond the local level in perspective.

► Tourism-related income, Provision of jobs

Shiretoko directly and indirectly generates both employment and income, namely in the tourism and fisheries sector.

Summary of benefits

Shiretoko was originally inhabited by the indigenous Ainu, who referred to the area as the “end of mother earth”. This legacy deserves to be respected, including as regards the role of contemporary descendants of the Ainu. Shiretoko forms part of a highly productive marine area, which contributes to rich fisheries from local subsistence to commercial level. Despite some conflicts, fisheries benefit from the conservation of the property. Another important benefit is the attractiveness for tourism and recreation, which translates into both health benefits and generation of local jobs and income. Otherwise, Shiretoko offers very attractive research opportunities and it delivers the well-documented range of forest ecosystem services.

Projects

Compilation of active conservation projects

№	Organization/ individuals	Project duration	Brief description of Active Projects
1	Working Groups and Panels established under the Scientific Committee		The State Party has established a Scientific Committee for the property, which forms working groups and panels to respond to information gaps and management challenges and conduct corresponding projects. Ongoing activities include, but are not limited to, the River Construction Advisory Panel or Committee, the Marine Area Working Group (WG), the Sika Deer and Brown Bear WG (formerly the Terrestrial Ecosystem WG and the Bear WG merged in 2017) and the Proper Use of Nature and Ecotourism WG. All are directly relevant to understand, monitor and manage the Outstanding Universal Value of the property.

№	Organization/ individuals	Project duration	Brief description of Active Projects
2	Shiretoko World Natural Heritage Site Proper Usage / Eotourism Investigative Commission	From: 2013	In 2013, the above commission prepared the Shiretoko Ecotourism Strategy. According to the Ministry of the Environment of Japan it aims at "sharing future objectives for promoting tourism to Shiretoko and methods for achieving this among all of the stakeholders" (Ministry of the Environment of Japan, 2017).

Compilation of potential site needs

№	Site need title	Brief description of potential site needs	Support needed for following years
1	Promotion of transboundary conservation and management	As noted in the IUCN evaluation (2005), there are important similarities between the terrestrial parts of the property and the nearby Kuril Islands belonging to the Russian Federation. In the case of the marine parts, the linkages are even more obvious as the entire marine life is a shared conservation value and resource. It is clear that the conservation and management of Shiretoko and adjacent lands and waters would benefit from improved communication, coordination and cooperation, perhaps eventually as a "World Heritage Peace Park" as IUCN (2005) put it in is evaluation.	

REFERENCES

№	References
1	BirdLife International (2017) Important Bird Areas factsheet: Shiretoko, Mount Syari-dake. . Accessed 23 May 2017.
2	IUCN Salmonid Specialist Group. 2013. Letter to IUCN World Heritage Programme, Spring 2013 Trip Report.
3	IUCN. 2005. World Heritage Nomination – IUCN Technical Evaluation, Shiretoko (Japan). In: IUCN World Heritage Evaluations 2005, IUCN Evaluations of nominations of natural and mixed properties to the World Heritage List. WHC-05/29.COM/INF.8B.2. Gland, Switzerland: IUCN. . Accessed 15 April 2017.
4	Ministry of the Environment of Japan. 2017. Protection and Management. Examples of Efforts. . Accessed 4 June 2017.
5	Ministry of the Environment of Japan. n.d. Shiretoko. . Accessed 4 June 2017.
6	Rao, K., Sheppard, D. 2008. Reactive Monitoring Mission Report Shiretoko (Japan). Gland, Switzerland and Paris, France: IUCN and UNESCO World Heritage Centre. . Accessed 27 March 2016.
7	Shiretoko Nature Foundation. N.d. . Accessed 23 May 2017.
8	State Party of Japan. 2008. Report of the State Party to the World Heritage Committee on the state of conservation of Shiretoko (Japan). . Accessed 23 March 2017.
9	State Party of Japan. 2012. Periodic Report Second Cycle Section II: Shiretoko. Paris, France: UNESCO World Heritage Centre.
10	State Party of Japan. 2012. Report of the State Party to the World Heritage Committee on the state of conservation of Shiretoko (Japan). . Accessed 23 March 2017.
11	State Party of Japan. 2015. Report of the State Party to the World Heritage Committee on the state of conservation of Shiretoko (Japan). . Accessed 23 March 2017.
12	State Party of Japan. 2016. Report of the State Party to the World Heritage Committee on the state of conservation of Shiretoko (Japan). . Accessed 15 April 2017.

№	References
13	UNEP-WCMC. 2011. Shiretoko, Japan. UNEP-WCMC World Heritage Information Sheets. Cambridge, UK: UNEP-WCMC.
14	UNESCO, IUCN. 2008. Report on the State of Conservation of Shiretoko (Japan). State of Conservation Information System of the World Heritage Centre. . Accessed 23 May 2017.
15	UNESCO, IUCN. 2012. Report on the State of Conservation of Shiretoko (Japan). State of Conservation Information System of the World Heritage Centre. . Accessed 23 May 2017.
16	UNESCO, IUCN. 2015. Report on the State of Conservation of Shiretoko (Japan). State of Conservation Information System of the World Heritage Centre. . Accessed 23 February 2017.
17	UNESCO, IUCN. 2017. Report on the State of Conservation of Shiretoko (Japan). State of Conservation Information System of the World Heritage Centre. . Accessed 23 May 2017.
18	World Heritage Committee. 2005. Decision 29 COM 8B.6 Shiretoko (Japan). Durban, South Africa. . Accessed 15 March 2017.
19	World Heritage Committee. 2013. Decision 37 COM 8E Shiretoko Statement of Outstanding Universal Value (Japan). Phnom Penh, Cambodia. . Accessed 15 April 2017.
20	World Heritage Committee. 2017. Decision 41 COM 7.B.30. Shiretoko (Japan). Krakow, Poland. . Accessed 4 August 2017.
21	http://abchan.fra.go.jp/digests28/details/2810.pdf and Report in previous years (in Japanese) Fisheries Research Agency, Japan “Assessment on Numuro Stock of Walleye Pollock”
22	http://onlinelibrary.wiley.com/doi/10.1111/1365-2664.12669/...
23	http://www.pref.hokkaido.lg.jp/ks/skn/grp/06/shiretokojoure...