IUCN Conservation Outlook Assessment 2014 **(archived)**
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Please note: this is an archived Conservation Outlook Assessment for Volcanoes of Kamchatka. To access the most up-to-date Conservation Outlook Assessment for this site, please visit https://www.worldheritageoutlook.iucn.org.

# Volcanoes of Kamchatka

## SITE INFORMATION

Country:
Russian Federation
Inscribed in: 1996
Criteria:
(vii) (viii) (ix) (x)

Site description:

This is one of the most outstanding volcanic regions in the world, with a high density of active volcanoes, a variety of types, and a wide range of related features. The six sites included in the serial designation group together the majority of volcanic features of the Kamchatka peninsula. The interplay of active volcanoes and glaciers forms a dynamic landscape of great beauty. The sites contain great species diversity, including the world's largest known variety of salmonoid fish and exceptional concentrations of sea otter, brown bear and Stellar's sea eagle.
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# SUMMARY

# 2014 Conservation Outlook

**Significant concern**

Conservation outlook for the geological values and also for the scenic values of the site is good as these are very robust against human activities, and because such activities are still relatively localized within the property. Conservation outlook is much worse for the rich biodiversity values, which used to be protected by the size, remoteness, relative inaccessibility and pristine state of the site. Unsustainable use of natural resources (mainly hunting and fishing) and mining have started to erode these values and the trend towards infrastructure development and associated with it increasing accessibility will add to the pressures on biodiversity. The legal, policy and institutional framework and management system as well as the resourcing of the site (and regional nature parks) are currently inadequate to safeguard its biodiversity values in the face of the expected increases in pressure from infrastructure development and commercial natural resource use.

## Current state and trend of VALUES

**High Concern**
**Trend: Stable**

The geological and scenic values of the property are in a good and stable state, while the status of the biodiversity and ecosystem values particularly of the freshwater ecosystems is of serious concern. While some data exist, comprehensive data on the state and trend of key populations across the property is lacking.

## Overall THREATS

**High Threat**

The values of the property, particular those related to the biodiversity of Kamchatka, are currently seriously threatened by mining and unsustainable,

insufficiently controlled natural resource use (mainly illegal salmon fishing and commercial hunting as well as falcon capture). Construction of new roads and improvement of the existing ones associated with the development projects in the area provide better access to near-pristine areas of the site and may lead to an increase in illegal natural resources use. The decline of biodiversity may be further accelerated by the planned development projects, particularly the construction of hydropower stations near the property and new mineral exploration/mining projects.

## Overall PROTECTION and MANAGEMENT

**Serious Concern**

In spite of some success in the field of ecological education, ecotourism development and research in some component sites, the overall legal framework and enforcement, regional and national political support, management system and resource use of this large and geographically complex site are insufficient to effectively safeguard its values. This is particularly true for the regional Kamchatka Nature Park.

# FULL ASSESSMENT

## Description of values

### Values

### World Heritage values

#### ► Volcanoes and associated volcanic features

**Criterion:(viii)**

34 volcanoes, 19 of which are active and a full range of volcanic features typical for the Pacific Ring of Fire can be found in the site. Together with their associated features, such as calderas, scoriae cones, lava streams, cinder fields, thermal and mineral springs, geysers, solfataras, mud pots and others,s well as a wide range of active volcanic and geo-morphological processes, such as mudslides, they represent an outstanding example of geological processes and landforms (Justification for inscription, 1996; UNEP-WCMC, 2012).

#### ► Landscapes of exceptional natural beauty

**Criterion:(vii)**

The site is a mosaic of near-pristine subarctic wilderness landscapes of exceptional natural beauty ranging from sea level to 4,835 m altitude, with perfectly pyramidal volcanoess, numerous active glaciers, taiga and tundra lanscapes, various coastal landscapes, mountain streams and rivers, mountain lakes, geysers and hot springs. and often spectacular gatherings of wildlife (Justification for Inscription, 1996; UNEP-WCMC, 2012).

#### ► A diverse range of palearctic flora

**Criterion:(x)**

Reportedly 1,168 plant species, 10% of which are endemic (UNEP-WCMC,

2012). Plant diversity is distributed between all main ecosystem types. Groups of particular conservation interest include orchids, coniferous trees, and grasses.

### ▶ Subarctic terrestrial ecosystems

**Criterion:(ix)**

Wide range of near pristine terrestrial ecosystems corresponding to six vegetation zones (taiga, birch and riparian forest, sub-alpine and mountain tundra, wetlands), with associated typical flora and fauna (UNEP-WCMC, 2012).

### ▶ Salmon populations

**Criterion:(x)**

The rivers and associated lake and coastal ecosystems of Kamchatka support the largest concentration and diversity of salmonid fish on Earth, with all the Pacific salmon species coexisting and strong populations of other fish such as rainbow trout Salmo mykiss, char Salvelinus spp. and whitefish Coregonus spp. also present. For example, one watershed within Bystrinsky Nature Park (now part of Kamchatka Nature Park) contains eleven species of salmonids, and several other watersheds support similar diversities and concentrations of this group (UNEP-WCMC, 2012).This supports a remarkable piscivorous community, comprising the largest winter aggregations of raptors on Earth, large aquatic and seabird congregations, and several mammal populations including over 15,000 Kamchatkan Brown Bear Ursos arctos piscator, and Sea Otter Enhydra lutris (Justification for inscription, 1996; UNEP-WCMC, 2012).

### ▶ Mammal fauna

**Criterion:(x)**

Although the site records only a moderate number of mammal species, in the context of the northern palearctic biogeographic realm this is high and a number of species are abundant, including brown bears, snow ram, northern deer, sable and wolverine. Kamchatka has a thriving population of brown bear (about 15,000) of which
over one-fifth live within the site (IUCN, 2001). In addition important populations of marine mammals including the globally endangered Sea Otter,

Steller’s Sea Lion Eumetopias jubatus and the Kuril Seal Phoca vitulina stejnegeri (UNEP-WCMC, 2012).

### ► Avifauna

**Criterion:(x)**

Rich fauna of tundra and coastal birds (total number of recorded species 179) and largest wintering raptor congregation worldwide at South Kamchatka State Reserve, which is one of the component reserves of this serial site (UNEP-WCMC, 2012). Noteworthy birds include Steller's Sea Eagle (50% of world population), White-tailed Sea Eagle, Golden Eagle, Gyrfalcon and Peregrine Falcon. There are numerous seabird colonies and a large part of the global population of Aleutian Tern nest on the peninsula (IUCN, 2001).

## Assessment information

### Threats

### Current Threats

**High Threat**

The values of the property, particular those related to the biodiversity of Kamchatka, are currently seriously threatened by mining and unsustainable, insufficiently controlled natural resource use (mainly legal and illegal commercial salmon fishing and commercial hunting and falcon capture). Construction of new roads and improvement of the existing ones associated with the development projects in the area provide better access to near-pristine areas of the site and may lead to an increase in illegal natural resources use.

### ► Mining/ Quarrying

**High Threat**
**Outside site**

Two mines have already led to a revision of the boundaries of the Bystrinskiy

Nature Park component of the property, thereby reducing the values of the overall property. Information on current ongoing threats is scarce but these probably include toxic contamination of surface waters, air pollution, and deterioration of scenic values. Reports of salmon die-offs near Kamchatka mines were received by the 2007 IUCN/WHC monitoring mission but could not be verified (Debonnet & Mihalic, 2007).

### ► Roads/ Railroads

**High Threat**
**Inside site**

Construction of new roads and improvement of existing ones provides access to near-prisitine areas of the site and may lead to uncontrolled natural resource use and visitation. The increase in accessibility provided by the mining roads appears to be limited in comparison to the existing network of tracks for all-terrain vehicles (Debonnet & Mihalic, 2007), but the gas pipeline construction road in West Kamchatka has reportedly lead to a significant increase in salmon poaching in the area (Levin, 2010).

### ► Commercial hunting

**High Threat**
**Inside site**
**Outside site**

Reportedly more than 10% of Kamchatka population of brown bear (340-555 individuals) were poached in 2002 (Seryodkin & Pachkovskiy, 2006). Trophy hunting has been declining recently as there are fewer bears left that would be valuable as trophies. Declines in sable and snow sheep populations have been reported in Bystrinskiy Nature Park. Not all of this is caused by poaching since legal hunting is permitted in component sites with nature park status. However no reliable monitoring and quota setting system is in place (Debonnet & Mihalic, 2007). There is also large-scale illegal capture of falcons in Kamchatka in general (TRAFFIC, 2008), and possibly inside the property.

### ► Subsistence hunting

**Very Low Threat**

**Inside site**
**Outside site**

Small-scale subsistence hunting by local people does not pose a serious threat to the values of the site (SOC Report, 2012).

### ► Logging/ Wood Harvesting

**Data Deficient**
**Inside site**
**Outside site**

No logging inside the site was documented in 2007, although logging is legally allowed in Nature Parks. Some insignificant damage (approximately 1% of areas affected over 10 years) by forest fires, and illegal and poorly documented logging by locals (SOC Report, 2012). Forest fires may be a larger threat than assumed in the past, but their cumulative effect is poorly understood (Confidential pers. comm., 2012)

### ► Fishing / Harvesting Aquatic Resources

**High Threat**
**Inside site**
**Outside site**

Large scale commercial salmon fishing (up to 200,000t annually throughout Kamchatka including the property – Dronova & Spirodonov 2008) mainly for roe is considered a major threat to the still relatively resilient stocks of the area, which is one of the last Pacific salmon strongholds (Debonnet & Mihalic, 2007; SOC Report, 2012; Dronova & Spiridonov, 2008; Levin, 2010). Above-quota fishing by legal fishermen and Illegal fishing in coastal waters also affects stocks (Dronova & Spiridonov, 2008). No effective control system in place and salmon poaching is the main income source near rivers. Poaching industry reportedly has the same value as the legal fishing industry (US$ 600 million), with export values of one illegally caught species from the Russian Far East estimated at up to $70 million annually (Clarke et al., 2009). Dramatic decrease in many rivers' stocks reported by Levin (2010). Driftnet fishing in the Exclusive Economic Zone outside the property also likely to reduce stocks (Confidential pers. comm., 2012)

### ► Oil/ Gas exploration/development

**Low Threat**

**Outside site**

Pipeline and parallel construction road crosses and provides access to 266 salmon rivers along the western coast of the peninsula, some of which may be connected to the property. Up to 30-fold increase in turbidity of some affected rivers outside the property reported during construction period. Increase in poaching (Levin, 2010).
Justification of assessment

## Potential Threats

**Data Deficient**

Plans to construct two hydropower stations on the Kronotskaya River inside Kronotskiy Strict Nature Reserve were abandoned in 2012, but there are plans for other hydropower stations outside but near the property that require further examination. Plans for geological prospecting activity and potential mining on the territory of Bystrinsky Nature Park could also lead to the loss of the Outstanding Universal Value on the considerable part of the property’s territory.

### ▶ Tourism/ Recreation Areas

**Low Threat**
**Outside site**

The skiing areas are planned outside the site (Ilukhin, 2011) but associated transport infrastructure may increase access and unregulated natural resource use.

### ▶ Renewable Energy

**High Threat**
**Inside site**
**Outside site**

Plans for hydropower stations on Zhupanovaya River (outside the World Heritage property but very near it) have been developed (EPRussia, 2012). This construction could affect the integrity of some natural values of the property, such as the wild Reindeer population that uses Zhupanovskaya tundra as winter pasture. A a final decision on the construction of the stations will only be made after an assessment of the ecological risks (SOC

report, 2013).

### ► Mining/ Quarrying

**Data Deficient**
**Inside site**
**Outside site**

Information on potential threats is scarce, in the absence of EIAs, but these might include reduction of the size of the property, toxic contamination of surface waters, air pollution, and deterioration of scenic values (Debonnet & Mihalic, 2007). A project of the new Regulations of Bystrinsky Nature Park foresees that the works on the geological survey of subsoil could be allowed on a considerable part of the park territory (Greenpeace Russia, 2012, pers. comm.). Another operation of concern is the Balkhach ore cluster (IMC Montan, 2011).

## Protection and management

## Assessing Protection and Management

### ► Staff training and development

**Serious Concern**

Staffing levels of Kamchatka National Park are considered dramatically insufficient in relation to its size. For instance, there are only four inspectors for the 1,4 million ha of the Bystrinski part of Kamchatka Nature Park (Confidential comment, 2012). The UNDP/GEF project “Demonstrating sustainable conservation of biological diversity in four protected areas of Russia’s Kamchatka Oblast” included a limited number of staff training and development (UNDP, 2011), but no detailed information about the extent and adequateness of staff training is available. There are additional training programmes ongoing in 2012, again with unclear scope and content. The overall staff qualification at Kamchatka Nature Park is considered insufficient (Confidential comment, 2012).

### ► Relationships with local people

**Some Concern**

Little information is available and no systematic stakeholder analysis has been documented. There have been conflicts between local people and State authorities about the allocation procedure for hunting licenses, which puts local indigenous hunters at disadvantage (Debonnet & Mihalic, 2007), and about the exclusive use rights of indigenous fishing grounds (Indigenous Portal, 2010). Local people near salmon rivers throughout Kamchatka use poached salmon roe as their main source of income.

### ► Legal framework and enforcement

**Serious Concern**

In 2009, Kamchatka Nature Park was formed including four of the six protected areas making up the Volcanoes of Kamchatka serial World Heritage site. The draft regulation for the newly created Kamchatka Nature Park is not publicly accessible. The legal protection status of the parts of the property that are designated as Nature Parks is insufficient for a long-term protection of the site’s values. (SOC Report, 2012). The Nature Park authorities have no jurisdiction over key natural resources including salmon, which weakens the legal protection of these parks. Park inspectors have insufficient enforcement powers, and enforcement in general is hampered by overlapping and unclear institutional mandates for various resources, particularly in the regional Nature Park (Confidential comment, 2012).

### ► Integration into regional and national planning systems

**Serious Concern**

Limited information available. Federal Geological Agency complained that it was not sufficiently consulted prior to the establishment of Bystrinsky Nature Park. Plan to build two power stations inside Kronotskiy Strict Nature Reserve (now suspended) indicates that the safeguarding of the integrity of this site is not well recognized in regional planning. No signs of effective coordination of Kamchatka Nature Park with agencies that are responsible for natural resource use (including fisheries) found in 2012 SOC Report, and poor coordination and strategic direction highlighted by local PA staff (Confidential comment, 2012).

## ► Management system

**Some Concern**

This is a serial property which includes several protected areas of different categories. 95% of Kronotskiy Strict Nature Reserve (Zapovednik) and 80% of South Kamchatka Federal Sanctuary (Zakaznik) are under strict conservation management. Another component of the site, Kamchatka Nature Park, consists of four formerly separate areas roughly corresponding to IUCN PA Category V. Management plans for the Federal Sanctuary, Strict Nature Reserve and two of the four areas now belonging to Kamchatka Nature Park were developed in 2003. No overall management framework for the entire World Heritage site is in place. However, some efforts have been undertaken since 2010 to bring the management of the regional nature parks (Klyuchevskoy, Bystrinsky, Nalychevo and South Kamchatka Nature Parks) under a unified management system (SOC Report, 2013).

## ► Management effectiveness

**Serious Concern**

No systematic management effectiveness assessment using standard methodology (e.g. RAPPAM, METT) has been. A biodiversity trend assessment revealed decreasing abundances of most key species in four component sites between 2003 and 2007, suggesting insufficient management effectiveness (Mosolov, 2008). Management effectiveness of the Kamchatka Nature Park part of the property has been characterized as extremely low by local PA staff (Confidential comment, 2012), primarily because of dramatically insufficient institutional capacity (staffing, resourcing, specialist training, coordination and enforcement powers). Management effectiveness of the federal PAs of the property is considered somewhat higher (Confidential pers. comm., 2012).

## ► Implementation of Committee decisions and recommendations

**Data Deficient**

The 2012 State of Conservation Report highlighted the fact that key requests of the World Heritage Committee as of Decision 34 COM 7B.23 were not met by the State Party. It is impossible to decide if the recommendations of the 2007 monitoring mission to the site have been implemented because the

State Party has not reported on them, as requested by Decisions 34 COM 7B.23 and 32 COM 7B.23 (SOC Report, 2012). The reasons for this lack of response are not clear.

### ► Boundaries

**Some Concern**

This is a serial site consisting of 6 components, which increases the border/area ratio and poses additional management challenges. There are no buffer zones apparently. A recommendation of the 2007 monitoring mission to clarify and communicate the site's boundaries as geographical coordinates has not been met by 2012 (SOC Report, 2012). The boundaries of two component sites (Bystrinskiy Nature Park and South Kamchatka Nature Park) were changed in the past to accommodate mining sites. This might happen again in the future.

### ► Sustainable finance

**Serious Concern**

The main funding source is the Kamchatka Krai budget. The financing of the nature parks was considered unsustainable in 2007 (Debonnet & Mihalic, 2007) and had only increased by ca. 20% until 2011, to ca. $1.1 million annually (SOC Report, 2012). The funding of all (regional) Kamchatka protected areas of 29 million rubles per year was considered insufficient in 2012, and is merely meeting staff and some limited operational costs (Confidential comment, 2012). This suggests that the property as a whole lacks a sustainable financing base (funding gap estimated as $700,000 per year – Debonnet & Mihalic, 2007), particularly regarding the still insufficient number of ranger staff in relation to its size.

### ► Sustainable use

**Some Concern**

While the Strict Nature Reserves and State Sanctuary exclude most sustainable use, management of use for sustainability in Kamchatka Nature Park is only partly within its jurisdiction. Sustainable reindeer grazing at the Bystrinskiy part of Kamchatka Nature Park. Hunting and fishing are mainly unmanaged and unsustainable.

### ► Education and interpretation programs

**Some Concern**

There is no education and interpretation programme at the level of the entire site but at least one of the federal component reserves has such a programme (Kronotskiy Strict Nature Reserve, 2012b). Education and interpretation programs were also included in the UNDP/GEF project “Demonstrating sustainable conservation of biological diversity in four protected areas of Russia’s Kamchatka Oblast”. These have apparently not contributed to reduction of unsustainable natural resource use inside the site.

### ► Tourism and interpretation

**Some Concern**

Visitation to the Kamchatka Nature Park component of the property increased by 7% to 24,290 from 2010 to 2011. There are tourism routes and four visitor centres in the parts of Kamchatka Nature Park and another one in the Valley of the Geysers in Kronotskiy Strict Nature Reserve, but there still is no overall tourism strategy, functional ecotourism system (Confidential comment, 2012), approach to explaining the values of the site, or integrated tourism management strategy, as recommended by the 2007 IUCN/WHC monitoring mission (SOC Report, 2012).

### ► Monitoring

**Some Concern**

There is no monitoring of the state of the natural values of the site (SOC Report, 2012). A simple monitoring system for a few key species was established for 4 component sites as part of the UNDP/GEF biodiversity project (Mosolov, 2008), but a request to provide monitoring data for key species to the World Heritage Commission was not met (SOC Report, 2012), which puts the operation of this monitoring system in doubt.

### ► Research

**Mostly Effective**

A range of research projects on ecosystems and species in cooperation with academic institutions has been conducted at Kronotskiy Strict Nature

Reserve and South Kamchatka State Sanctuary (Kronotskiy State Nature Reserve, 2012c), but key baseline research on species like Kamchatka Brown Bear is still missing (Debonnet & Mihalic, 2007).

### Overall assessment of protection and management

**Serious Concern**

In spite of some success in the field of ecological education, ecotourism development and research in some component sites, the overall legal framework and enforcement, regional and national political support, management system and resource use of this large and geographically complex site are insufficient to effectively safeguard its values. This is particularly true for the regional Kamchatka Nature Park.

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

**Some Concern**

The current conservation regime is insufficient to effectively protect the values inside the Nature Park components of the site, and this is also true for protection against threats outside the site. However, these threats are not as serious as those inside the site.

## State and trend of values

### Assessing the current state and trend of values

#### World Heritage values

#### ▶ Volcanoes and associated volcanic features

**Good**
**Trend:Stable**

The geological values of the site are highly resistant to human activities and remain in a good state.

### ▶ Landscapes of exceptional natural beauty

**Low Concern**
**Trend:Stable**

The scenic beauty of the property is only marginally affected by the natural resource use related threats. Localized mining and other development projects have only had a limited negative effect on scenic values of the site thus far.

### ▶ A diverse range of palearctic flora

**Low Concern**
**Trend:Stable**

The flora of the property and particularly the terrestrial flora appear to be in a good state in general, although there has been a lmited degree of damage due to forest fires and logging.

### ▶ Subarctic terrestrial ecosystems

**Low Concern**
**Trend:Stable**

The terrestrial ecosystems of the property are largely intact, with only some deterioration in functionality from decreasing abundances of terrestrial key species, such as Brown Bear Ursus arctos piscator, Sable Martes zibellina and Snow Sheep Ovis nivicola (Debonnet & Mihalic, 2007).

### ▶ Salmon populations

**High Concern**
**Trend:Stable**

Stocks of most salmonid species appear relatively resilient if slowly declining. However, up to 95% of the reproductive stock of some accessible rivers is removed by legal and illegal fishing (Dronova & Spiridonov, 2008), which means that there is a reason for high concern. The most recent State Party report (2013) notes that salmon population trends in Kronotsky Reserve are stable; however, poaching near the reserve is of significant concern and patrolling intensity has been increased to address the issue.

### ► Mammal fauna

**High Concern**
**Trend:Deteriorating**

The most recent State Party report (2013) indicated that populations of Brown Bear, Sable, Sea Otter, Harbour Seal and Sea Lion appeared stable; however, population of Reindeer has been showing a negative trend and the population of Snow Sheep in Kronotsky Reserve more than halved in six years to around 900 in 2012, due to natural disasters and poaching as well as disturbance on winter pastures outside the reserve. One of the main reasons is also the fact that the property includes only parts of the population's range (SP report, 2013).

### ► Avifauna

**Data Deficient**
**Trend:Data Deficient**

The overall status and trend of key bird species of Kamchatka is unclear, because there has been no systematic monitoring in place, but it appears to be stable (Mosolov, 2008). An exception may be falcons (Gyrfalcon and Peregrine) which appear to be under intense capture pressure for falconry (e.g. TRAFFIC, 2008).

## Summary of the Values

### ► Assessment of the current state and trend of World Heritage values

**High Concern**

**Trend: Stable**

The geological and scenic values of the property are in a good and stable state, while the status of the biodiversity and ecosystem values particularly of the freshwater ecosystems is of serious concern. While some data exist, comprehensive data on the state and trend of key populations across the property is lacking.

# Additional information

## Key conservation issues

### ▶ Lack of a functional monitoring system for the values of the site

**National**

The exact status and trends of key mammal and bird populations, as well as salmon stocks inside the site are unclear, which makes targeted conservation planning difficult (SOC Report, 2012).

### ▶ Insufficient resourcing of the component protected areas of the site

**National**

There is a funding gap of estimated $700,000 per year and very limited staff resources in relation to the considerable size of the site, particularly in Kamchatka Nature Park, with one staff for approximately 68,000 ha in 2011 (SOC Report, 2012).

### ▶ Lack of an overall strategy and management framework for the property

**National**

The property consists of six component sites corresponding to three IUCN protected areas management categories, without a unifying management framework. This considerably complicates management (Debonnet & Mihalic, 2007; SOC Report, 2010, 2012).

### ▶ Economic dependency on salmon fishing

**Local**

Salmon fishing including poaching is the main income source of a large part of the population around the site (Dronova & Spiridonov, 2008).

### ▶ Commercial salmon and large mammal poaching inside and outside the site

**National**

Anti-poaching law is lacking strong legal enforcement instruments (e.g. confiscation of vehicles and equipment), enforcement capacity (e.g. helicopters to locate poaching teams in the field) is low, there is a lack of control of the relatively few exit routes from Kamchatka by air and sea, and there is a lack of cooperation between relevant State agencies, e.g. the component reserves and the fisheries authorities (Dronova & Spiridonov, 2008).

## Benefits

### Understanding Benefits

#### ► Fishing areas and conservation of fish stocks

Salmon and salmon roe is currently the main resource used from the site and its surroundings, and the main income source for the local population. It also contributes significantly to the fisheries resources used in the Russian Federation, Japan, China and beyond.

#### ► Outdoor recreation and tourism

Nature based tourism is already a growing activity and income source although its potential is not fully exploited yet.

#### ► Sacred natural sites or landscapes

With its volcanic landscapes, ecosystems and biodiversity, Kamchatka is one of the last great wilderness areas of the planet.

#### ► Livestock grazing areas

Reindeer grazing is practiced in the Bystrinsky part of Kamchatka Nature Park and is an example for natural resource use by indigenous inhabitants that is both traditional and sustainable.

### Summary of benefits

The landscapes, ecosystems and biodiversity of the property provide a wide

range of benefits of local, regional, national and global importance which, if used and managed in a sustainable manner, might support a prosperous development of the remote Kamchatka region in the long term and at the same time contribute to the richness of human heritage in general.

## Projects

### Compilation of active conservation projects

| № | Organization/ individuals | Project duration | Brief description of Active Projects |
|---|---|---|---|
| 1 | WWF Russia | | Ecoregional conservation programme for the Kamchatka-Bering ecoregion (broad programme type approach including PAs, wildlife resource use, engaging mining companies etc.) |
| 2 | Wildlife Conservation Society | | Kamchatka Brown Bear Program (bear conservation, current activities unclear) |
| 3 | Greenpeace Russia | | Addressing main threats, education and awareness raising |

### Compilation of potential site needs

| № | Site need title | Brief description of potential site needs | Support needed for following years |
|---|---|---|---|
| 1 | Academic institution / research oriented NGO | Monitoring of salmon and wildlife resources in the Volcanoes of Kamchatka World Heritage property | |

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