

# Virgin Komi Forests

## 2020 Conservation Outlook Assessment

### SITE INFORMATION

**Country:** Russian Federation

**Inscribed in:** 1995

**Criteria:** (vii) (ix)



The Virgin Komi Forests cover 3.28 million ha of tundra and mountain tundra in the Urals, as well as one of the most extensive areas of virgin boreal forest remaining in Europe. This vast area of conifers, aspens, birches, peat bogs, rivers and natural lakes has been monitored and studied for over 50 years. It provides valuable evidence of the natural processes affecting biodiversity in the taiga. © UNESCO

### SUMMARY

#### 2020 Conservation Outlook

Finalised on 02 Dec 2020

#### SIGNIFICANT CONCERN

The forest ecosystems for which the Virgin Komi Forests were inscribed on the World Heritage List are still in very good condition, particularly in Pechoro-Ilychisky Nature Reserve and the southern portion of the Yugyd Va National Park. The greatest threat to the property's OUV remains the impacts of the past mining operations, but more significantly potential re-activation of mining activities within the site, the license for the Chudnoe gold deposit has been suspended, but not terminated. The site is also affected by additional, relatively minor threats including poaching, tourism and infrastructure. Current protection and management at the level of component protected areas of the site are generally good, however there are concerns regarding the urgent need for additional human and financial resources to implement the new Integrated Management Plan. However, the biggest threats to the site's Outstanding Universal Value and integrity can only be addressed at national level, notably the gold mining operations. The previously submitted proposal for a significant boundary modification to the site in line with modifications made to the national level designations to allow for gold mining were deemed to be likely to have significant negative impacts on the OUV of the site. Although no similar proposals have been submitted recently, the threat remains so long as mining relating infrastructure is on site and a license for exploration and extraction has not been revoked. Efforts have been made to try and control visitation to the Manpupuner Stone Pillars which were attracting unbridled visitation, however in closing footpaths to restore ecosystem health, a helipad has been constructed to maintain access by this means, bringing it's own sustainability issues. In addition, there is a need to clarify the status and trends of wildlife populations within the site.

## FULL ASSESSMENT

### Description of values

#### Values

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##### Other important biodiversity values

► **Diversity of flora and fauna**

In addition to the rich flora that make up the vegetation of the forest, mountain, tundra and wetland ecosystems as described above, the site comprises a highly diverse fauna (relative to its latitude) of boreal species. The mammal fauna consists of 43 species and includes important wintering populations of Elk *Alces alces* and reindeer *Rangifer tarandus*, European Mink *Mustela lutreola*, Brown Bear *Ursus arctos*, Sable *Martes zibellina* and others. Notable examples of the avifauna, which counts 204 species, are Steller's Sea-Eagle *Haliaeetus pelagicus* (VU), Gyrfalcon *Falco rusticolus*, Capercaillie *Tetrao urogallus* and Hazel Grouse *Tetrastes bonasia* (IUCN, 2012). The ichthyofauna comprises 16 species, most notably the Atlantic Salmon *Salmo salar*, which spawns in rivers throughout the site (UNEP-WCMC, 2011).

### Assessment information

#### Threats

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##### Current Threats

Low Threat

While threats to the values of the site have generally been limited since its inscription, past gold mining exploration activities have had some impacts and related remaining infrastructure and equipment pose environmental threats, including pollution of the rivers within the site. There exist minor additional threats such as poaching, the extent and trends of which require further research. Increasing tourist numbers have been also of some concern; however, the trends following 2020 will need to be seen.

► **Mining & Quarrying**

Low Threat

*(Impacts from past gold mining activities)*

Inside site, scattered(5-15%)

Historically, there has been mineral exploitation in the Khozym area of the northern portion of Yugyd Va National Park since the 1930's. At the time of the creation of the National Park and its nomination as a World Heritage Site, several alluvial gold mines were active, but these operations were closed down after the inscription of the site. While the right to use deposit under the license has been suspended (but not terminated), mining activity has ceased and current threats related to mining operations are limited to 'legacy-impacts' of past operations such as pollution and the large equipment and mining infrastructure that remains in the site (UNESCO, 2018). As such, the current threat of mining to the site's natural values has been reduced to a low level.

► **Hunting and trapping, Fishing, Harvesting & Controlling Aquatic Species**

Data Deficient

*(Poaching and illegal fishing)*

Inside site, extent of threat not known

In 2009, Yugyd Va National Park initiated 6 poaching related prosecutions. There were 45 and 50 infractions in 2009 and 2010, respectively, most of them poaching (mainly of Atlantic Salmon and Arctic Greyling) related. In Pechero-Ilychinskiy Strict Nature Reserve, 13 infractions related to illegal fishing were noted in 2006-2010. Poaching of large mammals has also been reported from the vicinity of the Pechero-Ilychinskiy Strict Nature Reserve, but not inside it. It may be responsible for an observed decline in reindeer and elk throughout the overall area, but detailed monitoring data are missing, and needed (Debonnet et al., 2010). No cases of poaching were reported by the State Party in 2015 in its State of

Conservation report (2016).

► **Recreational Activities**

*(Impacts from tourism)*

**High Threat**

Inside site, localised(<5%)

There have been concerns about impacts from high visitors numbers, particularly on some of the most popular trails. In 2016, two trails to the Manpupuner Plateau – one of the most famous tourist attractions in the World Heritage site - were closed to allow them to recover from impacts (UNESCO, 2016). However, access to the plateau has been replaced with the temporary construction of a helipad (State Party of the Russian Federation, 2019), increasing helicopter traffic within the site, bringing its own sustainability issues. The total number of visitors to the site was about 6,900 in 2019, representing stable numbers from previous years (State Party of the Russian Federation, 2019). However, in 2019, winter tours on snowmobiles and summer tours on an airboat directly to the Manpupuner plateau were launched, which are able to significantly increase the number of visitors (IUCN Consultation, 2020). While low compared to many other sites, increasing tourism numbers in this otherwise remote area have been of some concern.

**Potential Threats**

**Very High Threat**

Full-scale gold mining operation within the site would constitute a very high threat to its values. Despite numerous requests by the World Heritage Committee to revoke all existing mining licenses within the site, the license for the Chudnoe gold deposit has been suspended, but not terminated. Previous proposals to modify the site's boundaries, developed by the State Party, to exclude area of the deposit are also of high concern. In comparison, the potential threats of a resumption of logging and increased fire frequency due to climate change are less likely given the well established monitoring and management programmes surrounding them and are therefore of less serious concern.

► **Logging, Harvesting & Controlling Trees**

*(Logging)*

**Low Threat**

Inside site, localised(<5%)

Outside site

Logging is only a negligible threat to the site currently as its World Heritage status has been successful in diverting the risk of large-scale clear-cutting within the site and this has continued to be the case (State Party of the Russian Federation, 2019) despite the historical threat of logging to parts of the buffer zone of the site, including the PL350 enclave, the Upper Ilych Basin and potentially the Unia Basin (Debonnet et al., 2010).

► **Fire & Fire Management**

*(Increased frequency of forest fires)*

**Data Deficient**

Inside site, widespread(15-50%)

Outside site

While forest fires are considered a natural and necessary part of forest ecosystem succession in these boreal ecosystems, climate change might lead to an increased fire frequency (Debonnet et al., 2010). An active and well-resourced fire control programme is in place within the management of the site to control this threat and no forest fires have been reported recently (State Party of the Russian Federation, 2019). The exact extent and trend of this potential threat needs to be studied further.

► **Mining & Quarrying**

*(Potential gold mining)*

**Very High Threat**

Inside site, localised(<5%)

Outside site

Concerns about potential gold mining within this World Heritage site have been expressed since 2012 and are documented in a number of State of Conservation reports and World Heritage Committee Decision. In 2012 it was noted that preparatory works for Chudnoe gold mining operation inside Yugyd Va National Park within the site had already started, including road works, drilling and blast works, and are causing environmental damage, including to rivers inside the site (UNESCO, 2012). The 2013 SOC report noted that works continued within the 19.8 km<sup>2</sup> Chudnoe gold mining concession located within the site (UNESCO, 2013). A re-nomination of this site with significant boundary modifications which would exclude 3 areas from it – the area of Chudnoe gold deposit, a quartz quarry and a granite sand extraction area – and add some areas was submitted in 2015. The IUCN evaluation of the proposal concluded that the proposed excisions would have had negative impacts on the integrity of the site and

its OUV. The evaluation also noted “a high potential for downstream impacts by the continued mining activities and the proposed gold mining” (IUCN, 2016). The boundary modification was, however, withdrawn. In 2018, the World Heritage Committee again reiterated its position that “mining exploration and exploitation are incompatible with World Heritage status” and urged the State Party to “unequivocally revoke the mining exploration and exploitation licenses granted for the Chudnoe gold deposit” (World Heritage Committee, 2018). The right to use the deposit under the license has been suspended, but not terminated, and the lease agreement with the company has not been terminated, and therefore the potential threat of gold mining operations in the site is deemed very high, given the potential impacts of any such activity. Mining operations within the site are likely to have far-reaching impacts on its Outstanding Universal Value and integrity, including pollution of rivers such as the Kozhym River, disturbance, habitat and reindeer pasture destruction and fragmentation for roads and other infrastructure, and improved access for poachers (Debonnet et al., 2010).

## Protection and management

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### Assessing Protection and Management



#### Mostly Effective

The management system is informed by the 2017-2031 Integrated Management Plan (IMP) for the entire World Heritage site (Ministry of Natural Resources and Environment of the Russian Federation, 2017). The IMP centres round a number of targeted action plan programs including conservation and restoration of natural complexes, enforcement of environmental regulations, education, research and monitoring as well as the development of regulated tourism and recreation. Implementation of the IMP is carried out jointly with the Republican Center for Specially Protected Natural Territories, local Administrations and in partnership with public environment-oriented organizations. Independent management plans also exist for the individual components of the site - Yugyd Va National Park and Pechoro-Ilychskiy Nature Reserve (State Party of the Russian Federation, 2019).



#### Some Concern

Through the Integrated Management Plan (IMP), the management system is generally well designed to conserve the site, including combatting the existing threats to its Outstanding Universal Value. However, the State Party have reported a significant budget deficit to implementing a number of the targeted action plan programs and thus the capacity of the staff to effectively implement the IMP is likely to be significantly curtailed (State Party of the Russian Federation, 2019). The lack of a coherent sustainable tourism management strategy, despite this issue being addressed in the IMP, is evidenced by remaining concerns over impacts from visitation (UNESCO, 2016). As such, some concern exists surrounding the effectiveness of the management system.



#### Serious Concern

Two separate protected areas make up the Virgin Komi Forests World Heritage Site: Yugyd Va National Park (YVNP) to the North and the Pechoro-Ilychsky Strict nature Reserve (PISNR) to the South. The original boundaries of the site were considered appropriate (IUCN, 1995), although a number of potential additions to the site has been identified including the Upper Ilych Basin forest located between the two component protected areas of the property, an eastern buffer zone, the PL350 enclave on the western boundary of YVNP, and the Unia Basin south of PISNR (Debonnet et al., 2010). However, on 18 January 2012, changes to the national boundaries of Yugyd Va National Park were approved, which excluded four areas, including the Chudnoe gold mining area, from the national park (while these boundary changes take effect at a national level, they do not alter the international boundaries of the World Heritage Site). As a result, a significant part of the site lacks the legal protection required by the World Heritage Convention Operational Guidelines, which critically undermines the integrity of the site (Debonnet et al., 2010, UNESCO, 2012). In August 2013, however, the Supreme Court of the Russian Federation declared inoperative Order No. 3 of the Ministry of Natural Resources and Ecology which constituted the basis for the boundary changes of the Yugyd Va National Park, thereby confirming the original boundaries of the park which coincide with the northern part of the World Heritage site (World Heritage Committee, 2014).

In January 2014 the State Party submitted a re-nomination with significant boundary modifications which would exclude 3 areas from the property – the area of Chudnoe gold deposit, a quartz quarry and a granite sand extraction area, as well as a linear area in the south of YVNP around the existing SRTO-Torzhok gas pipeline – and would add three areas in the PL350 enclave and the Upper Illych basin. However, the re-nomination was not evaluated as it was considered incomplete by the World Heritage Centre (World Heritage Committee, 2014). This situation remains more or less unchanged, with the status of the mining license for the Chudnoye deposit still unresolved, despite progress being made through the removal of mining equipment (State Party of the Russian Federation, 2019), and therefore representing a significant threat to the integrity of the property and the boundaries thereof.



#### **Data Deficient**

While there is limited information available on the level of integration of the World Heritage site into regional and national planning systems, the development of a major gold mining operation within the site prior to inscription and the time that has passed since with little progress towards successfully and unequivocally removing mining activity and licensing from the site (UNESCO, 2016 and 2018) strongly suggests that the objective of “conservation and management of the values of the site”, required by the World Heritage Convention Operational Guidelines, is not sufficiently integrated and mainstreamed into regional and national planning systems, particularly those dealing with mineral extraction planning.



#### **Some Concern**

Several groups of indigenous reindeer herders live in and around the property, including the Komi. The relationship between indigenous groups and park management is generally good, but there are recurring tensions related to mining and its impacts on the park, and in particular on its rivers. Several NGO groups representing local indigenous people against the Chudnoe gold mining operation, including the Save the Pechora Committee, the Congress of the Komi People, and the Izvatas Public Movement, have opposed large-scale gold mining due to its likely negative effects on the tundra ecosystem and reindeer pastures that are the basis of their traditional livelihoods. The views of these indigenous groups were not considered when the gold mining area was excluded from the Yugyd Va National Park (Debonnet et al., 2010). However, the recent Integrated Management Plan for the site is to be implemented jointly with local Administrations and in partnership with a number of local organizations (State Party of the Russian Federation, 2019), albeit none of the aforementioned organizations who have previously raised concerns.



#### **Serious Concern**

The site is governed by national protected area legislation, in particular the federal law “On environmental protection” dating back to 1991 but updated in 2002, and the federal law “On specially protected natural areas” of 1995. The first law defines the standards for environmental quality, makes provisions for the protection of biota and provides a basis for federal protected areas and activities permitted in them. The protected area law regulates the organization, protection and use of protected areas. This legislation recognizes different types of protected areas such as at the federal level strict nature reserves, national parks and nature monuments and the regional level nature parks, nature reserves and nature monuments (Debonnet et al., 2010).

The two protected areas that make up the property are Yugyd Va National Park (YVNP) to the North and the Pechoro-Illychsky Strict nature Reserve (PISNR) to the South. PISNR is a federal protected area benefiting from a strict protection regime with no economic uses are allowed. The PISNR buffer zone on its southern and western boundary, which is also part of the World Heritage Site, benefits from the same high protection status guaranteed under federal law. YVNP, established in 1994, is also a federal protected area with the status of National Park, corresponding to IUCN protected area category II. The national park has different zones with different land use regimes, including a number of nature reserves and nature monuments. YVNP also possesses a buffer zone along its western border, but established under regional law. As a result, the federal national park authorities do not have the authority to actively manage the buffer zone.

The Russian Federation currently lacks a framework law to define the unified management of World Heritage sites. The recent Federal Law No. 365-FZ on “Special economic zones in the Russian Federation” further weakens the legal basis for effective conservation of protected areas, though it is not

currently applied to the site (UNESCO, 2012).

In 2008, the national boundaries of Yugyd Va National Park were changed to exclude four areas, including the Chudnoe gold mining area, from the site. As a result, a significant part of the site has been lacking the legal protection required by the World Heritage Convention Operational Guidelines, which critically undermines the integrity of the site (Debonnet et al., 2010, UNESCO, 2012). In August 2013, however, the Supreme Court of the Russian Federation declared inoperative Order No. 3 of the Ministry of Natural Resources and Ecology which constituted the basis for the boundary changes of the Yugyd Va National Park, thereby confirming the original boundaries of the park which coincide with the northern part of the World Heritage site (UNESCO, 2014).



#### Some Concern

Enforcement of environmental laws within the site is well defined within the IMP, with a number of management tasks set out towards this end (Ministry of Natural Resources and Environment of the Russian Federation, 2017). However, the relative lack of integration between national and international designations concerning the conservation of the site as delineated in the World Heritage inscription, as opposed to the national level designations, represents a potential barrier to effective law enforcement. Furthermore the reported budget deficit in implementing the management tasks for law enforcement is likely to limit the success of law enforcement activities (Ministry of Natural Resources and Environment of the Russian Federation, 2017). Despite this, the State Party reports effective patrolling and a reduced level of poaching in recent years within the site (State Party of the Russian Federation, 2019).



#### Serious Concern

The Virgin Komi World Heritage Site has now been subject to consistent and repeated decisions from the World Heritage Committee making recommendations and requests on a number of issues, the most concerning of which relates to the halting gold mining operations within the site and reversing boundary changes to Yugyd Va National Park, which excised the gold mining site and several other areas from the Park, but also including issues of tourism management and planning, and sustainable finance. Whilst the issues concerning the Committee have been addressed to some extent, key recommendations and decisions of the World Heritage Committee have still not been implemented or implemented partially (UNESCO, 2012, World Heritage Committee 2009; 2010, 2011; 2012; 2013; 2013; 2014; 2015; 2016; 2018).



#### Some Concern

Natural resource use in Strict Nature Reserves of the Russian Federation is largely prohibited, however, Yugyd Va National Park includes a traditional use zone which is used by local indigenous people for reindeer herding (Debonnet et al., 2010). The IMP states that this activity is monitored in relation to the values of the site and so can be considered as having low impact (Ministry of Natural Resources and Environment of the Russian Federation, 2017). However, there is emerging concern regarding the sustainability of tourism activities within the site, particularly in accessing the Man-Pupu-Ner Plateau. These concerns have been expressed by the Committee (World Heritage Committee, 2018) and require efforts to develop a sustainable tourism management plan to ensure that tourism and associated infrastructure development does not constitute a threat to the values of the site.



#### Serious Concern

At the time of initiating the Integrated Management Plan, the State Party reported a major budget deficit for the first financial year of its implementation. The budget was in deficit across all of the targeted action plan programs in ideal implementation scenarios and fell short on five out of seven even for baseline scenarios (Ministry of Natural Resources and Environment of the Russian Federation, 2017). For example, staffing levels currently stand at around half of what is required in order to achieve the management objectives set out in the IMP, for which there is a 25% budget deficit to fill in order to address the issue (Ministry of Natural Resources and Environment of the Russian Federation, 2017). As a result, the effectiveness of the management system may be severely compromised if not addressed urgently. As a result, the World Heritage Committee have requested the State Party to do so, however as yet no information has been provided as to whether sufficient financial and human resources have been

made available to this end (World Heritage Committee, 2018).



#### Some Concern

The total number of staff members of the Site currently stands at 131 people. A total of 128 are full-time employees of the federal Specially Protected Natural Territories and 3 are contracted to the regional Specially Protected Natural Territories. According to the standards, 600 full-time employees are required in order to fulfill the management objectives of the site across the range of on site and administrative activities required, of whom the park staff represent 329 employees. As such, the IMP states that 'for the successful implementation of the programs of Specially Protected Natural Territories it is necessary to double the number of employees, the deficit of their budget, in this case, is estimated at 25% by administrations' (Ministry of Natural Resources and Environment of the Russian Federation, 2017). As such, staff capacity can be deemed as of some concern. Development and training of existing staff is also not addressed within the targeted action plans outlined in the IMP.



#### Mostly Effective

Both Yugyd Va National Park and Pechoro-Ilychinsky Strict Nature Reserve have educational programmes, which include museums/visitor centres, work with media, schools and teachers, production of booklets, videos and exhibitions, and implementation of special campaigns (MoNRE of RF, 2012b, c). These are built upon within the IMP, which outlines education and interpretation as one of its key objectives (Ministry of Natural Resources and Environment of the Russian Federation, 2017) and states that currently, educational activity of the site reaches around 35-58 thousand people a year in the Park, and 700-1200 people a year in the Reserve, including through in museums and visitor centers as well as educational institutions and clubs (Ministry of Natural Resources and Environment of the Russian Federation, 2017).



#### Some Concern

The site is visited by around 10 thousand people annually, including both component protected areas, the Manpupuner plateau, manor site (elk farm and museum) and buffer zone. There is clearly a potential to further develop ecological tourism in the site, based on its outstanding wilderness values. Currently, the national park contains 57 residential buildings to accommodate tourists in its territory; 78 camping places and serves 17 (walking and water) routes, of which 4 remain open in winter (Ministry of Natural Resources and Environment of the Russian Federation, 2017). The large size and relative wilderness of the site are mostly sufficient to ensure that tourism has an insignificant local impact and does not exceed the capacity of the site. However, increasing demand for weekend tourism from nearby Vuktyl and Inta cities may be a growing challenge for management (Ministry of Natural Resources and Environment of the Russian Federation, 2017). Additionally, some concerns have arisen regarding impacts of visitation on the most popular trails, particularly those to the Man-Pupu-Ner plateau, some of which had to be closed to allow for ecological restoration (World Heritage Committee, 2018).



#### Some Concern

The IMP includes provisions for biodiversity monitoring as well as identifying areas of potential anthropogenic impact on fauna and flora, such as poaching and sources of pollution, and planned measures to reduce their threats (Ministry of Natural Resources and Environment of the Russian Federation, 2017). However the level to which the monitoring activities are systematised and coordinated across the components of the site is uncertain. The site has a legacy of ecological research with The "Chronicles of Nature" of Pechoro-Ilychsky Strict Nature Reserve having been kept since 1936, including a monitoring of key observations of natural values (MoNRE of RF, 2012d) and the IMP contains baseline data of the biodiversity of the site (Ministry of Natural Resources and Environment of the Russian Federation, 2017). However, no reliable data on trends in key wildlife species have been made available, however it is understood that monitoring programmes are ongoing, with new projects including wild deer population monitoring also having been recently initiated (State Party of the Russian Federation, 2019). As such, it is possible that the monitoring programmes throughout the site would benefit from greater systematization.



Mostly Effective

Research is carried out in both component areas of the site through strategic partnerships and cooperation with institutes such as the Komi Scientific Center of the Ural Branch of the Russian Academy of Sciences, who provide technical and scientific expertise in the values for which the site is inscribed (Ministry of Natural Resources and Environment of the Russian Federation, 2017). These partnerships are intended to inform the management of the site through the preparation and publication of findings and the subsequent development of recommendations. The IMP sets out a costed action plan for the relevant and necessary research activities, however it is uncertain to what extent the budget deficit reported by the State Party will impact the implementation of these objectives, given their associated costs. There may also be room for improvement regarding the integration of scientific research at the site with the international scientific community.

### Overall assessment of protection and management

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

Some Concern

The main potential threats to the site arising from outside its boundaries are geological prospecting to the east of the site and logging around its periphery, particularly in the southern Unia Basin. The State Party has expressed its intention to create an eastern buffer zone for the site and to upgrade protection status of the PL 350 forest plot, which would address the first of these issues and secure the site's integrity over the long term.

## State and trend of values

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### Summary of the Values

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

Trend: Stable

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

Data Deficient  
Trend: Data Deficient

The biodiversity values of the site, and particularly of the northern part of Yugyd Va National Park, were inferred to be increasingly affected by the Chudnoe gold mining operation. The halting of all mining related activity will significantly enhance the status of biodiversity in the surrounding area. Although concise data on the status of particularly the vertebrate fauna are not available, other threats such as poaching may also be affecting biodiversity values within the site. However, recent monitoring programmes such as those on wild deer populations within the site may address this issue. Overall the status of the site's fauna and flora is data deficient.

## Additional information

### Benefits

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#### Understanding Benefits



The component protected areas of the site offer ca. 115 jobs, a number that could probably be increased if additional areas would be included in the site as recommended by the 2010 mission (Debonnet et al., 2010). In addition, a significant number of jobs (possibly hundreds of jobs in tourism, natural resource

use etc.) could potentially be created in the course of tourism development and the development of sustainable natural resource use schemes within the site.

► **Wilderness and iconic features**

The Virgin Komi Forests are one of the last great wildernesses in Europe, with considerable wilderness values and iconic importance.

► **Importance for research**

In addition to the rich local and traditional knowledge and scientific articles that have been written already about the site and its biota, the site may become a useful reference for measuring climate change impacts on forest ecosystems elsewhere. This may be supported by a re-analysis of the considerable long-term monitoring records already available from Pechoro-Ilichsky Strict Nature Reserve (MoNRE of RF, 2012d).

► **Sacred natural sites or landscapes**

The site has high cultural/spiritual importance to indigenous people of the area, particularly the Manpupuner Stone Pillars (Debonnet et al., 2010).

► **Outdoor recreation and tourism**

Nature based tourism is practiced at a moderate intensity already on site. If developed in a responsible way, the site may offer a unique opportunity to experience an undisturbed wilderness of the site. This might also contribute significantly to income generation and the socio-economic development of the region (Debonnet et al., 2010).

## **Summary of benefits**

The site already provides multiple conservation, economic and cultural/spiritual benefits and ecosystem services to local inhabitants, the citizens of the Komi Republic and the Russian Federation, and also to the few interested foreigners who currently know about it. There is considerable potential to maintain and enhance these benefits through equitable participatory management of the site, particularly in areas such as combined natural and cultural tourism development, and the integration of natural and cultural values. The protection of the spiritual and cultural values of indigenous people of the region is of particular importance.

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