EUROPE / NORTH AMERICA

THE PUTORANA PLATEAU

RUSSIAN FEDERATION

WORLD HERITAGE NOMINATION - IUCN TECHNICAL EVALUATION

THE PUTORANA PLATEAU (RUSSIAN FEDERATION) - ID Nº 1234rev

Background note: An earlier nomination of the area had been deferred by the Committee in 2008. The corresponding Committee Decision recommended the State Party a) to refocus the nomination on the values and features within the Putorana State Nature Reserve in relation to criteria (vii) and (ix), supported by an enhanced global comparative analyses in relation to other World Heritage properties and protected areas within the Arctic; b) to provide a clear statement of support from the government that demonstrates its commitment to ensuring effective long term management, including the necessary human and financial resources, of the nominated property; and c) to develop and implement a management plan that specifies how the potential Outstanding Universal Value of the nominated property will be protected in the long term

1. DOCUMENTATION

i) **Date nomination received by IUCN**: 16th March 2009.

ii) **Additional information officially requested from and provided by the State Party**: Additional information was requested form the State Party following the IUCN World Heritage Panel, and was provided to the World Heritage Centre and IUCN in February 2010.

iii) **UNEP-WCMC Data Sheet**: 7 references (including nomination).

iv) **Additional literature consulted**: Chernov, Yu. I. (1985). **The Living Tundra**. Studies in Polar Research, Vol. I. Cambridge University. Press , 213 pp.; Dingwall, P., Weighell, T. and Badman, T. (2005) **Geological World Heritage: A Global Framework Strategy**. IUCN, Gland, Switzerland.; Greenpeace Russia (2006) **Russian Natural Heritage**. Moscow, 175 p.; Klein, D. R. and Kuzyakin, V. 1982. **Distribution and status of wild reindeer in the Soviet Union**. Journal of Wildlife Management 46, 728-733.; Magin, C. and Chape, S. (2004) **Review of the World Heritage Network: Biogeography, Habitats and Biodiversity**. UNEP-WCMC and IUCN, Cambridge, UK.; Malyshev, L. 1993. **Levels of the upper forest boundary in Northern Asia**. Vegetatio, 109, 175–186. Rao, G. V. S. P., Venkateswarlu M., Rao, B. S., Prakash, R. (2003). **Mantle plumes, continental flood basalt volcanism and palaeomagnetism**. Indian Geophys Union 7, 135-44.; Romanov, A. A. (2003) **Avifauna of Lake Hollows in the Western Putorana Plateau**. Moscow, 143 p.; Romanov, A. A. (2006) **Bird and Animal Communities of the Putorana Plateau: Studies and Conservation**. Moscow, 275 p.; Romanov, A. A. (2006) **Plateau Putorana: "Pearl" of the Russian Arctic. Moscow**, 40 p.; Shahgedanova, M. (2002). **The Physical Geography of Northern Eurasia**. Oxford University Press, New York.; Soja A.J., Tchebakova, N. M. French, N. F. et al. 2007. **Climate-induced boreal forest change: Predictions versus current observation**s. Global and Planetary Change, 56, 274-296.; Thorsell, J. and Hamilton, L. (2002) **A Global Overview of Mountain Protected Areas on the World Heritage List**. IUCN, Gland, Switzerland.; Thorsell, J. and Sigaty, T. (1997) **A Global Overview of Forest Protected Areas on the World Heritage List**. IUCN, Gland, Switzerland.; Usol'tsev, V. A. and Koltunova, A. I. (2001). **Estimating the carbon pool in the phytomass of larch forests in Northern Eurasia**. Russian Journal of Ecology 32:235-242.

v) **Consultations**: Nine external reviewers in addition to reviews of the earlier nomination. Extensive consultations were undertaken during the field visit with representatives of the Ministry of Natural Resources of the Russian Federation; the head and staff of the Putoransky Zapovednik; representatives of national NGOs, the Institute for Agriculture of the Far North in Norilsk and the mining company Norilsk Nickel.

vi) **Field visit**: Viliam Pichler, September 2009.

vii) **Date of IUCN approval of this report**: 22nd April 2010.

2. SUMMARY OF NATURAL VALUES

The nominated property, which coincides with the area of the the Putoransky State Nature Reserve, is located in the central part of the Putorana Plateau in northern Central Siberia. It is situated some hundred kilometres north of the Polar Circle and almost 200 kilometres south-east of Norilsk, the next town. It comprises an area of 1,887,251 ha and has been a State Nature Reserve (Zapovednik) since 1987. Its altitude ranges between 400-1600 m.a.s.l. The area has been exposed to an arctic climate for millennia due to the high latitude. Permafrost covers the major part of the plateau, but there are no major glaciers.

The Putorana Plateau originates from a Permian-Triassic mantle plume, which is an immense up-welling of magma, resulting in extended tectonic movements and extensive volcanism. This created a basalt and tuff plateau in which rivers and streams carved valleys and canyons over millions of years. The typical character of the Putorana Plateau is the stepped line of its slopes, distinguished by alternation of hard weathering basalt, diabase, dolerite with more easily eroded tuff and sandstone tuff.

The arctic climate of the Putorana Plateau is strongly continental: the average July temperature being 14.2ºC, the average January temperature being -27.5ºC, with an average annual air temperature of -9.7ºC. The Putorana Plateau is one of the most significant watersheds of northern Eurasia due to relatively high precipitation. Erosion and sedimentation, together with tectonic uplift of the plateau, have created spectacular landforms in the permafrost environment. Numerous rivers and streams originate in the area, and there is a complex network of lakes. Today, “fjord-like” lakes, up to 150 km long and 420 m deep, surround the central parts of the plateau. In total, there are more than 100 lakes with a surface area larger than 100 ha and more than 18,000 lakes with a smaller surface area. The plateau’s regular alternation of softer and harder rocks has also resulted in a large number of waterfalls up to 108 m high.

The vegetation ranges from sparse arctic lichen formations to various types of northern coniferous taiga forests. These vegetation types occur in diverse and dynamic patterns and often vary over a very small distance. 398 species of vascular plants are reported in the nominated property, including rare and endemic species such as *Trollius asiaticus*, *Rhodiola rosea*, *Papaver variegatum* and J*uncus longirostris*. Forests and woodland vegetation comprise birch, Common Aspen, Siberian Spruce, Siberian Larch and Dahurian Larch. Two plant species (*Caltha serotina* and *Euphrasia putoranica*) are endemic to the area. Five plant species (*Draba sambuckii*, *Festuca auriculata var. pilosa*, *Juncus longirostris*, *Oxytropis putoranica* and P*apaver variegatum*) have their centre of distribution within the nominated property but also occur in small populations in other parts of Northern Siberia.

A complete spectrum of arctic wildlife occurs with brown bear (more than 760 individuals), wolf (840 individuals in 2001), Arctic Fox, lynx, glutton, otter (at some locations), sable, elk, reindeer, Russian flying squirrel (at one location) and blue hare. Except for reindeer and Arctic Fox, all species are permanent inhabitants of the plateau. One of the major reindeer migration routes in Eurasia crosses the nominated property. Twice a year between 150,000 and 250,000 wild reindeers from Taymir Peninsula migrate along the valleys of the plateau to their winter habitats in the south. This is one of the last migration routes in Central Siberia not blocked or fragmented by pipelines. The nominated property is also an important stop-over point for migrating arctic birds. In total, 34 mammal species, 140 bird species and 25 fish species have been recorded in the nominated property. At least four fish species are endemic to the area (*Salvelinus boganidae*, *Salvelinus drjagini*, *Salvelinus taimyricus* and *Salvelinus tolmachoffi*).

The nominated property protects a significant part of the population of the endemic Putorana snow sheep (*Ovis nivicola borealis*), one of the four subspecies of the Siberian snow sheep, which live totally isolated from each other in different parts of Siberia. By the early 1960s, the Putorana snow sheep remained only in the most remote parts of the plateau, due to hunting and poaching. Following the establishment of the State Nature Reserve, the population recovered to about 1,400 individuals, now occurring throughout the nominated property.

3. COMPARISONS WITH OTHER AREAS

The Putorana Plateau has been nominated under natural criteria (vii) and (ix).

In relation to criterion (vii), the natural beauty of the plateau’s landscapes is spectacular and comparable to existing World Heritage properties. This derives from the untouched arctic and boreal landscape elements which are enhanced by an enormous variation in the relief of the area, fjord-like lakes, hundreds of waterfalls and dozens of canyons more than 500 m deep. These canyons are comparable to canyons such as those in the Grand Canyon National Park (USA) and the Tara River Gorge in the Durmitor National Park (Montenegro). Kanda waterfall (108 m), the highest waterfall within the nominated property, is one of the ten highest waterfalls in Russia. However, there are a number of World Heritage properties with higher or more impressive waterfalls, including Iguazu/ Iguaçu (Argentina/Brazil), Mosi-oa-Tunya/Victoria

Falls (Zambia/Zimbabwe) and Yosemite (USA). However, a key aesthetic feature of the nominated property is the high concentration of waterfalls. In this regard, the plateau can be favourably compared to World Heritage properties known for their numerous waterfalls, such as Plitvice Lakes (Croatia), Te Wahipounamu – South West New Zealand, Gondwana Rainforests of Australia, Noel Kempff Mercado (Bolivia), Atlantic Forest South-East Reserves (Brazil) and Canaima (Venezuela). However, these waterfalls are either concentrated within one catchment, such as in the Plitvice lakes, or in properties featuring prevailing exposure to humid air masses. The Putorana Plateau is the only area with such a high density of waterfalls in a predominantly continental arctic climate.

When compared to other Arctic and near-Arctic World Heritage properties or sites on Tentative Lists (Nahanni National Park, Wood Buffalo National Park, both Canada, Ilulissat Icefjord, Demark, Surtsey Island, Iceland, Wrangel Island, Komi Forests, Commander Islands, Magadan Nature Reserve, all Russian Federation, Svalbard Archipelago, Islands of Jan Mayen and Bouvet, both Norway, Laponian Area, Sweden) the striking feature of the Putorana Plateau is the mosaic of an extremely diverse range of habitats. While most habitat types are covered in existing World Heritage properties and exist elsewhere, only Putorana harbours a complete set of largely pristine subarctic and arctic ecosystems in an isolated mountain range. While not globally unique the wild reindeer migration across the property represents an exceptional, large-scale and increasingly rare natural phenomenon.

In relation to criterion (ix) it is important to note that ecological and biological processes occur naturally in the nominated property without any human intervention. The property features a wide and distinct spectrum of ecological and biological processes because of the specific combination of geological and climatic conditions. Distinct soils and microclimates occur on the plateau-like mountains and on the slopes of the valleys and canyons formed in this permafrost environment. These are complemented by a wide spectrum of water-shaped habitats, ranging from arctic stone desert to temperate mountain wetlands; thus resulting in a remarkably diverse and dynamic pattern of vegetation types. The presence of endemic plant species is also associated with the variety of extreme environmental conditions.

The nominated property features a typical set of boreal and arctic ecosystems and species. Similar ecosystems and species can be found in World Heritage properties of the same climate zones in the northern hemisphere, such as Kluane/Wrangell-St Elias/Glacier Bay/Tatshenshini-Alsek (Canada /USA), Nahanni and Wood Buffalo (Canada), Virgin Komi Forests and Wrangel Island (Russian Federation), and the Laponian Area (Sweden). This is due to the fact that these areas were at least temporarily linked by land bridges during the Ice Age. However, the Putorana Plateau harbours a complete set of such ecosystems in an isolated arctic mountain range: untouched taiga, tundra and arctic desert systems as well as pristine cold-water lake and river systems.

Although the level of endemism in the nominated property is lower than in temperate or tropical regions of the world, it still ranks significantly when compared to other areas with arctic climate conditions. Thus, the nominated property could address some of the gaps identified in relation to arctic ecosystems in the 2004 Review of the World Heritage Network prepared by UNEP-WCMC and IUCN, mainly the underrepresented subarctic tundra biome.

The revised nomination under consideration contains a considerably enhanced comparative analysis and a stronger and clearer governmental commitment to the future management of the property.

4. INTEGRITY

4.1 Legal status

The nominated property was declared a State Nature Reserve (Zapovednik; equivalent to IUCN Protected Area Management Category Ia) under the jurisdiction of the federal government in 1987. No land uses are allowed other than scientific research and monitoring. A number of other federal and regional laws and regulations on nature conservation, land use planning, scientific research and monitoring, and environmental education apply to the nominated property.

IUCN considers the protection status of the nominated property meets the requirements set out in the Operational Guidelines.

4.2 Boundaries

The boundaries of the nominated property coincide with those of the Putoransky State Nature Reserve. The property of 1,887,251 ha is surrounded by an extensive buffer zone of 1,773,300 ha, established in 1987 by a decision of the Krasnoyarsky Krai regional government and further extended in 1993 by a decree of the Taimyr Autonomous District. The management of the buffer zone is under the jurisdiction of the State Nature Reserve, but different land ownership and land use arrangements present a challenge to the effective management of the buffer zone. Some important natural features, such as lakes and waterfalls, mentioned in the nomination document are located within the buffer zone. Only one of the ten largest lakes in the area,

Lake Ayan, lies completely within the nominated property. However, IUCN considers that the nominated property includes the key areas that are essential for maintaining the property's natural beauty. The property is also of sufficient size and contains the necessary elements to demonstrate the key aspects of ecological and biological processes that are essential for the long term conservation of the property's ecosystems and biological diversity.

IUCN considers the boundaries of the nominated property meet the requirements set out in the Operational Guidelines.

4.3 Management

The nominated property is only readily accessible by helicopter from an airport near to Norilsk, located about 200 km north-west from its western border, or by boat along the lakes, but navigation on the only water course (Norilka River) leading to the Lama Lake is difficult. There is a check-point, where all boats must stop and register. Access to the property is limited and requires a special permit from the reserve administration and its scientific board. This limited access facilitates the protection and patrolling of the nominated property. There are no roads within the nominated property and large parts of the buffer zone. Access to Norilsk, a major mining complex, is restricted for foreign visitors. Visitors of the Putorana Reserve must be in possession of valid entry documents issued by the municipal authority upon invitation and approval from the director of the Putorana Reserve.

The management of the reserve is carried out according to the Regulations of the Putoransky State Nature Reserve adopted by the Federal Ministry of Nature Resources in March 2005. These rather general regulations are revised every five years and implemented through annual work plans. The nomination also refers to a draft management plan, presented as an annex to the nomination, which IUCN understands was approved in Spring 2009, shortly after the submission of the nomination. IUCN notes that the management plan does not expressly mention Outstanding Universal Value, however considers that it provides an adequate framework for the management of the property.

At the time of field evaluation the staff working in the nominated property comprised 33 persons, including 6 scientists and 12 rangers. More than half of the staff conduct ranger tasks such as fishing and hunting inspections and forestry supervision. IUCN considers that the existing number of staff is insufficient to effectively patrol the vast property, particularly in light of increasing tourism in the buffer zone, which could lead to unauthorized access to the nominated property. However, the additional information provided by the State Party notes that the number of staff will be increased by 50% in case of the inscription of the property in the World Heritage List.

The federal funding allocated to the conservation and management of the nominated property in 2008 was 9,101,800 Russian Rouble (RUB, around US$ 313,000) comprised mostly of the federal budget and slightly less than one million RUB from donations. The bulk of the budget is spent on salaries with only a reported 12% dedicated to management and conservation. The management plan suggests annual budget increases in the future. A minor increase was reported to the field evaluator to adjust for inflation. The 2009 budget of the Putoransky State Nature Reserve has been increased by 500,000 RUB in addition to the inflation adjustment. Additional funds are expected to be made available for the monitoring of the Putorana snow sheep population. Overall, this will improve opportunities for effective management and conservation, in particular through flight patrols.

Despite severely limited funds and staffing levels, the reserve's administration has managed to create a broad public awareness of the Putoransky State Nature Reserve and it has also succeeded in establishing a high level of awareness of and support for its protection among local decision-makers, opinion leaders and citizens. The donations from individuals and organizations support this observation by the field evaluator.

IUCN considers the management meets the requirements set out in the Operational Guidelines.

4.4 Threats and human use

There are no roads, settlements or human activities, other than scientific research and monitoring, within the nominated property.

Uncontrolled hunting in the 1960s to 1980s resulted in a sharp decline in some of the key species of the property, such as the endemic Putorana snow sheep. Today, hunting is totally prohibited within the nominated property. Fishing is allowed for visitors to the area, but they are urged to catch and release fish. There is no evidence how far this is respected, but even if the catch was used for personal supply this would be of minimal impact. Access to the reserve is only possible by special permission of the reserve administration and its scientific board only. About six small ensembles of wooden huts, all without any additional infrastructure such as electric power or water supply, accommodate visitors in the buffer zone. In 2005, 437 people visited the reserve, including 30 tourist groups, 170 individuals and 3 scientific researchers. The impact of visitors on the natural values and integrity of the reserve is minimal. The entry regulations and permit system seem to be appropriate to control visitation.

Indigenous peoples used the area in the past for reindeer herding or hunting. The only permanent settlement located on the Putorana Plateau, but outside the borders of the nominated property, is the Khantaisky village with about 500 inhabitants, 400 of which are indigenous people from the Dolgan and Evenk communities. Their traditional occupation is reindeer herding, hunting and fishing.

Beside boats, helicopters provide the only feasible access to the area, resulting in some visual and acoustic impacts, including on wildlife. As these impacts increase with the number of flights, flights should be restricted to a minimum. At the same time, air traffic is limited by the often adverse weather conditions.

Tourism in the buffer zone, especially in its western part, is growing rapidly. There are no exact numbers on visitation but it is estimated that several thousand tourists visit the buffer zone per year. Tourism is a promising economic activity for the area, and tourism development has resulted in the construction of a number of buildings. However, these buildings are neither integrated properly into the natural landscape nor follow traditional architectural principles and practices. The additional information provided by the State Party notes that due to the vast area of the buffer zone it is impossible to fully control the development of new buildings. There are concerns about the growing pressure for tourism development, as it could lead to unauthorised access to the nominated property by land and water routes. Tourism development and associated infrastructure development is also of concern for another important reason. One of the most important inter-regional reindeer migration routes crosses the nominated property. This route has gained importance over time due to the fact that other important routes are now blocked by traversing oil and gas pipelines. Even though the most likely areas for further tourism development, such as the surroundings of Lake Lama and, to a lesser extent, Lake Keta, do not coincide with reindeer migration routes, possible conflicts between tourism and reindeer migration need to be considered. As the continuation of this natural phenomenon depends strongly on the natural conditions of the areas within and outside the nominated property, effective legal and management systems are required to ensure that further tourism development does not adversely affect the necessary natural conditions. These systems include hunting regulations and monitoring of the reindeer population.

Mining is also a potential threat to the integrity of the nominated property. The Norilsk mining and smelting complex, located about 200 km north-west from its western border, was developed to exploit the important mineral resources of the region. Today, the mining and smelting company Norilsk Nickel is the world's leading producer of nickel. Vast areas east and south-east of Norilsk suffer from forest dieback caused by acid emissions from the metallurgical process. According to current data, the closest areas affected by air pollution are more than 100 km away from the nominated property, but air pollution is already affecting the western part of the buffer zone. Reportedly, Norilsk Nickel intends to reduce sulfur emissions by approximately two-thirds, but the technology is still under development.

Based on geological information, mining could potentially be extended to areas close to the nominated property, but Norilsk Nickel confirmed in discussions during both IUCN field mission that there are no plans to mine within the nominated property. The Federal Law on Specially Protected Natural Areas does not allow prospecting or mining within the nominated property.

Despite shortcomings and future threats the approved management plan for the nominated property and the increased financial resources for the protection and management of the nominated property constitute considerable improvements since the original nomination of the property.

In summary, IUCN considers the nominated property meets the conditions of integrity as outlined in the Operational Guidelines.

5. ADDITIONAL COMMENTS

5.1 Comments of ICOMOS

ICOMOS provided comments on the cultural values of the property to IUCN, centering on the use of the traditional use of the Putorana Plateau by indigenous peoples, the Dolgan and Evenk. ICOMOS considers that the cultural significance of the landscape associated with a reindeer based economy of the Dolgan and Evenk needs to be recognised and sustained as these peoples have exceptionally long associations with this part of Siberia in comparison with the very recent 'creation' of this plateau as a natural Reserve in 1987. ICOMOS is concerned that this nomination appears to condone the removal of reindeer hunters from this area and the suppression of the very longstanding traditional activities of reindeer herding and hunting. ICOMOS also questions whether the nominated property could not be managed in conjunction with traditional practices.

IUCN concurs that the recognition of sustainable traditional herding and resource use is an important factor that the State Party should support through programmes in the buffer zone of the property, and consultation with the indigenous communities in the further development of the management system for the area. IUCN considers that, in principle,

low-intensity traditional uses within the nominated property would not necessarily threaten its natural values, provided possible impacts were carefully considered in the management of the property.

6. APPLICATION OF CRITERIA

The property has been nominated under natural criteria (vii) and (ix).

Criterion (vii): Superlative natural phenomena or natural beauty

A vast and diverse landscape of striking natural beauty, the Putorana Plateau is pristine and not affected by human infrastructure. Its superlative natural features include an extensive area of layered basalt traps that has been dissected by dozens of deep canyons; countless cold water rivers and creeks with thousands of waterfalls; more than 25,000 lakes characterized by a fjord-like formation that is associated with a large variation in the relief. The immense arctic and boreal landscapes remain intact with carpets of lichens and forest that are unusual at such northern latitudes.

An enhanced global comparative analysis has demonstrated the nominated property's Outstanding Universal Value under this criterion.

IUCN considers that the nominated property meets this criterion.

Criterion (ix): Ecological and biological processes

The property displays a comprehensive set of ecological and biological processes associated with its diverse arctic and subarctic ecosystems. Its bio-geographical location, on the border of the tundra and taiga biomes and at the transition between Western and Eastern Siberian floras, makes the property one of only a few centres of plant species richness in the Arctic. The combination of landscape diversity, remoteness, naturalness and degree of protection are extraordinary. In addition, the property may provide valuable evidence on the impacts of climate change to large-scale natural arctic ecosystems if proper monitoring and research take place.

IUCN considers that the nominated property meets this criterion.

7. RECOMMENDATIONS

IUCN recommends that the World Heritage Committee adopt the following decision:

The World Heritage Committee,

1. Having examined Documents **WHC-10/34.COM/8B** and **WHC-10/34.COM/INF 8B2**,

2. Inscribes **the Putorana Plateau, Russian Federation**, to the World Heritage List under natural criteria (**vii**) and (**ix**);

3. Adopts the following Statement of **Outstanding Universal Value**:

Brief synthesis

Comprising a vast area of 1,887,251 ha, the property is located in the centre of the Putorana Plateau in the northern part of Central Siberia. The part of the plateau inscribed on the World Heritage list harbours a complete set of subarctic and arctic ecosystems in an isolated mountain range, including pristine taiga, forest tundra, tundra and arctic desert systems, as well as untouched cold-water lake and river systems. The combination of remoteness, naturalness and strict protection ensure that ecological and biological processes continue at a large scale with minimal human influence. The property provides a dramatic demonstration of ecological processes, including the interactions between healthy populations of a full range of Arctic fauna. A major reindeer migration crosses part of the property. The property is also one of the very few centres of plant species richness in the Arctic.

Criteria

Criterion (vii)*: A vast and diverse landscape of striking natural beauty, the Putorana Plateau is pristine and not affected by human infrastructure. Its superlative natural features include an extensive area of layered basalt traps that has been dissected by dozens of deep canyons; countless cold water rivers and creeks with thousands of waterfalls; more than 25,000 lakes characterized by a fjord-like formation that is associated with a large variation in the relief. The immense arctic and boreal landscapes remain intact with carpets of lichens and forest that are unusual at such northern latitudes.*

Criterion (ix): *The property displays a comprehensive set of ecological and biological processes associated with its diverse arctic and subarctic ecosystems. Its bio-geographical location, on the border of the tundra and taiga biomes and at the*

transition between Western and Eastern Siberian floras, makes the property one of only a few centres of plant species richness in the Arctic. The combination of landscape diversity, remoteness, naturalness and degree of protection are extraordinary. In addition, the property may provide valuable evidence on the impacts of climate change to large-scale natural arctic ecosystems if proper monitoring and research take place.

Integrity

The property is a strictly protected State Nature Reserve, or "Zapovednik": its boundaries coincide with those of the Putoransky State Nature Reserve. The property is large and is surrounded by an extensive buffer zone of 1,773,300 ha. The property's size, remoteness and naturalness, as well as the degree of protection afforded to it are essential attributes in ensuring the protection of the full range of largely undisturbed landscapes and processes that are the basis of its Outstanding Universal Value. The property includes the key areas and features that are essential for maintaining the property's natural beauty. A full range of important natural features, such as lakes, canyons and waterfalls, is located within its boundaries. The property is also of sufficient size and contains the necessary elements to maintain the ecological and biological processes that are essential for the long term conservation of the property's ecosystems and biological diversity, and the migratory species that rely on its natural state.

Difficult access is also a contributor to the property's integrity: there are no roads within the property and large parts of the buffer zone, thus the property is only accessible by helicopter or boat. The property is also unaffected by the impacts of mining and other land-uses incompatible with its values. Important natural values linked to the property are located in the buffer zone, and their conservation is also an essential requirement.

Management and protection requirements

The property was declared a strictly protected State Nature Reserve (Zapovednik) in 1987. No land or resource uses are allowed other than scientific research and monitoring. A number of other federal and regional laws and regulations on nature conservation, land use planning, scientific research and monitoring, and environmental education apply to the property.

The combination of a strict legal and management framework, remote location and lack of any road infrastructure enables effective management of the property with relatively modest staffing and funding levels for a protected area of this magnitude. Increasing tourism in the buffer zone carries the risk of unauthorized access to the property, including for hunting and fishing. There is a need for unambiguous and rigorously enforced land use and building arrangements in the buffer zone and for regulations of tourism, including strict limits on air traffic.

Mining is a potential threat to the property. The Federal Law on Specially Protected Natural Areas prohibits mining in the property. It must be ensured that the impacts of existing and future mining outside the property will not affect in any way the Outstanding Universal Value and/or integrity of the property, for example through air pollution, pipelines or the development of any supporting infrastructure.

One of the most important inter-regional reindeer migration routes crosses the property. As the continuation of this natural phenomenon depends strongly on the natural conditions of the areas within and outside the property, effective legal and management systems are required to ensure that human use, including tourism, mining and other development will not adversely affect this phenomenon.

4. Commends the State Party on the elaboration and approval of a management plan for the property and requests the State Party to sustain its commitment to the protection, management and monitoring of the property through sufficient financial resources and staffing levels to ensure the effective long-term implementation of the management plan;

5. Requests the State Party to further develop and implement more detailed management schemes for sustainable recreational use and environmentally friendly tourism within the buffer zone of the property, in cooperation with local authorities and stakeholders, including indigenous communities, and taking account of the needs for tourism monitoring, zoning and regulatory frameworks and licensing schemes for buildings, infrastructure, and tourism operations;

6. Encourages the State Party to clearly demarcate the boundaries of the property at all entry points and to strictly regulate air access to the property;

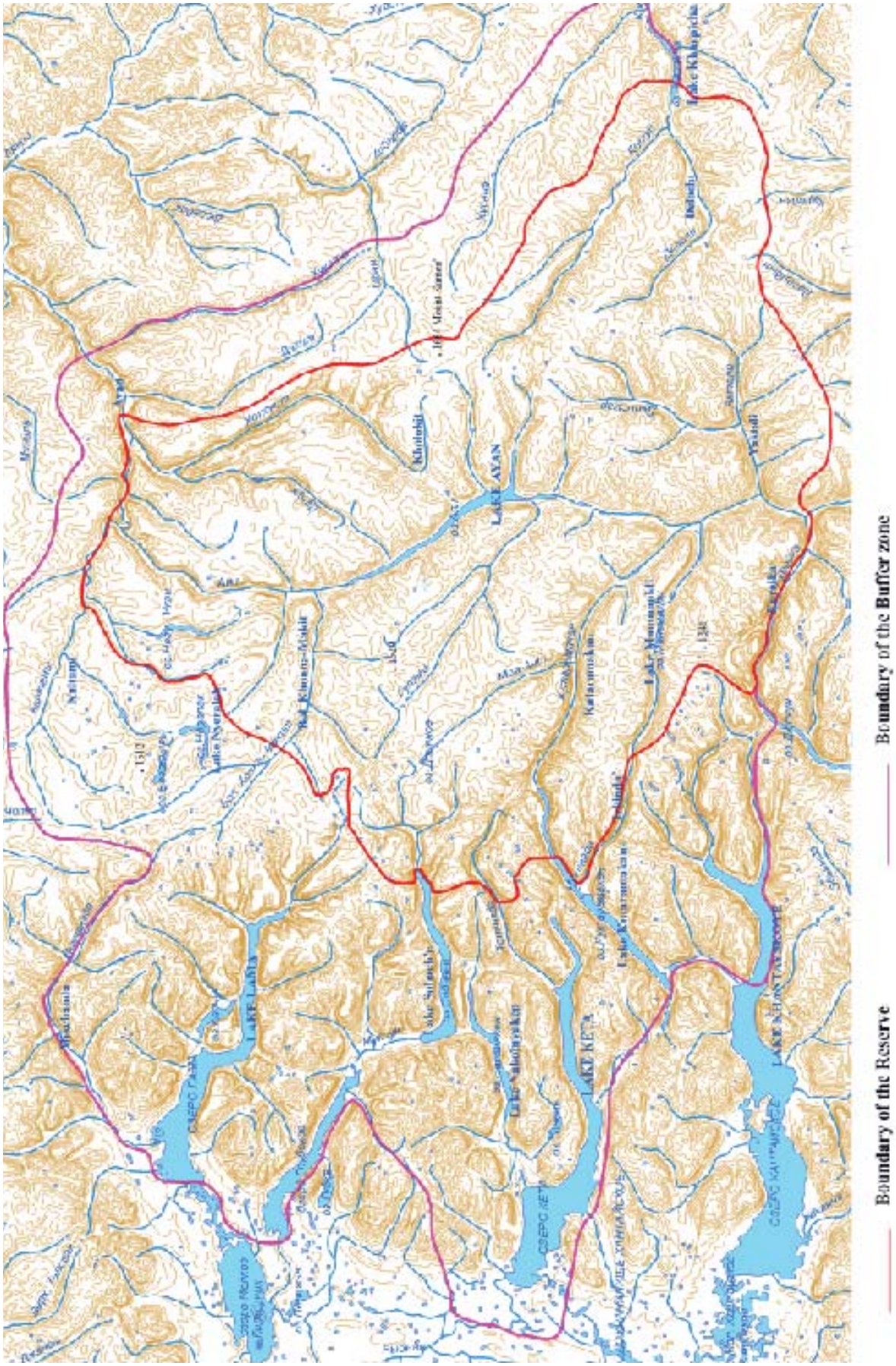
7. Commends the State Party on the diverse range of funding sources for the property, and requests the State Party to ensure funding for management, and encourages the State Party to increase their investments in research;

8. Recommends setting up a long-term scientific research and monitoring program to document and better understand the impacts of climate change on the diverse array of ecosystems within the property;

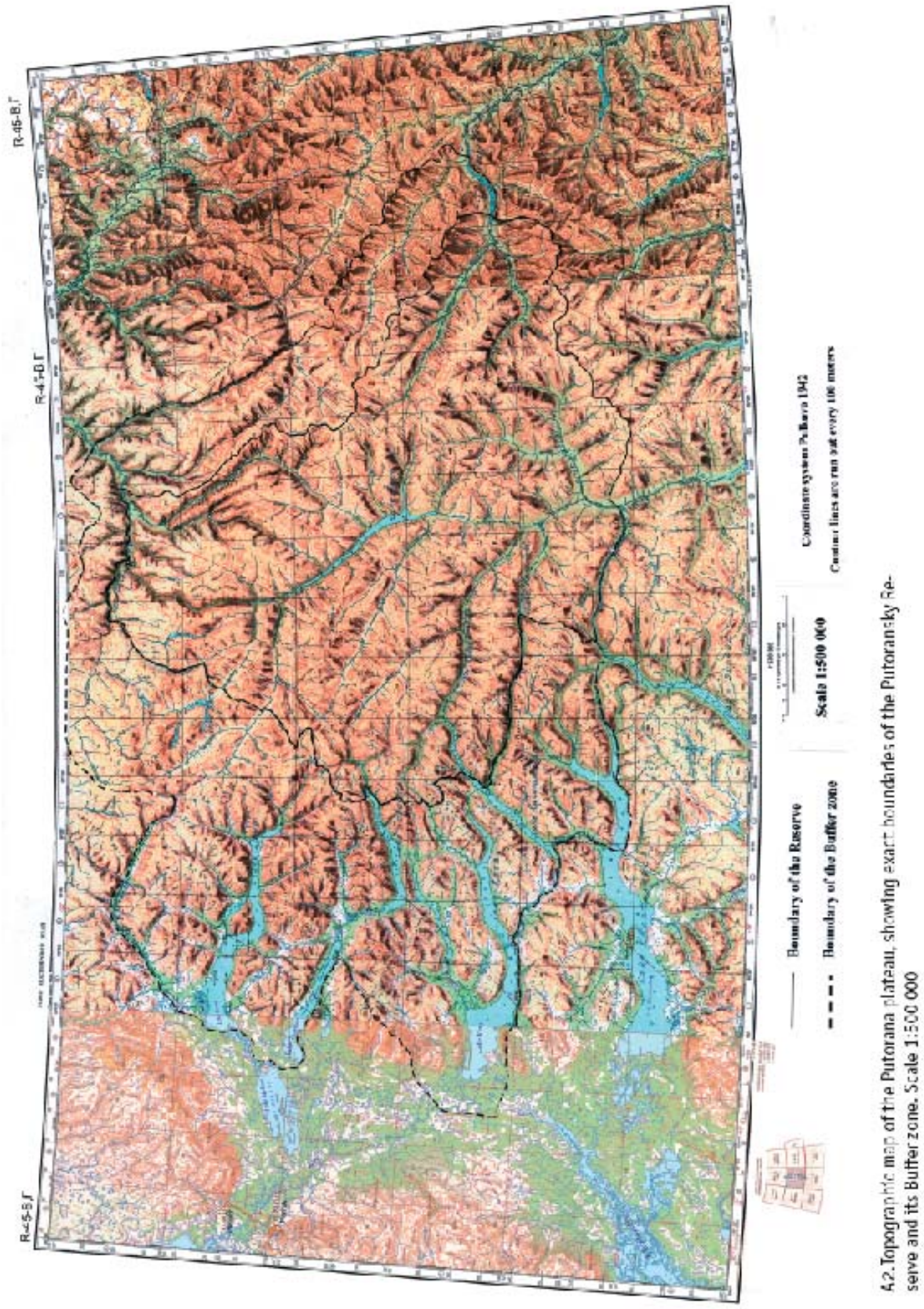
9. Notes that the important migration of reindeer which crosses the property is vulnerable to impacts from activities outside the property, such as tourism, mining and pipeline construction and urges the State Party to ensure such threats to this important value of the property are effectively controlled;

10. Requests the State Party to ensure that mining and mineral exploitation inside the property remain permanently prohibited and to also prevent any indirect impacts from mining outside the boundaries that could affect the values of the property.

Map 1: Boundaries of the nominated property and its buffer zone



Map 2: Topographic map of the nominated property and its buffer zone



4.2. Topographic map of the Putorana plateau, showing exact boundaries of the Putoransky Reserve and its Buffer zone. Scale 1:500 000