IUCN Conservation Outlook Assessment 2014 **(archived)**
Finalised on 28 May 2014

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

Lena Pillars Nature Park

SITE INFORMATION

Country:
Russian Federation
Inscribed in: 2012
Criteria:
(viii)

Site description:
Lena Pillars Nature Park is marked by spectacular rock pillars that reach a height of approximately 100 m along the banks of the Lena River in the central part of the Sakha Republic (Yakutia). They were produced by the region’s extreme continental climate with an annual temperature range of almost 100 degrees Celsius (from –60 °C in winter to +40 °C in summer). The pillars form rocky buttresses isolated from each other by deep and steep gullies developed by frost shattering directed along intervening joints. Penetration of water from the surface has facilitated cryogenic processes (freeze-thaw action), which have widened gullies between pillars leading to their isolation. Fluvial processes are also critical to the pillars. The site also contains a wealth of Cambrian fossil remains of numerous species, some of them unique. © UNESCO

SUMMARY

2014 Conservation Outlook

Good

Because of the relatively robust nature of the values contributing to the OUV of Lena Pillars Nature Park, the remoteness and lack of inhabitants of the site, and the existing protection and management regime, which is effective overall in spite of some low concern, the overall conservation outlook of Lena Pillars Nature Park is assessed as good.

Current state and trend of VALUES

Good
Trend: Stable

The current state of the World Heritage values of the property is good overall, and its trend stable.

Overall THREATS

Very Low Threat

The extremely remote location and robust character of the property combine to reduce threats to its integrity and values to a very low level.

Overall PROTECTION and MANAGEMENT

Mostly Effective

The management and protection system of the property appears to be sufficient to address the limited current threats to its integrity, but may need to be upgraded in several ways (particularly with regard to legal status, boundaries and tourism management) to deal with projected and possible future threats.

FULL ASSESSMENT

Description of values

Values

World Heritage values

▶ **Spectacular rock pillars**
Criterion:(viii)

The cryogenic pillars (up to ca. 200 m high) that line the banks of the Lena River are rocky buttresses isolated from each other by deep and steep gullies developed by frost shattering directed along intervening joints. These pillars are the most notable pillar landscape of their kind known (SoOUV, 2013).

▶ **Cambrian fossil remains**
Criterion:(viii)

The internationally renowned and important exposures of Cambrian rocks tell us key stories about our planet and the early evolution of life during the entire Cambrian Explosion. Due to a platform type of carbonate sedimentation within the tropical belt of the Cambrian Period, without subsequent metamorphic and tectonic reworking, and magnificent impressive outcrops, the property preserves an exceptionally continuous, fully documented, and rich record of the diversification of skeletal animals and other bio-mineralized organisms from their first appearance until the first mass extinction event of that period (SoOUV, 2013), including the first metazoan reefs (IUCN, 2012).

▶ **Other evidence of thermokarst processes**
Criterion:(viii)

Thermokarst processes that are documented (e.g. by sinkholes, karst-

erosioni valleys, thermokarst lakes, interrupted surface courses of rivers and streams, karst springs) at the property have developed in an area of a great permafrost thickness (up to 400-500 m) (North-eastern Federal University Yakutsk et al., 2010).

Other important biodiversity values

- **Eastern Siberian ecosystems (steppe, forest, tukulan, rock) with associated flora, fauna and landscapes**

  Mainly low larch taiga with some pine forests, meadow and steppe vegetation in river valleys. Valleys of the Buotama River, small taiga rivers and creeks are covered with dwarf birch and occasionall forb meadows. Fragments of steppe vegetation are spread on well warmed bedrock slopes of the Lena and specially Buotama riverbanks. 105 species of breeding birds, typical of continental sub-arctic ecosystem, 38 species of mammals, 4 species of herpetofauna and typical ichthyofauna. There have also been efforts to introduce the North-American bison to the area. Overall, the ecosystem and relief of the area make up interesting landscapes with significant aesthetic appeal and touristic potential (North-eastern Federal University Yakutsk et al., 2010).

Assessment information

Threats

Current Threats

Very Low Threat

Because of the remoteness, lack of transport infrastructure and non-existent population, as well as the robustness of the OUV of the property, its values are currently only under very low threat.

► Livestock Farming / Grazing

Very Low Threat
Inside site
Outside site

Three traditional Evenki farms on site, one engaged in deer farming, two in horse breeding. Also some haymaking. 300 ha of agricultural areas. Reportedly also some small-scale unauthorised cattle farming and meadow burning (North-eastern Federal University Yakutsk et al., 2010).

► Shipping Lanes

Very Low Threat
Outside site

Lena river is a main transport artery of the wider area; potential for accidental discharges of chemicals in immediate vicinity but outside of property, with potential to harm some of the biota of property. Some emergency plan apparently exists (North-eastern Federal University Yakutsk et al., 2010).

► Other Biological Resource Use

Very Low Threat
Inside site
Outside site

Traditional natural resource use inside property very limited and stable. 60% of land of site assigned to six traditional resoure use areas. 600-800 sable skins bagged annually. No permanent Evenki settlements inside property (North-eastern Federal University Yakutsk et al., 2010).

► Fire/ Fire Suppression

Low Threat
Inside site
Outside site

11 forest fires affecting a total of 18,000 ha recorded in 2001, another fire affecting 130 ha in 2006. Cooperation agreement to control fire risk in place (North-eastern Federal University Yakutsk et al., 2010).

Potential Threats

Low Threat

Increased visitation and climate change might lead to increased threats to the property's values (including geological values associated with cold thermokarst processes, as well as additional biological values) in the future.

► Tourism/ visitors/ recreation

Low Threat
Inside site
Outside site

Visitor numbers increasing (10,000 in ca. 2010) but below carring capacity (23,000). Potential for need of improved visitor management in the future. Some unspecified tourism infrastructure under development, which might increase threats from visitation. However, geological values of property are very robust against impacts from visitation (North-eastern Federal University Yakutsk et al., 2010).

► Habitat Shifting/ Alteration

Low Threat
Inside site
Outside site

Climate change has lead to increase in mean annual temperatures on site by 1.1 °C from 1951 to 1991. If continued, this could affect thermokarst phenomena, extent of permafrost and associated ecosystems and landscape elements (North-eastern Federal University Yakutsk et al., 2010).

Protection and management

Assessing Protection and Management

► Relationships with local people

Highly Effective

There are some areas traditionally used by Evenki indigenous people. The

validity of the boundaries of these areas is respected by the park administration. Traditional use of the land includes hay-making and hunting. Co-existence of traditional rights and use, and legal land ownership appears to be appropriately considered (IUCN, 2012).

► Legal framework and enforcement

Mostly Effective

The property is legally designated as a (Federal State level) Nature Park of the Republic of Sakha, which is not the highest protection category available in the Russian Federation. It is planned to afford the property Federal level protection by designating it a State National Nature Park by 2015. It remains to be seen if the current or planned legal protection status are sufficient to safeguard the OUV of the property (IUCN, 2012).

► Integration into regional and national planning systems

Data Deficient

The “Statute of the State Enterprise Lena Pillars Nature Park” 2006 in the Annex B5 of the nomination document, confirmed by the Government of the Sakha Republic, defines legal instruments for the protection of the property (IUCN, 2012). An integration into further regional or national planning systems is not documented.

► Management system

Mostly Effective

A legally binding management plan for 2008 -2012 was elaborated and considered adequate by IUCN (2012). The current status of this plan is not known.

► Management effectiveness

Highly Effective

No formal management effectiveness assessment of the property has been documented although management appears to be adequate to deal with the current threats to the property's integrity (IUCN, 2012).

► Implementation of Committee decisions and recommendations

Data Deficient

The State Party will only report about the three requests of the World Heritage Committee expressed in Decision 36COM 8B.11 (inscription) on possible inclusion of Sinyaya part of Nature Park, provision of evidence on effectiveness of legal status of property and long-term management plan in February 2015 (WHC, 2012).

► Boundaries

Some Concern

The boundaries of the property are clearly defined but exclude some important pillar structures (e.g. in the Sinyaya part of the Nature Park) and fossil deposits, and on the other hand include extensive areas which do not have these features. In addition, the river Lena and its banks are excluded by the property although they play an indispensable role in the geological processes constituting the OUV of the property. Therefore, the boundaries of the property are of some concern (IUCN, 2012).

► Sustainable finance

Mostly Effective

Funding sources (mainly national budget) defined in management plan. Total annual budget in 2012 ca. $524,000, considered adequate for basic conservation functions of property. However, need for increased budget for tourism management and infrastructure noted, particularly if tourism numbers continue to increase (IUCN, 2012).

► Staff training and development

Mostly Effective

Ca. 40 staff in 2012, considered adequate, but need for more expert staff (i.e. at least one geologist and at least one geomorphologist) to be engaged in protection and management of geological values of the property noted by IUCN (2012).

► Sustainable use

Highly Effective

Small scale traditional natural resource use by Evenki inhabitants of property is well-managed and sustainable (North-eastern Federal University Yakutsk et al., 2010).

► Education and interpretation programs

Highly Effective

There is both a visitor centre on the territory of the property and cooperation with local schools aimed at education and interpretation activities (IUCN, 2012).

► Tourism and interpretation

Some Concern

Tourism management and interpretation facilities are currently sufficient as tourism numbers (10,000 in 2012) are still considerably below carrying capacity (23,000). However, the need for a more systematic sustainable and equitable tourism development strategy and the corresponding investments in the property's infrastructure and capacity was noted by IUCN (2012).

► Monitoring

Some Concern

Lack of geological monitoring in line with inscription under Word Heritage criterion viii as part of overall monitoring programme of Nature Park was noted in 2012 (IUCN, 2012).

► Research

Highly Effective

The property has been visited by a wide range of geological expeditions in the past, such as by the Siberian Research Studies Institute for Geology, Geo-physics and Mineral Resources (SNIIGGiMS, Novosibirsk) and the Moscow Paleontological Institute RAS. The nomination file includes a list of more than 100 relevant references of articles based on research at or around the

property (North-eastern Federal University Yakutsk et al., 2010).

Overall assessment of protection and management

Mostly Effective

The management and protection system of the property appears to be sufficient to address the limited current threats to its integrity, but may need to be upgraded in several ways (particularly with regard to legal status, boundaries and tourism management) to deal with projected and possible future threats.

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

Highly Effective

There are only limited threats arising outside the property and affecting it directly, because of its remoteness. Upstream pollution of the Lena river has a potential to affect the immediate vicinity but not the site itself. Therefore, existing precautions appear sufficient.

▶ Best practice examples

The cooperation of the Nature Park's administration with the indigenous Evenki inhabitats of the property and the arrangements for its small-scale sustainable use by them are an example of a positive relationship between natural World Heritage properties and local indigenous populations which could be replicated in other, similar properties.

State and trend of values

Assessing the current state and trend of values

World Heritage values

▶ Spectacular rock pillars

Good
Trend:Stable

The rock pillars that form the core of this property are in a good conservation status and are relatively robust against anthropogenic impacts (North-eastern Federal University Yakutsk et al., 2010).

▶ Cambrian fossil remains

Good
Trend:Stable

The cambrian fossil remains that contribute to the OUV of the property are in a good conservation status and are relatively robust against anthropogenic impacts (North-eastern Federal University Yakutsk et al., 2010).

▶ Other evidence of thermokarst processes

Good
Trend:Stable

Other karst forms at the property are also in a good conservation status and are relatively robust against anthropogenic impacts (North-eastern Federal University Yakutsk et al., 2010).

Other important biodiversity values

▶ Eastern Siberian ecosystems (steppe, forest, tukulan, rock) with associated flora, fauna and landscapes

Mainly low larch taiga with some pine forests, meadow and steppe vegetation in river valleys. Valleys of the Buotama River, small taiga rivers and creeks are covered with dwarf birch and occasionall forb meadows. Fragments of steppe vegetation are spread on well warmed bedrock slopes of the Lena and specially Buotama riverbanks. 105 species of breeding birds, typical of continental sub-arctic ecosystem, 38 species of mammals, 4 species of herpetofauna and typical ichthyofauna. There have also been efforts to introduce the North-American bison to the area. Overall, the ecosystem and relief of the area make up interesting landscapes with significant aesthetic appeal and touristic potential (North-eastern Federal University Yakutsk et al., 2010).

Summary of the Values

▶ **Assessment of the current state and trend of World Heritage values**
Good
Trend: Stable

The current state of the World Heritage values of the property is good overall, and its trend stable.

▶ **Assessment of the current state and trend of other important biodiversity values**
Good
Trend: Stable

Because of the remoteness and lack of permanent population of the property, the current state of its other important biodiversity values is good and stable (North-eastern Federal University Yakutsk et al., 2010).

Additional information

Key conservation issues

▶ **Mismatch between distribution of values and boundaries of property**
Local

Important areas with pillar structures (e.g. in the Sinyaya part of the Nature Park) and fossil deposits (e.g. on the left bank of the river Lena) are excluded from the inscribed property. On the other hand, the area includes extensive areas which do not have these features. In addition, the river Lena and its banks are excluded from the property although they play an indispensable role in the geological processes constituting the OUV of the property. Therefore, the boundaries of the property do not match the key features of OUV of the property (IUCN, 2012).

▶ **Insufficient preparedness for likely increase of tourism pressure in the**

future

Local

The lack of a tourism strategy aimed at balancing sustainable tourism use with the protection of the property, and at safeguarding an equitable sharing of tourism benefits, is of limited concern currently but may turn into a serious challenge if tourism numbers increase as expected (IUCN, 2012).

Benefits

Understanding Benefits

▶ **Is the protected area valued for its nature conservation?**

The considerable nature conservation values are reflected by the sites designation as a Nature Park (IUCN, 2012).

▶ **Does management of the site provide jobs (e.g. for managers or rangers)?**

The property offers ca. 40 jobs. In addition, tens to hundreds of jobs (predominantly in tourism) depend on the natural values, resources and intactness of the property (IUCN, 2012).

▶ **Collection of wild plants and mushrooms, Fishing areas and conservation of fish stocks**

The natural resources derived from the property by the indigenous Evenki people are an important contribution to the livelihoods and culture of this group (North-eastern Federal University Yakutsk et al., 2010).

▶ **Sacred natural sites or landscapes**

The vast eastern Siberian landscapes at and around the property are one of the last great wildernesses on Earth, and capture the imagination of people worldwide and inspires appreciation of natural values and beauty.

▶ **Importance for research**

In addition to the rich local and traditional knowledge and the hundreds of scientific articles that have been written already about lake Baikal and its biota, the property offers unique insights into the interplay of karstic and river-driven erosion processes in landscape formation, and into the Cambrian explosion of faunal taxa (North-eastern Federal University Yakutsk et al., 2010).

► **Contribution to education**

The site also plays an important role in education of local youth, as evidenced by the cooperation between the Nature Park administration and a number of local schools (North-eastern Federal University Yakutsk et al., 2010).

Summary of benefits

While there are no people who live on the property permanently, it offers considerable benefits (in terms of nature conservation, jobs, natural resources, education and knowledge) to the citizens of Yakutia and particularly the local Evenki inhabitants. In addition, the property provides limited but significant benefits to all those interested in wilderness, geology and the history of life.

Projects

Compilation of active conservation projects

№	Organization/ individuals	Project duration	Brief description of Active Projects
1	.		.

Compilation of potential site needs

№	Site need title	Brief description of potential site needs	Support needed for following years
1	.	Development of an ecotourism strategy in line with previous IUCN and WHC recommendations.	

№	Site need title	Brief description of potential site needs	Support needed for following years
2	.	Development of a more in-depth monitoring system for the geological values of the property.	

REFERENCES

№	References
1	IUCN (2012). ‘World Heritage Nomination – IUCN Technical Evaluation: Lena Pillars Nature Park, Russian Federation – ID No. 1299’. Gland: IUCN. [Electronic reference] . Accessed 2 February 2014.
2	North-Eastern Federal University, Yakutsk Institute for Geology of Diamonds and Noble Metals RAS Siberian Branch Institute of Geography of Russian Academy of Sciences, et al. (2010). Nomination "Lena Pillars Nature Park" for inscription on the UNESCO World Cultural and Natural Heritage List. Moscow: Natural Heritage Protection Fund. [Electronic reference] < http://whc.unesco.org/uploads/nominations/1299.pdf>;. Accessed 2 February 2014.
3	World Heritage Commission (2012). ‘Decision 36 COM 8B.11’. [Electronic reference] < http://whc.unesco.org/en/decisions/4782>; . Accessed 2 February 2014.
4	World Heritage Commission (2013). ‘Decision 37 COM 8B.56 - Adoption of Statements of Outstanding Universal Value for the following World Heritage properties inscribed at the 36th session of the World Heritage Committee (Saint Petersburg, 2012)’. [Electronic reference] < http://whc.unesco.org/en/decisions/5149>; . Accessed 2 February 2014.