IUCN Conservation Outlook Assessment 2017 **(archived)**
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Please note: this is an archived Conservation Outlook Assessment for Laponian Area. To access the most up-to-date Conservation Outlook Assessment for this site, please visit https://www.worldheritageoutlook.iucn.org.

Laponian Area

SITE INFORMATION

Country:
Sweden
Inscribed in: 1996
Criteria:
(iii) (v) (vii) (viii) (ix)

Site description:

The Arctic Circle region of northern Sweden is the home of the Saami people. It is the largest area in the world (and one of the last) with an ancestral way of life based on the seasonal movement of livestock. Every summer, the Saami lead their huge herds of reindeer towards the mountains through a natural landscape hitherto preserved, but now threatened by the advent of motor vehicles. Historical and ongoing geological processes can be seen in the glacial moraines and changing water courses.
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SUMMARY

2017 Conservation Outlook

Good

The overall state of conservation the site is good and stable. Established in 1996, the site included the areas that were already protected: four National Parks (among which three are awarded by the European Diploma for Protected Areas) and two Nature Reserves. Their management is highly effective. There are few direct threats affecting site's values - the main one being the potential impacts of climate change on the sensitive boreal ecosystem of the area. Another potential threat is the possible development of mining prospecting in the vicinity of the site, which could impact on both the natural and cultural values of the site. Since 2011, a new participatory management board (Laponia Tjuottjudus) is in charge of implementing the management of the WH property, according to the management plan adopted in 2012. This is very encouraging as the board comprises members from different stakeholder groups, including representatives of the Saami herder communities. Consensus decision-making is the basic working method for this new management board. A formal management effectiveness assessment has been recently conducted (commissioned by the Ministry for the environment and energy), but its results have not yet been published.

Current state and trend of VALUES

Good
Trend: Stable

The overall state of conservation and trend of World Heritage values are good and stable. All reports share the conclusion of good management practices and few threats that could directly affect the values of the site in short and medium term. The main concerns in the long term are the potential and uncertain impacts of climate change and the potential of new mining activities nearby.

Overall THREATS

Very Low Threat

Current and potential threats to the site are relatively low and well identified and addressed by the managing authorities. Consequently, no significant impacts on the natural values of the site are likely to occur in the medium- to long-term. The evolution of mining projects at the vicinity of the site remains to be considered in the long-term horizon, potential mining in the vicinity of the site could impact on both the natural and cultural values of the site by restricting reindeer movements around the property.

Overall PROTECTION and MANAGEMENT

Highly Effective

The protection and management of the site is highly effective, thanks to the century old national parks system of the country, and the effectiveness of its more recent participatory management system.

FULL ASSESSMENT

Description of values

Values

World Heritage values

▶ **Variety of landscapes, with spectacular mountain scenery**
Criterion:(vii)

The site is remarkable by its large area (9400 km²), and offers a great variety of natural landscapes of exceptional beauty, that can be divided into two dominant landscapes types: the eastern lowland of Archaean geological origin, which comprises marchlands, many lakes, and mixed woodlands; and the western mountainous landscape with spectacular mountain scenery, covering two-thirds of the area (in its west part). This higher part comprises a thinly-vegetated mountainous landscape with steep valleys and powerful rivers. The area contains more than 100 peaks higher than 1800m and about 100 glaciers, mainly located in Sarek and Sulitelma areas. (IUCN, 1996).

▶ **Natural phenomena of exceptional beauty**
Criterion:(vii)

A great variety of natural phenomena of exceptional beauty relates to the variety of landscapes of the site. The area is one of the floristically richest areas of Sweden, recording birch, low heath and alpine meadows, which are found below boulder fields, permanent snow fields and glaciers. The large alpine lakes in Padjelanta, with the mountain backdrop on the Swedish/Norwegian border, are of exceptional beauty. The extensive Rapa valley provides a total contrast with the alpine areas, as it is a very active delta area, surrounding cliffs of rocky outliers with sheer faces plunging to

the delta. (IUCN, 1996; SoOUV,2016).

► Examples of historic and on-going geological processes (associated with glacial activity)

Criterion:(viii)

The site offers a wide variety of features illustrating both historic and on-going geological processes associated with glacial activity: U shaped valleys, glacial cirques and moraines, talus accumulations, drumlins, presence of large erratic and rapidly flowing glacial streams. Excellent examples of ice and frost action in the tundra setting are found, including formation of polygons and an area of spectacularly collapsing and growing pulsas. Glacial rivers originating in the snowfields continue to cut through bedrock. Large unvegetated areas illustrate the phenomenon of weathering (IUCN, 1996; SoOUV, 2016).

► Examples of on-going ecological and biological processes

Criterion:(ix)

The vast mire complex of Sjávnja is the largest in Europe outside Russia. The area is virtually impenetrable by human beings except during winter. The area has primeval coniferous forest with dating indicating ages as old as 700 years. Natural succession continues here unimpaired. (IUCN, 1996; PR, 2006; SoOUV, 2016).

Other important biodiversity values

► Significant biodiversity values

Vegetation: the dominant of the site vegetation is open woodland of white birch (Betula pubescens) with a ground cover mostly of mountain crowberry (Empetrum hermaphroditum) and bilberry (Vaccinium myrtillus) and meadows with globeflower (Trollius europaeus), (Aconitum septentrionale) and blue sowthistle (Lactuca alpine). The eastern lowland is taiga interspersed with large open heaths. Forests of Norway spruce (Picea abies) and Scots pine (Pinus sylvestris) in drier areas form the largest single block of virgin forest in Sweden (44 000 ha). The oldest trees of the pine forests of Muddus are about 700 years old. Botanically the west of the area, containing

a rich alpine flora, is one of the most interesting mountain regions in the country. The Padjelanta alpine meadows and particularly Jeknaffo mountain support scarce species such as Arctic cinquefoil (Potentilla hypartica) and creeping sandwort (Arenaria humifusa) (UNEP/WCMC, 2011, Tjuottjudusplána, 2012).
Fauna : The site have a greater number of vertebrate species than any other mountain region in Sweden. The native reindeer (Rangifer tarandus) are all semi-domesticated. The area counts some rare mammals, such as brown bears (Ursus arctos, 100 individuals estimated in 1996), wolverine (Gulo gulo), European otter (Lutra lutra), Arctic fox (Vulpes lagopus), Eurasian lynx (Lynx lynx), and a large population of moose (Alces alces) in the Rapa valley (UNEP/WCMC, 2011, Tjuottjudusplána, 2012) .
Resident large birds include white-tailed eagle (Haliaeetus albicilla, 50-100 pairs in 1996), golden eagle (Aquila chrysaetos, 10 pairs in 1996), gyrfalcon (Falco rusticulus, 3-4 pairs), peregrine falcon (F. peregrines) and merlin (F. columbarius). In the Sjaunja mires and the bog surrounding Muddusjaure, more than 150 species have been seen, at least 100 of which have been confirmed as breeding, some 50 being dependent on wetland habitat. (UNEP/WCMC, 2011, IUCN, 1996, Tjuottjudusplána, 2012)

Assessment information

Threats

Current Threats

Very Low Threat

The few existing current threats are very low and are unlikely to affect the site’s values in the foreseeable future.

▶ **Livestock Farming / Grazing**

Very Low Threat

Inside site
Outside site

The issue of overgrazing was mentioned in the first IUCN summary for World Heritage nomination, underlining that the Saami herders' communities already cooperated with the Swedish Environmental Protection Agency to address this question (IUCN, 1996). Therefore, this issue is not seen as a direct threat to the site. Moreover, the question of change in vegetation in relation to reindeer grazing has been the object of scientific investigation in the area (e.g.Olofsson J., Moen J. & Östund L., 2010), which all emphasize the importance of reindeer grazing and trampling for sustaining high biodiversity values.

► Logging/ Wood Harvesting

Very Low Threat
Inside site
Outside site

Boreal forests of northern Sweden have long been exploited for logging industry (more than a century ago) and are still used for intensive logging (Berg et al., 2008). No such activities are operated within the protected borders of Laponia site and its century old national parks, but logging activities can occur just outside those borders. This is for example the case in the area of Muddus (east part of the site), where one can see clear-cut forest landscapes outside the National park while being inside the protected area. This phenomenon may thus affect the aesthetic value and unity of landscapes.

Potential Threats

Low Threat

The overall potential threats affecting the site are considered as very low and the general state of integrity of the site is reported as good. The main potential threats listed are taken in account into the recent process and plan for managing the area (Tjuottjudusplána, 2012). The most significant one relates to potential mining in the vicinity of the site, which could impact on both the natural and cultural values of the site by restricting reindeer movements around the property.

► Mining/ Quarrying

Low Threat
Outside site

In 2012-2013, investigations related to two mining projects were launched in the surroundings of the “Laponian area”, the first one (in Ruoutevare) being situated in and adjacent to the southwest boundary on the World Heritage site. After the first permits allowing investigations expired, no further mining projects were launched and mining activity is not likely to be operated in this area. The second project is situated about 30 km south-southeast from the boundary of Laponia site, in Kallak (Gállok in Sami). Investigations and processes for planning are still ongoing. The potential site of extraction is fully situated outside the World Heritage site, but, both the Swedish National Heritage Board and the Swedish environmental Protection Agency consider this activity potentially harming to the values of the site since the migratory routes of the reindeer would be obstructed, thus potentially affecting biodiversity values as well as herding practices (cultural values) (Mahmood Q. and Janson R., 2013). This concern has been communicated with the World Heritage Centre by the Swedish National Heritage Board and the Swedish Environmental Protection Agency (see for instance Swedish National Heritage Board 2015).

► Temperature extremes

Data Deficient
Inside site
Outside site

Though still not precisely assessed, current research focus on the impacts of temperature raise, and more broadly climate change on arctic and subarctic ecosystems (see for instance Kaarlejärvi et al., 2012, Nuttall & Callaghan, 2000, or the EALAT research project led from Kautokeino-Norway, and focusing on climate change impact on reindeer, arctic environment and herding in Arctic countries, and adaptation to changes). The boreal ecosystems of Laponia site, situated in Northern Sweden (above polar circle), are likely to be affected by those diverse changes. Consequently, some changes may affect the values of the site. (Oskal et al., 2009)

► Changes in traditional ways of life and knowledge systems

Very Low Threat
Outside site

According to the IUCN summary for WH nomination (IUCN, 1996), “the site’s integrity issue in relation to reindeer herding focuses mainly around the use of technology in the husbandry activity itself”, referring for example to the increasing use of aircrafts (or more recently helicopters), motorcycles and snowmobiles to round up the herds and move them between pastures, that generate noise pollution (Saami herders have special rights regarding the use of motor vehicles within the protected area). The 1996 IUCN report concludes that “in the overall context, the use of motor cycles is not seen as a threat to the integrity of the site which does not mean that local impacts should not be assessed”; a conclusion on the whole shared by the appraisal report for European diploma of Protected Areas, stating that “however, it has to be expected that some compromises will have to be found to allow modern way of life in accordance with conservation objectives” (Galland, 2012, see p. 11). The management plan of Laponia (Tjuottjudusplána, 2012) addresses this issue on the basis of a cooperation between the diverse authorities involved in the management of the site, and endeavours to maintain a sustainable management of the area allowing the necessary modernization of herding techniques in harmony with conservation objectives (see Tjuottjudusplána, 2012, p. 102) .

Protection and management

Assessing Protection and Management

► Relationships with local people

Highly Effective

The site is inhabited by approximately 1140 residents and 64,880 reindeer (Länsstyrelsen & Norrbotten, 2010; Svels & Sande, 2016). (Though not involved in the first stages of WH nomination, the local people and especially the Saami indigenous people progressively took part in negotiations around the management of the area (Green, 2009; Roué, 2013). There have been a

long process of negotiation between representatives of the diverse levels of the society (local, regional, and national authorities and representatives of the Saami people), institutionalized in a framework called Laponia Processen implemented between 2006 and 2010. The purpose was to discuss the future management of the area, in integrating the Saami herder perspective. This process led to a collaborative management structure established in 2011, and comprising representatives of the diverse levels of authorities: 5 representatives of the local Saami reindeer herding communities and 4 representatives for respectively the state, the region and the two municipalities that support the protected territory. Since 2011, this participatory committee is in charge of managing the area according to conservation objectives detailed in the management plan adopted by consensus in 2012 (Tjuottjudusplána, 2012; Green, 2009; Galland, 2012; Revelin, 2013b).

► Legal framework

Highly Effective

Most of the site’s territory is protected under different regimes (four national parks and two nature reserves) which are under the legal framework for protected areas in Sweden, related to the authority of the Swedish Naturvårsdverket (Swedish Environmental Protection Agency) (Tjuottjudusplána, 2012).

► Enforcement

Highly Effective

Legal framework is being effectively enforced. Permit requests are thoroughly evaluated and monitored and there is an adequate capacity to detect infringements.

► Integration into regional and national planning systems

Highly Effective

The site is well integrated into regional and national planning systems: both the County Administrative Board (regional level) and the Swedish Environmental Protection Agency (national level) are involved in the development and implementation of the Management plan, together with

the local authorities. (Tjuottjudusplána, 2012)

► Management system

Highly Effective

The property is composed of four national parks and two nature reserves (SoOUV, 2016). Since 2011, the site has a proper management board (Laponia Tjuottjudus), in charge of implementing the recent management plan (adopted a year earlier, in 2012). This participatory Management system comprises representatives of the diverse authorities: the state, the county, the municipalities and the local indigenous people. Since establishment, this management board shares the responsibility of managing Laponia area with the County Administrative Board (Länstyrelsen), which keeps a dominant role in administrating the area. (Tjuottjudusplána, 2012). This overall new Management system is presented as an example of good practice by the WHC for its collaborative dimension and the significance of local people's participation (World Heritage Review, 2012).

► Management effectiveness

Highly Effective

This management system is still quite recent (2011). A formal management effectiveness assessment has been conducted (commissioned by the Ministry for the environment and energy) and has been sent out for review to concerned organisations and state bodies. A formal report is yet to be published. The management of the area, led until 2011 by the Norrbotten County Administrative Board and under the overall supervision of the Swedish Environmental Protection Agency, was considered as good in the report for European protect areas diploma of 2012 (Galland, 2012).

► Implementation of Committee decisions and recommendations

Mostly Effective

Three recommendations have been made by the WHC in the Decision for Laponia's inscription (20COM VIII.B, 1996): to continue to work conjointly with the Saami people, to extend the inventories on species, and to consolidate the management plan for the site (a complementary suggestion was made that the WHC would welcome the consideration of a transboundary site with Norway). As the current management structure exemplifies, the conjoint

work with the Saami people has well improved since the inscription (in 1996), and a management plan was adopted in 2011 (Tjuottjudusplana, 2012). Records for overall species inventories are still difficult to find. Though an important work focuses on predator inventories and control, and is conducted in collaboration with the Sami herders (Galland, 2012). The project of a transboundary site with Norway was abandoned.

► Boundaries

Highly Effective

The boundaries of the site follow a mosaic of established protected areas (National parks and nature reserves).

► Sustainable finance

Data Deficient

In 1996 (inscription of the site) the annual budget for the mountain unit was approximately US$ 1,5 million (UNEP/WCMC, 2011). Today the management organization is financed through the Swedish Environmental Protection Agency.

► Staff training and development

Highly Effective

In addition to the 9 members sitting in the management board) since 2011, an office was established to implement the management work. There are currently 8 fulltime staff positions. Staff missions relate notably to implementing visitor information, inventories of both biological state and knowledge, and generally coordinating the management of the area.

► Sustainable use

Highly Effective

The site is mainly used for reindeer herding as it has been for the previous centuries, as well as subsistence fishing and hunting. A huge work is made together with the local Saami herder communities to ensure a sustainable use of the area (Tjuottjudusplána, 2012). As the national park system is very ancient in the area (first parks were established in 1909), uses of the areas (especially leisure hunting and fishing) have been historically controlled in

order to maintain the stability of natural resources. Leisure and tourism uses are mainly focused on soft and nature-based activities. (Revelin, 2013a)

► Education and interpretation programs

Mostly Effective

An ecomuseum (“naturum”) has been constructed in Stuor Muorkke (Stora Sjöfallet) and was formally opened in September 2014. In connection with a network of smaller information centers located in other strategic points of the site, this ecomuseum presents a permanent exhibition on the richness, and on its natural and cultural history (Revelin, 2013b).

► Tourism and visitation management

Highly Effective

Some information about the site was spread to visitors in the years following its inscription on the WH List (Wall Reinus 2009; Revelin, 2013a). A project called Norra Norrland was developed between 2002 and 2007 to encourage and develop tourism and craft activities in the World Heritage site. In the frame of the project, 28 local tourist companies participated in seminars and workshops to improve their skills in tourism related issues, with regards to the World Heritage Status (Norra Norrland, 2009). Since the establishment of the new management board (2011), tourist information has become one of the prior missions for the new office and the effectiveness of spreading information to tourists is very good. The new ecomuseum and the other information centres ensure effective and updated information to visitors (Tjuottjudusplana, 2012).

► Monitoring

Mostly Effective

Yearly predator inventories are conducted conjointly between national parks administrations and local Saami herders (Galland, 2012). A population study of the threatened Gyrfalcon in the mountain regions of Laponia and annual surveys of breeding Peregrine Falcons and White-Tailed Sea Eagles have been conducted. Inventories of large predators are conducted in cooperation with the local Saami villages (SoOUV, 2016). A monitoring system on invasive species (especially plants) would be beneficial.

► Research

Highly Effective

Scientific research is conducted in the site by different institutions, especially the Swedish University for agricultural sciences (SLU) (T-PVS/DE, 2012) (Galland, 2012). Current research notably addresses the monitoring of predators, floristic inventories, glaciology, climate change, forest ecology. Three research stations of various importance are situated in the surroundings of the site: Tarfala, Kvikkjokk and Abisko. Though the site is situated in a very peripheral area, far from Urban centers, it presents good scientific facilities, in addition to a long tradition of scientific interest after Linnaeus' expedition in the late 18th century.

Overall assessment of protection and management

Highly Effective

The protection and management of the site is highly effective, thanks to the century old national parks system of the country, and the effectiveness of its more recent participatory management system.

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

Highly Effective

Because of its remoteness and existence of a very old national park and nature conservation systems, Laponian area is not subject to significant threats from the outside. The main concern is the project of mining, whose advancements are closely followed by both the National Heritage Board and the Swedish Environmental Protection Agency. (Mahmood Q. and Janson R., 2013)

► Best practice examples

The participatory management of Laponia WH site, involving authorities from the diverse levels of the Swedish society, and especially the Saami herders is a significant example of good practices. This example has already been recognized and encouraged by the WHC, notably through the publication of

an article in the World Heritage Review n°62 in 2012.

State and trend of values

Assessing the current state and trend of values

World Heritage values

▶ **Variety of landscapes, with spectacular mountain scenery**
Good
Trend:Stable

The natural landscapes of Laponia were reported in good state of conservation in the appraisal report for European Diploma for protected Areas (Galland, 2012). Some concerns exist, however, about potential future impacts of climate change.

▶ **Natural phenomena of exceptional beauty**
Good
Trend:Stable

The state of preservation of the site’s natural phenomena is good. The site contains areas of exceptional natural beauty and extensive and well preserved uninhabited taiga and mountains (UNEP/WCMC, 2011).

▶ **Examples of historic and on-going geological processes (associated with glacial activity)**
Good
Trend:Stable

Examples of historic and on-going geological processes (associated with glacial activity)

▶ **Examples of on-going ecological and biological processes**
Good
Trend:Stable

As well as other values of the site, the more recent reports evoke a good

state of conservation of Sjaunja Area (SOC, 2006)

Summary of the Values

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

The overall state of conservation and trend of World Heritage values are good and stable. All reports share the conclusion of good management practices and few threats that could directly affect the values of the site in short and medium term. The main concerns in the long term are the potential and uncertain impacts of climate change and the potential of new mining activities nearby.

Additional information

Benefits

Understanding Benefits

► **Water provision (importance for water quantity and quality)**

The site possesses an important water stream network (many rivers, lakes, marshlands, waterfalls, etc.), often taking source in the numerous glaciers of the west of the area. The water is naturally potable in the all area.

► **Contribution to education**

The site presents a potential to contribute disseminating knowledge on Saami culture, nature history and botanic for instance. As such, some tourists, or even guided tours follow the itinary of Carl von Linné, who made botanic expeditions in the area in 1732.

► Importance for research

Especially for the Saami local people, the site is important for the transmission of knowledge and know-how related to Saami livelihood and reindeer herding. It is also important for visitors and for scientific interest as it contains huge and almost untouched natural areas.

► Outdoor recreation and tourism

Nature based tourism is an important activity in the area. Main tourist practices are mountain hiking (on summer time), and cross country skiing (on winter time). The area offers good infrastructures for those activities, comprising maintained trails and overnight cabins. Tourism is an important complementary resource for local people. Fishing is also an important leisure in the area.

► Wilderness and iconic features

Several sacred Saami sites are comprised in the site, often related to emblematic landscapes, as for instance, the Skierfe mountain in the Rapa Valley. Landscapes and toponymy have essential cultural values, as the Saami nomadic culture is based on transhumances with reindeer herds in the huge natural landscapes of Lappland. The Saami names of places are very descriptive of the landscapes, which has allowed the Saami herder communities to move safely in those vast areas for centuries. Traditional knowledge and know-how related to landscpes and tranhumances are thus important heritage values.

► Sacred natural sites or landscapes

Because of its huge natural landscapes, with few obvious traces of human presence, and its century old conservation systems, the area is often associated with the values of wilderness, in spite being a predominantly Saami cultural landscape. These values are nevertheless notably important in terms of tourism development.

► History and tradition

Some archaeological settlements are located inside the site, proving the

continuous use of the area by the Saami. There are for instance evidences of human being presence as far as 7000 BP.

► Access to drinking water

In line with the Swedish Right of Public Access to nature, non commercial water use is permitted in the site. Clear water is a huge resource in the area as it is potable everywhere in the streams and lakes of the site. Both tourists and inhabitants use it for ordinary consumption (drinking, washing, cooking)

► Livestock grazing areas

Reindeer husbandry is an important activity in the area, and an essential dimension in the Saami culture. As well as an important subsidence for reindeer herders and also other locals.

► Fishing areas and conservation of fish stocks

Fishing is an important dimension in the traditional Saami livelihood and culture. As reindeer herders, and hunter gatherers, the Saamis benefit from special rights for fishing in the protected area (they are for instance allowed to use nets). Saamis are also allowed to sell fish, which provides them with a small and seasonal complementary income. Leisure fishing is also allowed in specific zones, which makes them attractive for fishing tourism.

► Collection of wild plants and mushrooms

A specific Swedish constitutional right, the "allemansrätt" (right of public access to nature, independently of property rights) allows harvesting of common plants (if not protected) everywhere in Sweden, including in protected areas (though some rules may restrict or expand the Right of Public Access in the case of protected areas). So wild food plants and mushrooms collection is permitted in the WH site of Laponia.

► Legal subsistence hunting of wild game

Hunting is allowed in the site for the Saami people according to special authorizations based on their continuous presence and use of the area as their traditional lands. Non-Saami hunters can hunt seasonally with special

permits (applied at the regional County Administration).

Summary of benefits

The World Heritage site of Laponia generates a number of important key benefits, such as general environmental services, knowledge production and transfer, cultural and spiritual values, health, recreation, food and water. The effect of potential negative factors to these benefits are low. In general terms is a latent threat to climate change and pollution, but at present this does not negatively affect the selected benefits. Exploitations in the form of mining could potentially pose a threat to all of the benefits listed above (especially environmental, cultural and spiritual services), if realized in practice. The effect of invasive species (especially invasive plants) is potentially a risk to these benefits but so far there is a lack of information here and a need for effective monitor systems to evaluate this potential negative factor further.

Projects

Compilation of active conservation projects

№	Organization/ individuals	Project duration	Brief description of Active Projects
1	Laponia Tjuottjuddus		Management board implementing conservation objectives of Laponia site
2	Natuvardsverket		Swedish Environmental Protection Agency, supervising the overall conservation planning for Swedish protected areas.

REFERENCES

№	References
1	Beach, H. (2001)'World Heritage and Indigenous Peoples: The Example of Laponia' in Upholders of Culture: Past and Present. B. Sundin (ed) Royal Swedish Academy of Engineering Sciences (IVA), Stockholm.
2	Berg, A., Östlund L., Moen, J., and Olofsson, J. (2008). 'A century of logging and forestry in a reindeer herding area in northern Sweden'. Forest Ecology and Management, 256 (5) : 1009-1020.
3	Dahlström, Å. N. (2003) Negotiating Wilderness in a Cultural Landscape. Predators and Saami Reindeer Herding in the Laponian World Heritage Area. Acta Universitatis Upsaliensis (Uppsala Studies in Cultural Anthropology no 32), Ph D thesis, Uppsala.
4	Decision 20COM VIII.B (1996). Inscription : The Laponian Area.
5	Eilertsen, S. M., I. Schjelderup & S. D. Mathiesen (1999) 'Utilization of old meadow by reindeer in spring in norther Norway' in Rangifer 19:3-11
6	Eilertsen, S. M., I. Schjelderup & S. D. Mathiesen (2000)'Plant quality and harvest in old meadows grazed by reindeer in spring' in Journal of Science of Food and Agriculture 80:329-334.
7	Eilertsen, S. M., I. Schjelderup & S. D. Mathiesen (2002) 'Early season grazing effects on birch, grass, herbs and plant litter in coastal meadows used by reindeer: a short-term case study' in Rangifer 22:123-131.
8	Galland, P. (2012). Appraisal Report for European Diploma of Protected Areas. Muddus National Park, Sarek & Padjelanta National parks. Strasbourg, France: Council of Europe.
9	Green, C. (2009). Managing Laponia, a World Heritage as an arena for Sami ethno-politics in Sweden. PhD thesis. Uppsala, Acta Universitatis Upsalensis.
10	IUCN/WCMC (1996). Wolrd Heritage Nomination – IUCN Summary, The Laponian Area (Sweden).
11	Kaarlejärvi, E., Baxter, R., Hofgaard, A., Hytteborn, H., Khitun, O., Molau, U., Sjögersten, S., Wookey, P., and Oloffson, J. (2012). 'Effects of warming on shrub abundance and Chemistry Drive Ecosysytem-Level changes in Forest-Toundra Ecotone. Ecosystems, 12 (8) : 1219-1233.

№	References
12	Mahmood Q. and Janson R, (2013). Letter on “mining projects in the vicinity of the World Heritage property “Laponian Area”, Sweden”.
13	Nuttall, M. and Callaghan, T. (2000). The Arctic : Environment, People, Policy. Amsterdam, The Neederlands : Harwood Academic Publishers.
14	Oksanen, L. & J. Moen (1994) ‘Species-specific plant responses to exclusion of grazers in three Fennoscandian tundra habitats’ in Ecoscience 1:31-39.
15	Olofsson, J. & L. Oksanen (2005) ‘Effects of reindeer density on vascular plant diversity on North Scandinavian mountains’ in Rangifer 25:5-18.
16	Olofsson, J., Moen J. and Östund, L. (2010). ‘Effects of reindeer on boreal forest floor vegetation : does grazing cause vegetation state transitions?’ Basic and Applied Ecology, 11(6) : 550-557.
17	On biodiversity values and reindeer grazing:Allard. A (2003) ‘Detection of vegetation degradation on Swedish mountainous heaths at an early stage by image interpretations’ in Ambio 32:510-519)
18	Oskal, A., Turi, J.M., Matissen, S. and Burgess, P. (2009). EALAT, Reindeer herding, traditional knowledge and adaptation to climate change and loss of grazing land. Kautokeino, Norway : ICRH .
19	Revelin, F. (2013a). ‘Ecotourism and Extraction in Saami Lands: Contradictions and Continuities’. In : Büscher B. and Davidov V. (Eds.) The Ecotourism and Extraction Nexus : Rural Realities and Political Economies of (un)Comfortable bedfellows, pp 193-214, London : Routledge.
20	Revelin, F. (2013b). Montagnes à vivre, à voir et à préserver : dynamiques du tourisme et sites européens du Patrimoine mondial (Laponia et Pyrénées-Mont Perdu). PhD thesis, Paris : MNHN.
21	Roué, M. (2013). ‘Paysages culturels et gouvernance : nouveau contrat social et retour du refoulé’. In Luginbühl, Y. and Terrasson, D. (eds). Paysages et développement durable, pp261-274. Versailles : Quae.
22	SOC Report (2006). State of Conservation of World Heritage Properties in Europe. Sweden, Laponian Area.
23	Svels, K. & A. Sande (2016) ‘Solving landscape-related conflicts through transnational learning? The case of transboundary Nordic World Heritage sites’. Landscape Research, Volume 41, 2016 - Issue 5.

№	References
24	Swedish National Heritage Board (2015) Letter to the World Heritage Centre. https://www.naturvardsverket.se/upload/miljoarbete-i-samhal…. Accessed June 29 2017.
25	Tjuottjudusplána (2012). The Management Plan of the Laponian World Heritage site. https://laponia.nu/wp-content/uploads/2014/08/Laponia-forva…. Accessed June 20 2017.
26	UNEP/WCMC (2011). Periodic report on Protected Areas and World Heritage, Laponian Area (Sweden).
27	Väre, H., R. Ohtonen & K. Mikkola (1996) ’The effect and extent of heavy grazing by reindeer in oligotrophic pine heaths in northeastern Fennoscandia’ in Ecography 19245-253.
28	Wall Reinius, S. (2009) Protected Attractions: Tourism and Wilderness in the Swedish Mountain Region. Ph.D. Thesis. Department of Human Geography, Stockholms University, Stockholm.
29	World Heritage Review (2012). World Heritage and Indigenous People. World Heritage Review n°62.
30	Zobel, K., M. Moora, V. K. Brown, P. Niemela M. Zobel (1997) ’Secondary succession and summer herbivory in a subarctic grassland: community structure and diversity’ in Ecography 20:595-604.
31	den Herder, M P. Niemelä (2002) ‘Effects of reindeer on the re-establishment of Betula pubescens subsp. Czerepanovii and Salix phylicifolia in subarctic meadow’ in Rangifer 23:3-13.