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Svenska Samernas Riksförbund · SSR

An exotic tree species destroys reindeer  
pastures and Sami reindeer herding





When the reindeer cannot break through an icy cover on the ground to reach soil lichen, it eats tree lichen, either as far up the tree as it can reach, or when the lichen is blown to the ground. Source of photo: SSR.

## Introduction

The Sami have always had a special relationship with the reindeer and with their land. The land that has been home for many generations, and still is, has great significance for their identity, culture and economy. Reindeer herding is the foundation of Sami culture, and the Sami rights are based on the use of land by the reindeer. The Sami view of the reindeer is that it is a free animal. The role of the herders is to protect it from danger and to lead it to the best possible pastures. The reindeer are not kept fenced in, they wander through the landscape to different pastures, depending on the season. The reindeer are dependent on access to natural forage for survival.

In order to enable long-term, sustainable and viable reindeer herding, thereby maintaining the traditional Sami lifestyle, it is crucial that reindeer have the ability to forage. This requires access to natural pastures where the reindeer can roam free and have access to plants and lichens on the ground and on the trees during the whole year. Sápmi (Sami homeland) is not a protected land area. Rather, reindeer husbandry is forced to adapt to various intrusions on reindeer lands, such as logging, wind power, mining, tourism, predators etc. Reindeer herders bear witness to the fact that weather has become both more unpredictable and more extreme, with rapidly recurring temperature changes and long periods of drought or rain. The winters are not as cold as they once were. These days it often rains in the middle of the winter, resulting in soil becoming covered with ice and locking their winter fodder in thick ice crust. Thus it

becomes much more difficult for the reindeer to find food.

The strategy of the forest industry has been to replace large areas of forest with the fast growing exotic tree species lodgepole pine (*Pinus contorta*) ever since the 1970's. This has created large areas of reindeer herding impediments, that is, land unusable for reindeer herding. Lodgepole plantations are thick, impenetrable plantations that have contributed to a drastic decrease in available reindeer pastures. The majority of these areas have been transformed from forests to plantations without consultation with the Sami communities.

Sámiid Riiksearvi (SSR) is a politically independent special interest organization comprised of 44 Sami communities and 17 Sami associations on the Swedish side of Sápmi has declared zero tolerance for lodgepole plantation in reindeer herding areas. All 44 Sami communities that constitute Sámiid Riiksearvi are united behind this demand. The Sami in Sweden are acknowledged as indigenous people and as a national minority, which is recognized in the Swedish constitution. FPIC (Free, Prior and Informed Consent) applies to the whole reindeer herding area, thus indigenous peoples' rights and requirement for consideration to reindeer herding must be taken seriously.

This document has been produced in order to describe why all the Sami communities have now declared zero tolerance for lodgepole plantations.



## Why invasive lodgepole pine on reindeer pasture?

According to the Forest Agency the Swedish state never actively approved planting of lodgepole pine. The forestry industry believed that at around the turn of the 20th century there would be a dip in the availability of timber, which would result in insufficient volumes being available for logging for its industries. This led to the forestry industry in the 1970s importing and planting fast growing invasive lodgepole pine from North America. According to researchers, lodgepole pine grows ca 40% faster than the Swedish pine. The forestry industry saw the import of lodgepole pine as a possibility for continuing to supply its industries.

Forestry companies were the first to plant lodgepole pine on a large scale, starting in 1968. In 1975 the Swedish state also began planting lodgepole pine on the reindeer pastures through the then existing Domain Authority. Throughout the 1970s and 80s, lodgepole pine was planted in large areas of northern Sweden. Large areas of fine soil lichen pasture land, heat-protecting spruce forests and old-growth forests with fine hanging lichens, which are of great significance for reindeer herding, were destroyed when these forests were logged and replaced by lodgepole pine plantations. Consultations with the affected Sami communities were extremely rare and reindeer herding had to be adjusted to the encroachment upon pasture lands by the forestry industry.

## Lodgepole plantations in Sápmi is a threat to Sami reindeer herding

The profitable industrial strategy of converting large areas of reindeer grazing grounds into plantations of exotic North American lodgepole pine tree species leads to devastating consequences for reindeer herding.

A lodgepole plantation is a reindeer herding impediment. When land is replanted with lodgepole pine it becomes unusable for reindeer herding. A large area of pasture disappears, and is not replaced by the developer. This means that the area of available reindeer pasture is constantly decreasing. The thick plantations create obstacles in the landscape, making it impossible to move reindeer herds through it. Thick, impenetrable plantations contribute to worsened health of the reindeer, an increased work burden for the reindeer herders and higher costs of reindeer herding.

The lodgepole pine has thicker branches than the Swedish pine, with longer and more numerous needles. Thus the plantations also become thicker, with less light reaching the soil which is detrimental for soil lichens. The large amount of pine needles, three times higher than what occurs on a Swedish pine, when falling to the forest floor form a thick carpet over the soil lichens. This further impedes its growth causing a decrease in lichens.

Before an old-growth forest is logged, the area may have had a very good soil lichen pasture. Additionally, after the replanting of lodgepole pine, the soil lichen growth decreases or eventually disappears completely. Any soil lichens that may remain will be hard for reindeer to access due to the difficult to penetrate plantation. This means a decrease in foraging land available to any particular Sami community. A good lichen pastureland in the winter with uninterrupted grazing where reindeer choose to remain is a foundation for a viable and sustainable reindeer husbandry. Lack of pasture leads to reindeer wandering off to other pasture areas or to other Sami communities in search of food. Lodgepole plantations lead to deterioration of the animals' health, increased workload for the herders, potential conflicts with neighboring Sami communities and increased costs. This has an effect not only on the individual reindeer herders, but also on their families or others in the vicinity of the reindeer.



The valuable hanging lichen (in the picture: Manlav, *Bryoria fuscescens*) is an important reserve fodder for the reindeer that is grazed when soil fodder cannot be reached.  
Source of photo: SSR.





*“Without reindeer I am nothing, the reindeer holds my identity, my life, indeed all of me. Imagine if the society at large would respect the reindeers’ need for untouched pastures, and respect my life...”*

The reindeer eat soil lichen in the winter, it can smell the lichen through snow and digs it out with its hooves.  
Source of photo: SSR:



Some of the soil lichens eaten by reindeer (Iceland lichen *Cetraria islandica*, Grey reindeer lichen *Cladonia rangiferina*, Yellow-white reindeer lichen *Cladonia arbuscula*, Window lichen *Cladonia stellaris*). The picture shows a high quality soil lichen pasture. Source of photo: SSR.



create a problem for passing both for the reindeer and for the herder. Many of the tightly planted lodgepole plantations have problems with crooked and twisted trees which hamper penetrability further. Reindeer herders must go around the plantations with the reindeer, which may involve long detours. These take time, require an increased workload and damage the reindeer's health. Sami communities need more work force on the ground and may be forced to use truck transport of the reindeer and pay for helicopter support to get around the plantations with their reindeer.

Reindeer are like people, in that each one has an individual personality and behavior. Male reindeer often wander off on their own, for example into the plantations in order to protect themselves from the females that defend feed pits for themselves and their calves. Reindeer that are lost inside the lodgepole thickets need to be removed as soon as possible, preferably on the same day. Getting these reindeer out of

these plantations is very difficult since the thick plantations make it difficult to see the reindeer, the visibility is bad and it is difficult for the reindeer herder to move through. Reindeer herders testify that lynx often take daytime rest inside the lodgepole plantations, so the reindeer that do manage to enter the plantations are therefore exposed to additional risk of predator attacks.

It has been shown that lodgepole plantations are worse at weathering storms and snow pressure than the Swedish pine. Thus the forest industry views underbrush clearing and thinning of lodgepole plantations as a risk. A lodgepole plantation with snow-weighed, cracked and damaged lodgepole pines lying on the ground is a big concern for the reindeer herder. Thinning lodgepole, opening up passage in the plantations or clearing branches would be helpful for the movement of reindeer through and around lodgepole plantations. But this cannot compensate for the loss of pasture lands.

Large areas of the lodgepole plantations in the landscape have a bearing for another large problem in reindeer husbandry – passability. Thick young forests are very difficult to move through both for reindeer and for the herders. Lodgepole pine twig renewal is low, and the branches tend to grow long and thick. Therefore lodgepole plantations result in much thicker forests than forests with Swedish pine with the same number of tree trunks. Even sparse lodgepole pines can therefore become impenetrable.

Regardless of whether the reindeer are being driven or are choosing their own path, they tend to avoid lodgepole plantations since these are thick and offer low visibility, which makes it difficult to notice hazards in time. The thick lodgepole plantations are impenetrable both for the reindeer and the herder. For the reindeer herder lodgepole plantation is a working environment problem as the long sharp branches of the lodgepole wear down the herders' machinery, clothing, body and psyche.

Lodgepole plantations create obstacles in the landscape which prevent both the reindeers' natural roaming as well as the reindeer herders' active movement of the herds. Reindeer wander on their own using certain passages. In order to move reindeer to a new pasture area the so called movement paths are used. Movement paths follow the reindeers' own natural passage paths and have been used by many generations of reindeer herders. Along the movement paths there are difficult sections that constitute obstacles, for example: difficult terrain, roads, railroads, snowmobile crossings, housing, land exploitation like wind parks, mines etc. A lodgepole plantation right on the movement path creates a difficult section for reindeer movement between pastures.

A reindeer herd that is attempting to move through or around a lodgepole plantation can split up, thus creating a herd disorder and the reindeer herders lose control of the reindeer. The very thick lodgepole plantations

When the lodgepole pine's many long needles fall to the forest floor they form a carpet over soil lichens and further inhibit its growth. Source of photo: SSR.





*“The symbiosis of reindeer herders and the reindeer that has survived for centuries is being ripped apart. The forest is central for the reindeer and for our annual cycle. The changed forests are breaking the annual cycle and is changing reindeer herding, culture and our way of life!”*

When the pasture is good, the reindeer herd can be held together and the reindeer herder can protect them from hazards.  
Source of photo: SSR.







## Zero tolerance for lodgepole

Sámiid Riiksearvi is a politically independent special interest organization comprised of 44 Sami communities and 17 Sami associations on the Swedish side of Sápmi. Sami communities have designated the organization as their spokesperson on issues connected to reindeer herding.

Since 2008 Sámiid Riiksearvi has had a clear position that lodgepole pine cannot be used within reindeer herding areas. In August 2017 the Sami announced zero tolerance for lodgepole plantations in reindeer herding areas:

- We demand that the forest industry takes its responsibility and stops planting lodgepole in reindeer herding areas and develops a plan for how the existing stock will be removed.
- We demand respect for our right to be able to use land for reindeer pasture and do not accept that lodgepole is planted on our lands.

The signals are clear – use of lodgepole pine on reindeer lands only leads to damaging reindeer husbandry and is not acceptable.

## FPIC

Sámiid Riiksearvi has on a number of occasions repeated that areas inhabited and used by the Sami people shall give them the right to participate in and influence issues concerning their natural resources. The importance of the indigenous peoples' power to influence decision making over natural resource use is internationally recognized. Management and use of lands in areas that are inhabited and used by the Sami must therefore occur on the basis of international obligations that Sweden has made a commitment to follow. These commitments must be met not only by the Swedish state but also by other actors who in various ways affect these land areas.

Sami people's right of use for land and water, in accordance with Swedish and international law, must be respected in the same way that other citizens' rights to the use of their land. The Sami have the same right of protection for reindeer husbandry – which includes the right to reindeer pasture, hunting and fishing – that other citizens have for the use of their property. Consideration must be given both to the right for reindeer pasture and to the rights for fishing and hunting.



The Sami live in the four countries: Russia, Finland, Norway and Sweden. This extended land area is referred to as Sápmi. Sápmi extends through the northern area of the North Cape from the Kola peninsula in Russia in the east to the Swedish Dalarna a county in the south of the Swedish boreal forest. The word Sápmi refers both to the land and to the Sami people. Source of photo: [www.samer.se](http://www.samer.se). Illustrator: Anders Sunesson.

When measures and interference in these areas occur the following steps must be taken:

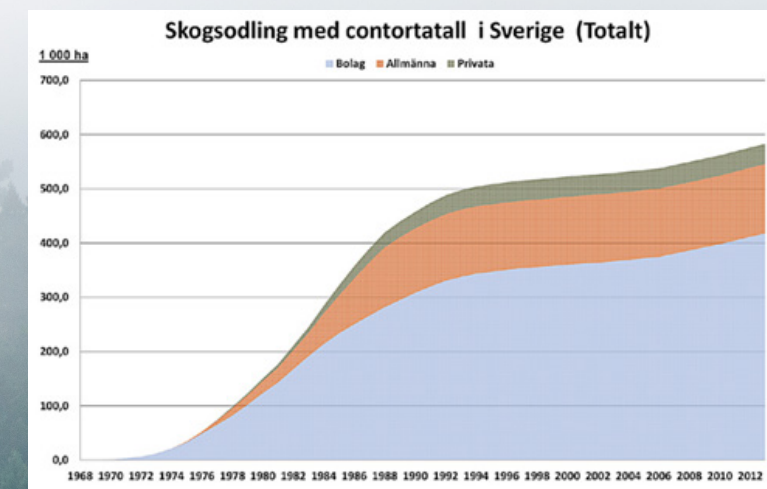
- All the Sami communities' rights are fully respected.
- FPIC (Free, Prior and Informed Consent) is applied.
- All measures that affect the possibility to carry out traditional nature-based reindeer husbandry are not allowed.
- The actors active in reindeer herding areas respect and fulfill the requirements of international law.
- The actors recognize the Sami as an Indigenous People and acknowledge the rights accorded to them.



## Fact

- According to the Forest Agency, in 2017 there were around 515 000 ha of lodgepole plantations in Sweden. More than 85% of this area is located in Sweden's four northernmost counties, which are reindeer herding areas. The Forest Management Act forbids replanting lodgepole south of 60 degrees latitude. Reindeer herding begins just north of the 61st parallel.
- Research carried out by Sweden's Agricultural University has shown that forests dominated by soil lichens in reindeer herding areas have decreased by 70% over a 60-year period. The decrease of good soil lichens in the landscape in addition to an obvious shortage of winter pasture means an increased effort for moving reindeer between good pastures, or having to keep them on the Sami communities' own lands. There are a number of reasons for the decrease in soil lichen areas and lodgepole plantations further exacerbate an already bad situation.
- The Forest Management Act dictates how old forests of Swedish pine and spruce must be, in order for them to be allowed to be logged. The same does not apply to lodgepole plantations, which means that plantation forests may be logged earlier. For the reindeer herding process this means more frequent disturbances of pastures. The Forestry industry speaks about logging at 60 years of age - the age when tree lichens begin to become a good foraging resource on Swedish pine and spruce.

- In 2017 lichen lands (>50% soil lichen) was ca 425 000 ha within reindeer herding areas, while the lodgepole plantation area was ca 438 000 ha.
- The reindeer are adapted to living in the Arctic climate by, among other things, a unique ability to turn lichen into energy. The reindeer growth period occurs during summer and fall pasture periods when the protein rich herbs, grasses and mushrooms build up a fat reservoir they need to make it through the winter. During winter the reindeer prefer to use as little energy as possible since it is living on its reserves in combination with a lean diet consisting primarily of lichen that is dug from under the snow or foraged from the trees. During a particularly hard winter the females may abort their calves in order to survive themselves.



Data, from The Swedish Forest Board (Skogstyrelsen), regarding the establishment of lodgepole pine (Contorta) in Sweden, shows a steep exponential establishment. Companies rarely consulted the Sami villages and most of these lodgepole pine (Contorta) are still there today, creating a so-called reindeer herding impediment, that is, land unusable for reindeer herding.



*“The old spruce forests that give the necessary cooling on hot summer days and hanging lichens during early spring are soon nothing but a memory. I am worried that my children cannot continue with reindeer herding since our pastures have changed so much by the forestry as it is done today.”*



Bildkälla: SSR.



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