

SUSTAINABILITY OF FORESTRY IN FINNISH LAPLAND

Location and climate

The northern part of Fennoscandia and Northwest Russia is one of the northernmost parts of the world with a forest cover. The forests in the region are a part of the boreal coniferous forest zone, and the dominant tree species of commercial value are Scots pine, Norway spruce, pubescent birch (*Betula pubescens*) and downy birch (*B. pendula*). Owing to the area's northern location the climate is cold and humid. However, as a result of the warming influence of the Gulf Stream, the climate of the region is milder than that at corresponding latitudes in Siberia and Canada. The large area means that there are considerable differences in the local climate, and the annual variation is also high. Variation in the climate, and its influence on all forms of biological production, are the most important characteristics of nature in the area

Forestry and the forest industry

Nowhere else in the world is intensive forestry carried out as far north as in northernmost Finland, and in the area there is a strong forest industry. Forest sector is of great importance for the regional economy of Lapland although, from the viewpoint of the whole country, the importance of Lapland's forestry may appear to be relatively small. The production chain, starting from silviculture and ending up with the export of products of the forest industry, is the most important branch of production in the region, even though the volume of wood production in commercial forests in Lapland is not high enough to satisfy the wood demand of the local forest industry. Investment in wood production is therefore extremely important.

The profitability of forestry is much lower in Lapland than in southern Finland. In South Finland the annual net income of private forestry is about eight times higher per hectare than that in Lapland. The low profitability of forestry in Lapland is due to a large number of factors; slow tree growth, poorer wood quality, poor timber assortment distribution, lower stumpage price level and long transportation distances, weaken the profitability of forestry in Lapland.

Competing forms of land use

In spite of the extremely northern location, commercial forestry is practised in the area. In other respects, too, forestry is carried out under unique conditions – in a harsh climate, over vast areas, in isolated, relatively inaccessible districts, and at the end of long transportation distances. The economic importance of the forests is not restricted only to wood production and wood processing; the forests are also utilized in reindeer husbandry, nature-based tourism, recreation and the collection of forest berries and mushrooms. In addition, about 90% (by area) of Finland's nature conservation and wilderness areas are located in Lapland. Some 20% of the area of productive forest land in Lapland is subjected to conservation or wood production restrictions. The use of the same resources for different purposes is not always free from conflict. During the last few years, there have been conflicts in northernmost Lapland between forestry, nature tourism, and reindeer husbandry.

The northernmost part of Lapland is designated in the Forest Act as a protection forest area. Protection forests have been in existence in Finland since the beginning of the 20th century. Utilization of the forests in the area is allowed, but it is more strictly regulated than that in commercial forests. The other countries in the region also have similar protection areas.

Forest management planning and silviculture

Forest management in Finnish Lapland has been based on certain principles and operating models: research and education, forest organization, forest legislation, technology and infrastructure, state support, the national forest inventory, forest management planning, forest management recommendations and environment guidelines, even-aged forestry, intensive forest management (natural and artificial regeneration, precommercial and commercial thinning, drainage of peatlands) etc.

Forest regeneration research in the northern parts of Finland started already in the beginning of the twentieth century, and it is still an important research field in the region. The Rovaniemi Research Unit of the Finnish Forest Research Institute especially has focused on forest regeneration.

Sustainability of forest sector

The sustainability of forestry and forest industry in Lapland is based on international agreements and declarations, forest and environment legislation, multifunctional and ecological forest management planning, forest management recommendations and environment guidelines, large conservation areas, and forest certification. The greatest problems in maintaining sustainability lie in the social element of sustainability.

The upcoming challenges for sustainability of forestry

Forestry and the forest industry will continue to be of considerable importance for the regional economy in the future. The economic importance of other forms of forest utilization, especially nature tourism, will increase in the future. The increasing use of the same resources for different purposes may cause more conflicts. Although conservation has decreased the cutting potential of the forests, conservation may be beneficial for Lapland's economy in the long run. Finding and developing practices that promote the integration of reindeer husbandry, nature tourism, and forestry is still a great challenge. Multi-objective forest planning can provide technical solutions, and the role of a participatory approach should be strengthened when decisions have to be made.