

## Old and nutrient-poor forest habitats are particularly threatened

***Forests in Finland have significantly lost their natural, ecological characteristics. At the same time, the area of many forest habitats has diminished. As a result of these changes, 76% of forest habitats in Finland are now threatened. Another 21% of the forest habitats were assessed as nearly threatened, and one forest habitat was assessed to be data deficient.***

### Long-term use has changed forests across the country

All forest habitats with mineral soil (the dominant terrestrial habitat types in Finland) were assessed to be threatened or nearly threatened. The most common reason for this is the continued deterioration of the natural habitat's ecological quality. The change is evident in young forests in particular. There, the amounts of dead wood and large legacy trees have decreased to a fraction of the forests shaped naturally by a forest fire or a storm. Old-growth forests, on the other hand, have become threatened as a result of diminishing areas. Also, the area of forests in nutrient-poor habitats has diminished, as a result of atmospheric nitrogen deposition and overgrowth. In the short term, most of the deterioration has occurred in deciduous-dominated forests.



*A forest with a good ecological quality has plenty of dead wood, big trees and deciduous trees. Photo Jari Kouki.*

All herb-rich forests were also assessed to be threatened or nearly threatened. Herb-rich forests with European white elm and mesic eutrophic herb-rich forests are the most threatened. Reasons for this include the clearing of herb-rich-forests for arable land and the overgrowth by spruce, in addition to forestry. Future threats to herb-rich forests with noble deciduous trees include diseases that are likely to spread as a result of climate change, such as the ash dieback disease and the Dutch elm disease.

Forest habitats in southern Finland were assessed to be more threatened than those in northern Finland. In the south, changes in forest structure and in their age class structure have occurred over a long time, while in the north, many forest habitats were assessed to be threatened based on the changes that took place over the last decades.

## **More deciduous trees, controlled burning and management of herb-rich-forests**

In their recommendations, the team of forest experts emphasise the importance of safeguarding the existing localities of threatened forest habitats of good ecological quality. It is particularly urgent to preserve old-growth forests and forests containing old trees, as they are impossible to restore through means of ecological management, for example.

Controlled burning is a good method for improving the quality of young forests and for preventing overgrowth in nutrient-poor xeric and barren forests. Ecological management and restoration of commercially managed forests and conservation areas can particularly improve the ecological quality of herb-rich forests, forests with noble deciduous trees and esker forests.

## **Evaluation based on the ecological classification and international criteria of forests**

Of the 40 forest habitats classified in the assessment, 15 are herb-rich forests, 19 are forests with mineral soil and six are special forest habitats. The herb-rich forests were classified by moisture and nutrient content or by their noble deciduous tree species. Classification of the forests with mineral soil is based on site type classification and the stage of succession of the forest. Special forest types include esker forests, flooded forests and forests on rocky terrain, for example. The threat proportions of the habitat types mentioned above are calculated from the evaluation of 34 forest types, as six of the habitats are collective group-level types.

The assessment of forest habitat types was conducted using the national forest inventory data as well as other research and database materials. The evaluation was performed in accordance with the international threat status evaluation criteria of habitat types developed by the IUCN. The assessment included studies of the changes in area and quality of habitat types over three time periods (compared to the situation in the 1750s, 50 years ago and 50 years from now), as well as studies of the area of occupancy, extent of occurrence, and decline. Based on the short-term criteria (the past 50 years), 41% of the forest habitats are threatened.

The threat status evaluation of forest habitats was performed by forest experts from the University of Eastern Finland, University of Helsinki, Natural Resources Institute Finland, Finnish Environment Institute (SYKE), Metsähallitus Parks & Wildlife Finland, the Finnish Forest Centre, the ELY Centre of Southwest Finland, the Ministry of Agriculture and Forestry and the Ministry of the Environment.

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