

Original article

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The State of Soil and Vegetation Cover after Thinning in Dry Pine Forests

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Abstract. The article discusses the effects of skidding techniques after thinning on soil and vegetation cover in pine stands within the northern taiga subzone of the Arkhangelsk region. In the lingonberry forest type in the skid trails, 15 years post-thinning, species diversity is lower compared to the cutting strips, with a Jacquard coefficient of 57.1%. The drying of the upper horizons of the soil has been observed, leading to the disappearance of certain species from the composition of the cenoflora. In the skid trails of lichen forest type, the cenoflora differs markedly from that in the skid trails of lingonberry forest type, as indicated by a Jacquard coefficient of 31%. At the same time, high illumination in the skid trails and soil desiccation contribute to an increase in the occurrence of lichens, which still have small thalli and have not yet spread across the skid trail area. There is no complete restoration of the forest floor properties in the skid trails of either type of forest. Sandy soils partially recover after 15 years, however, the impact of technology results in long-term changes to the structure of vegetation and soil. In the lichen forest type, small undergrowth and self-seedlings of pines, spruces, and birches have emerged beneath the canopy and along the skid trails. In the lingonberry forest type, post-harvest pine is not observed, however, the proportion of small spruces, birches, and aspens has increased. Natural regeneration of pine occurs locally during the seed year, however, high insolation and minimal soil moisture do not guarantee satisfactory renewal across the entire area.

Key words: thinning, cowberry pine forest, lichen pine forest, living ground cover, tree regeneration, soil bulk of density, soil porosity

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