

Original article

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## Dynamics of Silvicultural and Taxation Indicators of Forest Stands on Permanent Sample Plots in Native Spruce Forests of the Kologrivsky Les Nature Reserve

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**Abstract.** The Kologrivsky Forest Nature Reserve is located in the northeastern part of the Kostroma region in the Unzha River basin. Its core is the former natural monument of the same name, which preserves a unique southern taiga virgin forest. The purpose of the study is to identify the characteristics of the dynamics of stand indicators in the forest stands of permanent trial plots in the native spruce forests of the Kologrivsky Forest Nature Reserve (Kostroma region). Five permanent trial plots (0.25–1.0 ha) were established in 1981–1984 by employees of the Kostroma Forestry Experimental Station and the Moscow State Forestry University in the Kologrivsky Forest natural monument. From 2014 to 2019, employees of the scientific department of the Kologrivsky Forest Nature Reserve carried out work to restore these sample areas. The study for these trial plots analyzed the dynamics of stand indicators (average height and diameter, number of trees, basal areas, stock, biomass fractions, carbon content in biomass) for the period from 1981–1983 to 2017–2020. In the plantings, there is a tendency to increase the share of linden in the forest stand against the background of the collapse of the overmature part of the spruce stand. After the massive windfall of 2021, further research is required in the coming years on permanent trial plots aimed at studying the process of formation of a new generation of forest.

**Key words:** old growth spruce forests, southern taiga, forest stand dynamics, Kologrivsky Forest Nature Reserve.

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