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Dynamics of tree stands in the Gorce National Park (southern Poland) during the period 1992-1997

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Abstract: The work presents the dynamics of tree stands in the Gorce national Park during the period 1992-1997. Special attention was given to the intensity of such processes as: tree mortality, tree recruitment, volume increment and natural regeneration, as well as to mutual relationships among these processes. In the field work a statistical approach to forest inventory was employed. Altogether 400 permanent circular sample plots were established and classified in respect to climatic and vegetation zones, species composition and developmental phase of tree stands. On the basis of these features 16 stand types were identified and described. Most of the analysed characteristics of tree stands (species composition, stand volume, tree density and natural regeneration) were spatially variable. Significant quantitative and qualitative changes in forest structure were ascertained in line with a substantial increase in the share of beech and silver fir in tree stands in natural regeneration, and the decline of Norway spruce both in tree number and in tree volume.

Key words: species composition, developmental phases of tree stand, tree mortality, tree recruitment, volume increment, forest dynamics, Gorce National Park, southern Poland.