

Fifty-year changes in a strictly protected stone pine population in the Tatra National Park

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Abstract

Swiss stone pine (*Pinus cembra* L.) stands in the Tatra Mountains are the only natural ones of this subalpine tree in Poland. This species was commonly destroyed in the past due to intensive human activities. In 1954, all its natural stands were included into a national park. At that time a precise inventory of stone pine trees in the Pańszczyca Valley was made. The aim of the study conducted in 2004, was to recognize changes in population size and structure that have taken place during 50 years of strict protection. The present research was undertaken in 2003-2004, and a detailed inventory of stone pines was repeated. During 50 years of protection, a local population of stone pine in the Pańszczyca Valley increased considerably in number. The number of individuals almost doubled, from 254 to 465 trees. Two processes are responsible for this: abundant natural regeneration and low mortality. Also the diameter and height structure of the population have changed. The average diameter of stone pines grew larger, but the average height of the trees diminished.

Key words

Pinus cembra, stone pine, Tatra Mountains, strict nature protection, tree stand development.

Research

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