

Why the amount of dead wood in Polish forest reserves is so small?

Tomasz Pasierbek¹, Jan Holeksa¹, Zbigniew Wilczek², Magdalena Żywiec¹

¹ Institute of Botany, Polish Academy of Sciences

31-512 Kraków, Lubicz 46, Poland, e-mail: pasiertom@poczta.onet.pl

² Department of Geobotany and Nature Conservation, Silesian University

40-032 Katowice, Jagiellońska 28, Poland

Abstract

From among nearly 1400 Polish nature reserves more than 600 covering about 60,000 hectares were established to protect forest ecosystems. They are either strictly protected with no direct human influence or actively managed to fulfil specific purposes. Nevertheless, coarse woody debris (CWD) in Polish nature reserves is often perceived as a threat to the health of stands and it is widely accepted that sanitary cuttings and removal of dead wood from forests do not contradict their natural character. In this article, three questions concerning the CWD in forests reserves were addressed: How great is the difference in CWD accumulation between reserves under strict and active protection? Is the quantity and quality of CWD in forests under active protection related to environmental conditions and location of reserves? Has the opposition to dead trees in protected forests noticeably changed in last decades?

The state of CWD in reserves under active protection located in the West Beskides and their surroundings was compared with strictly protected areas situated in the Babia Góra National Park, protecting the most natural fragments of the Polish Carpathians.

The amount of CWD was lower and dead trunks were thinner in actively managed forests than in strictly protected forests. Neither the naturalness of stand structure and the stand volume, nor the total area of a reserve, were related to the amount of CWD in actively protected reserves. The quantity of CWD increases with the elevation of reserves and the year of reserve foundation. CWD is preserved particularly well in reserves situated high in the mountains, away from settlements. Neither the degree of naturalness nor the stand susceptibility to insect pests or pathogens, are decisive for leaving CWD in a protected forest, but its accessibility seems to be most important factor for CWD accumulation.

Key words

Nature reserve, CWD accumulation, forest naturalness, forest conservation, Poland.