

DESCRIPTION FOR THE GENERAL PUBLIC

In the modern forest management, more and more attention is paid to the role of coarse woody debris (CWD) in the functioning of forest ecosystems. Scientists and foresters have recognised that dry tree trunks, fallen logs, broken limbs and piles of branches fallen on the forest floor can be a valuable component of habitats which is often used by many species of living organisms in their characteristic way. Coarse woody debris in forests is no longer perceived as a potential source of threats only such as extensive fires or massive insect pests deemed as forest parasites. Increased knowledge and awareness on how the most complex ecosystems, forests work allowed to notice and appreciate the ecological role of dead wood. So far, scientists managed to study and describe in detail the importance of dead wood for numerous species of fungi, bryophytes, invertebrates and birds. Current knowledge on this topic is not sufficient. As far as mammals are concerned, most studies on this topic were conducted to date in North America for species representative to their fauna. European research (including Polish) have a small share in currently available literature, which is directly associated with little knowledge about the relationships between domestic vertebrate species with coarse woody debris.

With our project, we intend to explore and describe the importance of dead wood for small mammals, rodents and shrews living in forest habitats of the Bialowieza Forest. Our research is specifically focused on the impact of dead wood on the species richness, space use and population parameters of small mammals. This group of animals plays particularly important functions in the ecosystem. Commonly occurring mice, voles, shrews and voles are an important link in the food chains, facilitate the propagation of many species of plants, lichens and fungi. Some species also reduce the numbers of forest insects, including those that cause significant (often unfavourable from the point of view of forest management) changes in forest stands. The population size of small mammals have a direct effect on the functioning and richness of ecosystems. Small mammals are characterised by extremely small body size (weight from 2 to 200 grams), secretive, terrestrial or arboreal life patterns and the constant threat from the ubiquitous predators. Dead wood in various forms and stages of decomposition is a place rich in forages (especially for insectivorous mammal species), can provide a refuge from predators and adverse weather conditions. In addition, it serves as an extra migration route, and a place where these mammals can nest and rear offspring, or store their feedstuffs. It seems, therefore, that a large amount of dead wood may bring important benefits to the population living in forest ecosystems, and its amount and distribution may affect the usage of space, population size, mortality and other population parameters in small mammals.

This study will complete and expand our knowledge on the associations between domestic fauna and the ways to manage coarse woody debris. In recent years, much attention is given to attempts to determine the optimal amount of CWD to ensure adequate habitat conditions and maximum economic benefits.