

## **Description for general public**

The structure of the forest is of interest to many groups of society, among others: foresters, scientists, ecologists, entrepreneurs and people involved in its protection and shaping of non-productive functions. Depending on the purpose of research or interests, their attention is directed to various aspects of forest structure. The traditional way of describing the structure, used primarily for economic as well as scientific purposes, is to present it by means of an empirical distribution of selected features of trees, in particular tree diameters. In ecological studies devoted to life strategies of tree species, numerical indicators characterizing the spatial diversification of tree dimensions, competition and biodiversity are used. Of particular importance for forest ecology are studies carried out in natural forests, in which the process of shaping the forest structure is of primary nature, not disturbed by direct human activities. Observations, especially long-term ones conducted in the areas of this type, allow us to verify the suitability of various indicators for individual purposes and to assess their ecological significance.

For the above reasons, in this project the forests under strict protection located in the Roztoczański National Park (RNP) will be studied. Scientific monitoring of these forests was performed in the period 1968-2003 on permanent research plots. One of the objectives of this project is to prevent long time periods to pass between repeated inventories in the RNP. In addition, the continuation of research in this area will also allow for comparing the current results with the previous ones, giving the opportunity to assess the structural and compositional changes of the RNP forests in a relatively long period of time. The novelty of this project, however, will be the analysis of micro-spatial differentiation of indicators of structural diversity and assessment of their ecological significance. In order to identify possible general patterns regarding small-scale interactions between trees of different species and/or different size, we will expand our research on different geographic regions. Consequently, besides RNP, several other unmanaged forests in Poland and Bosnia-Herzegovina will be studied.

The effect of the research will be to broaden the knowledge about diversity of strictly protected forests, and to reveal the patterns of spatial distribution and interactions of young and old trees of different species, which is highly important from the biological aspect of their space-related life strategies.