

Subcanopy Forest Regeneration in the National Park «Ugra»

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The article examines various aspects of natural forest regeneration in the zone of mixed forests, by formations and forest types. Anthropogenic impact, development of undergrowth, and other factors were considered. Case studies were conducted in the national park «Ugra». The importance of the study is related to the fact that on the border of mixed and broadleaved forests, the main forest-forming species often grow under non-optimal conditions. Under such conditions, the most important element in predicting the dynamics of species composition is undergrowth inventory and the assessment of changes in its density, composition, and state. In the national park «Ugra» in 2014–2017, we have established 54 permanent observation plots (POP) in various formations and site conditions. Along with the detailed description of the stand, the undergrowth and shrubs were registered on test plots within the POP. Vital specimens were considered, being divided into size categories, with followed recalculation into a large one. In the stands examined, the amount of undergrowth varies from 0.4 to 24.3 thousand specimen per hectare. The undergrowth demonstrated various levels of species diversity: from 2 to 9 species per POP. In this aspect, soil conditions become the limiting factor of the primary importance. The hardest competition for undergrowth species is provided by hazel. In the group of composite forest types, lime (*Tiliacordata*) undergrowth either predominates or provides a significant competition to the undergrowth of maple (*Acer platanoides*) or elm (*Ulmus* sp.). The share of oak undergrowth is low on the studied objects. The proportion of spruce in the undergrowth is naturally insignificant (with the exception of some pine forests and moist habitats), while the occurrence of spruce undergrowth (constancy) is quite high – 59%.