

HAFL Master's Thesis Abstract

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English Title: **Forest assessment in Upper Bregalnica region regarding silvicultural aspects**

English Summary: Forests in the Upper Bregalnica region have a great ecological, economic and social value. Their multi-functionality is recognised but not fully elaborated in the forest management plans. To assure the productive and protective functions of the different forest associations in the future their current state must be assessed, including the variety of forest association characteristics and forest dynamics. This thesis aims to provide a valid overview on the current status of the forests in the region of Malesh. Furthermore, spatial characteristics of the region and opportunities for improvement and restoration shall be identified. The study was conducted in the Upper Bregalnica region, on 102 different sample plots in the nine Forest Management Units of Berovo and Pehcevo. During the fieldwork measurements on fundamental silvicultural parameters were taken (composition, N/ha, G/ha, V/ha, tC/ha). The data from the forest inventory was analysed using R programming statistical software and R-Studios. The results showed significant differences between the eight forest associations and the management units. In the western part of the region most of the oak coppice forests are located, which face the challenge of degrading locations due to multiple decades of clear-cuts. In the eastern part between Berovo and the Bulgarian border, diverse beech and pine forests on good site conditions can be found. All the forests in the region fulfil important socio-economic functions, especially watershed protection. However, many challenges such as fire disturbances, lacklustre infrastructure, and illegal logging threaten the sustainability of these forests. On the other hand, exist many opportunities for improving quality, productivity, and sustainability of the forests. These include species enrichment, promotion of recreational activities, and biodiversity conservation.

Keywords: Macedonia, Upper Bregalnica region, sustainable forest management, forest function, ecosystem services, forest associations

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