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Title: **The evaluation of vegetation in riparian forest buffer strips in Latvia**

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Abstract

Knowledge of the ecological functions, dynamics and diversity of vegetation in riparian forests have aroused attention concerning the protection of transition zones between terrestrial and aquatic ecosystems, water quality and provision of many products and ecosystem services. We investigated the vegetation composition in riparian forests along the streams with different water quality, graded as high, moderate and low according to water chemical purity. We also included the comparison of differences in vegetation between sample plots closer to river margins (I) and more into interior (II). The study was conducted in three geographic regions of Latvia. In total 90 sample plots were established for analysis. The plant functional groups (n=16) were used to see detailed changes in vegetation composition in riparian forests. The results showed significant differences in coverage on moss and shrub layers in forests between low and high water quality streams. Species richness, diversity and evenness were also lower in the forests along the high quality streams. Plant functional types showed significant differences between stream water quality and sample plots (I vs. II). Our results demonstrated that stream water quality can be used as an indicator to evaluate forested riparian buffer strips.

Keywords: riparian forests, vegetation, plant functional types, streams