

EDGE EFFECTS AND FOREST PLANT SPECIES DIVERSITY IN UNMANAGED BLACK ALDER SWAMP WOODS IN SOUTHERN LATVIA. PRELIMINARY RESULTS

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INTRODUCTION

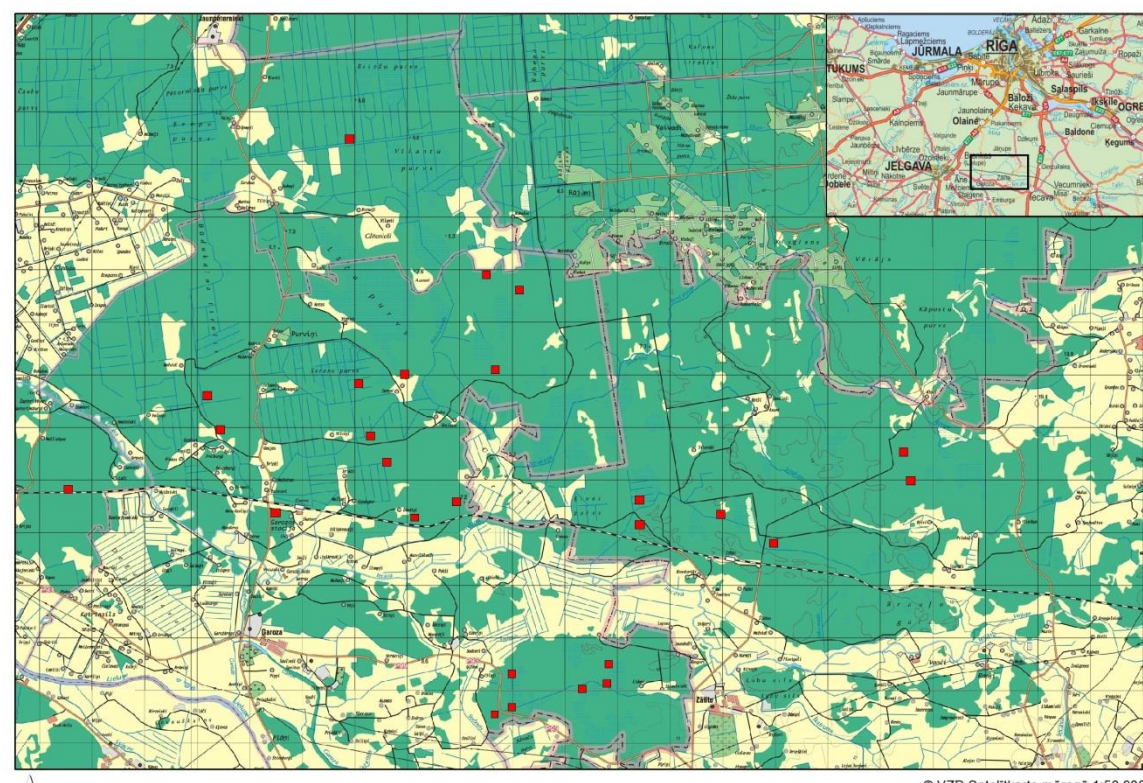
Black alder swamp woods have rapidly decreased in forest landscape in Latvia because of extensive drainage activities. To protect the small forest stands with high ecological values in Baltic countries and Fennoscandia, the woodland key habitat (WKH's) concept has been created. However, as WKHs are small parcels in production forests, they are affected by edge effects.

The aim of this study was to estimate the edge effect impact on the vegetation of black alder woodland key habitats.

First, we analyze and estimate the edge effect impact on vegetation regarding to distance from the edge (zones: 1st, 3rd, 5th).

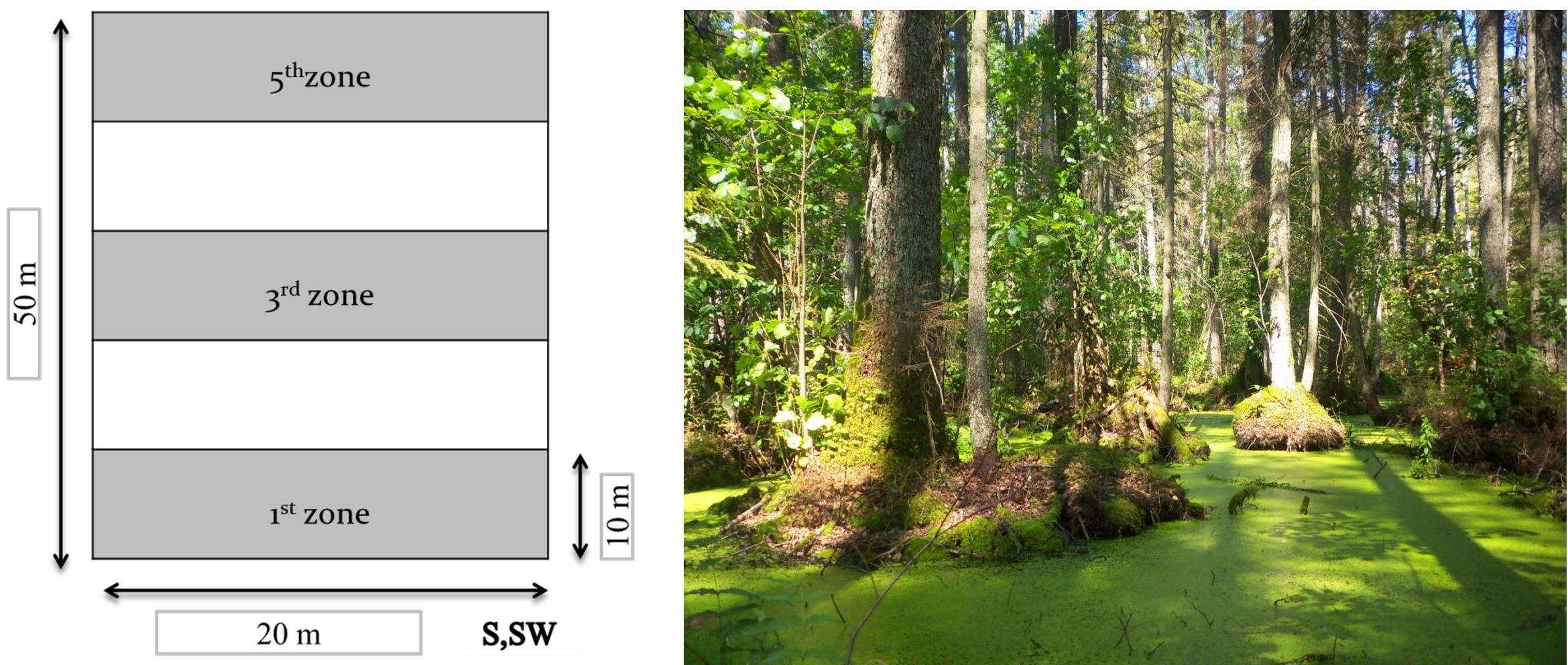
Furthermore, we estimate the edge effect influence on vegetation regarding to different age classes of forest stands (group A, B, C, see below).

STUDY SITES



- The study area is situated in southern part of Latvia – Zemgale.
- Three forest types: *Dryopterioso – caricosa*, *Filipendulosa* and *Oxalidosa turf.mel.*
- In total, 30 study sites were established and assessed.
- In the south or south–west side of the study sites there were stands that corresponded to three different age groups: young forest stands (A), middle–aged forest stands (B) and mature forest stands (C).

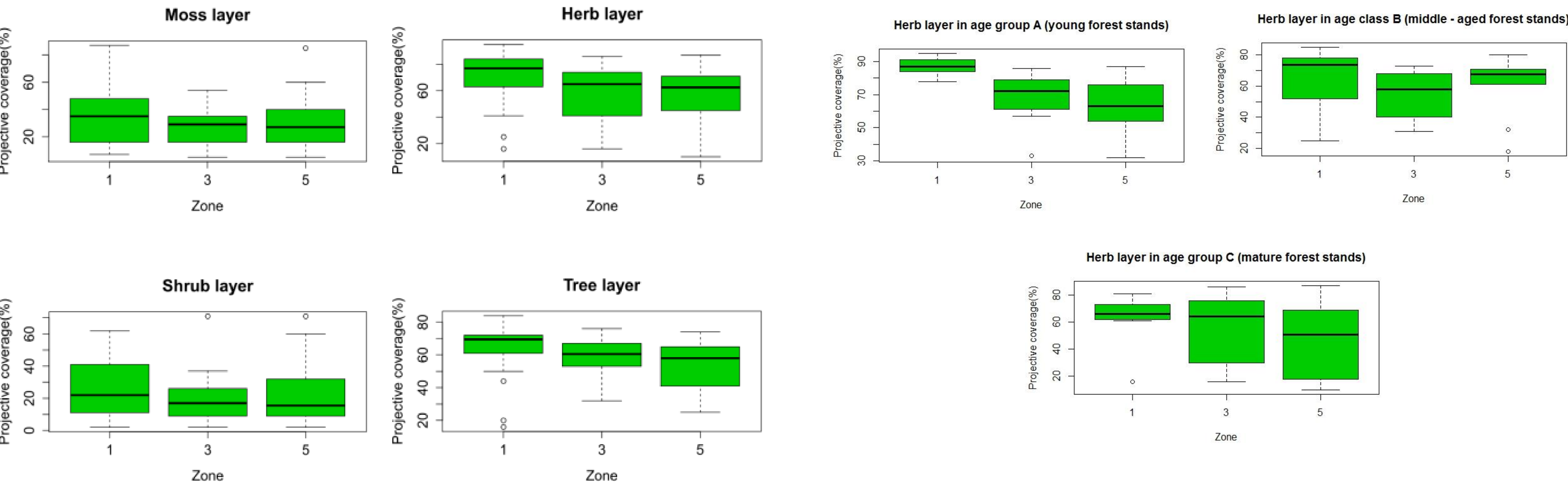
SAMPLE PLOTS AND METHODS



- The area of each sample plot is 20x50 m, which has been divided into five 10m wide sample zones.
- The Braun-Blanquet method was used to describe the plant communities: the total projective coverage of moss (E0), herb (E1), shrub (E2) and tree (E3) layer.

RESULTS

We recorded a total of 192 species. Among these layers, the herb layer had most species – 150, followed by moss layer – 41, shrub layer – 14 and tree layer – 6. The number of the species varied among the forest types and distances from the habitat edge to interior. The number of species and projective coverage decreases with increasing the distance from the edge, but did not significantly differ between 3rd (20-30 m from the edge) and 5th zone (40-50 m from the edge).



The comparison of projective coverage (%) in different layers. Values are means for each layer.

The comparison of projective coverage (%) in herb layer in the study sites with different age groups and distances from forest edge to interior.

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