

ABSTRACT

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Woodland key habitats – a key to effective conservation of forest biodiversity?

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Yhteenveto: Avainbiotooppien merkitys talousmetsien monimuotoisuuden säilymiselle
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Intensive forest management has fragmented the landscape and changed structural features of forests endangering many forest-dwelling species. Thus, conservation measures in production forests have become necessary in the maintenance of biodiversity. Today, woodland key habitats (WKH, small-scale presumed hotspots of biodiversity) constitute an essential conservation measure in the North European forests. In this thesis I studied the role of WKHs in the conservation of biodiversity in production forests. First, I compared the definitions, inventories and implementation processes of WKHs in Sweden, Finland, Norway, Latvia, Estonia and Lithuania. I found that even though the philosophy behind the WKH concept was the same in all of the countries the implementation varied nationally resulting in different sets of habitats being included in the WKH networks. Second, I systematically reviewed whether the WKH concept is an efficient conservation tool i.e. whether WKHs host more biodiversity qualities (e.g. dead wood and red-listed species), compared to production forests. WKHs seemed to be hotspots of dead wood, diversity of dead wood, species richness and red-listed species compared to the production forests but there were some differences among countries. Finally, I experimentally studied short-term effects of forest management practices on polypores and dead wood in WKHs. Dead wood volume, perennial, annual and red-listed polypores were not affected significantly by the management practices, but there were significant differences in the species turnover rates among the sites. My results suggest that protecting small-scale habitats in production forests could be a potential conservation tool. However, preserving solely WKHs is not enough to conserve biodiversity and thus other measures are also needed. Nowadays forest conservation has shifted its focus from a strong emphasis on protected areas towards conservation measures in production forests. From this perspective, WKHs could serve as a potential additional tool for sustaining forest biodiversity at the landscape scale.

Keywords: Biodiversity; conservation, forest management; red-listed species; woodland key habitats.