

# Science for Environment Policy

## Old rural parks can provide important refuges for forest biodiversity

**Woodlands** in the grounds of old manor houses or castles can provide high quality habitat for numerous forest species, a recent study from Estonia concludes. The researchers found that, compared to nearby forests, old rural park woodlands appeared to be better at supporting biodiversity.

**Logging and commercial plantations** have degraded many ancient European [forests](#), and now only small fragments remain to harbour important [biodiversity](#). Woodlands in old rural parkland are often valued for their cultural and recreational value, but their importance to conservation has been little explored.

This study, partly supported by the EU-supported smallFOREST project<sup>1</sup>, indicates that old rural parkland could potentially also provide refuges for important forest species. The researchers examined woodlands in old rural parks in southern Estonia. The 74 woodlands studied were located on parkland which had been established between 100 to 200 years ago. To assess how these sites compared to forests, the researchers also studied one or two natural forests within 1 km of each park.

The study recorded a wide range of habitat characteristics for each woodland, including leaf cover, the type and amount of dead wood, understory vegetation as well as a number of indicator species, such as mosses, fungi and birds. They then combined these into three simplified indicators describing habitat structure: 'stand quality', the amount and quality of dead wood, and the level of biodiversity. A score describing each site's 'nature value' was then calculated based on these indicators, with a maximum available score of 21.

The results revealed that stand quality and biodiversity were both higher in parks than in natural forests, although the quantity and quality of dead wood was higher in natural forests. Overall, the total nature value of all three indicators combined was 9.7 out of 21 in parks, compared to 8.5 for forests. 47% of park woodlands, but just 30% of forests, had biodiversity levels above the mid-value nature score.

The researchers suggest that these differences may be the result of intensive management and clear cutting of natural forests, leading to only a few species dominating. In parks, however, many old deciduous trees remain, which are essential for much woodland diversity. Changes in management to reduce clearing of dead wood in parks would increase their dead wood score.

Overall, the researchers conclude that park woodland needs to be recognised not only for its cultural value, but also for its important role in providing habitat for declining forest species. However, careful management can help enhance the conservation value of both types of woodland. For example, preserving old trees, understory vegetation and hollow trees, can help provide habitat for birds and bats. In addition, allowing dead wood to fall and rot is important for insects and fungi.



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1. smallFOREST (Biodiversity and ecosystem services of small forest fragments in European landscapes) was supported by the European Commission via ERA-Net BiodivERsA, funded under the Seventh Framework Programme. See: [www.u-picardie.fr/smallforest/uk/](http://www.u-picardie.fr/smallforest/uk/)