Szegleti, Zsófia, Ákos Vig, Adrienne Ortmann-Ajkai, Gábor Szabó, Zita Zimmermann, Ferenc Horváth (2023): Repeated stand structure inventory dataset in long abandoned deciduous forest reserves in Hungary. Data in Brief 47, 108929

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Short reference: Szegleti et al (2023)
First author: Szegleti Zsófia
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Abstract

A deeper understanding of natural forest dynamics requires long-term data series from forests that have not been affected by human interventions, which are often scarce, especially in the Pannonian Bioregion. Unmanaged, but regularly inventoried forest reserves provide an opportunity to fill this gap.

The dataset offers repeated inventory data for 233 permanent plots situated in the core areas of six forest re- serves selected from primary forests (Kékes), long abandoned woods (Kecskés-galya, Szalafő, Várhegy), and abandoned ones (Hidegvíz-völgy, Nagy Istrázsa-hegy). The sampled old stands represent Hungary's four most widespread hilly forest types: Carpathian sub-mountainous beech forest; sessile oak-hornbeam forest; Turkey oak and sessile oak forest; downy oak forest. In each plot, stand-level attributes included main mensuration variables (canopy closure, stand height, tree density, basal area, living and dead volume, lying deadwood, and admixture of the main tree species). Tree level attributes (diameter at breast height, height measured and estimated, crown position in the canopy, health status, tree history of all trees or shrubs having diameter larger or equal to 5 cm) were also measured in two inventories (after 6-16 years) for a total of 6,986 individual trees sampled in all plots. Fagus sylvatica L., Quercus petraea agg., Q. cerris L., Q. pubescens Willd., Carpinus betulus L., Acer campestre L. and Cornus mas L. were the most abundant. The individual tree

history classification refers to regeneration ingrowth, growing phase, mortality, decaying phase, and disappearance events, that can be used for the calculation of various stand dynamics attributes.

The dataset offers valuable opportunities for quantifying changes in stand structures and tree population dynamic attributes after the abandonment of management. Inventory data can be integrated with environmental and climatic information to understand the drivers of forest stand dynamics under a changing climate.

habitat: steppe woodlands
habitat: open/dry oak forests
habitat: coniferous mixed woodlands
habitat: oak-hornbeam forests, beech forests
habitat: rocky woodlands
forest dynamic, gap dynamic, succession
forest structure: stand
deadwood
ecosystem: growth, development, production
ecosystem: decay, rot, decomposition
population, ~ biology, demography

Notes

Data Paper, dataset link:
Stand structure and tree population dynamic attribute dataset of long abandoned strict forest reserves (Original data)

Publisher: Elsevier Inc.
Journal: Data in Brief
Location: ER Archívum - digitális
URL: ScienceDirect - Szegleti et al. (2023): Repeated stand structure inventory dataset in long abandoned deciduous forest reserves in Hungary
DOI

scientific paper

Strict forest reserves: Kékes Forest Reserve
Vár-hegy Forest Reserve
Nagy Istrázsa-hegy Forest Reserve
Kecskés-galya Forest Reserve
Szalafő Forest Reserve
Hidegvíz-völgy Erdőrezervátum