***The Warburg Reserve permanent plot update*.**

**Long-term changes in the tree and shrub layers of a British nature reserve and their relevance for woodland conservation management**

**Kirby, K. J., Goldberg, E.A., Isted, R., Perry, S.C., Thomas, R. C. 2016. *Journal for Nature Conservation.* 31, 51-60.**

Changes in the woodland extent over the last 200 years were assessed from old maps for a 100 ha woodland nature reserve in southern Britain. More detailed changes in the composition and structure of the tree and shrub layers were measured using data from 95 permanent vegetation plots (10 × 10 m) distributed across the reserve at the intersections of a 100 m grid. These were recorded in 1973, 1992 and 2009. The woodland area has more than doubled since the 18th century, but whereas the pre-1800 woodland was mainly Fagus sylvatica the more recent woodland was initially predominantly conifer plantation. These plantations have since developed into mainly broadleaved high forest of Fraxinus excelsior and Acer pseudoplatanus. Changes on the site are the combination of active interventions through management and natural processes (differential species growth, death from disease, windthrow, herbivore damage). Further changes are likely in future in particular from ash dieback (Hymenoscyphus fraxineus) and climate change impacts. Many of the changes seen on this reserve are mirrored in woods elsewhere in Britain and Europe. Over periods of a few decades and at the whole-reserve scale the woods can be considered to be relatively stable; at the plot level, or over time-scales of centuries they are very dynamic. Whether woods are judged to be resilient must include definition of the temporal and spatial scales.

<http://www.sciencedirect.com/science/article/pii/S1617138116300188>

***Wytham Woods permanent plot update***

**Changes in the tree and shrub layer of Wytham Woods (Southern England) 1974–2012: local and national trends compared**

Changes in the woody composition of Wytham Woods since 1974 are described, related to national trends in broadleaved woodland, and used to suggest the impact of future changes such as from ash dieback disease (Chalara fraxinea). Data on the tree and shrub layer from 164 permanent 10 × 10 m plots distributed in a grid across the Woods are presented from 1974, 1991, 1999 and 2012, on species occurrence, regeneration, contribution to the canopy and basal area. Variations in the current and past composition and structure of the Woods are related to past forestry management and natural succession/disturbance processes. These largely mirror changes shown by other surveys at a national level. Fraxinus excelsior has been increasing in prominence across the Woods since 1974, but its future is uncertain because of disease. The species most likely to increase if there is a severe decline in F. excelsior at Wytham appear to be Acer pseudoplatanus, Corylus avellana and Quercus robur. There are benefits from linking long-term studies at one site to wider less detailed surveys in order to explore the general applicability of the results.

<https://forestry.oxfordjournals.org/content/early/2014/07/09/forestry.cpu026.full>