Abstract

Thesis: Community structure and composition changes of two old-growth forests at Versailles State Park in southeastern Indiana

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PAGES: 54

In the 1950’s and 1960’s, studies of two old-growth forest stands in Versailles State Park, Laughery Bluff and Dogwood Nature Preserves, were designed and carried out by Potzger to provide the baseline necessary to investigate future trends in these forest communities. In 1968 and 1988, Jackson surveyed these stands again and identified changes in attributes and size classes over that 20-year period. In 2011 and 2012, these sites were re-sampled to document change in species composition and stand structure since 1968. Diameter at breast height (dbh) and species identification were recorded for all stems with dbh ≥ 10 cm. Trees between 1 and 9.9 cm dbh were sampled by counting the number of individuals by species. These data were used to calculate density, dominance, and importance values, as well as to provide full-census data on the overstory size classes at the two sites. Notable findings since the prior studies included the continued increase of *Acer saccharum* in density and basal area as well as the continued loss of *Cornus florida* and *Fagus grandifolia* stems throughout both stands.