Disturbance History of an Old-Growth Forest in Southeastern Ohio

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We performed a dendroecological investigation of Dysart Woods, an old-growth forest in southeastern Ohio, to determine stand age and the historic disturbance regime. The 23 ha woods is dominated by white oak, beech, and sugar maple. Because Dysart Woods is a preserve, our sample size was limited to ten white oak samples that yielded a 374-yr chronology. Of the samples with pith, it appears that the trees originated under closed canopy conditions. From 1625-1850, ring widths were consistently small and below the overall mean of 1.5 mm; this was followed by a nearly 100-yr period of above-average growth before leveling off in the last 50 years. Using a 10-yr running median technique, we detected 2.42 release events per tree per 100 years. This is consistent with other old-growth studies in the region and characteristic of a gap disturbance regime. With few exceptions, Resettlement fire is *not* recorded in a full basal slab from Dysart Woods. However, burning during the 1800s (period of settlement) was prolific and occurred every few years before diminishing in the early 1900s. While fire may have been an important ecological factor in these woods, it does not appear to have influenced the origin of white oak.

Response of Pin Cherry *(Prunus Pensylvanica* L.F.) to Fire, Canopy Disturbance, and Deer Herbivory on the Westvaco Wildlife and Ecosystem Research Forest

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A study was established to assess the impact of fire, canopy disturbance, and deer herbivory on the germination and development of pin cherry *(Prunus pensylvanica* L.f.) in Appalachian hardwood stands located on the Westvaco Wildlife and Ecosystem Research Forest in Randolf County, West Virginia. In each of four stands, two blocks with four, 400 square meter treatment plots were established. One of four treatments were randomly applied to each treatment plot: 1) fence, gap; 2) fence, no gap; 3) no fence, gap; and 4) no fence, no gap. In each treatment plot, five one-square meter regeneration plots were randomly placed and permanently monumented. All four stands were burned in spring 1999. Over the course of the 1999 growing season, four separate regeneration measurements were made at approximately one-month intervals. Pin cherry germination showed a large amount of variation from stand to stand. Average initial pin cherry densities ranged from 23,500 to 63,000 seedlings per hectare (SPH) following prescribed fire. By the end of the growing season, seedling densities ranged from a low of 5,250 SPH in the No Fence/Gap treatment to 43,250 SPH in the Fence/Gap treatment. These differences were principally a function of deer herbivory. Average height in the Fence/Gap treatment was 12.6 cm greater than the next tallest treatment average—the Fence/No Gap treatment. The tallest pin cherries in the fenced treatments exceeded one meter in height.