

A METHOD FOR APPLYING GROUP SELECTION IN CENTRAL APPALACHIAN HARDWOODS

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Abstract: Public concern over the adverse visual impact of clearcutting has heightened interest in developing and testing alternative regeneration practices for central Appalachian hardwoods. When applied properly, group selection, which entails making small openings within a timber stand at regular intervals, can meet aesthetic goals while providing suitable light conditions to reproduce shade-intolerant species. Volume control and residual stand density are used to regulate periodic cuts, which include volume removed to create openings plus volume removed between openings to improve the quality and distribution of the residual stand. In central Appalachian hardwoods, openings must have a minimum size of 0.4 acre; all stems 1.0 inch d.b.h. and larger are cut to reproduce desirable shade-intolerant species. Maximum opening size is based on aesthetic requirements or other management constraints. Where reproduction of shade-tolerant species is acceptable, openings can be as small as a space occupied by a few trees. Openings should be located using the *worst first* approach to give the growing space occupied by mature trees or risky trees to faster growing, desirable regeneration. The residual stand between openings should be improved by cutting poor-quality or high-risk trees. The recommended residual basal area in sawtimber-size trees (11.0 inches d.b.h. and larger) is related to northern red oak site index (SI): 70 to 85 ft²/acre for SI 80, 55 to 70 ft²/acre for SI 70, and 40 to 55 ft²/acre for SI 60. These field-tested methods can help forest managers initiate group selection in second-growth Appalachian hardwoods. Guidelines are presented for computing the cut, determining size, location, and number of openings, and marking the stand.

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