

FIFTY-YEAR RESPONSE OF A 135-YR-OLD WHITE PINE STAND TO PARTIAL THINNING IN CONNECTICUT

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Abstract: In the early 1930s a series of plots were established throughout Connecticut to study the effects of thinning on stand growth. Gold's Pine plot (1.0 acre) was established in 1932 to study partial thinning in a mature 125-yr-old white pine/eastern hemlock stand. The plot is located within Housatonic State Forest in western Connecticut. In 1932 the stand volume was estimated to be 49 Mbf, 75% was white pine and the remainder was hemlock. The stand was thinned in 1944 and 1961. Approximately 4 Mbf/acre and 3 Mbf/acre were harvested in 1944 and 1961, respectively. Stand volume in 1994 was estimated to be 53 Mbf/acre. Mean diameter of white pines has increased from 20.7 to 28.8 inches. Over the 60-yr period the height of codominants and dominants has increased from 110 to 128 ft. There were 42 stems/acre in the understory (2-7 inches dbh) in 1932 consisting of eastern hemlock (64%), black birch (24%), white pine (2%), yellow birch (2%), white ash (2%), black cherry (2%), and sugar maple (2%). In 1994 there were 440 stems/acre in the understory consisting of eastern hemlock (55%), black birch (32%), yellow birch (4%), striped maple (4%), and sugar maple (4%). This case study suggests that mature white pine stands can be partially thinned to recover declining material and release stagnating trees without sacrificing continued volume growth and "Big Tree" stand characteristics.

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