FIRST-YEAR RESULTS OF A PRESCRIBED BURN IN A HIGH-ELEVATION RED OAK STAND

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In March 2007, a prescribed burn was conducted on approximately 70 acres in a high-elevation red oak stand located on the Cold Mountain Game Land in western North Carolina. This burn was the first in a series of treatments designed to increase oak and hickory regeneration in this stand. Other treatments will include an herbicide application, a second prescribed burn, and a shelterwood harvest. Fifty-two, 1/10-acre, fixed-radius forest data collection plots were established prior to the burn. Thirty of these plots were within the prescribed burn area and 22 were outside of the burn. Vegetative conditions in these plots were remeasured in the year following the burn. Fuel loads were measured at each of the 52 plots immediately before the burn and in the 30 burn plots immediately after the burn. Fire intensity was estimated at each burn plot by hanging ceramic tiles with temperature-sensitive paint 20 inches above the ground. Data were collected to evaluate and compare the first-year effects of the fire (and fire intensity) on the following stand characteristics: (1) regeneration density of oaks, hickories, maples, and other species; (2) crown damage and mortality in overstory trees; and (3) hard mast production. Permanent photo points established at each plot provide a visual evaluation and comparison of preburn, postburn, and unburned plot conditions.