

Assessment of Effects of Canopy Disturbance on Plants in a Pinyon-Juniper Stand

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Abstract.—An important objective of studying understory/overstory relationships is to determine the patterns of succession or development within the understory plant community following a severe disturbance to the overstory. In 1988, a commercial fuelwood harvest was applied to a pinyon-juniper stand. The remaining noncommercial overstory was cut and lopped. Two years later, approximately two-thirds of the area was crushed by a roller-chopper, which breaks up the slash material and incorporates it into the soil. A year later, the remaining one-third of the non-crushed slash was burned. Three pairs of sites were examined: an intensely burned canopy site with, its adjacent blue grama interspace, a roller-crushed canopy site with its adjacent blue grama interspace, and an uncut canopy area with its adjacent blue grama interspace. Comparisons made between and among all treatment-site situations showed significant biomass productivity and species diversity differences. Biomass and species diversity appeared greatest in the roller-crushed area.