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Effectiveness of Post-fire Rehabilitation Treatments After the 2005 School Fire

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The 2005 School Fire burned ~50,000 acres, nearly 40% of which was burned at moderate or high severity, leaving managers concerned with the possibility of increased post-fire runoff and erosion. The steep slopes on the forested lands above the Tucannon River canyon were of particular concern due to a national fish hatchery and commercial recreation properties in the canyon. To address these concerns, rehabilitation treatments were implemented to stabilize slopes and reduce erosion risk. Post-fire treatments included aerial application of native seed in addition to: hydromulch with endomycorrhizal inoculum, wheat straw mulch, or wood straw mulch. Silt fences were installed shortly after the fire to monitor erosion in mulched and seeded sites, in a site with seed only, and in a control site which received no treatment. Relatively low erosion rates were observed in the first year after the fire. The 2006 erosion rates (tons/ac) were: 0.5 (control), 0.2 (seed only), 0.2 (hydromulch), 0.03 (wheat straw) and 0.02 (wood straw). These low erosion rates were attributed to frequent low intensity rains in the spring and early summer. This rain, coupled with native seeding, resulted in a flush of vegetation growth by late summer. Vegetative cover increased between spring and fall 2006 on all monitored sites; measured increases were: 26% (control), 48% (seed only), 52% (hydromulch), 47% (wheat straw), and 18% (wood straw). At least two more years of monitoring will be conducted to determine if these treatments are effective at reducing erosion while allowing for recovery of native vegetation.