Influence of Post-fire Timber Harvest on Black-Backed Woodpecker Nest Survival and Nest Site Selection

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Post-fire timber harvest practices, i.e. post-fire salvage logging, on public lands are a highly contentious issue in the western United States. Harvest of burned trees impacts a number of species, particularly those specialized for using post-wildfire habitats. We assessed the effects of post-fire salvage logging on black-backed woodpecker (Picoides arcticus) nest survival and distribution within burned, mixed conifer forests of south-central Oregon. Multiple treatment and control plots were surveyed two years pre-logging (2003-2004) and two years post-logging (2005-2006). A total of 212 black-backed woodpecker nests were monitored during the four year post-fire period, with nest densities peaking in year three. Nest survival models containing temporal predictors (i.e. Julian date) performed better than those related to salvage harvest or other habitat features. Similar to previous studies, our results indicate that black-backed woodpeckers exhibit high overall nest survival (76.8%; range 67.9-83.6%) and select nest sites with higher snag densities than non-nest random sites. Nest survival and density appeared unaffected by salvage logging, contrary to our predictions. Upon completion, this project will supply agencies and managers with scientific data regarding post-fire habitat conservation for a sensitive woodpecker species.