

FEATURE ARTICLES

GREEN-TAILED TOWHEE RESPONSE TO PRESCRIBED FIRE IN MONTANE SHRUBLAND

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Manuscript received 24 May 2005; accepted 28 March 2006.

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Abstract. Fire alters the structure and composition of shrublands and affects habitat quality for the associated avifauna. Because shrubland ecosystems have been greatly reduced from their original extent in western North America and fire is increasingly being used to manage these landscapes, a better understanding of how fire affects the associated vegetation and wildlife is imperative. We evaluated the response of Green-tailed Towhees (*Pipilo chlorurus*) to prescribed fire in the montane shrublands of Rocky Mountain National Park, Colorado during 2002 and 2003. Three to five years following prescribed burning, Green-tailed Towhee density and shrub cover were generally higher in unburned areas. Nests ($n = 179$) were located in unburned vegetation; within burned sites, all nests were in remnant patches. Green-tailed Towhee nest survival was 57% (95% CI = 49%–65%) across the two years of the study. More than half of the nests were in common juniper (*Juniperus communis*) shrubs, and nest survival was higher for nests in junipers than those in other shrub species. Daily nest survival rates were lower at the site with the highest density of towhees and declined over the breeding season. With regard to shrub cover, opposite trends were observed for nest-site selection and nest survival: nest plots had greater shrub cover than non-nest plots, but nest survival decreased with increasing shrub cover. Because shrub cover affects towhee density and nest survival in conflicting ways, fire management at Rocky Mountain National Park alters both habitat availability and suitability for Green-tailed Towhees.

Key words: *Juniperus communis, nest-site selection, nest success, nest survival, Pipilo chlorurus, Rocky Mountain National Park.*