POSTFIRE HABITAT USE BY CAVITY-NESTING BIRDS IN NORTHWESTERN MONTANA

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ABSTRACT

I studied postfire habitat use by cavity-nesting birds in mixed-conifer and lodgepole pine (*Pinus contorta*) forests of Glacier National Park, Montana. From 1990–1994 (2–6 years postfire), I recorded characteristics of nest sites (n=551) of 21 cavity-nesting bird species. Nest variables were compared to those recorded at randomly selected sites. I also recorded habitat at woodpecker foraging locations. Compared to random sites, most species nested in areas of more severely burned forests, larger diameter trees, and higher basal area (area of standing wood). Nest trees were predominantly quaking aspen (*Populus tremuloides*) (81%), were larger in diameter than random trees, and showed signs of prefire decay (broken tops and conks) more than did random trees. Woodpeckers foraged more in mature mixed-conifer forests than at lodgepole pine sites. Douglas-fir (*Pseudotsuga menziesii*) and western larch (*Larix occidentalis*) were used more than other species, and use increased as tree diameter increased.

These results indicate that high-intensity crown fires are important in creating habitat for cavity-nesting birds. These fires produce initial conditions (high snag densities) favored by many species, and they also allow regeneration of tree species used for nesting and foraging. However, prefire forest conditions (large trees and decay) also appear to be important factors in determining postfire habitat use.

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