
AVIAN COMMUNITY RESPONSE TO A RECENT MOUNTAIN PINE BEETLE EPIDEMIC

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Recent epidemics of mountain pine beetles (*Dendroctonus ponderosae*) will fundamentally alter forests of the Intermountain West, impacting management decisions related to fire, logging, and wildlife habitat. We evaluated effects of a recent mountain pine beetle epidemic on site occupancy dynamics of > 60 avian species in four study units

dominated by ponderosa pine (*Pinus ponderosa*) in the Helena National Forest. Point count data were collected during the avian breeding seasons (May-Jul) of 2003-2006 (pre-epidemic) and again during 2009-2010 (post-epidemic). We used a Bayesian hierarchical model that accounts for detection probability to obtain occupancy estimates for rare and elusive species as well as common ones. We estimated occupancy and detection for all species with respect to the occurrence of the beetle outbreak, live tree density at fine scale (1 ha), and live tree density at coarse (landscape) scale (100 ha). Preliminary analyses focus on trends in occupancy for species of interest, such as the American Three-toed Woodpecker (*Picoides tridactylus*), as well as patterns of occupancy for nesting and foraging guilds. Results indicated diverse responses among species, with occupancy rates increasing for some and declining for others.