

AVIAN COMMUNITY RESPONSES TO PRESCRIBED BURNS AND SHELTERWOOD HARVESTS

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Previous forest management practices in U. S. Forests emphasized the suppression of fires. A consequence of this management practice has been the excessive accumulation of fuel and high tree densities. To avoid severe and catastrophic fires, resource managers now use a variety of treatments to diminish fuel loads. Alternative treatments include prescribed burns and shelterwood harvests, both of which are assumed to mimic natural ecosystem function. However, avian responses to silviculture treatments have been investigated only recently. We present the results of a study to determine whether avian community composition, productivity, and foraging behavior are affected by fire and fire surrogate treatments. Avian species composition and abundance in each of four treatment types were estimated using point-count census methods. The treatment plots were control, burn, thin, and burn + thin. The treatments were replicated at three sites. We also determined differences in nest productivity. Avian censuses were conducted 1 year before the treatments to obtain baseline data on species composition and relative abundance, and 3 years posttreatment. Our results show acute and relatively long-term responses to forest disturbance. We compared community composition, nest productivity, and foraging behavior using data from the baseline samples to determine whether species composition was homogeneous among the treatments. Species composition was significantly different among treatments, with the highest diversity in thin and burn plots. However, there was considerable heterogeneity in the data. Average nest productivity also varied across treatments. We document how species composition shifts in response to the thin and burn treatments.

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