

Bat Activity In Riverine Stands Of Native Plains Cottonwood And Naturalized Russian Olive In Southeastern Montana

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Replacement of native riverine gallery forests by woody exotics is a significant conservation issue throughout the western United States. Controversy surrounds the management of Russian olive (*Elaeagnus angustifolia*), a small Eurasian tree now naturalized in the west, because its detrimental effects to native vegetation are offset to some degree by resources (food and cover) it provides for some wildlife species. We examined the relative use by bats of plains cottonwood (*Populus deltoides*) and Russian olive by measuring bat activity with electronic bat detectors in stands dominated by each plant species (cottonwood: 12, Russian olive: 6) along the Yellowstone and Powder rivers in eastern Montana. Bats were detected in all stands, but activity was greatest in those dominated by cottonwood. Bat activity was also positively correlated with percent canopy cover of cottonwood. Snags and dead limbs, loose bark, and cavities, all important roosting habitat for bats, were most prevalent in cottonwood stands; cavity-making birds (woodpeckers, nuthatches, chickadees) were also significantly more evident in cottonwoods. We conclude that naturalized Russian olive in the northern Great Plains is inferior riverine habitat for bats relative to native cottonwood gallery forest.