

WILDLIFE DIVERSITY OF RESTORED SHORTLEAF PINE–OAK WOODLANDS IN THE NORTHERN OZARKS

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EXTENDED ABSTRACT

Historic changes in land use have altered the plant composition and structure of shortleaf pine-oak woodlands in the northern Ozarks. As a result, the composition of wildlife communities in these landscapes has shifted to species that are more associated with closed canopy oak forests. For example, the red-cockaded woodpecker (*Picoides borealis*) has been extirpated from much of its former range in the Ozarks, and the pine buck moth (*Hemileuca maia*) has declined in numbers, while other species associated with closed canopy forests have become more abundant.

Managing tree density with silvicultural practices and recovering characteristic ground flora with prescribed fires will restore habitat and result in a shift in the composition of wildlife species in pine-oak woodland communities. Landscape-scale habitat restoration is a major emphasis of Missouri's Comprehensive Wildlife Conservation Strategy (CWS), which also focuses on preserving healthy landscapes. The goal of the CWS is to conserve all wildlife, which includes plants, animals, and natural communities. Central to the CWS are a statewide network of Conservation Opportunity Areas (COA), which have been identified as the best landscapes in Missouri to focus on conservation of all wildlife. Shortleaf pine woodland restoration is an objective in several of the COAs in the Missouri Ozarks. The Current River Hills COA includes the forests, woodlands, glades, fens, and caves surrounding the Current and Jacks Fork Rivers. Once the site of Missouri's most extensive shortleaf pine woodlands, the Eleven Point Hills COA lies in some of the most rugged and least developed portions of the Missouri Ozarks. Historically, pine-oak woodlands occupied high elevations in the North Fork COA, which today is dominated by dense second-growth forest with only scattered pine plantations. The success of our efforts to conserve all wildlife in these COAs can be assessed by monitoring for the suite of animal and plant species that require a healthy pine-woodland community for survival.

The restoration of shortleaf pine woodlands will benefit many species of birds, including Partners in Flight Watchlist Species, such as red-headed woodpecker (*Melanerpes erythrocephalus*), Bachman's sparrow (*Aimophila aestivalis*), and brown-headed Nuthatch (*Sitta pusilla*). However, red-cockaded woodpeckers will only return in the Missouri Ozarks with intentional reintroductions. While many species such as these probably will benefit from shortleaf pine restoration, it is likely that many others that thrive in closed canopy forests, such as wood thrush (*Hylocichla mustelina*) and ovenbird (*Seiurus aurocapilla*), will decline, at least locally in the restored pine woodlands. Fortunately, birds will not be the only beneficiaries of habitat restoration. Other animal species that are expected to benefit include ringed salamander (*Ambystoma annulatum*), northern fence lizard (*Sceloporus undulatus*), wood frog (*Rana sylvatica*), and plains spotted skunk (*Spilogale putorius interrupta*) (Nigh 2005).

Plants that are expected to benefit include lowbush blueberry (*Vaccinium pallidum*), big-flowered gerardia (*Aureolaria grandiflora*), farkleberry (*V. arboreum*), lead plant (*Amorpha canescens*) and goat's rue (*Tephrosia virginiana*) (Nelson 1985). The Missouri CWS outlines research and inventory needs, current and potential conservation partners, and overall conservation strategies that will work toward restoration of shortleaf pine woodland communities in the Missouri Ozarks.

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