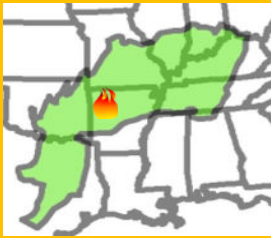


McIlroy Madison County WMA

FIRE SCIENCE HOT SPOTS



In this feature, we bring into focus fire science on-the-ground

The [McIlroy Madison County Wildlife Management Area](#) (MWMA) lies within the Ozark Highlands of northwestern Arkansas. The [Arkansas Game and Fish Commission](#) (AGFC) manages the site's approximately 15,000 acres using timber harvests, thinning, and prescribed fire to restore glades, savannas, and woodlands within this rugged landscape dominated by shortleaf pine-oak forests. Management is guided by forest inventories, which are used to identify areas in need of treatment or those suitable for restoration, and to inform management prescriptions. Within older, even-aged shortleaf-pine stands, AGFC seeks to establish a multi-aged pine system while increasing ground-layer vegetation. Prescribed burns are usually conducted in the winter across the portions of MWMA where leaf-off fuel conditions are necessary to achieve burn objectives. Fire frequencies range from 3–4 years in woodland restoration areas, to 5–6 years in maintenance burn units where the canopy has not been opened. Glade restoration units are treated on a 2-year rotation, with late growing-season fires often applied to control woody species and promote forb diversity. The combination of timber thinning and prescribed fire is fostering a mosaic of habitats across MWMA, supporting high biodiversity and species richness of plant communities and wildlife.



Top-left: A low-intensity growing-season burn conducted to maintain a restored glade amidst a forested landscape of shortleaf pine and hardwood species. **Top-right:** An area targeted for glade restoration illustrating pre-restoration conditions, where woody species dominate the midstory. **Bottom-left:** The Eastern Collared Lizard (*Crotaphytus collaris*), a species of great conservation concern, has been reintroduced into restored glades at MWMA. Observations of juveniles suggest that management has provided sufficient suitable habitat for this species to reproduce. **Bottom-center:** One approach to opening forest canopies at MWMA involves felling and bucking trees

(leaving the activity fuels onsite), resulting in a flush of ground-layer vegetation from an intact seed bank and facilitating shortleaf pine and oak regeneration and recruitment in aging stands. **Bottom-right:** Increased ground fuel loads resulting from mechanical thinning are reduced through subsequent prescribed fires. Click on each photo for a full-size downloadable image or view all [HERE](#). Photo credits: top-left and bottom-left by Emily Roberts (AGFC), top-right by Michael Gregory (AGFC), bottom-center and bottom-right by Sarah Weems (Quail Forever).

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