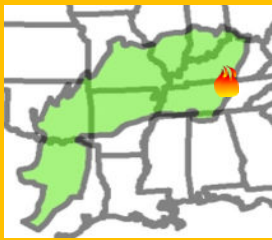


Catoosa Wildlife Management Area



FIRE SCIENCE HOT SPOTS



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

The [Catoosa Wildlife Management Area](#), spanning approximately 77,000 acres on the Cumberland Plateau, is Tennessee's second-largest WMA. Managed by the [Tennessee Wildlife Resources Agency](#) (TWRA), this diverse landscape of rolling hills, steep ridges, and deep drainages provides critical habitat for game and nongame species, such as white-tailed deer, wild turkey, black bear, red-headed woodpecker, prairie warbler, and white-eyed vireo. Historically, Catoosa WMA's landscape was shaped by frequent fires and anthropogenic activities like timber harvesting and livestock grazing. Such disturbances, coupled with a shallow soil profile, foster conditions favorable for oak-dominated systems. Catoosa WMA is undergoing extensive savanna restoration on 6,000 acres to revive historically prevalent fire-dependent ecosystems with overstories dominated by oaks (*Quercus* spp.), hickories (*Carya* spp.), and shortleaf pine (*Pinus echinata*) (**top-right** image below). Since 1980, management across twenty-seven 1,000-acre compartments has prioritized oak regeneration through practices including shelterwood harvests and prescribed fire, creating forest age distributions that enhance wildlife habitat and allow more ground-level sunlight to promote oak seedling growth (**bottom-left** image below). With continued savanna restoration and oak regeneration, TWRA is ensuring a more resilient and diverse landscape at Catoosa WMA.



Top-left: Vegetative response observed one month after a savanna restoration burn conducted in March, the most common month for prescribed burns at Catoosa WMA. Low-intensity burns are now applied at 1- to 3-year intervals to maintain existing savannas. To introduce greater seasonality to fire effects, some prescribed burns are now conducted in October and November. **Bottom-right:** An area within a 25-year-old oak-pine savanna restoration unit demonstrating seed-bank response to pine harvest, followed by prescribed fire. After a southern pine beetle outbreak in 1999-2000, pine in this area was heavily harvested to capture mortality and prevent beetle spread. The resulting vegetative response led to the

decision to maintain the site as savanna. TWRA coordinates efforts to ensure that prescribed fires and other management activities have minimal impacts on habitats critical to sensitive species, such as the tricolored bat (*Perimyotis subflavus*) (**top-left inset**) and mud salamander (*Pseudotriton montanus*) (**top-right inset**). Click on each photo for a full-size downloadable image, or view all [HERE](#). Photo credits: top-left and top-right by Luke Hadden (TWRA), top-left inset and top-right inset by Daniel Istvanko (TWRA), all others by Oak Woodlands & Forests Fire Consortium.

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