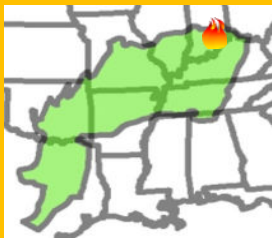


Big Oaks National Wildlife Refuge

FIRE SCIENCE HOT SPOTS



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

The [Big Oaks National Wildlife Refuge \(NWR\)](#) is situated on the former Jefferson Proving Ground, in southern Indiana, where the US Army tested conventional munitions for over 50 years. In 1996, the US Fish and Wildlife Service (USFWS) began managing the site after it was decommissioned. Recognizing the opportunity to transform the landscape into one focused on wildlife conservation, Big Oaks NWR was established in 2000. During the weapon-testing era, fire was employed to maintain low fuel loads on impact fields. This practice helped to develop the large areas of grassland found at the refuge that are now maintained with prescribed fire. The presence of unexploded ordnance (UXO) (**bottom inset**), and related safety concerns, impact how staff implement management practices and limit locations for recreational opportunities for refuge visitors. Big Oaks' approximately 50,000 acres have been designated a Globally Important Bird Area that hosts one of the largest known populations of Henslow's Sparrow (*Centronyx henslowii*) (**top-left inset**). Acknowledging the legacy of weapons testing with adaptive stewardship, the USFWS aims to conserve and protect the wildlife benefits and ecosystem services associated with the forests, grasslands, and wetlands found at Big Oaks.



Top-left: Former impact fields are managed with fire at return intervals of 2-3 years to maintain grasslands and to manage the impact of woody invasive species like autumn olive (*Elaeagnus umbellata*). **Bottom-left:** Flatwoods, common in this part of Indiana, are burned here every 3-10 years to sustain habitat for rare plants, Red-headed Woodpeckers (*Melanerpes erythrocephalus*), Cerulean Warblers (*Setophaga cerulea*), and Indiana bats (*Myotis sodalis*). **Top-right:** Rainfall reveals remnant craters on this recently burned impact field. Wetland areas and grasslands are managed to provide suitable habitat for the state-endangered northern

crawfish frog (*Lithobates areolatus*) (**top-right inset**). **Bottom-right:** Due to UXOs, burn crew work is usually limited to the safety of refuge roadways. Unmanned aerial vehicles (UAVs) are often used during prescribed fire ignition operations. Click on each photo for a full-size downloadable image, or view all [HERE](#). Photo credits: Top-left inset by Ben Walker (USFWS), top-right inset by Andrew Hoffman (St. John Fisher University), top-right and bottom inset by Bryan Yockers (OWFFC), all others courtesy of USFWS.

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