



# PAOLI EXPERIMENTAL FOREST

Paoli, Indiana



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The 632 acre (256 ha) Paoli Experimental Forest located in the Hoosier National Forest in south-central Indiana, was established in 1963. The primary mission of the Paoli EF is to conduct research on mixed hardwood species to demonstrate how to increase the number and quality of high-value species on good sites. Research conducted on the experimental forest has been used to develop prescriptions for regenerating oaks in mesophytic forests of the central hardwood region. The research has added to the knowledge of how oak regeneration dynamics vary by ecoregion in the eastern United States and was recently incorporated into a landmark synthesis on oak forest ecosystems, “The Ecology and Silviculture of Oaks” by P.A. Johnson, S.R. Shifley, and R. Rogers.



## Assets:

**Scientists:** 3 Northern Research Station scientists actively work with data from the Paoli Experimental Forest and data from the experimental forest supports research for other Northern Research Station scientists and university collaborators.

**Scientific support:** 2 full-time technicians and 2 seasonal technicians shared with the Sinkin and Kaskaskia Experimental Forests.

**Cooperators:** Hoosier National Forest, Purdue University, and Indiana Division of Natural Resources.

## Needs:

**Annual operating costs:** \$142,000 shared with the Sinkin and Kaskaskia Experimental Forests.

### Long-term needs:

- Additional technician for data collection and a data manager shared with the Sinkin and Kaskaskia Experimental Forests - \$90,000/yr
- Operating funding to facilitate cooperative research - \$50,000

### The Paoli Experimental Forest is administered by:

U.S. Forest Service, Northern Research Station  
202 Natural Resources Building  
University of Missouri, Columbia, MO 65211

Key Contact:

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## More About the Paoli Experimental Forest

**Location:** Lat. 38°19' N, long. 86°18' W

The Paoli Experimental Forest is located near Paoli, IN, and is about 60 miles south of Bloomington.

**Vegetation:** The forest types are typical for southern Indiana and other areas of equally good sites in the region. Mixed hardwoods are on lower slopes, in valleys, and in coves. The oak-hickory type is found on the upper slopes and ridges. The predominant species are sugar maple, ash, beech hickory, white oak, and elm in the mixed hardwood type and white oak, hickory, sugar maple, red oak, and black oak in the oak-hickory type. Yellow-poplar is deficient in the overstory but scattered trees provide a seed source. Black walnut trees, though not numerous, are scattered through the mixed hardwood stands. Plantations and old fields are generally found on broad ridges. The old fields range from small fields with no woody species to those with volunteer trees and shrubs.

**Climate:** The climate on the Paoli Experimental Forest is temperate, with long summers and mild winters. The average frost-free period is 175 days. Annual precipitation averages 44 inches (1,092 mm) and it falls throughout the year, primarily as rain. Droughts can occur in late July and August.

**Research—past and present:** Research on the Paoli Experimental Forest has included studies on white and northern red oak plantings; effects of nursery undercutting and shoot pruning on growth of out-planted oaks; prescribed burning to stimulate both planted and natural stands of regenerated oak trees; the growth of black walnut as influenced by competition and site; and control competition to the oak from yellow-poplar, aspen, and maple.

**Research opportunities:** Opportunities for research include stand-level investigations into the forest ecology and silviculture of central hardwood forests. Monitoring ongoing research will continue to be productive and add to our knowledge of how forests respond to specific management disturbances. Periodic forest inventory will document forest succession in the absence of management.

**Facilities:** There are no facilities on the Paoli Experimental Forest.

More information can be found at: <http://www.nrs.fs.fed.us/ef/locations/in/paoli/>

