



# VINTON FURNACE EXPERIMENTAL FOREST

McArthur, Ohio



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Located in southeastern Ohio on privately owned land, the 3,200 acre (1,300 ha) Vinton Furnace Experimental Forest was established in 1952, designated an experimental forest in 1963, and named after the nearby iron furnace that shaped the forests in the area. The Vinton is renowned for long-term silvicultural research spanning more than 45 years. The information gleaned from the Vinton has significantly improved management of mixed oak forests and still provides practical information to forest managers and landowners. Research in the Vinton is in demand by public and private landowners, policymakers at the State and Federal level, and scientists around the globe. The Vinton is part of the regional Cerulean warbler working group and the national Fire and Fire Surrogate network.



## Assets:

**Scientists:** 6 Northern Research Station scientists and a full-time forest manager are currently conducting research on the Vinton Furnace.

**Scientific support:** 3 technicians and/or professionals support the work of these scientists with the addition of 6 seasonal technicians during the summer data collection.

**Cooperators:** Ohio University, Ohio State University, University of North Carolina, The Nature Conservancy, Ohio Division of Forestry, Ohio Division of Wildlife, Wayne National Forest, other Forest Service scientists

## Needs:

**Annual operating costs:** \$281,000

### Critical needs:

- Ownership by nonprofit or government agency, or conservation easement to ensure continued long-term research - \$5,000,000
- National Weather Service-quality meteorology station - \$50,000

### Long-Term Development Needs:

- 2 forestry technicians for long-term study installation, maintenance, and data collection - \$120,000/year. Long-term studies are being abandoned and closed due to lack of funding for technical personnel.
- A wildlife ecologist and support technician to adequately study the effects of management to sustain oak forests on the resident animal species - \$150,000/year for scientist, \$60,000/year for technician, \$75,000/year operating budget

### The Vinton Furnace Experimental Forest is administered by:

The U.S. Forest Service, Northern Research Station

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## More About the Vinton Furnace Experimental Forest

**Location:** Lat. 39°11' N, long. 82°22' W

The Vinton Furnace Experimental Forest is located near McArthur, OH and about 80 miles southeast of Columbus.

**Vegetation:** The Vinton Furnace comprises upland mixed-oak forests with chestnut oak on the ridgetops, tending to scarlet and black oak downslope, with white oak, red maple, and hickories midslope blending to yellow-poplar and Ohio buckeye in the mesic areas. Scattered areas of shortleaf pine and eastern hemlock account for most of the conifers found in the area. More than 50 tree species are found within the borders of Vinton Furnace.

**Climate:** Mean annual temperature at the Vinton Furnace is 53 °F (11.3 °C), which includes below-freezing temperatures during January. Precipitation, mostly rain, is distributed throughout the year with a mean annual precipitation of 41 inches (1,024 mm). The growing season consists of 158 frost-free days.

**Research—past and present:** Past studies concentrated on silvicultural practices, regeneration, and growth and yield of desirable hardwood species. Current research focuses on the effects of using shelterwood and prescribed fire to restore mixed-oak ecosystems and fire behavior and dynamics. Managing for rare plant and wildlife species, such as Bartley's reed bent grass, cerulean warbler, Indiana bat, and timber rattlesnake, is another area of study.

**Research opportunities:** As part of the Forest Service's National Fire and Fire Surrogates Ecosystem Study, the Vinton Furnace offers landscape-scale harvesting, burning, and control treatment areas with many components of the ecosystem well documented and monitored. Collateral, multidisciplinary studies are continually being added to these areas.

**Facilities:** The headquarters area of the Vinton Furnace contains a large meeting/training center, quarters for 6 visiting scientists and technicians, office equipment, broad-band internet connections, and a weather station.

More information can be found at: <http://www.nrs.fs.fed.us/ef/locations/oh/vinton-furnace/>



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