



# FERNOW EXPERIMENTAL FOREST

## Parsons, West Virginia



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Located in north central West Virginia, the 4,700-acre (1,902 ha) Fernow Experimental Forest was set aside in 1934 and named after Bernhard Fernow. The Fernow is renowned for long-term silvicultural research and long-term watershed research, both spanning more than 50 years. Current research topics include silviculture, hydrology, soil productivity, the use of fire for restoration purposes, managing for threatened and endangered wildlife species, and the effects of acidic deposition on forest ecosystems. The information gleaned from the Fernow has significantly improved management of these mixed-hardwood forests and still provides practical information to forest managers and landowners. Research in the Fernow is in demand by public and private landowners, policymakers at the State and Federal level, and scientists around the globe. The Fernow is part of several national and international scientific networks, including the National Atmospheric Deposition Program, the National Trends Network, and the Long-Term Soil Productivity Studies.



### Assets:

**Scientists:** 12 Northern Research Station scientists are conducting studies on the Fernow.

**Scientific Support:** 1 full-time data manager, 14 professionals and technicians, and a 3-person logging crew (the only such crew in the U.S. Forest Service) provide support to these scientists.

**Cooperators:** West Virginia University, Virginia Polytechnic Institute and State University, University of Georgia, The Nature Conservancy, University of Pittsburgh, WV Division of Forestry, other Northern Research Station units

### Needs:

**Annual operating costs:** \$438,416

#### Critical needs:

- Control of mineral rights, through purchase, or surface occupancy controls - \$500,000
- Climate controlled sample storage building - \$125,000

#### Long-term needs:

- A new water quality laboratory to relieve space shortages that hinder the productivity of the water quality research program - \$450,000
- Improved conference and bunkhouse facilities for visiting scientists, graduate students, etc. - \$600,000

#### The Fernow Experimental Forest is administered by:

U.S. Forest Service, Northern Research Station

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## More about the Fernow Experimental Forest

**Location:** Lat. 39°3'15" N, long. 79°41'15" W

The Fernow EF is located just south of the city of Parsons, WV off Route 219. The Parsons area is home to a number of woodworking industries and the world's largest charcoal manufacturing plant.

**Vegetation:** The Fernow was heavily cut over between 1905 and 1911. The second growth vegetation is mixed hardwoods and has been classified as mixed mesophytic forest. Principal overstory species include northern red oak, sugar maple, yellow-poplar, and red maple. There are 22 commercial tree species on the Fernow.

**Climate:** The climate on the Fernow is classified as rainy and cool. Mean annual precipitation is 60 inches (1,470 mm) distributed evenly throughout the year. Mean annual temperature is 48°F (8.9°C), with a frost free season of about 145 days. Although winter snowfall can be heavy, the snow pack is intermittent.

**Research—past and present:** Scientific studies on the Fernow have followed two lines of research, with considerable overlap. Silvicultural research focused mostly on mixed-hardwood stands, addresses questions relating to regenerating, growing, tending and harvesting trees and stands. Watershed research has addressed some of the more basic questions about water use by forests and forest hydrology, as well as critical issues affecting roads, best management practices, and forest management effects on water and soil resources. The Fernow has been in the forefront of research on acid deposition and nitrogen saturation. Recently, research on threatened and endangered species has taken on a more prominent role due to the presence of the Indiana bat and running buffalo clover on the Fernow.

**Other assets:** EPA approved water quality laboratory, fireproof/flood-proof data storage.

**Research opportunities:** The opportunities for research on the Fernow EF are abundant thanks to its long-term studies and the wealth of data. There is the opportunity for stand manipulations as the Fernow has its own logging crew and equipment.

**Facilities:** Facilities of the Fernow include a water quality laboratory, a second general laboratory facility, fireproof/flood-proof data storage, and a small historic bunkhouse. The nearby Timber and Watershed Laboratory of the Northern Research Station has laboratory facilities, and offices.

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

