



# SILAS LITTLE EXPERIMENTAL FOREST

## New Lisbon, New Jersey



Reprinted from Experimental Forests of  
the Northern Research Station NRS-INF-07-09

Located in New Jersey, the 590 acre (239 ha) Silas Little Experimental Forest (formerly the Lebanon Experimental Forest) was established in 1933 on land leased from New Jersey on the Brendan Byrne State Forest. The forest has a long history of fire and forest productivity research. In 1937, Dr. Silas Little was assigned to be the lead scientist on the experimental forest and served in that role until his retirement in 1979. In association with the New Jersey Forest Fire Service, Dr. Little pioneered research on the practice and effects of using prescribed fire as a tool to reduce wildfire risk on this Pine Barrens forest type. Today research focuses on wildland fire and fuels, including work on hazardous fuels management, predictions of fire weather and fire danger ratings, and use of Light Detection and Ranging (LIDAR) systems to characterize fuel loading and forest structure across the Pine Barrens.

### Assets:

**Scientists:** 2 Northern Research Station scientists are currently conducting studies on the Silas Little.

**Scientific support:** 2 technicians and/or professionals support these scientists in their work.

**Cooperators (abbreviated):** New Jersey Forest Fire Service, NJ Department of Environmental Protection, NASA, U.S. Geological Survey, Rutgers University, Drexel University, University of Florida, NJ Pinelands Commission, other Forest Service units.

### Needs:

**Annual operating costs:** \$200,000 (Forest Service share only.)

**Critical needs:** Replacement of the plant and soil analysis/water quality/microscopy labs, now housed in 2 old trailers owned by Rutgers University.



**The Silas Little Experimental Forest is administered jointly by:**

Rutgers University and

The U.S. Forest Service, Northern Research Station

P.O. Box 232, 501 Four Mile Road, New Lisbon, NJ 08064

Key Contact: Ken Clark, 609-894-0325, email [kennethclark@fs.fed.us](mailto:kennethclark@fs.fed.us)



## More about the Silas Little Experimental Forest

**Location:** Lat. 39°54'58", long. 74°35'55"

The Silas Little Experimental Forest is located near New Lisbon, NJ and about 32 miles east of Philadelphia, PA.

**Vegetation:** The Silas Little represents a number of forest types in the Pine Barrens, including upland forest on sandy soils consisting of oaks and shortleaf and pitch pine (52 percent), upland forest on highly infertile sands supporting pitch pine and low-grade oaks (22 percent), and lowland forests on poorly

drained soils consisting of pitch pine (14 percent), and mixed hardwood swamp forests (12 percent).

**Climate:** The climate on the Silas Little is strongly influenced by the Atlantic Ocean. The coldest month is February when temperatures average 28 to 34 °F (-2 to 1 °C), and the warmest month is July when temperatures average 73 - 77 °F (23 - 25 °C). Average rainfall is ~45 inches per year, with reduced rainfall occurring in spring and fall. Wildfire activity is greatest in April and May, coinciding with reduced precipitation, increased solar radiation, and windy conditions in the late spring.

**Research—past and present:** Historically, one of the major research accomplishments from the Silas Little EF was improving strains of pitch and loblolly pine. The hybrid species developed there has now been planted throughout the eastern United States and southeastern Canada, on denuded hills throughout South Korea and France. In 1993, the International Paper Company began a planting program with this hybrid on its northern lands. Currently, research on the Silas Little is focused on fire weather and its interactions with hazardous fuels, and evaluating the carbon dynamics of prescribed fires and wildfires using eddy flux, field measurements, and LIDAR techniques. Other research focuses on the effects of disturbance, including gypsy moth defoliation, on short- and long-term forest productivity.

**Research opportunities:** There are numerous opportunities for research on all aspects of fire weather, wildfire ecology, and carbon sequestration. New research within the New Jersey Pine Barrens region is encouraged and facilitated by the Northern Research Station and the Rutgers Pineland Research Station and requires approval by the field station director and the Forest Service program manager.

**Facilities:** Facilities at the Silas Little include a main house with offices and a library, a bunk house that now serves as the Forest Service office, a workshop and sample preparation area, a dorm trailer with space for up to 12 people, a greenhouse, and 2 laboratory trailers that have complete instrumentation for plant, soil and water analyses. Two weather stations and instrumented flux towers are also available on the site.

More information can be found at: <http://www.nrs.fs.fed.us/ef/locations/nj/silas-little/>

