Stone Valley Forest History

The Stone Valley Forest covers 6,775 acres of land in northern Huntingdon County, Pennsylvania, approximately 15 miles south of State College and Penn State adjacent to Route 26. The Stone Valley Forest takes its name from Standing Stone Creek, which flows into the Juniata River at Huntingdon, the county seat of Huntingdon County. The name Standing Stone was derived from a 14-foot-tall stone monolith that American Indians of the Tuscarora tribe erected on the present site of the town of Huntingdon to designate a meeting place for tribal conferences. Shaver Creek, the main waterway running through the Stone Valley Forest, was named for trapper and trader Peter Shaver, who lived on the west bank near the mouth of the creek until he was murdered around 1765.

The majority of the Stone Valley Forest lies within the Shaver Creek drainage basin and in the township of Barree, with a few acres in the adjoining townships of Jackson and West. Barree Township was formed in 1767 as part of then Cumberland County. Barree Township experienced American Indian raids until 1781. As the local European settler population increased in the early nineteenth century, new settlers profoundly affected the forest. They cleared part of the forest for crops and selectively harvested the rest to provide materials for buildings, fences, fuel, furniture, and tools. The valley's rather deep soil, which was well drained, could be tilled easily and was very productive. Rolling knolls that had supported excellent stands of mixed hardwoods and softwoods were converted to farmland. Settlers grew timothy, wheat, corn, oats, barley, rye, and potatoes, and also raised livestock. They erected spacious homes of stone, brick, or pine lumber.

The local discovery of iron ore deposits led to the construction of the Monroe iron smelting furnace in 1845 at the foot of Tussey Mountain on land now included in the Stone Valley Forest. The Monroe iron furnace and similar facilities in the region used charcoal produced from repeated heavy cutting of the nearby forests. In 1870 its unfavorable location, small size, and lack of capital forced the furnace to cease operations. All that remains of the Monroe Furnace settlement, which once included more than 10 dwellings and a store, is the old stone furnace stack. Remnants of many charcoal hearths are scattered throughout the Stone Valley Forest.

The last half of the nineteenth century and the beginning of the twentieth century saw the farmlands in the headwaters of the valley begin to decline when the valley's light, silty soil suffered increasingly from severe erosion. The topsoil washed away completely in many places and exposed very droughty shale subsoil incapable of growing productive crops. Poverty and bankruptcy became more and more common. People began to abandon their farms and seek employment elsewhere. Local taxes could no longer be collected to support the local governments. In 1925 landowners attempted to strike oil but ceased drilling at about 800 feet without success.

In 1934 the U.S. Resettlement Administration established a land utilization unit in the northern headwaters of Stone Valley. Farmers on submarginal lands were given an opportunity to sell their farms for cash or to exchange them for better land elsewhere. Through the use of emergency relief funds, township roads were improved and abandoned fields were planted with trees. These activities provided employment for local residents. The federal government then established a United States Forest Service Experiment Station in the forest.

In the early 1950s the forest was deeded to The Pennsylvania State University for use as an outdoor laboratory. Since then, the University's forest management activities have focused on sustaining a working forest that also provides teaching, research, and demonstration opportunities.

Prepared by the Penn State Forestland Management Office.
Visit Penn State's College of Agricultural Sciences on the Web: **agsci.psu.edu**

This publication is available in alternative media on request.

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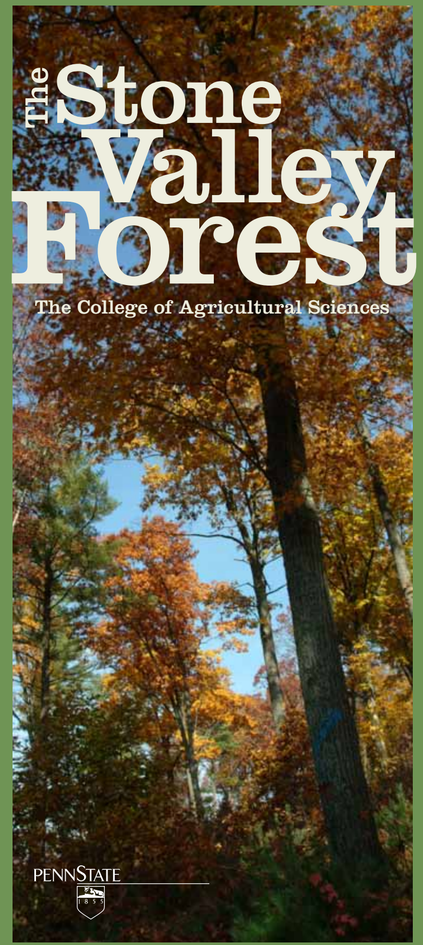


Public Use of the Forest

The Stone Valley Forest is located 15 miles south of State College and Penn State adjacent to Route 26. The forest's 6,775 acres are open to the public for recreational activities that are consistent with the forest's other management goals and objectives.

The Stone Valley Recreation Area and the Shaver's Creek Environmental Center, with its Raptor Center, are located within the forest.

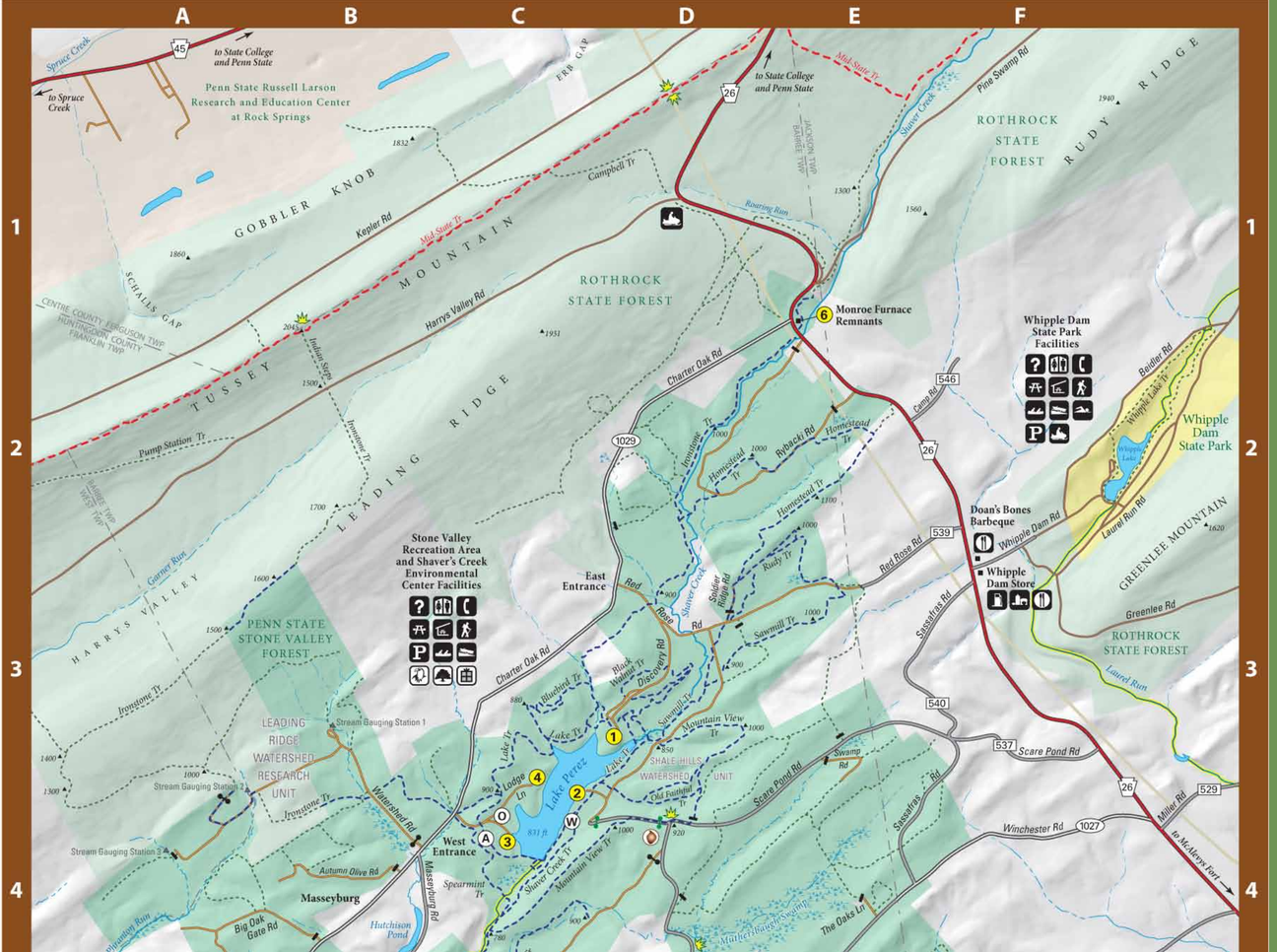
The 72-acre Lake Perez is currently drained for repairs to the dam and is scheduled to be repaired and refilled by 2012.

The Recreation Area and the Environmental Center offer many recreational and educational opportunities including fishing along Shavers Creek, hayrides, cabin rentals, group rental facilities, hiking, cross-country skiing, day camps, student orientations, teacher education training, teambuilding, and a variety of group programs.

Stone Valley Vertical Adventures is one of the biggest challenge course facilities on the East Coast, with unmatched natural resources. This high-adventure course is available to Penn State organizations, businesses, civic groups, schools, athletic teams, and other organized groups ranging in size from 8 to 56 that are seeking a unique teambuilding experience and plenty of fun challenges! Activities are designed for individuals to succeed together as a team while they work on problem solving, communication, collaboration, and trust building. Please note that participants must be 12 years of age or older. For more information, visit the Web at **www.psu.edu/Stone_Valley/vertical_adventure.shtml**.

Trail maps, topographic maps, and brochures are available. For more information about the Stone Valley Recreation Area, call 814-863-1164 or visit them on the Web at **www.psu.edu/dept/Stone_Valley**. For more information about the Shaver's Creek Environmental Center, call 814-863-2000 or visit them on the Web at **www.shaverscreek.org**. Group programs that are not administered by the Stone Valley Recreation Area or the Shaver's Creek Environmental Center must be approved in advance by the forest supervisor, who can be reached by phone at 814-865-6272 or by e-mail at psuforestmgmt@psu.edu.

The road network throughout the forest consists of roads maintained by the Commonwealth, townships, and Penn State. There are 25 miles of maintained trails and about 50 miles of unmaintained trails. Trails are open for walking and hiking. Horseback riding and mountain biking also are permitted, unless otherwise posted. Specific regulations apply. Motorized vehicles are not allowed on any trails. Many Penn State roads are gated from mid-January through April.



The Stone Valley Environment

The Stone Valley Forest is located in Pennsylvania's Ridge and Valley Physiographic Province, which is characterized by sharply folded, sandstone ridges and lower-lying shale hills. The soils—of shale, quartzite and sandstone origin—are a mix of well-drained, medium-textured to somewhat poorly and poorly drained soils. Waterways in the forest are part of the Susquehanna River Basin. Shaver Creek, which varies in width from a few feet to 60 feet, is the largest waterway in the forest. It has a small population of native brook trout and is also stocked with trout from hatcheries. There are also dozens of smaller runs and intermittent streams throughout the forest. The largest wetland area in the forest is Muthersbaugh Swamp, which encompasses 40 acres. The forest is dotted with other wetland and forested wetland areas as well as vernal pools. The forest includes a tremendous variety of cover and habitat types, plant and animal species, and soils.

Topography and Climate

The Stone Valley Forest lies between Tussey Mountain to the north and Stone Mountain to the south. Its elevation ranges from 763 feet on Shaver Creek to 1,637 feet on Leading Ridge.

The forest has a humid continental climate, with rather severe winters and warm summers. Temperature can range from 19°F in winter to 82°F in summer. Approximately 42 inches of rainfall is rather evenly distributed throughout the year.

Continuous monitoring of atmospheric deposition impacts on water quality, hydrologic response, nutrient cycling, and water yields from forested and managed watersheds has occurred on The Leading Ridge Watershed Research Unit since 1958 and on the Shale Hills Watershed Research Unit since 1961.

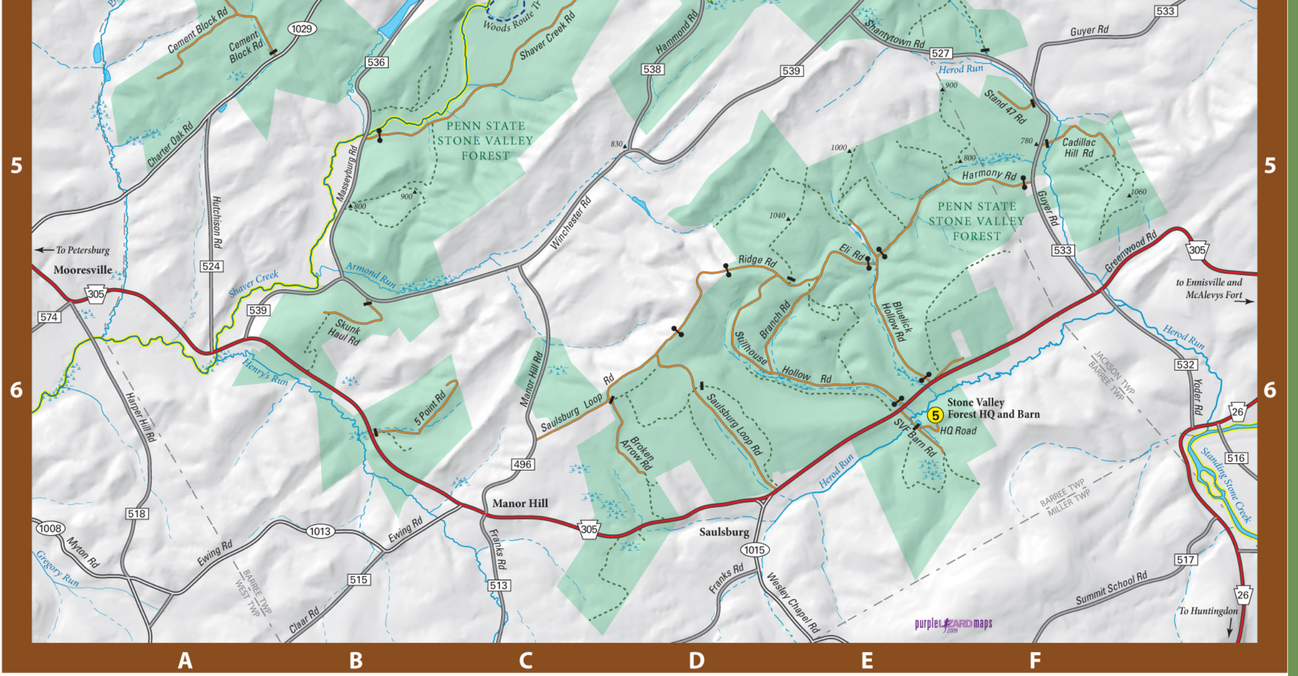
Forest Management
(Our Objectives and Goals)

The current management plan for the Stone Valley Forest is designed to meet the educational goals of Penn State's School of Forest Resources by building a variety of forest communities. Previous plans focused on helping the land recover from the devastating land clearing and uncontrolled cutting of the previous 160 years.

To develop the current plan, forest managers and researchers collected data on 20 factors in each of the forest's 1,500 management units. These data range from information about herbaceous cover and overstory trees to historical features. Several potential management regimes were developed for each management unit. Planners then used a computer program to sort through the possible management regimes and develop a 50-year plan to optimally manage the forest while meeting several goals. These goals include:

- To manage the forest for multiple benefits, including timber, wildlife, water, recreation, aesthetics, cultural resources, and unique natural resources. A long-term management schedule includes an array of silvicultural practices ranging from clearcutting to selective cutting. Additional activities include wildlife habitat improvement and the protection and enhancement of aesthetic and cultural resources, including historic buildings and structures. All activities are conducted in ways that protect soil and water resources, including wetlands, while also permitting a variety of recreational opportunities.

- To serve as a model for other forest landowners by applying up-to-date, science-based, biologically sound, and financially feasible natural resource management practices. School of Forest Resources faculty, staff, and students regularly conduct research on forestlands and publish articles describing research results and forest practices in popular and scientific journals. The school also uses the forest and its facilities to host professional and public meet-



Penn State Stone Valley Forest

- Penn State Stone Valley Forest
- Penn State Russell Larson Research and Education Center at Rock Springs
- DCNR Rothrock State Forest
- DCNR State Park
- Private Land

0 1/2 mile
approx. 1:32,000

1. Shaver's Creek Environmental Center
2. Stone Valley Recreation Area, Office and Rental Cabins
3. Boathouse
4. Civil Engineering Lodge
5. Stone Valley Forest HQ and Barn
6. Monroe Furnace Remnants
- W Vertical Adventure Carolina T-Wall
- O Vertical Adventure Odyssey III Course
- A Vertical Adventure Alpine Tower and Swing
- Xi Sigma Pi Chestnut Demonstration Orchard
- Wetland
- Vista
- 1208 Elevation (feet)

- Information
- Telephone
- Restroom
- Picnic Area
- Picnic Pavillion
- Gasoline
- Groceries
- Food Concession
- P Parking

- Hiking Trails
- Swimming Beach
- Boat Launch
- Boat Ramp
- Snowmobile Trails
- Raptor Center
- Nature Center
- Gift Shop

- State Highway
- State Road
- Township Road
- Penn State Road *(No winter maintenance)*
- DCNR/Bureau of Forestry Road
- Power Line Right of Way
- Mid-State Hiking Trail
- Stone Valley Recreation Area Hiking Trail
- Trail
- Stream
- Intermittent Stream
- Pennsylvania Fish and Boat Commission Approved Trout Stream
- Penn State Permanently Closed Gate
- Penn State Seasonally Closed Gate
- Barree Township Seasonally Closed Gate

resources management research, education, and demonstration consistent with the mission of the School of Forest Resources. The use of the forest for research, education, and demonstration is strongly encouraged. Forest personnel cooperate with University and non-University researchers to identify and protect suitable research sites. Special efforts are made to promote the use of the forest for undergraduate and graduate-level teaching, as well as for elementary and secondary education and continuing education.

ings, workshops, and tours. The best available forestland management technology is used in all operations.

Additional forestwide inventories will be conducted periodically to incorporate the most recent advancements in technology and research as well as provide education opportunities for forestry students. The data from these subsequent inventories will be used to update the 50-year management plan.

Public Use and Outdoor Recreation (rules and regulations)

In the Stone Valley Forest, it is unlawful to:

1. Contaminate, pollute, or degrade surface or groundwater.
2. Graze or permit the grazing of domestic livestock.
3. Place private advertisements, signs, or posters.
4. Plant, gather, cut, dig, remove, or otherwise injure any plants, including trees, shrubs, vines, flowering plants, and cultivated crops. Berry picking is permitted.
5. Travel on roads with any motorized vehicle or conveyance that is not licensed or authorized for operation on a public highway.
6. Operate a snowmobile, except between January 15 and April 1.
7. Violate or neglect to follow instructions posted on signs authorized by the University.
8. Destroy, mutilate, or remove any sign or placard.
9. Organize or participate in any trail rides or group rides for hire or profit.
10. Drive motor vehicles with or without attachments having a gross weight in excess of 11,000 pounds, except by permit.
11. Block the gates. Roads are for emergency use as well as for normal access in the operation of the forest.
12. Swim in any dam, pond, lake, or stream.
13. Injure, destroy, or cause damage to any property.
14. Have open fires during periods when the fire index rating used by the Bureau of Forestry is "high," "very high," or "extreme." For current index ratings, call the local Bureau of Forestry office at 814-643-2340 or visit them on the Web at **www.dcnr.state.pa.us/forestry**.
15. Remove sand, clay, stone, minerals, or other products.

Hunting and camping

1. Hunting is permitted in accordance with current Pennsylvania game laws in all areas, unless otherwise posted.
2. Fishing is permitted in accordance with current Pennsylvania fish laws, unless otherwise posted.
3. Target shooting with firearms or bows and arrows at other than protected and approved targets and other than in conformity with Pennsylvania game laws is prohibited.
4. Primitive camping is permitted with a free permit. To obtain a permit, contact the Forestland Management Office, The Pennsylvania State University, 205 Forest Resources Laboratory, University Park, PA 16802, or call 814-865-6272.
5. Firewood cutting is permitted only with permits that are for sale at the Forestland Management Office.

The Stone Valley Recreation Area has additional regulations.

Educational Opportunities and Activities

The Stone Valley Forest provides sites for many formal and informal educational activities for undergraduate and graduate student projects, class trips, and exercises. The forest averages more than 1,000 recorded student hours of instruction annually. In addition to programs related to academic units, the forest also contains the Shaver's Creek Environmental Center and the Stone Valley Recreation Area. Maps, signs, and demonstration activities are distributed throughout the forest to increase visitors' understanding of forest management.

School of Forest Resources personnel conduct many tours to demonstrate various aspects of forest and wildlife management. Audiences range from forestry professionals to forestry students to forest landowners to the general public. For more information visit us on the Web at psuforestmgmt.cas.psu.edu.

Center for Dirt and Gravel Road Studies

The Forestland Management Office has partnered with the Penn State Center for Dirt and Gravel Road Studies to provide road improvement demonstration areas. The center's efforts are to develop and deliver Environmentally Sensitive Maintenance training, educate conservation districts, provide technical assistance on various projects, and advise the State Conservation Commission on program policies. Demonstration areas are located on Red Rose Road and Shaver Creek Road. For more information, visit them on the Web at **www.dirtandgravelroads.org**.

Forestry Student Internship Program

The Forestland Management Office employs undergraduate forestry students each semester and during the summer break. The Forestry Student Intern Program complements a student's formal education with professional forestry experience in the field and in the office. For more information, visit the Web at **psuforestmgmt.cas.psu.edu**.

Reserve Officers Training Corps

Penn State Reserve Officers Training Corps(ROTC) use the Stone Valley Forest to develop officer candidates into well-trained effective leaders. The challenge of moving through the forest and maintaining good command and control of squad- and platoon-sized elements in the dark gives the soon-to-be-officers the necessary knowledge and experience they need. Permanent orienteering trails along Shaver Creek facilitate the instruction and practice of navigation skills for the cadets and midshipmen.

Archaeological Field School

Department of Anthropology staff teach archaeological field techniques to undergraduates from Penn State and other universities. Students learn how to lay out a grid, use surveyors' equipment, excavate carefully, and conduct preliminary analysis of artifacts. By excavating the remains of nineteenth and early twentieth century farmsteads in the Stone Valley Forest, students learn how archaeologists study the past and gain an appreciation for Pennsylvania history. For more information, visit their Web at **www.outreach.psu.edu/programs/field-school**.

Conservation Leadership School

Since 1948 the Conservation Leadership School (CLS) has used the forest to teach young people about natural resources and leadership during two one-week residential programs. CLS has various funding sources. For more information, visit them on the Web at **conferences.cas.psu.edu/CLS/default.htm**.

Forest Research

The Stone Valley Forest and the large database associated with it support the continually evolving research program in the School of Forest Resources, which is widely acknowledged as one of the nation's best. The forest also provides opportunities for researchers from other parts of Penn State, other universities and colleges, federal and state agencies, and private organizations. It has been the site of both short- and long-term studies for more than the past fifty years. General areas of research include forest management, silviculture, forest ecology, forest fertilization, herbicides, forest genetics, wildlife management, forest hydrology, watershed management, gypsy moth control, forest pathogens, and harvesting. Some recent research projects have focused on wetlands' response to climate and land-use change, the use of new herbicides and application methods to control unwanted vegetation, the regeneration of northeastern tree species under variable temperature and precipitation regimes, analysis of the yields and costs of producing biomass (wood chips) from various harvesting regimes and the environmental impacts, the role of small rodents in the spread and transmission of Lyme disease, and intensive watershed-soil-vegetation interactions.

Plant Species Diversity

Researchers have identified 83 species of overstory trees (14 softwood and 69 hardwood) and 75 different shrubs, small trees, and vine species in the Stone Valley Forest. Oak, hickory, and Virginia pine are dominant on the steep slopes that face south and west. Hemlock appears on slopes that face north and east, often with oak and white pine. Typical northern hardwoods such as sugar maple, cucumber, birch, beech, yellow poplar, red maple, white ash, and black walnut are found in coves and draws, which tend to be moister. Natural conifer stands, composed of Virginia pine and table mountain pine with some pitch and white pine, occur on old fields. In addition, approximately 1,000 acres of abandoned fields were planted with red pine, white pine, Virginia pine, Scotch pine, Norway spruce, and Japanese larch in the 1930s and 1940s by various federal government agencies and programs.

Over the past 160 years, people have greatly influenced the species composition timber quality and site productivity in the forest. Early land-clearing for farming and lumbering reduced the amount of highly productive land and high-quality tree species. Additional cutting for charcoal to support iron smelting drastically changed the forest. Management activities over the past 70 years have protected and improved the diversity and quality of the plant communities within the forest. Protection from catastrophic fires, disease, and insects, as well as plantings, thinnings, improvement cuttings, even- and uneven-aged regeneration harvests, and deer-exclusion fencing have significantly improved the quality and productivity of the forest.