Biltmore Estate, Asheville, North Carolina

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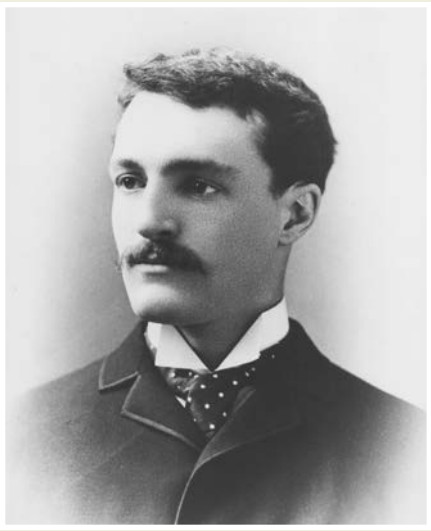
George Vanderbilt's estate in Asheville, North Carolina, is home to many "firsts" in American forestry history. Looking Glass Falls, once owned by Vanderbilt and now part of the Pisgah National Forest, is located near the former site of the first forestry school in the United States.

This article was first published in our special issue celebrating the centennial of the Weeks Act of 1911. In 2024, Hurricane Helene severely damaged Asheville, the Biltmore Estate, and surrounding region. It is reprinted with new information about the flood of 1916. We hope this serves to remind readers of the historical foundations that were laid there as the area now works to rebuild.

By Bill Alexander

The region comprising Biltmore Estate and Pisgah National Forest in the Blue Ridge Mountains of western North Carolina is deservedly known as the Birthplace of American Forestry. Its reputation is due in large part to the vision and conservation-mindedness of four pioneers of forestry in the late nineteenth century who saw the need for protecting large areas of forestland for public benefit. George Washington Vanderbilt, the founder of the Biltmore Estate in Asheville, North Carolina, embraced and invested in sustainable forestry at a time when it was not yet an accepted business for large landowners. Frederick Law Olmsted, America's "Father of Landscape Architecture," conceived and established the first program of forest management at Biltmore Estate in 1888 as a model for the country. Gifford Pinchot, the first American-born trained forester and Biltmore's first forester (1892–95), created and implemented at Biltmore the first comprehensive working plan for sustainable forest management in the United States. Carl Alwin Schenck, chief forester at Biltmore (1895–1909) and Pinchot's successor there, expanded the forest



FOREST HISTORY SOCIETY FHS299, FHS294, U.S. FOREST SERVICE

George Vanderbilt, Frederick Law Olmsted, and Gifford Pinchot were responsible for introducing landscape-scale forest management to the United States.

management program to encompass 125,000 acres and founded the Biltmore Forest School, the first in America to train professional foresters. The majority of Vanderbilt's land would become the core of the first national forest established in the eastern United States.

Across town from the Biltmore Estate, a group of concerned citizens drew inspiration from Vanderbilt's successes and in 1899 established the Appalachian National Park Association to lobby for protection of vast areas of the southern Appalachian region. Led by Chase P. Ambler, its secretary and treasurer, the association turned a regional interest into a national movement that culminated in the passage of the Weeks Act in 1911. Asheville is indeed where the forest preservation movement took root.

The Biltmore House is America's largest private residence and attracts more than a million visitors a year. Located near Asheville in the heart of the Blue Ridge Mountains, the 250wroom structure, designed by architect Richard Morris Hunt in the style of a French Renaissance chateau, and the world-class gardens and grounds, designed by America's preeminent landscape architect, Frederick Law Olmsted, are the main attractions to most visitors. Generally less known is that Biltmore and the former part of the estate known as Pisgah Forest are the "Cradle of Forestry" in America. The forest that covers more than two-thirds of the estate's nearly 8,000 acres today continues to be managed according to the same principles established at Biltmore by Vanderbilt, Olmsted, Pinchot, and Schenck.

When Vanderbilt first visited Asheville in 1888, eight years after the Western North Carolina Railroad had penetrated the rugged mountains into Asheville, the town was booming. Both the city and the surrounding area had a national reputation as a resort locale with the most healthful climate in the country. The region, with its picturesque mountain scenery, hot springs, and grand hotels boasting the latest in modern conveniences and recreational amenities, was widely promoted in large cities in both the North and the South. Newspaper advertisements, magazine articles, and other publications promoted Asheville and western North Carolina with appealing slogans like "Health-seeker's Paradise," "Poet's Dream," and "Madonna in the Mountains," and "The Land of the Sky"—one that has endured to this day.

Exploring the countryside, Vanderbilt found the air "mild and invigorating" and the climate to his liking. Such natural attributes spurred the building of resorts and sanitariums in Asheville and surrounding towns. Asheville's rapid growth brought one of the country's first and finest electric street railway systems, which connected the town to major resorts and attractions. By the close of the nineteenth century, the city boasted two light companies, a gas company, a telephone exchange, excellent public schools, and well-known finishing schools for girls and college preparatory schools for boys.

But the same railroad that brought tourists in was hauling logs out, thus contributing to the destruction of the very scenery that helped make Asheville an appealing destination. A desire to preserve the area's scenery and clean air moved a group of mostly local men to form the Appalachian National Park Association in 1899. Joined by representatives from seven neighboring states, the association pushed for the establishment of forest reserves and national parks in the southern Appalachians to protect the region's greatest asset, the land. Directors of the association included Schenck, estate superintendent Charles McNamee, and local newspaper publisher and former state senator Charles A. Webb. As secretary and treasurer, though, Ambler was the primary force behind its efforts. The group sought legislation that would allow the federal government to establish forest reserves in the East by buying up private land.

Olmsted, meanwhile, was advocating a halt to the thoughtless destruction of the nation's forests and promoting long-term, scientific management of forests as a wise investment for landowners, and Vanderbilt was buying up lands that had been slashed, burned, and overgrazed for more than a century, in the expectation that their condition could be improved over time. In Vanderbilt and his dream of a gentleman's country estate, Olmsted could realize his own dream.

Vanderbilt's initial thoughts were to turn most of his land into an extensive park like those he had seen in France and England. Olmsted, having made a thorough inspection of the land, told him much of it was too rough and poor for a proper park:

> You bought the place then simply because you thought it had a good air and because, from this point, it had a good distant outlook. If this was what you wanted you have made no mistake. There is no question about the air and none about the prospect. But the soil seems to be generally poor. The woods are miserable, all the good trees having again and again been culled out and only runts left. The topography is most unsuitable for anything that can properly be called park scenery. It's no place for a park. You could only get very poor results at great cost in attempting it.[1]

In 1891, Olmsted advised his young client,

> Such land in Europe would be made a forest; partly, if it belonged to a gentleman of large means, as a preserve for game, mainly with a view to crops of timber. That would be a suitable and dignified business for you to engage in; it would, in the long run, be probably a fair investment of capital and it would be of great value to the country to have a thoroughly well organized and systematically conducted attempt in forestry made on a large scale. My advice would be to make a small park into which to look from your house; make a small pleasure ground and garden, farm your river bottom chiefly to keep and fatten live stock . . . and make the rest a forest, improving the existing woods and planting the old fields.[2]

After surveying Vanderbilt's land holdings, Olmsted prepared reports in 1889 and 1890 describing the condition of the forest and offering detailed suggestions for improvement cuttings. One of the reports, "Project of Operations for Improving the Forest of Biltmore," may be one of the earliest written forest management prescriptions in the United States. In it Olmsted noted,

> The management of forests is soon to be a subject of great national, economic importance, and as the undertaking now to be entered upon at Biltmore will be the first of the kind in the country to be carried on methodically, upon an extensive scale, it is even more desirable . . . that it should, from the first, be directed systematically and with clearly defined purposes, and that instructive records of it should be kept.

His proposition of forestry, Olmstead believed, was the most important of all the ideas that he suggested to Vanderbilt. Forestry would make the best use of the greater part of the wealthy man's property, provide him with a useful occupation and a source of satisfaction for himself and his friends, and would also with time provide a return on his investment. Even more importantly, by demonstrating forestry on such a large scale, Vanderbilt would be "doing the country an inestimable service."[3]

Olmsted realized, however, that the long-term success of the forestry program would depend on professional guidance by a trained forester. He recommended that Vanderbilt hire Gifford Pinchot as his consulting forester. Pinchot was just beginning a career that would lead him to national prominence as the first chief of the U.S. Forest Service. Pinchot made a detailed study of the estate's woodlands and developed

FOREST HISTORY SOCIETY PHOTOGRAPH COLLECTION, FHS298

The Pisgah Forest's Pink Bed area, seen here around 1900, was purchased by George Vanderbilt and was the summer home of the Biltmore Forest School. More than 100 years later, the area, which is now the Pisgah National Forest, provides excellent recreational opportunities for thousands of visitors annually.

a long-term management plan with three primary objectives: profitable production, a nearly constant annual yield of forest products, and an improvement in the condition of the forest. His working plan would prove that forestry could be profitable while also improving the overall health and condition of a degraded forest. Pinchot also conducted an assessment of some large tracts of forested mountain land near and beyond Mount Pisgah, which Vanderbilt then purchased. The Pink Beds and other large tracts increased his land holdings to approximately 125,000 acres, or nearly 195 square miles.

In 1895, Pinchot left Biltmore to pursue his career as a consulting forester and was succeeded by Schenck, a young forester from Darmstadt, Germany, who had been recommended by Dietrich Brandis, an internationally renowned forestry expert and Pinchot's mentor. Years later, in retirement, Schenck pondered why Vanderbilt had wanted him as his forester. He had never been to the country, knew almost nothing of its forests, its people, its language, its customs, or its economy, and he did not feel properly prepared to answer the call. During his 14-year tenure as the forester at Biltmore, however, Schenck devised and implemented selection harvest plans and experiments in Vanderbilt's extensive Pisgah Forest tracts as well as continuing the management and improvement of Biltmore Forest begun by Olmsted and Pinchot. Through his many experiments with plantations of both conifers and hardwoods, much of the previously abused and exhausted farmland was transformed into productive forest. To facilitate management and protection of the extensive acreage of both the main estate and the Pisgah Forest holdings, Schenck hired a force of resident rangers, each assigned to a designated tract. Schenck was also responsible for building Vanderbilt's rustic Buckspring Lodge on Mount Pisgah and guiding Vanderbilt and his guests on camping and fishing expeditions.

FOREST HISTORY SOCIETY PHOTO COLLECTION, FHS337; U.S. FOREST SERVICE PHOTO 185843

Biltmore Forest School students prepare to leave the schoolhouse in the Pink Beds and spend an afternoon in the woods. School director and founder Carl Schenck is in front of the door in white.

With Vanderbilt's blessing, Schenck founded the Biltmore Forest School. The idea of a forestry school at Biltmore had been discussed but not pursued by Olmsted and Pinchot. Partly because of the lack of trained assistants and partly in response to the questions of his apprentices, Schenck became convinced that the time was right to begin a school.

The Biltmore Forest School opened on September 1, 1898. Schenck's forestry curriculum differed from that of the theory-oriented university curriculum proposed by Pinchot and a Prussian forester in the United States, Bernhard E. Fernow. Schenck taught practical forestry, combining classroom lectures with hands-on experience and fieldwork. He preached the philosophy that he practiced: "That forestry is best which pays best." (A month after the Biltmore School opened, Fernow opened a four-year program at Cornell University, and in the fall of 1900, with an endowment from the Pinchot family, Yale University established a two-year graduate program in forestry.)

The Biltmore Forest on the main estate and Vanderbilt's vast Pisgah Forest were the primary working fields for the school. The 12-month course followed by a six-month internship was designed to give students all the practical knowledge and experience needed to prepare them for the duties required of foresters, particularly in private industry but also for government agencies. The intensive training and close quarters fostered a spirit of camaraderie and a lasting devotion to Schenck.

The Biltmore Forest School graduated more than 300 men. More than half went directly into forestry work. Despite Pinchot's disapproval of Schenck's course of study, one student, Overton Price, became Chief Pinchot's second-in-command. Another graduate, Verne Rhoades, became the first forest supervisor on the Pisgah National Forest. Four students became regional foresters in the U.S. Forest Service, and 20 or more became forest supervisors or deputies; 12 or more became state foresters. Other graduates went into wood preservation, tree surgery, forest surveying, the timber industry, and international forestry consulting.[4]

FOREST HISTORY SOCIETY PHOTO COLLECTION, FHS290

The visitor orientation center at the Cradle of Forestry in America national historic site located in the Pisgah National Forest near Asheville, North Carolina, in 1988. From here it is a short walk to a reproduction of the schoolhouse.

In part because of a misunderstanding with Vanderbilt and a dispute with the estate superintendent, Schenck reluctantly resigned as forester at Biltmore in the summer of 1909. The Biltmore Forest School headquarters moved from the estate to the new logging village being built by Champion Fibre Company on the Pigeon River at Sunburst, upstream from Canton, North Carolina. From then until it closed in January 1914, the Biltmore Forest School became a traveling school and had six working fields: Germany, France, New York, North Carolina, Michigan, and Oregon.[5]

Within a year of Schenck's departure in 1909, George Vanderbilt signed a contract with the Toxaway Tanning Company in September 1910 for a 10-year timber lease with a land purchase option on a nearly 20,000-acre tract of the Pisgah Forest. In early 1911, Overton Price, now of the National Conservation Association, handled the contract negotiations and advised Vanderbilt on timber sale methods, grazing and fishing as sources of revenue, and other forest management issues.[6]

Efforts to sell Pisgah Forest to the federal government under provisions of the Weeks Act commenced in February 1912. The law enabled the government to buy cutover private lands to reforest in part to protect watersheds and prevent severe flooding. In late September, William L. Hall of the U.S. Forest Service was authorized by Biltmore to make detailed studies in Pisgah Forest "with a view to a decision as to its value for public purposes as a part of the Appalachian Forest Reserve"—even though timber rights on 69,326 acres had been offered to Carr Lumber Company of Falls Mills, Virginia, under a 20-year contract for $12 per acre. After Hall's inspection, Price thought the Forest Service might pay $6 an acre for it, a higher rate than what other landowners were receiving. Referring to Vanderbilt, he stated,

> He has at great expense to himself made what is virtually a park out of a body of forest land formerly remote and difficult to access. He has spent large sums in roads and trails, had paid bills for fire protection year after year, and in a very real sense has been a public benefactor.[7]

In March 1913 George and Edith Vanderbilt formally offered the federal government an option to purchase 86,000 acres of Pisgah Forest to create a national forest. The government declined. Inspector Hall cited five reasons that the government had decided not to exercise the option: the $6 price per acre was too high, the tract was too highly developed, the improvements were too costly to maintain and they were beyond the government's needs, there was no state legislation to protect fish and wildlife, and the cost of administering the Carr lumber contract would be prohibitive.[8]

After her husband's death at age 51, in March 1914, Edith Vanderbilt continued to work through estate superintendent Chauncey Beadle and Overton Price to sell Pisgah to the government and finally closed the deal by lowering the selling price to $400,000, just under $5 per acre. In 1916, the tract became the nucleus of the Pisgah National Forest, the first established under the Weeks Act.

In a May 1914 letter to the secretary of Agriculture, negotiating the sale of the Pisgah Forest tract, Edith Vanderbilt paid homage to her late husband:

> Mr. Vanderbilt was the first of the large forest owners in America to adopt the practice of forestry. He has conserved Pisgah Forest from the time he bought it up to his death, a period of nearly twenty-five years, under the firm conviction that every forest owner owes it to those who follow him, to hand down his forest property to them unimpaired by wasteful use.[9]

Price agreed. In the June 1914 issue of *American Forestry*, he praised Vanderbilt for his "conviction that the ownership of forest lands entails certain definite responsibilities to the public; for Mr. Vanderbilt was one of those who held that the private ownership of any resource necessary to the general welfare carries with it the moral obligation of faithful stewardship to the public."[10]

In the summer of 1916, two tropical storms converged on the region, dropping record amounts of rain that decimated Asheville and the surrounding region, killing more than 80 people and wiping away towns.[11] The death and destruction were unwanted reminders of why the Weeks Act and forest management were desperately needed in the eastern United States. Two months later the secretary of Agriculture designated the Pisgah tract and other lands, including land purchased under the Weeks Act in the Curtis Creek area of McDowell County in western North Carolina, as the Pisgah National Forest on September 29, 1916. On October 17, President Woodrow Wilson signed a proclamation confirming the boundaries.[12]

FOREST HISTORY SOCIETY PHOTO COLLECTION, FHS6931

U.S. Forest Service Chief Richard E. McArdle stands beside a sign marking the first forest tract purchased under the Weeks Act—Curtis Creek in McDowell County, North Carolina. The photo was taken as part of Weeks Act 50th Anniversary activities on the Pisgah National Forest, September 1961.

THE CRADLE OF FORESTRY IN AMERICA

By September 26, 1961, when the 50th anniversary of the Weeks Act was celebrated in Asheville and on the Pisgah National Forest, more than 20 million acres of forest and watershed lands had been acquired. Secretary of Agriculture Orville L. Freeman stated,

> Here, over 60 years ago forestry education had its start in this country. Here, scientific forestry was first applied on

an appreciable scale under the direction of Gifford Pinchot. A portion of Biltmore Forest became part of Pisgah National Forest—the first national forest unit established under the terms of the Weeks Law. Near here is the first tract of land purchased under the authority of that law.

Freeman reminded his audience of the site's place in history. "From this small beginning the professions of forestry and conservation and the concept of good forest land management has taken hold across the nation. These events of great historic significance should not be lost."[13]

At Freeman's direction, the Forest Service established the Cradle of American Forestry museum and a visitors center at the Pink Beds on State Highway 276; the intent was to preserve the birthplace of forestry and forestry education in America and to "stimulate interest in and knowledge of the management of forest lands under principles of multiple use and sustained yield and the development and progress of management of forest lands in America."[14]

Today the Cradle of Forestry in America is a 6,500-acre historic site within the Pisgah National Forest that commemorates the beginning of forest conservation in the United States. The site of the first forestry school and the beginnings of scientific forestry in America, it includes the Forest Discovery Center, with an interactive exhibit, plus two interpretive trails, seven historic buildings associated with the Biltmore Forest School and Pisgah Forest, a 1915 Climax logging locomotive, and an old sawmill. The schedule offers seasonal educational programs and family-oriented events.

BENT CREEK RESEARCH AND DEMONSTRATION FOREST

The Forest Service founded its first forest experiment station in 1908 in Arizona and by 1913 had established five more, all in the West. In 1916, Biltmore Estate superintendent Chauncey D. Beadle, with Edith Vanderbilt's approval, endorsed a cooperative project with the U.S. Forest Service to conduct experiments on the Biltmore plantations. The intent was to perform periodic thinnings and study the effects on growth rates and yield. The Appalachian Forest Experiment Station, set up in 1921 in Asheville, continued this research until 1970. (The name of the station was later changed to the Southeastern Forest Experiment Station and then to the Southern Research Station.)

The station had no permanent sample plots of its own, however, until a field station was established at Bent Creek on what had been part of Vanderbilt's Pisgah Forest tract. Initially just 1,100 acres, Bent Creek was the first experimental forest in the East and the third in the nation. In 1925 a small laboratory was constructed, and other facilities were added over the course of several years. Bent Creek soon had 17 buildings and a network of roads, trails, and research compartments and then acquired an additional 5,200 acres in 1935.[15]

The Bent Creek Research and Demonstration Forest is nine miles southwest of Asheville on Brevard Road (NC 191), near the entrance to the North Carolina Arboretum and access ramp to the Blue Ridge Parkway. Bent Creek is a place where professional foresters, resource managers, private landowners, and students can learn about forest management practices. It is also open to the public for recreation.[16]

Bill Alexander was the landscape and forest historian at Biltmore Estate in Asheville, North Carolina, in 2011.

NOTES

1. Frederick Law Olmsted to Frederick J. Kingsbury, 20 January 1891, Frederick Law Olmsted Papers, Manuscript Division, Library of Congress, Washington, DC.
2. Olmsted to Frederick J. Kingsbury, 20 January 1891.
3. "Project of Operations for Improving the Forest of Biltmore," no date, Biltmore Estate Archives, Asheville, NC.
4. "Fun Facts about the Biltmore Forest School," Cradle of Forestry Historic Site.
5. Carl Alwin Schenck, *Cradle of Forestry in America: The Biltmore Forest School, 1898–1913* (1954; Durham, NC: Forest History Society, 1998).
6. Correspondence files, Biltmore Estate Archives.
7. Correspondence files, Biltmore Estate Archives.
8. Correspondence files, Biltmore Estate Archives.
9. Correspondence files, Biltmore Estate Archives.
10. Overton Westfeldt Price, "Geo. W. Vanderbilt, Pioneer in Forestry," *American Forestry*, Vol. 20, No. 6 (June 1914), 424.
11. Heidi Coryell Williams, "Hell and High Water: The Flood of 1916," *Our State*, January 10, 2013, https://www.ourstate.com/flood-of-1916.
12. "Pisgah National Forest, North Carolina. By the President of the United States of America, A Proclamation." Copy in Biltmore Estate Archives. On August 29, 1912, the Burke-McDowell Lumber Company sold 8,100 acres to the federal government, the first-ever purchase under the Weeks Act. The tract is about 20 miles northeast of Asheville. The Blue Ridge Parkway passes through it.
13. U.S. Department of Agriculture, Office of the Secretary. "Remarks of Secretary of Agriculture Orville L. Freeman at Observance of the Weeks Law 50th Anniversary, Asheville, NC, September 26, 1961."
14. Public Law 90-398, July 11, 1968 [s. 2837], "Cradle of Forestry in America, Pisgah National Forest, NC Establishment—An Act."
15. "Appalachian Forest Experiment Station, 1921–1934," accessed at http://www.srs.fs.usda.gov/organization/history/app_stn_earlydays.htm.
16. U.S. Department of Agriculture, Forest Service, *Bent Creek Research and Demonstration Forest: Scientific Forestry for Informed Choices* (Asheville, NC, 1995), 3.