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CENTENNIAL MINI-HISTORIES OF THE FOREST SERVICE

Early Forestry Schools: Rise of a New Profession

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Early advocates of forest conservation—George Perkins Marsh, John Muir, and Franklin B. Hough, for example—were self-taught naturalists. Not until the early 20th century did specialized education develop in the United States at universities and their professional schools. Often the growth of new professional fields was rapid, mirroring the rapid industrial development of the Nation in the early 1900's. The growth of Government agencies in this period was a parallel development. The new field of forestry was influenced by the growth of academia, Government, and the economy.

The first North American forestry courses depended on European forestry models taught by European-trained professors using imported texts. Another separate strain of forestry evolved independently in some U.S. agricultural schools where professors of botany and horticulture gave lectures on tree planting and related farm forestry subjects.

The paucity of trained American foresters led Gifford Pinchot, after becoming head of the Division of Forestry of the Department of Agriculture in 1898, to rely on “student assistants” (college students who wanted to become foresters)

for fieldworkers. These youths were paid \$25 a month to map timber stands and do other survey work on Federal forest reserves. Out of this select group of dedicated workers Pinchot formed the core of the future Forest Service workforce. The need for Division of Forestry personnel expanded rapidly after the creation of the first reserves in 1891 and grew even faster with the transfer of the reserves to the Department of Agriculture in 1905, the act that created the Forest Service.

The first forestry classes were held at the land-grant colleges of the 1870's, which focused on applied agriculture. The first degree-granting forestry schools in the United States were Cornell, Biltmore, and Yale. Cornell University offered the first 4-year program. Bernhard Fernow became its first director in 1898, the year that he left the Division of Forestry. The program had four forestry students in its first year and grew to an enrollment of 70 by 1902–03. Unfortunately, Fernow's clearcutting on the school forest led to the program's termination.

Biltmore Forest School was a private 1-year applied program designed to train foresters for work in lumber companies. Its German-born director, **Dr. Carl Alwin Schenck (1868–1955)**, was forester for **George Washington Vanderbilt (1862–1914)** on the Pisgah forest, part of the Biltmore estate in western North Carolina, replacing Pinchot, its first forester, in 1895. Although the school ended in 1913, the Pisgah forest is still called the “Cradle of Forestry in America” because it was the first forest under technical management, beginning in 1892. Later, portions of the forest were purchased under the Weeks Act (1911) and formed part of the Pisgah National Forest. The school run by Schenck was really an apprentice system, with the students doing needed technical chores on the Pisgah forest.

Yale University inspired by Gifford Pinchot and **Henry Solon Graves (1871–1951)**, both Yale alumni, began a graduate level (master's) forestry program in 1900 that still exists today. Graves was Pinchot's assistant and confidant at the Division of Forestry. To spur the project, the Pinchot family endowed the program with \$300,000. Graves taught there intermittently and served as dean of the forestry program from 1922 to 1939.

Following the opening of these original forestry schools, 21 schools were established across the United States between 1903 and 1914. Michigan State (East Lansing), Iowa State (Ames), and the University of Minnesota (St. Paul) offered unique programs that built on earlier agricultural forestry courses. The growth of professional schools led to the advent of home-grown textbooks such as *Principles of American Forestry* (1903) by **Samuel B. Green (1859–1910)**, which replaced European works such as Schlich's *Manual of Forestry*.

Bernhard Eduard Fernow (1851–1923), in an official report in 1886, noted that no schools of forestry existed in the United States. By the next year he reported on several related courses taught in farm economics or horticulture

classes. Perhaps the earliest forestry-specific lectures were presented by **William Henry Brewer (1828–1910)** at Yale beginning in 1873. The absence of formal programs in the period led Fernow to advocate the teaching of forestry at West Point and making national forest administration an army job, a proposal rejected by Congress. A few decades later, a Government agency—the Forest Service—existed to administer Federal forests and it had a staff trained in the numerous forestry schools founded in the Nation by World War I.

Historian Henry Clepper observed that in the first three decades of professional forestry education a major influence on U.S. forestry schools was “the written examination given by the U.S. Civil Service Commission to recruit junior foresters for positions in the Federal Government.” Thus began the strong linkage between the forestry schools and the Forest Service, a linkage that persisted for many years thereafter.

Reference

- Clepper, Henry. 1971. *Professional forestry in the United States*. Baltimore, MD: Resources for the Future and the Johns Hopkins Press.
- Green, Samuel. 1903. *Principles of American forestry*. New York: John Wiley & Sons. 334 p.