"It is a fact well known to most of you that the timber which once covered our hillsides, ameliorating our climate, beautifying the landscape, protecting our watersheds, and constituting one of the most valuable natural resources of the state, has now nearly all disappeared before the woodsman's axe. It follows, therefore, that the protection and rapid growth of the succession of sprout and seedlings is a problem of interest and importance to the people."

Jesse B. Mowry.
Rhode Island's first
Forest Commissioner,
1907

Learning From the Past—
Rhode Island Forest History

Early records indicate that upon the arrival of the first European settlers in the early 1600's the area that became Rhode Island was probably more than 95 percent forested. (Rhode Island Department of Environmental Management) In upland areas, the Native American inhabitants periodically burned the undergrowth, maintaining forests in an open condition, with large, widely-spaced trees. The burning tended to dry out the soil, encouraging the growth of oaks, hickories, chestnuts, and pines over the more moisture-dependent northern hardwoods that dominated much of northern New England. In wet, lowland areas red maple, swamp oak, alders, and willows grew and the undergrowth remained thick. In addition, the Native Americans kept large areas cleared for agriculture and hunting, particularly around Narragansett Bay. Overall, the landscape was a patchwork of forests in many different stages of ecological succession, providing much "edge" habitat for deer, grouse and other game species. (Cronan)

Early European settlers cleared about two-thirds of the state's forests for agriculture. By the time of the first state forest survey of 1767, only 31 percent of the state's land area was forested. At the beginning of the nineteenth century a few thoughtful people began to become concerned about the loss of valuable forest. In 1820, the prominent Rhode Island textile manufacturer, Zachariah Allen began what is believed to be the first scientific and carefully recorded silvicultural experiment in the United States. He demonstrated his theory that "vacant land may profitably be improved by planting to trees," by planting oaks and chestnuts on 40 acres of barren land in Smithfield Rhode Island and maintaining extensive records of his expenses and profits for the next 57 years. The site is now part of Lincoln Woods State Park. (Society of American Foresters)

Such private ventures did little to change the practices of the general public, however, and by the end of the nineteenth century Rhode Island forests had reached their lowest point in both area and quality. While much of the land that had been cleared for agriculture was later abandoned and reverted to forest, often what grew back were tree species that grew slowly and were of little value. In the meantime, the introduction of portable steam-powered sawmills in the early 1870's allowed for unprecedented levels of timber harvesting. In 1887, Bernard Fernow, Chief of the USDA Forestry Bureau, advised: "Forests in the strict sense of the word can hardly be said to exist in this state. Although 24 percent is reported covered with wood, it is mostly coppice and white pine or pitch pine, which here and there may be said to rise to the dignity of forests, especially on the western borders." (Widner)

By the beginning of the twentieth century public awareness of the need for forest management had begun to take hold both nationally and locally. In 1906 the Rhode Island legislature established the Rhode Island Forest Commission, and the following year appointed Jesse B. Mowry as the state's first Forest Commissioner. In his first annual report to the Rhode Island General Assembly in 1907, Mr. Mowry penned the following:

"It is a fact well known to most of you that the timber which once covered our hillsides, ameliorating our climate, beautifying the landscape, protecting our watersheds, and constituting one of the most valuable natural resources of the state, has now nearly all disappeared before the woodsman's axe. It follows, therefore, that the protection and rapid growth of the succession of sprout and seedlings is a problem of interest and importance to the people."

Mowry's staunch advocacy helped initiate improvements in forest laws, forest fire suppression, forest conservation and management. (Widner) In the early 1930's Archie W. Hurford, the state's first trained forester, further galvanized pub-

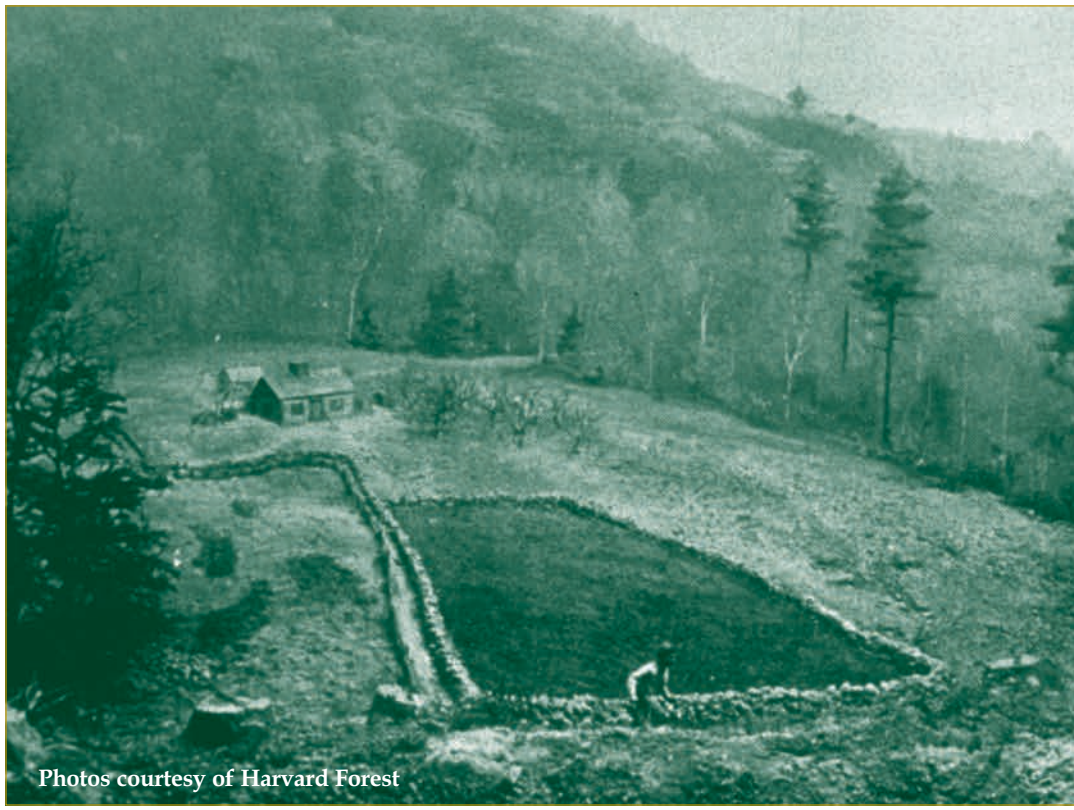
Our society is poised at a unique moment in history, and the decisions we make today will affect whether future generations will continue to enjoy the vast benefit of clean plentiful water

lic support and understanding of the value of woodlands in Rhode Island. Hurford's efforts convinced the legislature to allow for the establishment of state forest reserves. (Dunwoody) In 1932, the George Washington Memorial Forest in Glocester became the first state forest. The mid-1930's brought the Civilian Conservation Corps to Rhode Island, planting trees, erecting fire towers, building woods roads, cutting trails, and engaging in other forest management activities.

With improved management, continual farmland abandonment, the maturation of the regenerated forest, and tree planting programs, Rhode Island's forests greatly recovered. Of the tree species that have grown back various oak species are the most common trees, followed by red maple, then white pine. The recovering forest has been subject to a number of disturbances, both large and small. The American Chestnut, once one of the state's fastest growing and most utilized trees, was completely wiped out by blight in the years from 1910 to 1930. Dutch elm disease, which began around the same time, eliminated all but a few of the state's elm trees. In 1930 and again in 1942 and 1951, major forest fires swept through western Rhode Island, burning tens of thousands of acres of timber. The hurricanes of 1938 and 1954 caused large timber blow downs. Once every few years major ice storms have damaged timber throughout the state. Periodic infestations of gypsy moth caterpillars have caused epidemics of defoliation. (Rhode Island Office of State Planning and Division of Forest Environment) Since the mid 1980's the hemlock woolly adelgid has been killing off large areas of hemlock trees.

The greatest threat to today's forest, however, is from conversion to non-forest uses. For the first time in 100 years, conversion of the forest to other land uses has outpaced forest re-establishment. Having peaked at 64 % in the early 1950's, Rhode Island's forest cover has been slowly decreasing due to development pressures. Since 1985, the USDA Forest Service estimates that Rhode Island has lost almost 19,000 acres of forestland to development, an average of 1350 acres per year. Between 1961 and 1995, consumption of land by development increased nine times the population growth rate (Grow Smart RI, 1999). This growth pattern results in widespread fragmentation of forest land and the permanent conversion of forested habitats to other uses.

At the same time, however, average tree size has increased, such that the total volume of sawtimber on the state's timberlands has risen from 281 million board feet in 1953 (Peters and Bowers) to 1,316 million board feet in 1998



Photos courtesy of Harvard Forest

*This project is a collaboration of the Southern New England Forest Consortium, Inc.[1], and the University of Rhode Island Cooperative Extension Home*A*Syst Program[2]. Written by Holly K. Burdett[3], Christopher Modisette[4], Alyson McCann[5] and Brianne Neptin[6]. Special thanks to all publication reviewers. Funding for this project was provided by the USDA Forest Service in cooperation with the Rhode Island Department of Environmental Management Division of Forest Environment and the USDA Renewable Resources Extension Act, URI Cooperative Extension.*

University of Rhode Island

Southern New England Forest Consortium, Inc.

D.E.M.

Forest Service U.S. Department of Agriculture

(Alerich). Harvest of mature sawtimber is well below the rate of annual growth, with much of the state's tree removals due to change in land use rather than forest management practices.

Changes being made to the land by modern society tend to be much more permanent than those made in the past. Cutover, burned, or converted to pasture, the forest always grew back. Unlike the agrarian landscapes of the past, shopping malls, suburban neighborhoods, and highways will not provide opportunity for regeneration. As an ever-growing population demands an ever-increasing array of benefits from a continually shrinking forestland base, careful stewardship, including the need to be able to successfully perpetuate the ability of the forest to protect water resources, becomes even more significant. Our society is poised at a unique moment in history, and the decisions we make today will affect whether future generations will continue to enjoy the vast benefit of clean, plentiful water. Rhode Islanders need to maintain support for protecting our forest resources; embrace smart growth strategies; promote state and local funding for forest conservation; and provide adequate funding for natural resource agencies so that we may continue to enjoy the greatest gifts of the forest.

**Statistics are derived from Alerich, Defebaugh, Dickson and McAfee, Timber Resources of RI, and Widner.*

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