The Massachusetts Forest: An Historical Overview

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THE EXTENT to which the Massachusetts forest governed Indian life is hard to imagine today. It contributed food directly — fruit, seeds, and acorns and other nuts — and also indirectly, by furnishing habitat for wildlife, headwaters for fish and shellfish, and nutrients for crops grown in forest clearings. Medicines were derived from the forest, as well as housing, which consisted of frameworks of saplings covered by sheets of bark held together by tree-root lashings. Strips of the inner bark of cedar or basswood were used for mats and baskets. Canoes were built from trees felled with stone axes; hollowed out with fire; finished with stone, bone and shell scrapers; and propelled with ash and maple paddles.

Fire was an indispensable tool of the Indian culture. The friction of wooden drills and spindles sparked "touchwood" (often the *Polyporus* fungus found on tree roots). Cooking fires were fueled with windfalls and deadwood gleaned from the forest. Wildfire was the principal instrument used to maintain clearings for crops, obtain ash for fertilizer, and create conditions favorable for wildlife. The forest also yielded the primary instruments for taking game: deadfalls were used for making snares; ash, for longbows; elder, for arrows; and tree bark, for quivers. Not all of the forest was congenial, however, for it was in the wooded swamps ("the abode of owls") that the *pauwaus* (native conjurers) would assemble to seek divine intervention.

Under such circumstances, the natural rhythms of plants, animals, celestial bodies, and weather became the chief determinants of where the Indians lived, what they did, and indeed whether they survived. At best, perhaps 100,000 Indians occupied New England prior to the arrival of the European settlers. They followed what William Cronon has termed the "wheel of the seasons." Despite romantic assertions to

the contrary, the Indians' coexistence with nature was more of a practical necessity than a conscious ecological decision. Yet their attitudes toward nature may provide important clues even for modern Massachusetts.

For example, land was valued for its resources, which were held both in private ownerships (such as the plots allocated to a kin group for the growing of crops) and collectively (the hunting and fishing territories of an entire village). Rights were for use of the resources on the land, not for the land itself. These rights could be inherited or even bargained away for consideration. They would be reallocated if not used. Patterns of ownership tended to follow natural features (virtual ecosystem lines). But rivers and streams, rather than providing fixed boundaries as they do today, were reserved as general travel routes through territories. The collection of kin groups, governed lightly by individual sachems with the advice of a council of elders, have been described as virtual neighborhoods, a form of social structure that facilitated collective and highly democratic decisions about resources.

The impact of these cultural influences on the pre-Colonial forest was quite distinctive. The descriptions recorded by the early settlers are somewhat distorted and suspect, conditioned as they were upon putting a good face on New England to the merchant financiers back home. But the forest was probably a mosaic of individual tree stands varying widely in composition — a now-sought-after quality called "patchiness." The dry ridgetops and old burns supported white pine; the moister locations were marked by hardwoods. Although individual tree sizes could be substantial, there is consistent reference in the seventeenth century journals to trees being "not thick." In many locations the forest was "open and without underwood," the result of spring and fall burning by the Indians to improve conditions for game, all in contradiction to William Bradford's journal assertion of a "hidious and desolate wilderness, full of wild beasts and wild men" and traveler John Josselyn's later description of a land "clothed with infinite thick woods."

To the hardy band of Pilgrims who dropped anchor in Provincetown harbor in November 1620, accustomed as they were to an England barely 10 percent forested for centuries, the apparent abundance of natural resources must have been staggering. The forest in particular

appeared limitless. It was viewed in two ways: as a storehouse of commodities to sustain the colony and its prospective economic relationship with Europe, and as "an adversary, a barrier, and a fearsome threat to peace and security." The Pilgrims' livelihood would have to be "literally wrenched from nature." To those accustomed to the order of the English countryside, wild New England was evidence of a land simply awaiting settlement under God's providence. Its occupants, the Indians, could claim few rights under concepts of English law because "they did not treat the land as if they owned it."

Upon their arrival on November 11, 1620, the Pilgrims wasted little time in beginning to make use of the Massachusetts forest environment. As Edward Winslow's journal reports, they came ashore to fetch wood, marveling as they did at the profusion of "oaks, pines, juniper, sassafras and other sweet wood" encountered at Wood End in Provincetown, the "deep valleys and excellent black earth" at High Head in Truro, and the "fowl and deer haunted there." Products of the forest made other significant first impressions, yielding materials for the repair of the Pilgrims' shallop and a shower of arrows from their Indian welcomers, which the Pilgrims, in their meticulous fashion, duly noted as tipped with "hart's horn and eagles' claws." Approaching their ultimate settlement site at Plymouth on December 15, 1620, they viewed in the prospect "nothing but woods." The cleared high ground chosen for the plantation, more than likely a former Indian village site, seemed ideal except in one respect. "Our greatest labor will be fetching of our wood, which is half a quarter of an English mile; but there is enough so far off," Winslow noted.

The picture of the Pilgrim-era forest, constructed through the travel diaries of that period, must be regarded as somewhat conjectural. More modern thinking, supported by an examination of sediment cores from Martha's Vineyard and ponds in the Myles Standish State Forest in Plymouth County, suggests a species composition not unlike that of today. Periodic wildfire and a largely dryland environment favored a forest of sprout hardwoods interlaced with pitch and white pine, with such occasional species as chestnut, beech, hickory, and even hemlock occurring throughout. Larger trees were present, as evidenced by the chronicles of such early explorers as Bartholomew Gosnold and John Brererton, and the documented construction of early buildings entirely from native materials.

For 12-year-old Resolved White, in the house of his stepfather, Edward Winslow, it was the grunting and squealing of hungry swine in the Pilgrim village's "beast House" that caused him to stir. Moving carefully so as not to disturb young John and his parents, still asleep in the big four-poster bed, and his brothers Peregrine and Ned alongside him on the floor, Resolved moved past the still-smoldering cooking fire at the end of the clapboard cottage, pushed open the heavy wooden door, and slipped outside. Tree shadows still striped the heavily palisaded village, reminding the boy of his mother's fear of the surrounding forest, the wild beasts and savages that surely lurked there, and her stories of the well-tended fields and intensively managed woodlands she had left behind in her native England.

But the real excitement for Resolved was his parents' whispered conversation the night before, when they believed the children were asleep, about Edward Winslow's forthcoming diplomatic mission to the Wampanoag's sachem, Massasoit, to explore the "champaign" (open plain) and forested shores of Narragansett Bay, in order to express the Plimoth colony's continuing commitment to peace and friendship. Winslow would be accompanied by Stephen Hopkins and the Indian pniese, *Hobbamock, Massasoit's liaison with the colonists. Much respected as a fine Christian, statesman, scholar, and man of affairs, and as a keen and sympathetic recorder of the New England landscape and its native culture, Winslow was the obvious choice of Governor William Bradford to serve as the Pilgrims' emissary.*

For young Resolved, his stepfather's absence would mean that the boy would have to take over clearing the stones from the family's small allotment of land, fertilizing it with fish from the spring herring run; gathering "underwood," (underbrush) for fuel and the "gads" (long sticks, from saplings) used to make the woven barriers called "hurdles" that kept animals out of the unfenced fields; and fetching water for his mother. The boy did not know it, but in the hands of the colonists, wild New England was on its way to becoming a world of fields and fences.

The Plymouth settlers, accustomed to the unwooded English countryside, were largely unacquainted with a forest environment. Yet as prospective farmers, the Pilgrims were already preconditioned to trades and tools, including in their shipboard complement a full supply of axes and saws; two members of their company were carpenters. The assault on the surrounding forest began promptly, and a group of one-room posthole cottages and a surrounding wood palisade were soon built to provide housing and a measure of security.

The next move was to begin creating the English open-field setting with which they were most comfortable. Lacking wheeled vehicles and draft animals until 1621, and without a sawmill until the Scituate settlement was founded in 1633, the Pilgrims had to undertake the clearing by hand; the resulting felled wood and other cleared materials were dragged to the village, floated down nearby Town Brook, or simply left in place to be reduced by fire. Unlike the Indians, the colonists were capable of harvesting the larger trees — and did. Furthermore, the English tradition of "joining," (piecing together wood fragments) also made it possible for smaller-dimension material to be used. So successful was the forest exploitation that by 1631 the Massachusetts General Court had to begin enacting timber control ordinances for forest burning and the felling of trees and to start rationing fuelwood sources in the interest of conserving supplies and reducing waste.

Another incentive for removing the forest lay in the economics of the plantation. The merchant backers of the settlement expected financial returns for their investment, and the reported abundance of the forest made that a promising prospect. Two hundred pounds of wood samples were sent back to England on the *Anne* in 1623, and forest products became a regular item of trade from 1640 on. Because of the distances involved, New England never became a major exporter of timber to England except for its special role as a supplier of masts for the Royal Navy, but forest products did become a lucrative part of the flourishing trade between the colonies and the West Indies later in the seventeenth century.

The settlers' ambitions of personal wealth also accelerated the clearing of the native forest. The first allocations of land were modest in size and were associated pragmatically with use and need. Larger tracts of forestland were often reserved as undistributed commons for grazing

and as sources of fuelwood. In later years, the Massachusetts General Court of the colony came to offer forestland to groups of proprietors willing to found new townships. The proprietors would then divide the land among the settlers in accord with status and need. Further distributions were made by the General Court as rewards for service (for example, bounties to Revolutionary War veterans) or simply as ways to raise revenues.

Toward the end of the Colonial period, the Indian concept of the forest as a resource had been supplanted by its status as a source of commodities. Deforestation was considered not a trait to be decried, but the natural result of the process of cultivation. After all, New England was known to be a region of boundless resources and seemingly inexhaustible wealth, a pristine and empty land simply waiting to be occupied. Loss of woodland was no cause for concern, because, as New England traveler and Yale president Timothy Dwight would later assert, "Forests are furnished by the author of nature with means of perpetual self restoration." As waves of colonists arrived, the fever of settlement began to spread to outlying regions.

For example, in May 1670, in Dedham, Massachusetts, townspeople gathered in the parlor of Lieutenant Joseph Fisher to finalize plans for establishing a new settlement in the Connecticut Valley. The occasion was the disposition of a special award of 8,000 acres from the General Court to compensate Dedham for the loss of 2,000 acres granted to the Natick Indians for the Puritan missionary John Eliot's colony of "praying Indians." Explorers from Dedham had set out in 1663 to find a tract "in any convenient place . . . where it shall be found free from former grants." A one-and-a-half-square-mile plateau of rich soil and abundant meadows, at the foot of a ridge called Pocumtuck by the Indians, appeared to be the perfect site. The area had been vacant since the Mohawks to the north had descended upon the Pocumtucks and destroyed their village. Accordingly, a plan for the division of the land was drawn up in Dedham that included both homesteads and commons. The lots were made narrow both to facilitate ploughing a long furrow and to provide each owner with the needed amounts of cropland, meadow, and forestland. The 43 original proprietors were governed at a distance from Dedham, 80 miles to the east, until an act of the General Court in 1674 permitted the "inhabitanc of pocomtick" to establish their own town of Deerfield.

Ten-year-old Thankful Sheldon, sound asleep in a pile of comforters in the east bedroom of her father Ebenezer's home in Deerfield, now known locally as the Old Indian House, stirred awake as the early morning sun rose over the Pocumtuck Hills and dappled the walls with light and shadow. Clutching the flannel nightshirt around her neck against the winter chill, Thankful jumped out of bed and ran to the window. Although it was February 1730, not the fateful early-morning hours of February 29, 1704, Thankful could visualize the loud cries and pounding of hatchets on the oaken front door on that day as a surprise assault force of French and Indian warriors came across the ice-bound confluence of the Deerfield and Green rivers, traversed the north meadows, easily scaled the snow-piled stockade, massacred more than 40 settlers, and marched another 100 settlers to captivity in Canada. She recalled her grandfather John Sheldon's vivid account of how her grandmother, Hannah, was shot through the neck by a stray bullet while sitting in bed in this very room.

Much had occurred since those tumultuous days. By 1707, most of the settlers had returned to rebuild the village. There was now talk in her father's tavern of a coming accord between the British and the French and their respective Indian allies. As evidence of increasing peace and prosperity, Thankful could see through her window the rich farmland of the Pocumtuck Plateau, extending as far as the eye could see under its winter blanket of snow. The plateau's fields were already promising surpluses of grain and cattle to be delivered to market down the Connecticut River and east to Boston. And as she watched, the first of the morning's teams sleighed into town bringing a load of wood down from the shrinking Pocumtuck Hills forests to fuel village fireplaces and provide materials for its skilled housebuilders and joiners.

At the time of settlement, the Connecticut River valley appears to have been a land of forested ridges interspersed with fertile plateaus and floodplains, the legacy of glacial Lake Hitchcock, which once extended 150 miles north from Middletown, Connecticut, to Lyme, New Hampshire. The colonists began clearing the land with vigor, harvesting the forest for fuel and deriving from it a variety of products. The wood used in the construction of the eighteenth-century houses provides clues as to the species present at that time. Architectural historians at Historic Deerfield, Inc., have encountered roof shingles made of cedar, external clapboards and internal floor boards of white pine, ceiling beams of pitch pine and hemlock, and frameworks of chestnut and white oak. The size of the individual trees can be deduced by the width of the beams and boards; one interior sheathing fragment measured 32 inches wide.

But by far the biggest drain on the forest was the demand for firewood. Wood was the sole fuel for cooking and heating, and each family of settlers required some 35 cords (61 tons) of wood annually. Although the first sawmill in the Massachusetts portion of the Connecticut Valley was established in nearby Hadley in 1665, the cutting, hauling, and processing of timber used mostly local equipment and labor. Much of this work was carried on in the dark shadow of unremitting Indian hostility and against a backdrop of the coming Revolutionary War with England.

By the early nineteenth century, Connecticut Valley leaders had begun taking a special interest in the flora of the region, including its forest. Descendants of the early Deerfield settlers were in the vanguard. For example, the area physicians Dennis Cooley and Stephen West Williams assembled extensive personal herbaria. The Deerfield native Edward Hitchcock, the first professor of natural history at Amherst College and later its president, maintained a lifelong interest in the geology and natural history of the Connecticut Valley, serving as the appointed head of the 1830 state survey of geology, mineralogy, botany, and zoology in Massachusetts. Hitchcock's extensive correspondence with Professor Benjamin Silliman of Yale University helped fortify Silliman's own concerns about conditions in the valley during the nineteenth century. The president of Yale University Timothy Dwight, traveling throughout New England and New York in 1821 and 1822, contributed his own thoughts about the landscape and resources of the

Connecticut River, describing the "un-common and universal beauty of its banks, here a smooth and winding beach, there covered with rich verdure, now fringed with bushes, now covered with lofty trees, and now formed by the intruding hill, the rude bluff and the shaggy mountain."

Farther to the west, on a 36-square-mile land grant from the Mohhekunnuck and Housatunnock Indians, the Massachusetts General Court was encouraging settlement of "New Framingham" (Lanesborough) and what was later to become Berkshire County. A heavily forested region whose forests were composed largely of deciduous species (beech, birch, and maple), but interspersed with conifers at higher elevations, the northern portion of the county was dominated by Herman Melville's "Most Excellent Majesty," Mount Greylock, at 3,491 feet Massachusetts' highest peak. The slopes of Greylock served as the headwaters of the Hoosic River, a Hudson tributary, the Deerfield River flowing east to the Connecticut, and the Housatonic River, flowing south to Long Island Sound.

In time, farms would be hewn out of the forest within a thousand feet of the summit. Sheep would graze on the western slopes. Lime, iron ore, charcoal, and paper industries would rise and fall in the mountain's shadow. And a vigorous debate would ensue, still unresolved to this very day, over appropriate recreational use and development of the mountain. Virtually stripped of timber not once but twice, the Berkshire forest rebounded to form the basis of some 100,000 acres of secured public land in Berkshire County, including the summit of Greylock itself, which now lies within a state reservation of some 12,000 acres.

But as early as the 1790s, concern had begun to be expressed about the rapid depletion of the Massachusetts forest in western Massachusetts and elsewhere. In an essay foreshadowing the later national forest movement, an unknown author writing in the May 16, 1798, issue of the *Philadelphia Weekly Magazine of Original Essays, Fugitive Pieces, and Interesting Intelligence,* entitled his article "On the Importance of Preserving Forests in the United States." There were other observers from outside the state, for example, the Swedish naturalist Peter Kalm, who wrote of the deplorable condition of the cedar swamps in the Northeast, and the Revolutionary War general Benjamin Lincoln, who suggested a program to promote the planting of acorns because "our timber trees are greatly reduced and quite gone in many parts."

In Sturbridge, Massachusetts, 15-year-old Augusta Freeman looked up from her sewing as her cat, Comfort, named for her grandfather, jumped into her lap and started purring. Distractions like this did not occur often in the Pliny Freeman household, especially since her mother, Delia, had taken ill and left the bulk of the household chores to Augusta. It was now the girl's lot to draw water, fetch wood, milk the cows, and tend the quarter-acre garden that would yield enough vegetables for both summer and winter. Inside, there were seemingly endless meals to prepare and serve. And ever since Delia had read Lydia Maria Child's The American Frugal Housewife, *she demanded that the house be tidied up and swept daily with one of the new Connecticut Valley brooms.*

Glancing out the window, Augusta could see her younger brother Dwight leading the team of oxen as her father, Pliny Freeman, guided the plow and hilled the Indian corn and potatoes. When this was done, it would be time to scythe the first hay in the meadows and harvest the winter crop of oats and rye. When the snows came, Pliny Freeman would take the oxen into his 59 acres of unimproved land and fell logs from the dwindling forest. He would sled them out to the sawmill on Leadmine Brook that he partly owned and trade the roughcut boards for needed supplies and services. Later, in his workshop, he would craft wooden furniture, utensils, implements — especially the ox yokes that were in such demand by the area's farmers. Pliny Freeman, Augusta knew, was a highly respected member of the Sturbridge community, having served as highway surveyor, town assessor, selectman, and currently school committee member.

Of the 40 scholars enrolled in District School 7, Augusta was considered to be one of the best. Thinking of school, she caught a glimpse of herself in the looking glass on the otherwise bare wall, coloring at the thought that young Master Perrin might find her attractive.

Meanwhile, the New Englander Timothy Dwight observed that the labor-saving practice of girdling trees and leaving them to rot in place presented "an uncouth and disgusting appearance." Dwight also observed that the Connecticut River was "now often fuller than it probably ever was before the country above was cleared of its forests." In the opinion of the environmental historian William Cronon, the removal of the forest had become "one of the most sweeping transformations wrought by European settlement in New England."

By the early 1800s, it would seem, virtually everyone in Massachusetts owned a farm. As New England society expanded across available space in response to rapid population growth, clearing forest became part of the farm-making process. But the term "farm" was something of a euphemism, because the proportion of farmers in the workforce actually began to decline as early as 1800. More accurately, a high percentage of Massachusetts households, by the turn of the nineteenth century, simply owned some land.

To be sure, although most farms (like the Pliny Freeman farm in Sturbridge) were not independent, self-sufficient entities in an economic sense, they did contribute a comfortable existence, serve as the focus for families, and provide a base for other entrepreneurial pursuits, many built around the settlers' cultural proclivity for the trades. The 1850 census of occupations listed nearly 200,000 carpenters and joiners in nineteenth- century America, skills that were in great demand as a generation of "country carpenters" began converting the forest into tools, products, and materials for dwellings. The resulting impact on the landscape was quite profound. Through the eyes of gentleman-farmer journalists like Rodolphus Dickinson of Greenfield, Massachusetts, we learn that by 1813 the Massachusetts forest had retreated largely to swamps and hilltops. "This state exhibits, comparatively, no very extensive forests; the cultivated parts of the farms being, in general, accompanied only with proportionate woodlands." Yet, where they do exist, Dickinson wrote, "the forests present a thick and handsome foliage and are uniformly pervaded by a great proportion of shrubbery."

Indeed, in places like Sturbridge, settled in 1729 by proprietors from Medfield, the forest proved stubbornly resilient. As Timothy Dwight observed, "When a field of woods is, in the language of our farmers, cut clean i.e. when every tree is cut down so far as any progress is made,

vigorous shoots sprout from every stump." The state census of 1845, near the peak of the period of conversion to farmland, still reported an annual cut of 26 million board feet from Massachusetts forests. The Sturbridge-Southbridge timber supply is known to have sustained area sawmills until the late nineteenth century. By 1850, with 61 percent of Sturbridge recorded as improved land, the early Massachusetts dynamic of subsistence had been replaced by the accumulation of personal wealth and capital. As William Cronon has observed, capitalism and environmental degradation, which had begun in the eighteenth century, were beginning to march across the New England region hand in hand.

The transportation improvements brought about by the opening of the Erie Canal in 1825, the growth of endemic canal systems on the Blackstone, Merrimack, and Connecticut rivers, and the presence of more than 1,000 miles of national railroads by 1835 heralded a dramatic change in the demands on the Massachusetts forest. By 1846, Massachusetts railroads were already consuming more than 50,000 cords of wood annually for fuel, and each mile of track required over 2,500 wooden ties, which had to be replaced every five to seven years. The new manufacturing facilities were imposing unprecedented demands for wood, and the mid-century ironworks, fueled by charcoal, were in the process of devastating the forests around them.

Early in the nineteenth century, concern began to grow about the deteriorating state of the Massachusetts forest. In 1813, the progressive farmers' movement polled its members as to the condition of local timber supplies. The response from West Springfield spoke of "much destruction of wood while growing in our forests by fires purposely or carelessly set." The ideal solution, it was said, would be a condition where growth and consumption became equal.

Cognizant of the declining forest growing stock, the private Massachusetts Agricultural Society offered in 1795 annual premiums for individual efforts to culture forest trees, but so confident were the farmers of the unlimited nature of the natural forest that only one application was received in thirty years. "Let us then abandon the hope of extensive plantations," the society concluded when it terminated the award program in 1825. John Lowell, in his 1818 *Remarks on the Gradual Diminution of the Forests of Massachusetts and the Importance of an Early Attention to Some Effectual Remedy,* commented that "no man

dreamt that the day would arrive in which his descendants might regret the improvident profusion of their ancestors." The issue of selective versus clear-cutting was debated in print as early as 1804. The theme was picked up by George Barrell Emerson, in his 1846 report to the General Court on trees and shrubs growing naturally in Massachusetts; he, observed that "the effects of the wasteful destruction of the forest trees are already visible."

In Concord, Massachusetts, where town woodlands had shrunk to barely 10 percent of the town's land area, Henry David Thoreau would declare that "of the primitive wood, woodland which was woodland when the town was settled . . . I know none." As he went on to write in 1860, "The history of a woodlot is often, if not commonly, here, a history of cross-purposes — of steady and consistent endeavor on the part of nature, or interference and blundering with a glimmer of intelligence at the eleventh hour on the part of the proprietor."

Charles Sprague Sargent, in a special report to the Massachusetts Board of Agriculture in 1875, wrote that "the most valuable trees have always been cut, often before they reach maturity, and as no steps have been taken to replace them, it is not astonishing that the poverty of our woodlands has reached a point which compels the inhabitants of the state to draw nearly their whole supply of lumber from portions of the country most recently settled." In light of the difficulties of transporting logs any distance from the forest, nineteenth-century Massachusetts had no option other than a network of small, local, water-powered sawmills built around an ever-dwindling forestland base.

By the late nineteenth century, the residue of wasted and fire-scarred land throughout the state was so extensive as to inspire a group of private citizens, in 1898, to form the Massachusetts Forestry Association. Private pressure subsequently prevailed upon the legislature to establish the office of state forester in 1904, and to enact a remarkable forestland relief measure in 1908, which authorized the state to accept donations of private land for reforestation purposes. These so-called reforestation lots, as well as later strategic acquisitions by the state at costs not to exceed $5 per acre, are the backbone of what Massachusetts citizens now enjoy today as their state forest and park system.

Even as the remnants of the original forest continued to be decimated, Massachusetts' new forest had become re-established on the

abandoned agricultural land. Several factors hastened this transformation: westward migration, the movement of people from the farms to the cities, and the competitive advantages of importing food and materials via the new transportation network. By the turn of the twentieth century, the forest was ready to be harvested again — spurring another two decades of exploitation.

In 1907, the production of lumber in New England reached its peak in this century, a cut of nearly 3 billion board feet. Portable sawmills appeared throughout the state, and an entire industry was founded on the harvest of white pine to make boxes. Once again, exploitation was indiscriminate and rampant. Loggers even stripped the timber off the east face of Mount Greylock.

Massachusetts forests were hard hit again during World War I. The principal demand was again for fuel. Since coal was a requisition priority for military use, the state forester organized "Cut A Cord Clubs" and wood exchanges throughout the Commonwealth to supply wood fuel for mills, public facilities, and households. Massachusetts sawmills and experienced woodsmen were sent to England to help the British war effort produce its own lumber.

In 1929, "Black Friday" hit the New York Stock Exchange, and U.S. securities lost $26 billion in value virtually overnight. The resultant Depression was to leave a permanent mark on Massachusetts forests, just recovering as they were from the exploitative period of the early 1900s. On April 5, 1933, President Franklin Roosevelt signed into law an act establishing a Civilian Conservation Corps (CCC), a program that would ultimately engage 2.5 million unemployed Americans in the conservation and development of the nation's natural resources. Massachusetts forests were a direct beneficiary of this program. During the period 1933–42, 63 CCC camps were established on state forest and park lands. Almost 100,000 men were enrolled. CCC crews engaged in reforestation, timber stand improvement, fire suppression, insect and disease control, and the construction of roads, bridges, lookouts, and recreational cabins, facilities that are still enjoyed by the public today.

Just as the CCC camps began to close, the 1938 hurricane struck southern New England, leveling more than half a billion feet of standing timber. Fresh from the experience of the CCC, state foresters with

federal assistance established a dozen hurricane clearance camps and salvaged about 150 million feet in Massachusetts alone. Owners of fallen timber delivered logs to designated collection points, where they were stockpiled for later marketing. The constant threat of wildfire did achieve one enduring forest benefit, stimulating the development of our modern cooperative forest-fire prevention and control system. In addition to the work accomplished, the CCC and other forestry camps left an indelible mark on the national ethos. At a time of uncertain economic conditions, CCC enrollees received gainful employment, learned valuable trades, and even earned high school diplomas. In their own words, they became men. More important, CCC veterans gained a lifelong respect for the natural environment. Their sense of the future is expressed eloquently on the bronze memorial installed on the lawn as the visitor drives into the Mohawk Trail State Forest headquarters in Charlemont. Flanked by decorative flags, the plaque reads:

> To those of the veterans Civilian Conservation Corps
> who working here have opened to you and the generation
> that will follow a rare intimacy with the peace and
> refreshment of God's hills.

The finer detail of this broad sweep of Massachusetts forest history is contained in the chapters to follow. John F. O'Keefe and David R. Foster, forest ecologists at the Harvard Forest, start by describing the ecological and land-use history of the Massachusetts forest. The economic historian Nancy M. Gordon then traces the patterns of use and development of its material resources. William A. King of the New England Forestry Foundation shows how human dimensions transformed themselves into private actions and institutions. The state's management forester William Rivers provides an insider's account of the early history of state programs, especially their interrelationship with the private sector. How education contributed to state and private programs, and how the forestry profession developed are explained by Robert S. Bond, a longtime University of Massachusetts faculty member and the former director of Pennsylvania State University's School of Forest Resources. The national conservation context for all of these events is furnished by the environmental historian and writer Stephen Fox. His perspective is followed by the architectural historian Robert L.

McCullough's account of the unique town forest movement in New England and Massachusetts. The concluding chapter, "The Massachusetts Forest Today," by former Massachusetts natural resources commissioner and environmental secretary Charles H. W. Foster, indicates how the lessons of history can be applied usefully to shape future programs and policies.