

The Lands Nobody Wanted: The Legacy of the Eastern National Forests

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The Eastern National Forests—Image and Reality

On the eastern national forests, the Forest Service is steward of a legacy. It is a legacy of human use and misuse of the land, but also a legacy of concern and restoration. Throughout the East there are thriving national forests where less than a century ago there was only charred stumps and brushfields—the lands nobody wanted.¹ An understanding of the origins and history of these national forests is essential if we are to have informed debate over timber harvest levels, wilderness, old growth, biodiversity, and other issues of management and use of the eastern national forests today and in the future.

East of the 100th meridian, the line used historically to mark the divide between the arid west and the water-rich eastern two-thirds of the country, lie fifty national forests.² They sprawl across the Ozark and Appalachian mountains and the hills north of the Ohio River. In the upper Lake States they comprise large areas of the region's North Woods. In the south, national forests arc across the coastal plain and piedmont from Texas to North Carolina. Encompassing 24.5 million acres (an area about equal to the state of Virginia), they amount to just about 13 percent of the 191 million-acre national forest system.³

Although the western national forests were created from land already owned by the United States, most of the land in the eastern forests had to be purchased from private landowners. It was not until passage of the Weeks Law in 1911 that the federal government was given the authority to acquire land to protect the watersheds of navigable streams. Thus, unlike most of the national forest land in the West, the eastern national forests mainly are purchased forests—land bought from willing sellers on an opportunistic basis. Geology, soil, aspect, a landowner's farming skills and his economic ambition or necessity, all helped determine which lands were made available to the federal government.

The image many among the public hold of the national forests are those of the national forests of the West—"ancient forests"; remote backcountry and immense open spaces that bear little evidence of human impact; wilderness areas of hundreds of thousands of acres.

In the East, the reality is much different. Most of the national forests of the East are small as national forests go. All but five are less than a million acres, and about half are less than 500,000 acres. But as available public land in relatively large blocks, they loom large indeed. While there are thirty national forests of more than 250,000 acres, in all the East there are only a dozen other public land areas of this size.⁴ In all but a handful of states, the national forests are virtually the only significant areas of public land.

Ownership is fragmented. Considering all the eastern national forests, the federal government owns just over half of the land within the purchase boundaries (the area in which the Forest Service is authorized to acquire land). But on many of the smaller forests, federal ownership within the purchase boundaries is well under 50 percent.

Because of intensive cutting before the land passed into federal ownership, trees are clustered in relatively young age classes—generally less than 100 years. Very few acres of the eastern national forests have not felt "the imprint of man's work," a point that once generated controversy over wilderness standards in the East.⁵ There are 119 wilderness areas in the eastern national forests, but they tend to be quite small—only 37 are more than 10,000 acres in size.

At the time they were acquired by the federal government, most of the lands that are now the eastern national forests could hardly have been called "forest." For the most part they were cutover forestland or worn-out and abandoned farmland. Thus, forest rehabilitation has been and continues to be a theme of management of the national forests of the East.

Thanks to the natural resiliency of eastern forests and Forest Service stewardship, the land again supports stands of trees and diverse wildlife. Wilderness advocates and the timber industry conflict over land that was stumps and brush when it came under Forest Service management. Residents of eastern metropolises prize them as open space, playgrounds, and for their environmental and ecological values.

Failure to understand the history of the eastern national forests may contribute to differences between Forest Service personnel and the agency's critics. As one

national forest planner put it: "We see the forest as the healing of a near environmental disaster, while our critics view current management as the pillage of a pristine wilderness."⁶ Two other factors also are central to an understanding of the national forests of the East.

First, crazy-quilt land ownership, largely determined by acquisition opportunities over the years, virtually ensured that there would be numerous small towns and communities in the national forest environs—and many neighbors. The eastern forests always have had a close—even symbiotic relationship—with the communities and people who live in and around them.

Second, from their earliest days, management of the national forests emphasized improving the quality of life not only for those living in and around the forests, but for residents of urban areas, too. During the Great Depression, the eastern national forests were part of the engine of national economic recovery. Federal funds used to purchase and reforest wornout, often abandoned farmland pumped money into distressed local economies.

The aspirations for these forests were captured in this succinct management direction for a portion of the Nantahala National Forest in North Carolina written by forester Ray W. Brandt in 1937: "Improve social and economic conditions and stabilize local industries to the extent that these can be accomplished through harvesting national forest products on a sustained basis."⁷

The history of the eastern national forests is far more than the story of 24 million acres of federal land; it is the story of land use, society, and economics in the rural East and South over at least one hundred years.

The Forests Before Federal Acquisition

The forests of the eastern United States are dynamic and resilient systems, themselves the product of natural disturbance. A National Park Service botanist who studied forest processes and natural disturbance in the southern Appalachians, advises that "Historical [disturbance] events are important in understanding present composition."⁸ Combinations and sequences of events—fire, pests, windthrow, ice storms, drought—all determine the course of forest development.

In recent centuries, the eastern forests have been affected by such natural events as fluctuations in climate over the 400-year span of the Little Ice Age (which ended in the mid-1800s)⁹ and widespread pest infestations. Though not totally a natural

event (it is caused by a fungus that originated in Asia), the chestnut blight eradicated a major component of the eastern hardwood forests in the 1920s and 1930s.

The effects of even localized disturbances can be substantial. In July 1977 an intense thunderstorm generated "downburst" winds up to 150 miles an hour, leveling trees in a swath 166 miles long and up to 17 miles wide—an area of 40,000 acres—in eastern Minnesota and northern Wisconsin. In March 1987, an ice storm struck an area on the Pisgah National Forest in North Carolina affecting 60,000 acres. In some places, entire stands were leveled, restarting the whole successional sequence. In other places, ice toppled the tall canopy trees, thus releasing well-established understory trees. Over large areas, individual trees were severely damaged, leaving them vulnerable to disease, pests, and drought and accelerating their deaths. Thus, across 60,000 acres of forest, the ice storm left a variety of conditions, creating an almost infinite number of changed successional patterns. Even more recently, in September 1989, Hurricane Hugo ravaged forests in Puerto Rico and the Carolinas; in South Carolina alone, 1.3 million acres required reforestation.¹⁰ Natural disturbances perpetually create a mosaic of age classes and species across the forest landscape.

Early Settlement

Direct human impact on the eastern forests has been long and substantial. Native Americans cleared large areas in the forests to grow crops and repeatedly set fire to the underbrush to stimulate young growth favored by game. Fire historian Stephen J. Pyne writes that "So open were the woods, one author advised with a touch of hyperbole, it was possible to drive a stagecoach from the eastern seaboard to St. Louis without benefit of a cleared road . . . for this condition, Indian fire practices were largely responsible. . . ." ¹¹Of the effect of the native Americans, historian Michael Williams concludes that ". . . the Indians were a potent, if not crucial ecological factor in the distribution and composition of the forest." Williams adds that "their activities through millennia make the concept of 'natural vegetation' a difficult one to uphold." ¹²

Later, colonists and pioneers enlarged the openings created by the original forest inhabitants to provide fields for crops. Inexorably over the decades, the amount of forest in the East shrank as the area in farm fields expanded. By the time the logging industry began cutting the forests in earnest in the mid-1800s, much of the Northeast and Central Atlantic had been cleared and settled.¹³

Nonetheless, extensive forests remained in the Appalachian Mountains and to the west of the settled areas. The three upper Lake States—Michigan, Wisconsin, and

Minnesota—especially contained a rich lode of timber. Surveyors in the 1830s estimated that standing pine timber in Michigan amounted to 150 billion board feet, said to be sufficient to build ten million six-room houses. And the size of the trees was impressive. A photo apparently taken in the late 1800s shows a horse-drawn sled with white pine logs three to four feet in diameter stacked three times the height of a man. It was said to bear 100,000 pounds of logs.¹⁴

In the late 1800s, travelers in the southern Appalachians reported stands of mixed hardwoods with trees more than a hundred feet tall and four to seven feet in diameter. In the coves below Mount Mitchell in North Carolina, government surveyors found "A forest of oaks, hickories, maples, [American] chestnuts, and tulip poplars, some of them large enough to be suggestive of the giant trees on the Pacific Coast."¹⁵

The Advent of Logging on a Grand Scale

In the middle of the century, the logging industry developed the technology to cut, transport, and mill immense quantities of timber required to satisfy the needs of a growing, westward-spreading population. Between 1850 and 1910, the nation's annual timber lumber production increased eight-fold, from 5.4 billion board-feet to 44.5 billion board feet.¹⁶

Commercial logging on a grand scale came to Michigan in the 1860s, and shortly thereafter to Wisconsin and Minnesota. The magnificent white pine were cut first, with the timber sent to build Chicago and other Midwest cities. In 1892 some 9 billion board feet of white pine lumber was produced in the three states. That was the apogee of the white pine era in the Lake States; thereafter, the supply of white pine fell precipitously, and loggers turned to other species—maple, oak, hemlock, cedar, poplar, and jackpine, seeking opportunistic markets.¹⁷

As the supply of trees in the Lake States diminished, the industry turned southward. The lands that are now the Hoosier National Forest were cleared of timber between 1870 and 1910.¹⁸ In 1899 Indiana was first among states in timber production. In the South, intensive harvesting began in the early 1880s and continued well into the current century.

In the southern Appalachians, the industry cut timber with an approach that might be termed extensive high-grading; whatever trees were of value at any given time were cut, without consideration of future species or quality. By the turn of the century, a government forester surveyed the southern Appalachians and found that

lands near railroads had been "robbed of everything of commercial value . . ." and "the clearing and culling of a century have made considerable inroads into these forests."¹⁹

Further south, the Kaul Lumber Company began cutting the longleaf pine on land that is now part of the Talladega National Forest in Alabama in 1908. The timber was not exhausted until 1929.²⁰ Some areas were intensively grazed following timber harvesting, further retarding regeneration.

The loggers built haul roads and even railroads into rugged mountains in, for example, the Monongahela and the mountain forests in North Carolina. The Shining Rock Wilderness on the Pisgah National Forest still has remnants of the rails that permitted access to timber on the high ridges. On the Monongahela National Forest in West Virginia, hiking trails follow railroad grades used to remove logs in the early 1900s.

In areas where there were deposits of iron, timber was clearcut to make charcoal for the iron furnaces. In the area of western Virginia and eastern West Virginia, now in the George Washington National Forest, there were 54 charcoal iron furnaces in operation at different times throughout the nineteenth century.²¹ Depending on stocking, it took between 50 to 150 acres of trees each year to provide charcoal for a furnace. Woodsmen cut virtually every living tree within hauling distance of a furnace, with some stands recut on 30-year rotations. Other lands, such as the Athens District of the Wayne and the Redbird unit on the Daniel Boone were strip-mined for coal.

Soil was degraded by years of abuse. Of the southern Appalachians, a federal forester wrote in 1917, "It is very probable that the productive capacity of forest soils throughout most of this region have been greatly decreased by repeated fires, so that the present forest growth is poorer in composition and quality than it once was."²² And as will be seen, farming further impoverished thousands of acres of land later acquired for national forests.

The Barren Lands

Photos of the lands when acquired by the federal government are of a piece. Whether the Sumter National Forest in South Carolina, the Sabine in Texas, the Jefferson in Virginia, the Shawnee in Illinois, or the Nicolet in Wisconsin, the scene is largely treeless. In some cases charred stumps and snags mark the landscape. In other cases the scene is impoverished farmland. Of the land that was

to become the Ozark National Forest: "Vast areas of some of the finest virgin timber in the country were practically clear cut. Entire watersheds were practically denuded. Fire followed the logging operations, destroying young timber and delayed for generations the renewal of the timber crop."²³

Of land later incorporated into the Tuskegee National Forest in Alabama, a 1930s report to the Resettlement Administration noted: "The absence of trees on the hillsides is a constant reminder of the exploitation of the forest resources of the purchase area. Creeks where fish abounded twenty years ago are virtually sand beds or mud holes." And the Mark Twain, in Missouri: "After the logging operations were completed, areas were severely burned and many of the remaining trees were killed. Settlers told of days when the air was darkened with smoke and full of cinders for weeks at a time. Fires traveled at tremendous speeds, leaving charred messes [sic] in their wakes."²⁴

The situation was much the same in northern Wisconsin, where the Chequamegon and Nicolet National Forests are now located: "The whole world of northern Wisconsin was on fire in those years [the 1920s]. You could choose a high point in any one of today's ranger districts and see miles of cut-over, burned-over land. Tree stubble and smoldering slash littered the landscape."²⁵ Thus, intensive cutting decades ago left a legacy of degraded soils (in some cases expanses of rock exposed by fire and rain) and timber of low commercial quality clustered in a few age classes that date from the period when regeneration of the forest began.

Not surprisingly, there is very little timber that can be called truly "old" on the eastern national forests. A few substantial stands did escape ax and fire; notable examples can be found in the Joyce Kilmer-Slickrock Wilderness on the Nantahala, and Heart's Content and Tionesta Scenic Areas on the Allegheny in Pennsylvania. But the situation on the Nicolet is more typical. There, the forest staff estimates that only about 1000 acres of the 654,000-acre forest were not cut—and these remnants are widely scattered in blocks of less than 40 acres.²⁶ The Pisgah and Nantahala National Forests, covering more than a million acres in the mountains of western North Carolina, were not as intensively cutover as most eastern national forests, yet 72 percent of their trees are between 40 and 80 years old.²⁷

The people who worked for establishment of the national forests early in this century would be amazed to hear today's arguments over designation of wilderness, biological diversity, and even whether timber sales recover costs. When these lands were acquired by the Forest Service, one had to be very farsighted to recognize their potential.

Origins of the Eastern National Forests

The forests of the East were the crucible of a conservation movement that by the turn of the century had achieved the protection of millions of acres of public forest land—the original forest reserves—in the West. Vermont's Green Mountains were the early laboratory of George Perkins Marsh, whose remarkable 1864 book *Man and Nature: Or Physical Geography as Modified by Human Action* provided the intellectual foundation for the ensuing campaign to protect the nation's forests. Inspired by Marsh, opinion leaders sought to awaken citizens of the need for forest protection. The embryo conservation movement attracted the attention of historian Francis Parkman, who wrote pamphlets on the need for forest conservation.²⁸

Passage of the Forest Reserve Act of 1891 was a major achievement of the conservationists. Over the next fifteen years four presidents placed more than 94 million acres of federal lands in the West in forest reserves—the forerunners of the national forests. But national forests came slowly to the East.

Although most of the public domain—land owned by the federal government—lay in the states of the Far West, some remained in a few states east of the 100th meridian—Florida, by virtue of the 1819 treaty with Spain, in the Lake States, because of cessions of territory by the original colonies, and in those states west of the Mississippi acquired in the Louisiana purchase.²⁹

However, early forest reservation bypassed these public lands. Then, on July 4, 1901, President McKinley proclaimed the Wichita Forest Reserve in Oklahoma—the first eastern national forest (it was transferred to the Fish and Wildlife Service in 1936 and is now the Wichita Mountains Wildlife Refuge).³⁰ Six years later in 1907, President Theodore Roosevelt established the Arkansas National Forest (later renamed the Ouachita National Forest) in Arkansas. In 1907 and 1908, a half-dozen forests were established from public land, among them the Ozark in Arkansas, the Ocala in Florida, and the Superior in Minnesota.

But, in those states of the original thirteen colonies there was no federal public domain.³¹ Establishment of national forests in the East on a truly significant scale would require that the federal government buy private land. However, there was no clear legislative authority for the government to buy land for national forests. That would come with enactment of the Weeks Law in 1911.

The Campaign for the Appalachian Forests

The campaign had begun more than two decades earlier. In 1893 Charles Sprague Sargent, an early leader of the forest conservation movement, urged that land in the southern Appalachians be protected for outdoor recreation. In 1899 the Appalachian National Park Association was organized to spearhead the campaign for creation of a federal park in the region.³²

Agitation for a national forest in the White Mountains of New Hampshire dated back to the late 1880s. Flooding attributed to the removal of forests at the headwaters of the Merrimack and Pemegewasset Rivers damaged cotton mills in Manchester and left 6,000 workers jobless. At the turn of the century, a pamphleteering Episcopal minister named John E. Johnson fired salvo after salvo at the timber companies, specifically the New Hampshire Land Company. Johnson's campaign resulted in the creation of the Society for the Protection of New Hampshire Forests, which became the principle advocate of action to establish a national forest in the White Mountains. Meanwhile, states were establishing precedents for the protection of forest land in the East. As early as 1878, Wisconsin had created a forest reservation of 50,000 acres of state land at the headwaters of major state rivers. In 1885, after years of work by forest protection advocates, the New York State legislature established the Adirondack Park from land the state had retained from Crown lands after independence. In the 1890s Pennsylvania set about acquiring land at the headwaters of its major rivers for state forest reservations. And a number of eastern states also rallied behind the campaign to expand forest preserves on public domain in the West, further evidence of broad support for the creation of reserves in the east.³³

In 1900 the Appalachian Mountain Club and the Appalachian National Park Association of the South Atlantic States sent a memorial to Congress asking for a study of the forests in the southern Appalachians, apparently with an eye to the establishment of a national park. Also in 1900, Congress appropriated \$5000 with which Secretary of Agriculture James Wilson was to "investigate the forest condition in the Southern Appalachian Mountain Region of western North Carolina and adjacent states."³⁴ That the southern Appalachians, like the White Mountains, had superb scenic qualities was apparent even after large quantities of timber had been removed. The forested mountains had significant local value—for jobs, for hunting and fishing, and as a scenic backdrop. Enough forest remained as evidence of what had been lost and what might again be attained. There was also the belief that with some care the mountains could become a major tourist attraction. The petition from the Appalachian National Park Association pointed out that the region was "but twenty-four hours from New York, Chicago, St. Louis, Toledo, and the Gulf

states. It is, therefore, within easy reach of millions of people. . . ."35 Though economics was a motive, local residents apparently believed the area worthy of a national park at a time when the only models were a few great western parks like Yellowstone.

The Wilson Report: "The Conservation of the Forests"

Wilson's 1902 report documented both the best and the worst of the southern Appalachians. First, it described the magnificent forests that remained on the steep mountainsides and hollows. Then it documented the effects of the careless cutting of timber: "The soil, once denuded of its forests and swept by torrential rains, rapidly loses first its humus, then its rich upper strata, and finally is washed in enormous volume into the streams. . . . More good soil is now washed from these cleared mountain-side fields during a single heavy rain than during centuries under forest cover."³⁶

Photos accompanying the report showed severe erosion where forested hillsides had been cleared for farm fields. In valleys, soils had been washed away, leaving acres of boulder fields. On steep hillsides, rainfall flushed away the humus, exposing expansive granite outcroppings.

Wilson concluded that the rivers of the southern Appalachians, because of their value for agriculture, water power, and navigation, were "absolutely essential to the well being of the nation."³⁷ Further, he wrote, "The regulation of the flow of these rivers can be accomplished only by the conservation of the forests." This was important for establishing the constitutional foundation for the federal purchase of land. Instead of a national park, Wilson recommended the establishment of a forest reserve, pointing out that while the federal government had set aside more than 70,000 square miles in the western forest reserves "There is not a single forest reserve in the East."

In recommending the "purchase and creation of a national forest preserve," Wilson asserted that "The states of the Southern Appalachian region own little or no land, and their revenues are inadequate to carry out this plan. Federal action is obviously necessary, is fully justified by reasons of public necessity, and may be expected to have most fortunate results." By action, Wilson meant outright purchase. While there was no direct legislative authority for the purchase of forest lands, Wilson pointed to precedents for federal land acquisition; the federal government had bought battlefield sites for military parks and had purchased land from the Black-foot Indians that was added to the Flathead forest reserve in Montana.³⁸

But for nearly a decade, opponents of federal acquisition were able to deflect bills implementing Wilson's recommendations. Their leader was House Speaker Joseph Cannon, who vowed "Not one cent for scenery."³⁹

Success: The Weeks Law

As if to validate Wilson's report of the effects of forest loss and subsequent flooding, violent and tragic floods—like that of the Monongahela River in 1907—struck the East. And the results were devastating. In his *50 Year History of the Monongahela*, C.F. McKim writes that in the forests of northern West Virginia "Exploitation was the order of the day." Then in March 1907, "heavy rains brought flood waters down the Monongahela River . . . the trees and healthy vegetation were no longer there to regulate the rainwater's flow. It devastated all the rich agricultural land in the basin of the Monongahela River, causing some \$100 million in damages—a gigantic sum for those times—then descended in all its fury upon the helpless city of Pittsburgh, causing there additional damages of \$8 million, drowning people and ruining their homes."⁴⁰ To prod Congress to action, the West Virginia legislature enacted legislation permitting the United States to buy land for what became the Monongahela National Forest.

From the southern Appalachians and New England, support for the concept of forest reserves in the East spread to the Ozarks, the Hudson Highlands, the headwaters of the Mississippi, and to Texas. Gifford Pinchot wrote later: "It was this combined pressure that finally overcame the resistance of the House Rules Committee and that of that famous idealist, Joe Cannon."⁴¹

The Weeks Law was the progeny of the forest-purchase legislation introduced following the publication of Secretary Wilson's report nearly ten years earlier. The Weeks Law permitted the purchase of "forested, cut-over, or denuded lands within the watersheds of navigable streams . . ." deemed "necessary for the regulation" of their flow. At the time, the protection of watersheds was an overriding public concern and a major objective of forest protection in the West and East. However, the emphasis on protecting the flow of navigable streams also was intended to link the acquisition of forest land to the federal government's authority, under the Constitution's commerce clause, to regulate navigation.⁴²

The immediate objective of the Weeks Law was the purchase of five million acres of forest land in the southern Appalachians and another million acres in the White Mountains in New Hampshire. It carried an appropriation of \$9 million to be spent

over six years for forest acquisition in those mountain regions. However, eastern national forest aspirations expanded quickly. Just two years later, a Forest Service study recommended that a national forest be established in Missouri. In 1923 the National Forest Reservation Commission—the committee of federal officials that determined where national forests could be established—recommended that national forests be established throughout the East. The next year, the Clarke McNary Act added "the production of timber" as a purpose for forest acquisition, thus permitting the purchase of land beyond the headwaters of navigable streams.⁴³

Acquisition of the eastern national forests occurred in three pulses—the first the period from passage of the Weeks law into the early 1920s, the second a transition period in the late 1920s and early 1930s, and the third during the New Deal administration of President Franklin D. Roosevelt (See Table 1).

Protecting Mountain Watersheds

The first Weeks Law forest—the Pisgah in North Carolina—was established in 1916. Through 1923, ten more forests were established. Seven were in the central and southern Appalachians plus the Alabama (now the William B. Bankhead), the White Mountain in New Hampshire and the Allegheny in Pennsylvania, all justified on their value as protectors of water flows. The establishment of the Allegheny in 1923 brought an end to the first phase of Weeks Law forest establishment. The next ten years were a period of transition from the original Weeks Law forests to the forests of the New Deal.

With the exception of the Huron National Forest in Michigan, created by combining a portion of the Michigan National Forest with some acquired lands, no forests were established for the rest of the 1920s. Acquisition continued at a vigorous pace, however, and land was added to the existing forests. When enactment of the Clarke-McNary Act in 1924 removed the headwaters of navigable streams limitation on acquisitions, purchase units were established in Wisconsin, Michigan, Florida, and Louisiana.

Elected in 1929, Herbert Hoover was, in the words of one historian, "The first conservationist president since President Theodore Roosevelt." An avid fisherman, President Hoover brought to office a deep interest in fisheries and water quality. From existing purchase units, Hoover in 1930 and 1931 proclaimed four entirely new national forests—the Hiawatha and Ottawa in Michigan, the Osceola in Florida, and the Green Mountain in Vermont. During that time, the Kisatchie in Louisiana was established by departmental order.⁴⁴

Table 1. The Eastern National Forests: A Chronology of Establishment.

1901	Wichita, OK	1936 - Transferred to Fish and Wildlife Service; now the Wichita Mountains Wildlife Range
1907	Arkansas, AR	Now the Ouachita NF
1908	Ozark, AR	
	Minnesota, MN	Now the Chippewa NF
	Ocala, FL	
	Choctawatachee, FL	1940 - Transferred to War Dept.
	Marquette, MI	Transferred to the Hiawatha NF
	Michigan, MI	Transferred to the Hiawatha NF and Huron NF
	Superior, MN	
1911	Florida, FL	Combined Ocala and Choctawatachee
	Enactment of Weeks Law	
1916	Pisgah, NC	
1918	Alabama, AL	Name changed to Black Warrior, then William B. Bankhead NF
	Shenandoah, VA	Name changed to George Washington
	White Mountain, NH, ME	
	Natural Bridge, VA	Transferred to George Washington
1920	Boone, NC	Transferred to Pisgah
	Nantahala, NC	
	Monogahela, WV	
	Cherokee, TN	
	Unaka, NC	Transferred to Pisgah
1923	Allegheny, PA	
1926	Ouachita, AR, OK	Name changed from Arkansas
1927	Ocala, FL	Created from portion of Florida NF
1928	Chippewa, MN	Name changed from Minnesota
	Huron, MI	Created from Michigan NF and other lands
1930	Kisatchie, LA	Established by Dept. order
1931	Hiawatha, MI	
	Ottawa, MI	
1932	Osceola, FL	
	Green Mountain, VT	
1933	Geo. Washington, VA, WV	Name changed from Shenandoah
	Nicolet, WI	
	Chequamegon, WI	Created from part of Nicolet and other lands
1936	Jefferson, VA, WV, KY	Created from Unaka and G. Washington NF lands
	Appalachicola, FL	
	Kisatchie, LA	[Proclaimed]

32 *Origins of the National Forests*

1936	Bienville, MS Holly Springs, MS De Soto, MS Black Warrior, AL Chattahoochie, GA	Name changed from Alabama Created from portions of Cherokee, Nantahala, and other lands
	Francis Marion, SC Sumter, SC Conecuh, AL Talladega, AL Homochitto, MS Croatan, NC Angelina, TX Davy Crockett, TX Sabine, TX Sam Houston, TX	
1937	Cumberland, KY	Name changed to Daniel Boone
1938	Manistee, MI	
1939	Shawnee, IL Mark Twain, MO Clark, MO	Added to Mark Twain
1942	Wm. B. Bankhead, AL	Name changed from Black Warrior
1951	Hoosier, IN Wayne, OH	
1959	Oconee, GA Tombigbee, MS Tuskegee, AL	Created from Bankhead-Jones land Created from Bankhead-Jones land Created from Bankhead-Jones land
1960	St. Francis, MO	Created from Bankhead-Jones land
1961	Delta, MS Uwharrie, NC	
1966	Daniel Boone, KY	Name changed from Cumberland
1985	Finger Lakes, NY	Created from Hector Land Use Project (Bankhead-Jones land)

Data compiled from USDA Forest Service, "Establishment and Modification of National Forest Boundaries: A Chronologic Record, 1891-1973," Division of Engineering, Washington, D.C., 1973.

These forests responded to the economic imperatives of the era, particularly the deterioration of farm-based local economies. And they presented an extraordinary opportunity for Franklin D. Roosevelt. President Hoover established the Nicolet National Forest on March 2, 1933, just two days before his successor's inauguration. Three weeks later the new president had proposed and Congress had enacted legislation creating the Civilian Conservation Corps. From the first camp on the George Washington National Forest—Camp Roosevelt—seventy miles west of Washington, CCC camps spread across the nation. Eventually, the Nicolet would have twenty CCC camps.⁴⁵

New Deal, New Forests

The New Deal forests—twenty-two in number—were created out of the suffering of land and people—land that had been abused and people trapped in economic despair. Proclaimed by President Franklin D. Roosevelt, the New Deal forests reflected his social aspirations and his deep and abiding concern for natural resources.⁴⁶

Scattered across the East, from the Mark Twain in Missouri, to the Chequamegon in Wisconsin, to the Osceola and Apalachicola in Florida, to the Angelina, Davy Crockett, Sabine, and Sam Houston in Texas, their establishment reflected complex needs and aspirations. The first was land rehabilitation. Logging and repeated fires, often combined with careless farming practices, had left large areas biologically impoverished. Something had to be done to restore the land.

The second was economic. When Roosevelt took office farm prices and incomes were in a state of collapse.⁴⁷ As farm families abandoned the land in ever-greater numbers, local governments saw tax receipts plummet. Businesses that depended on farm spending also were imperiled. It did not take long for state and local officials to see that federal land purchase and investment in management could provide some relief to hard-pressed local economies.⁴⁸

Meanwhile, President Roosevelt was looking for ways to put the growing army of jobless to useful work. Deciding that the land was a good, wholesome workplace and there was much that needed to be done, President Roosevelt allocated \$20 million for forest acquisition from a special emergency fund. For the most part, states and localities were eager to attract federal investment—in land acquisition, road-building, and reforestation. In northern Wisconsin, the Park Falls *Herald* anticipated much-needed jobs building roads in the new national forests, editorializing that "The federal government doesn't do things like that in a small

way." There also was the idea that these national forests, many created from depleted farmland, would serve to demonstrate how land could be rehabilitated through stewardship and caring management.⁴⁹

Since World War II only three new forests have been established outright—the Wayne in Ohio, the Hoosier in Indiana, and the Uwharrie in North Carolina. Several other forests—including the newest, the 13,232-acre Finger Lakes National Forest in New York (1985)—have been established from land that was acquired under the Bankhead-Jones Farm Tenant Act,⁵⁰ a New Deal farmland acquisition and rehabilitation program.

Early Management

The first challenge facing managers of these new national forests was simply to acquire enough land to make them viable public forests. The second was to control wildfire. The third was to begin the long course of restoration—a task still in progress.

Acquiring the Forests

The first task was to acquire enough land for a viable national forest. This began well before the forest was officially established by presidential proclamation. The National Forest Reservation Commission—comprised of the secretaries of Agriculture, Interior, and War and two congressmen and two senators—determined where new forests could be established and drew the boundaries of forest purchase units. Only when it was felt that enough land had been acquired within a purchase unit to permit efficient management was a new national forest officially established. This could take some time. The Forest Service got a commitment on the first tract in what was to become the Monongahela National Forest in 1911; the forest was not designated until 1920.⁵¹ In some cases, purchase units were abolished when it proved impossible to acquire sufficient land.

The eastern forests were purchased by the federal government with the approval of state legislatures and (except for a few rare instances) from willing sellers. Under provisions of the Weeks Law, a state legislature had to pass legislation permitting the federal government to buy land. Some states were eager to get federal money into depressed communities. Other states were wary. Wisconsin's original 1925 enabling bill limited federal purchases to only 100,000 acres. In 1933 this was

raised to two million acres. Maryland passed then rescinded legislation permitting federal acquisition.⁵²

With state approval in hand, the Forest Service moved aggressively to acquire land. Especially during the 1930s, there was considerable competition among states for the limited funds available for national forest acquisition. Local advocates feverishly urged landowners to sell, lest the opportunity to gain a national forest be lost.⁵³

Overall, purchases were opportunistic. The federal government could not buy only the most productive land, or the most scenic, or land that protected valuable wildlife habitat. Basically, federal buyers had to take what was offered and try to collect enough land into a unit that could become a viable national forest. Some landowners sold their land to the federal government, but retained the right to cut the timber—leaving the Forest Service to reforest it later. When it came to farm land, farmers with better land who felt they could hang on refused to sell. But others with lower quality lands, or inadequate skills, or the need or desire for quick cash sold. Thus, factors both biological and social determined which acres came under public ownership.

Moreover, the federal government did not buy the rights to subsurface minerals over large areas of some national forests—the Wayne, the Hoosier, the Allegheny, the Daniel Boone, the Monongahela, the Jefferson, the George Washington, and the Superior. Ownership of minerals is complex. Of those rights to subsurface minerals not owned by the federal government, outstanding rights—those held by a party other than the landowner when the land was bought by the Forest Service—continue to be the most troublesome. Management problems continue, particularly in the case of coal and oil, although the Forest Service has become more aggressive in exercising its rights to protect surface resources from impairment by subsurface mineral exploration and development.⁵⁴

Controlling Fire

Fire was a persistent threat to the forests. In some cases, the problem was lightning strikes in dry slash left behind by the loggers. But in other areas, particularly in the South, the principle cause of wildfire was arson. In some mountain areas, arson was a traditional way of taking revenge or settling a grudge. And when the federal government began hiring mountaineers to fight fires, there would be a rash of "job fires" to generate employment during lean times. Over the years the Forest Service has been effective in enlisting local residents in anti-fire campaigns, although arson

continues as a way of expressing discontent with government programs.⁵⁵ It was the eventual control of fire that truly permitted restoration of the forests.

Reforestation and Rehabilitation

For the first forests, the 1920s were a period of custodial management and planning. But as forests were created pell-mell during the 1930s, and with the young men of the CCC as a workforce, attention turned to forest rehabilitation, reforestation and construction of administrative buildings, campgrounds, picnic areas, and roads and trails. Corpsmen planted prodigious numbers of trees; on the Manistee National Forest in Michigan, individual corpsmen planted 1,000 to 1,500 tree seedlings a day. On the national forests in Texas, Corpsmen planted 15,000 acres in a year.⁵⁶ On the Hiawatha, red pine plantations planted by the CCCs are large enough to be seen now in high-altitude aerial photographs.

Corpsmen built campgrounds, filled gullies and redirected water run-off to control erosion, and restored fish habitat. Throughout the forests, one can see and use structures that have become monuments to the industry of the CCCs: the Woodstock Tower in the George Washington National Forest; the headquarters building of the Chippewa National Forest in Cass Lake; campgrounds at Ratcliff Lake, Boykins Springs and other recreation areas on the national forests in Texas; Blanchard Springs Dam on the Ozark; and picnic shelters, trails, and bridges just about everywhere on the eastern national forests.

It would be understandable if today's Forest Service personnel, besieged by forest interest groups and consumed with planning, regarded the Forest Service veterans of the CCC era with envy; by all accounts, they got enormous satisfaction from their work. Marvin L. Smith, ranger on the Mineral Lake District of the Chequamegon wrote in 1935: "It is mighty gratifying to all of us to be growing up with the forest. We regret very much the condition of the land that [was] bought [by the federal government] but find additional pleasure in reclaiming many thousands of acres which, were it not for the federal government and its resources, might remain unproductive for a good many years."⁵⁷

Management Today and in the Future

Following World War II, the eastern national forests continued their transformation from barren lands to true forests. Recreation use soared. The amount of timber harvested increased, but so did the amount of wood on the land, reflecting the

regrowth of the forest. That restoration continues is attested to by increases in forest growth and the volume of standing timber on national forests in the East. Between 1952 and 1987, the volume of standing timber on the eastern national forests, both hardwoods and softwoods, more than doubled (Table 2).

Table 2: Changes in Standing Timber Volume on the Eastern National Forests, 1952 to 1986

(Million Cubic Feet)

REGION	1952		1986	
	HARDWOODS	SOFTWOODS	HARDWOODS	SOFTWOODS
Northeast	1,983	459	4,127	746
N. Central	2,482	1,336	5,470	3,270
Southeast	2,481	1,991	5,055	2,855
South Central	1,785	3,123	4,502	6,466
TOTAL	8,731	6,909	19,154	13,337

* Source: USDA Forest Service, *An Analysis of the Timber Situation in the United States: 1989-2040*, Tables 77 and 78

Yet managers continue to work with a legacy of resources that are still below their productive potential for wildlife, recreation, water, and timber, and fragmented ownership that imposes increasing challenges to managers.

Actions which the Forest Service believes to be necessary to continue the process of restoration, especially clearcutting, generate angry protests. The controversial clearcuts on the Monongahela in the early 1970s that ultimately resulted in the National Forest Management Act of 1976 were motivated by a desire to replace low-quality cull trees with vigorous new stands in an area that had been extensively high-graded while in private ownership. Nearly twenty years later, clearcutting remains a persistent point of controversy.

So are timber sales. Over much of the eastern forests it costs more to sell the forests' low quality timber than the government gets for it, and Forest Service

contentions that timber sales benefit other resources and increase future asset value have not persuaded Forest Service critics.

Meanwhile, there are continued campaigns for wilderness designation and, more recently, demands for management that promotes biological diversity. There is a growing appreciation of the forests' significance as public open space, playgrounds, and of their ecological and scientific resources.⁵⁸

But perhaps the greatest change is that of the public's role. From being users, many have become active, informed *participants* in the management of the forests themselves. Forest users grapple with issues of management in the course of participation in national forest planning, filing of appeals, and legal action. Thousands also contribute ideas and energy as volunteers on the forests.

It is clear that priorities are shifting. Forests are reassessing their timber programs to reduce clearcutting and to produce less timber but of higher quality and value. If one reads the forest plans closely, one sees greater emphasis being given to wildlife, recreation, and water and other non-timber values.

Without the bold initiatives of the Weeks Law, there would be little public open space and recreation land in most states in the East. Acquisition continues, though at a deliberate pace. Although it has been many years since Congress last appropriated money for general forestland acquisition, the Forest Service continues to use its Weeks Law acquisition authority to buy land with money from the Land and Water Conservation Fund. Jack Alcock, regional forester for the twelve-state Southern Region, says that acquisition and consolidation of ownership is the region's "number one priority."⁵⁹ Alcock believes that the 1990s may be the last opportunity to buy critical tracts.

And local officials still believe that the forests can diversify and reinvigorate rural economies. At least one long-neglected unit has benefited from new local appreciation of its potential. The Uwharrie National Forest in North Carolina—which the Reagan administration wanted to sell to reduce the federal deficit—recently got \$750,000 for acquisition. Local officials, who once opposed land purchases for the fragmented, 48,000-acre forest, now believe that a bigger and spruced up Uwharrie may become the base of a recreation economy.⁶⁰

Restoration is still a theme, but concepts of restoration are far more sophisticated than planting trees to hold soil in place and soak up rainfall. On the Huron-Manistee National Forest, scientists are designing a system of old growth restoration areas; the ultimate goal is to restore old growth on 173,000 acres, or 18

percent of the forest. Virtually every forest is looking at areas for restoration of old-growth forests, though not enough acres to satisfy some critics.⁶¹

On the Pisgah National Forest, scientists from North Carolina State University, Mars Hill College, and the Forest Service are inventorying animals and plants on sample plots spread across 20,000 acres of the Toecane Ranger District; the objective is to develop a methodology for measuring biodiversity.⁶²

The lands that nobody wanted fifty years ago now are the lands everybody wants. Through the forest planning process, forest staffs and forest users are struggling to identify the appropriate roles—environmental, social, and economic—individual forests should play now and in the next century. Nearly fifteen years ago, a report by The Conservation Foundation urged that management of the eastern national forests emphasize "providing public benefits that cannot be supplied by private land, either because resources are unavailable or because an economic incentive is absent." The plan for the Green Mountain echoes those words, stating that the forest will be managed "to provide public benefits that private land does not."⁶³

Some forest staffs are looking closely at just what distinguishes the national forest from other lands in their environs and are charting a course that capitalizes on a forest's distinctive values. For example, Ottawa National Forest Supervisor Dave Morton believes his forest "Will continue to escalate in value as a 'wild' place in a populated Midwest region." The staff of the Mark Twain has determined that Forest's primary values are "ecological, aesthetic, wildlife and recreation, in that order." And from the Hoosier: "We will offer you outdoor recreation experiences that accentuate the Hoosier National Forest's unique characteristics and that are not available elsewhere."⁶⁴

The eastern national forests are quintessential democratic institutions. Established with the express consent of the states, they were intended to address serious—even extreme—conditions ecologic *and* economic. And they reflected a public consensus that the national forests were to be managed to address multiple social and environmental goals—to relieve human suffering and restore degraded lands. As the nation approaches the twenty-first century, debate over their management tests our concepts of broad community interest and public consensus. Yet this intense debate over issues—some old, some just emerging—attests to the value of these forests and the foresight of those who, a century ago, believed there should be national forests in the East.

Notes

The preparation of this paper was partially supported by a grant from the World Wildlife Fund and The Conservation Foundation.

1. William E. Shands and Robert G. Healy, *The Lands Nobody Wanted*, [Washington, DC: The Conservation Foundation, 1977].
2. These forests fall in what are now the Forest Service's Eastern and Southern Regions. The westernmost states of these regions are Texas, Oklahoma, Missouri, Iowa, and Minnesota. Though located east of the 100th meridian and a part of the Southern Region (R-8), I have not counted the Caribbean National Forest in Puerto Rico among the national forests of the East. Its history and ecology are sufficiently different to make it unique among all the national forests.
3. Figures on national forest acreage are from "Land Areas of the National Forest System as of September 30, 1990," USDA Forest Service, 1990.
4. Shands and Healy, *The Lands Nobody Wanted*, p. 1.
5. The Wilderness Act. Act of September 3, 1964 (P.L. 88-577, 78 Stat. 890; 16 U.S.C. 1131-1136); Dennis M. Roth, *The Wilderness Movement and the National Forests*, (College Station, TX: Intaglio Press, 1988), p. 40.
6. J. Terry Moore, Nicolet National Forest, letter to author, March 4, 1991.
7. Ray W. Brandt, "Management Plan—Franklin Working Circle, Nantahala National Forest, North Carolina." December 30, 1938. Unpublished report in files of the National Forests in North Carolina, Asheville, NC.
8. Forest Stearns, "The Changing Forests of the Lake States" in W.E. Shands, ed. *The Lake States Forests: A Resources Renaissance* (Washington: The Conservation Foundation, 1988), p. 25; Peter S. White, "Pattern, Process, and Natural Disturbance in Vegetation," in *The Botanical Review*, Vol. 45 No. 3 July-September 1979, p. 230.
9. Forest Stearns, "The Changing Forests of the Lake States," p.26.
10. Orie L. Loucks, "New Light on the Changing Forest," in Susan Flader ed. *The Great Lakes Forest: An Environmental and Social History* (Minneapolis: University of Minnesota Press, 1983), p. 18; Arthur Rowe, ranger, Pisgah District, Pisgah National Forest, North Carolina. Interview, July 15, 1991; Howard Burnett, "In Hugo's Wake," *American Forests*, January/February 1990, p. 17-20.
11. Stephen J. Pyne, *Fire in America: A Cultural History of Wildland and Rural Fire* (Princeton, New Jersey: Princeton University Press, 1982), p.46.
12. Michael Williams, *Americans and Their Forests: A Historical Geography*. (Cambridge: Cambridge University Press, 1989) p. 49.

13. Douglas W. MacCleery has calculated that in the 60 years ending in 1910, forest was cleared for farmland at the average rate of 13.5 square miles per day. Douglas W. MacCleery, "Condition and Trends of U.S. Forests: A Brief Overview," 1990, p. 2. Unpublished paper available from author, USDA Forest Service, Timber Management Staff, Washington, D.C.; Williams, *Americans and Their Forests*, p. 118-128.
14. Rolland H. Maybee, *Michigan's White Pine Era*. [Lansing: Michigan Historical Commission, 1960], p. 11.
15. The Southern Appalachian Center, Mars Hill College, "A Socioeconomic Overview of Western North Carolina for the Nantahala-Pisgah Forests," 1979, p. 73. Unpublished report prepared for USDA Forest Service, National Forests in North Carolina, Asheville, NC; James Wilson, *A Report of the Secretary of Agriculture in Relation to the Forests, Rivers, and Mountains of the Southern Appalachian Region*, (Washington, DC: GPO, 1902), p. 23.
16. MacCleery, "Conditions and Trends of U.S. Forests."
17. Williams, *Americans and Their Forests*, p. 222; Maybee, *Michigan's White Pine Era*, p. 53.
18. USDA Forest Service, "Draft Environmental Impact Statement, Land and Resource Management Plan Amendment for the Wayne-Hoosier Forest National Forest, April 1990" p. 3-4.
19. David L. Loftis, Southeast Forest Experiment Station, interview, January 14, 1991; H.B. Ayres and W.W. Ashe, "Forests and Forest Conditions in the Southern Appalachians," an appendix to Wilson, *Report of the Secretary of Agriculture*, p. 45.
20. Robert G. Pasquill, USDA Forest Service, "A Brief History of the National Forests in Alabama with Particular Attention Being Paid to the Forest Conditions at Time of Acquisition," 1991. Unpublished paper on file with the National Forests in Alabama, Montgomery, AL. (Unpaged).
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22. E. H. Frothingham "Report on Study of Cut-Over Areas in the Southern Appalachians." Dated 1917. Unpublished report in files of the National Forests in North Carolina, Asheville, NC. p. 65.
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24. Robert G. Pasquill, "A Brief History of the National Forests in Alabama with Particular Attention Being Paid to the Forest Conditions at Time of Acquisition," unpagged; USDA Forest Service. 1991. "Missouri's National Forest," pamphlet published by the Mark Twain National Forest, Rolla, MO. (No page numbers).
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42 *Origins of the National Forests*

26. J. Terry Moore, USDA Forest Service, Nicolet National Forest, Rhinelander, WI, letter to author, March 4, 1991.
27. USDA Forest Service, National Forests in North Carolina, "Final Environmental Impact Statement, Land and Resource Management Plan 1986-2000: Nantahala and Pisgah National Forests," Asheville, North Carolina, p. III-6.
28. George Perkins Marsh, *Man and Nature: Or, Physical Geography as Modified by Human Action* (Cambridge, MA: Harvard University Press, 1965); Howard Doughty, *Francis Parkman* (New York: Macmillan Co., 1962) p. 316.
29. USDA Bureau of Land Management, *Public Land Statistics, 1988* (Washington: GPO, 1989), p. 3.
30. USDA Forest Service, Division of Engineering, "Establishment and Modification of National Forest Boundaries: A Chronologic Record 1891-1973," dated October, 1973. This volume is the source of all dates on forest establishment used in this paper.
31. With the colonies' independence, New York state retained crown lands for itself. Speculators claimed most of these lands, but were not interested in the steep, seemingly inhospitable acres that, a little more than a century later, became the nucleus of the Adirondack Park. Frank Graham, Jr., *The Adirondack Park*, [New York: Alfred A. Knopf, 1978], p. 6. My thanks to Bob Wolf for reminding me of the fact of New York state public domain.
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33. David Conrad, "The Return of the Forests," p. 46. Unpublished manuscript in files of the USDA Forest Service History Unit, Washington, DC, 1988, 46-47; Frank Graham, Jr. *The Adirondack Park: A Political History*. (New York: Alfred A. Knopf, 1978) p. 105; Rodgers, *Bernhard Eduard Fernow*, p. 214, 222, 246.
34. James Wilson, *A Report of the Secretary of Agriculture*, p. 13.
35. *Ibid*, p. 162.
36. *Ibid*, p. 38.
37. *Ibid*, p. 39.
38. *Ibid*, p. 40, 36.
39. Samuel T. Dana and Sally Fairfax, *Forest and Range Policy: Its Development in the United States* Second Edition (New York: McGraw-Hill, 1980) p. 111.
40. Gifford Pinchot, *Breaking New Ground* (Washington, DC: Island Press, 1987), p. 240.
41. C. R. McKim, *50 Year History of the Monongahela National Forest* (USDA Forest Service, no place of publication or date), p. 3.

42. John Ise, *United States Forest Policy* (New Haven: Yale University Press, 1920), p. 211; Pinchot, *Breaking New Ground*, 240.
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47. Arthur M. Schlesinger, Jr., *The Coming of the New Deal*, p. 320.
48. Ibid. p. 27; See, for example, USDA Forest Service, "Draft Environmental Impact Statement, Land and Resource Management Plan Amendment for the Hoosier National Forest," April, 1990, p. 3-7.
49. C. R. McKim, *50 Year History of the Monongahela National Forest*, p. 12; Ashland Daily Press, "The Chequamegon National Forest in its 50th Year," p.4; Fred Soady, Jr., "The Making of the Shawnee," in *Forest History*, Vol. 9, No. 2, July, 1965, p. 5.
50. Act of July 22, 1937.
51. The National Forest Management Act of 1976 (Sec. 17) abolished the National Forest Reservation Commission and gave the Secretary of Agriculture the authority to identify lands to be acquired; C. R. McKim, *50 Year History of the Monongahela National Forest*, p. 7.
52. Ashland Daily Press. 1983. "The Chequamegon National Forest in Its 50th Year" p. 4; Dana and Fairfax, *Forest and Range Policy*, p. 114.
53. Fred Soady, Jr., "The Making of the Shawnee," p. 8.
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55. Bass, Sharon M.W. 1981. Op. Cit. p.48; Shelley Smith Mastran and Nan Lowerre, *Mountaineers and Rangers*, pp. vi, 34.
56. Alison T. Otis, et. al., *The Forest Service and the Civilian Conservation Corps: 1933-42*, p.61; *The Daily Sentinel*, Nacogdoches, TX, "Forest system benefited from the projects of the CCC" in supplement "Celebrating a 50th Anniversary: National Forests in Texas," Oct. 10, 1986. p. 4.
57. In May 1991, the author had an opportunity to talk with a group of Forest Service retirees from the Eastern Region (R-9), many of whom began their careers in the 1930s. Though they had gone on to achieve much during their careers, it was clear that in many respects, their work on the forests of the 1930s was a high point; *Ashland Daily Press*, "The Chequamegon National Forest in its 50th Year," p. 5.
58. For a discussion of "the forest as a human environment rather than as a source of commodities" see Samuel P. Hays, "The New Environmental Forest" in *University of Colorado Law Review* 59:3 Summer 1988.
59. Shands, W.E. et. al. 1990. *National Forest Planning: Searching for a Common Vision*. (Washington: USDA Forest Service). See especially, Chapter II, "The Public's Role in Decisionmaking"; Jack Alcock, USDA Forest Service, Southern Region, Atlanta, GA, letter to author dated March 22, 1991.
60. The Associated Press. 1990. "N.C.'s Neglected National Forest Spruced Up," in the *Asheville (NC) Citizen*, December 31, 1990.
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63. USDA Forest Service, "Record of Decision: Final Environmental Impact Statement, Land and Resource Management Plan, Green Mountain and Finger Lakes National Forests," 1986, p. 3.
64. On the concept of management for distinctive values, see William E. Shands, "Beyond Multiple Use: Managing National Forests for Distinctive Values" *American Forests*, Vol. 94, No.3&4, March/April 1988, p. 14; Dave Morton, USDA Forest Service, Ottawa National Forest, letter to author, March 13, 1991; B. Eric Norse and Kathy McAllister, USDA Forest Service, Mark Twain National Forest, "The Mark Twain Perspective," undated and unpaged; Frank Voytas, USDA Forest Service, Wayne-Hoosier National Forest, Bedford, IN, personal communication, April 8, 1991.