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# IT STARTED WITH FIRE

THE ORIGINS  
OF FORESTRY  
IN WISCONSIN





# THE SPARK

People and fire go back a long way. A *long* way. Fire is among humanity's oldest tools, the first of nature's forces humans could capture, control and re-create. Signs of this venerable relationship are as old as the fossilized ash from fires set by hunters 9,000 years ago, as young as the smoke from a campfire that warms hikers today in the Brule River State Forest.

Fire is more than a chemical reaction turning fuel and oxygen into heat and light. It is, and has been since humans and fire first met, a cultural phenomenon.

In the early years of the 20th century, Wisconsin citizens began to view fire as less of a tool and more of an adversary. It took decades of deadly conflagrations before the cultural shift occurred. But it did happen. And it was during this shift that the profession of forestry took hold in Wisconsin.

From its fiery beginnings in forest fire suppression and prevention, forestry has evolved into a combination of biology and business. Although foresters today still battle flames to protect the human economy, they also may allow a fire to burn, and play out its role in forest ecology.

Stephen Pyne, author of *Fire in America*, says: "It was as keepers of the flame that humans first became stewards of the land." This is the story of how fire sparked the stewardship that is the foundation of the forestry profession today.



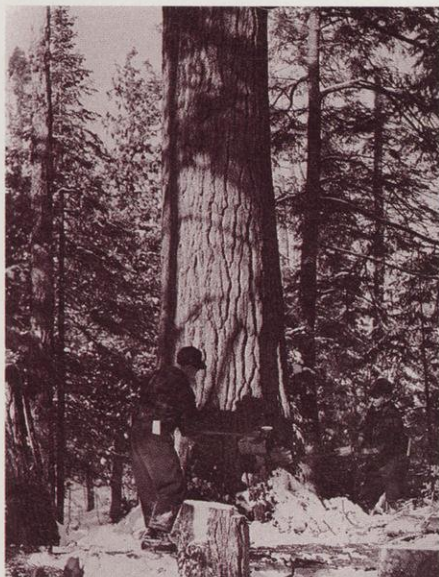
(top) A forest aflame. (bottom) Beginnings of a new forest. (facing page, top) Loggers chip away at a white pine four feet in diameter. (bottom) Hemlock bark, more valuable than the wood.

ALL IMAGES DNR PHOTO

# Rising from the ashes

How northern Wisconsin went from forest to fire to forest again.

**T**hey called it the Pinery — the vast northern forest of Wisconsin, acre after acre of enormous white pines standing trunk to trunk, branch to branch, so thick that a weary sun would search for days on end before finding an open spot on which to rest its rays.



Such are legends born, from small truths entangled in tall tales and big dreams. There were pine trees in the Pinery, but not exclusively, not even in the majority. There were vast acres of trees to cut, but not unlimited acres of trees for the taking. When the trees were gone, the legend said the plow would follow the ax — and when it did, nature exacted a hot and smoking toll as compensation.

Out of those ashes rose the forest landscape and the forest profession we know today.

## THE AX

The “Pinery” is one of history’s misnomers. Loggers entering the great northern forest in the 1840s encountered not only pines, but a mixture of maple, hemlock, yellow birch and other trees of varying ages. Black spruce, cedar and tamarack clustered in swampy pockets; jack pines grew on sandy, burned-over barrens. Old trees died; windstorms and fire occasionally blew down or burned parts of the forest; seeds sprouted through the duff, growing

into the seedlings of the forest to come. The natural cycle of birth, death and rebirth turned as it had for millennia.

The white pines of lore were concentrated mostly in the Chippewa and Black River valleys and in the area roughly encompassed today by Vilas and Oneida counties. The soft, pliable wood was easy to work, yet sturdy — perfect for the lumber and lath needed to build settlers’ homes on the expanding American frontier and the growing cities of Chicago, Milwaukee and St. Louis. Early on, loggers sought white pine, and to some degree, red pine, harvesting both scattered trees and pure stands.

So efficient were the logging crews that large white pine was nearly eliminated from the forest by 1910. Fortunately, a few pine stands and some individual trees escaped the cut; in later years, these remnants would provide the seed for a new generation of pines.

Hemlock, formerly passed over in favor of pine, took on new importance with the growth of the leather tanning industry in the late 1800s. The bark, rich in tannic acid, was more valuable than the wood. “Peelers” stripped the bark, shipped it to tanneries and left the logs behind.

The hardwoods — maple, beech, aspen, birch and ash — were harvested last of all, their route out of the forest hastened by the railroads that came into northern Wisconsin in the 1870s.

## THE CONFLAGRATION

As the decades of logging progressed, the Pinery gradually assumed another nickname, one that more accurately described the new northern landscape: The Cutover. Acre after acre littered with tree stumps, branches and slash awaited settlers who would begin the transformation of the land from forest to farm.

The new northern farmers were far from distressed at the sight of such ruin. Logging spared them the backbreaking work of clearing the land. Only one task remained: To grub out the stumps, gather



## FIRE IN NATURE

Fire's function in forests is to rapidly recycle nutrients.

In areas where the climate is warm and humid year-round, fallen vegetation decomposes quickly and returns nutrients to the soil to be used by young plants and trees. While spring and summer growth can be lush in northern Wisconsin, drier, cooler fall and winter weather slows down decomposition. Nutrients tied up in dead branches and leaves cannot reach young seedlings and shoots.

Some forest ecosystems depend on fire to biochemically degrade branches and stumps. Food and minerals released by fire leach into the soil and are readily absorbed by tree roots. The new growth matures, then dies. As fuels build up, the forest once again becomes more susceptible to fire.

"Fire can prepare a site for a different species to take over," says Gene Miller, a DNR forest ranger in Barnes. Jack pine, for instance, is a serotinous species: It lives in tandem with fire. "Jack pine cones will open and release seed only under extreme heat, such as that produced by a forest fire," Miller says. A fire clears out the underbrush on the forest floor, preparing a nice seedbed for the newly released jack pine seeds.

To simulate nature's use of fire, forest managers plan and deliberately set "prescribed burns" in fire-dependent

ecosystems. "Prescribed burns are useful for specific purposes, like reestablishing jack pine and aspen stands, eliminating slash build-up, and improving wildlife habitat," says Miller.

Foresters have used prescribed burns for several decades to achieve very specific goals for a forest stand. "Prescribed burning is something of an art," Miller notes. Variables in weather and in the forest itself make each prescribed burn different. Because any fire has the potential to burn out of control, a prescribed burn "is not the kind of thing a forester would do without considerable preparation," says Miller. "We get a detailed fire weather report for the area we plan to burn, with information on humidity, wind and other fire-related factors. We just won't do it if conditions aren't right."

Control of modern wildfires has strikingly reduced the number of acres burned each year. Prescribed burns play only a small part of the role wildfire once commanded in the forest. Today, machines are used to crush or chip logging slash into small pieces to hasten decomposition and promote soil fertility. In some areas, mowers or herbicides suffice to control certain plant species and encourage the growth of others.



(facing page) A torch used to set prescribed burns. (above) Logging slash. (right) Trains brought lumber out, but left behind sparks and fire. (bottom) A "stump farm" in the Cutover.



up the slash, and burn it.

At the time, fire was as common an agricultural tool as a hoe. The Native Americans, European immigrants and frontier-seeking Northeasterners living in northern Wisconsin all used fire to clear land; they had learned how to control fire (more or less) and turn it to human purposes through generations of trial and error.

What the generational wisdom could not have anticipated was the massive quantity of logging slash and litter that had been piling up over a very short period. There had been no time for natural decomposition. As the dried slash accumulated across

the landscape, the loggers and settlers unwittingly amassed kindling for the conflagrations to come.

Under natural conditions, the intensity and frequency of forest fire varies: The greater the amount of litter, the more intense the fire; the more frequently litter is built up, the more frequent the fire. Slash fires, with all the fuel piled close to the ground, burn with a devastating fierceness seldom seen in typical forest fires. The organic matter, the insects and microor-

ganisms in the soil can be vaporized by the intense heat; the very soil itself can be incinerated. A fire of such intensity sweeping across still-forested sections of land leaves behind large unburned trunks — more fuel for future fires.

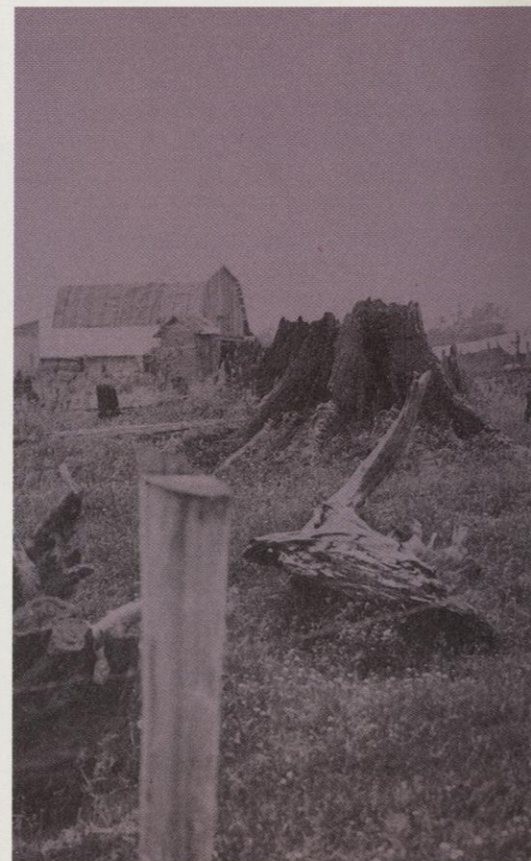
The fires began innocently enough. Farmers and loggers across the region burned slash piles in the fall, the driest time of year. When a fire got out of control, towns and sawmills set backfires, attempting to stop the main fire by consuming the fuel in its path. But there was too much slash, and the small fires and backfires often grew into large, unstoppable blazes.

There were other causes: Locomotives chugging down the northern rail lines spat sparks and cinders from their smokestacks, igniting brush around the tracks. Mill towns, with wooden houses, shops and boardwalks surrounding stacks of lumber and piles of sawdust, bark and wood chips, fueled many fires on to infamy.

The fires would burn with appalling regularity for 60 years. DNR foresters have estimated that from 1870 to 1930, roughly 2,500 fires occurred annually and that approximately half a million acres burned over each year.

### THE PLOW

Although it's difficult to understand now, the fires that took thousands of lives and destroyed entire communities were viewed as a sign of progress. Many people felt agricultural development of the region was the route to prosperity; the quicker the forest could be turned to farms, whether by saw or by flame, the better.



STATE HISTORICAL SOCIETY OF WISCONSIN





NORMAN REGNIER

(facing page) Maple, aspen and birch make up a large part of Wisconsin's northern forests today. (right) Volunteer fire wardens help forest rangers spread the red flag alert during times of extreme fire danger. Art Hanson logged 68 years as a volunteer fire warden in Bayfield County before his death in 1993. (bottom) E.M. Griffith, first state forester.

species accustomed to coexisting with fire, expanded its range. Aspen and white birch colonized land that had been logged, burned, plowed and abandoned. Land lay barren where the soil had been burnt away. The make-up of the tree species in the northern forest ecosystem that evolved over eons had been changed dramatically in the span of 60 years.

## THE DAWNING

The need for fire control slowly seeped into the public mind. The Peshtigo holocaust of 1871, in which more than 1,400 people died, prompted legislation prohibiting burning of woods, prairies or cranberry bogs between August 1 and November 30. The intent was sound, but enforcing

## IN THE LINE OF FOREST FIRE

What can you say about people who've been letting their neighbors burn for nearly a century?

Plenty...and all of it good. Since 1895, Wisconsin's emergency fire wardens have been on the front line of forest fire control, issuing burning permits, promoting fire prevention, and sometimes helping to fight fires.

At first, town supervisors and road superintendents were granted the title of emergency fire warden — whether or not they wanted to assume the duties. Fire wardens were expected to post fire warnings, prohibit burning during dry months, and report on fires. They also organized, hired and served on fire-fighting crews.

Later, men and women from all walks of life volunteered to become emergency fire wardens. The farmers, shopkeepers, mechanics, teachers, tavern owners, loggers, paper mill employees, retired couples and many, many others who serve as fire wardens today still fight fires, but with a pen instead of a shovel or bucket. By the careful

issuing of burning permits, emergency fire wardens keep track of who's burning what when in a specific area — valuable information should a fire get out of control. Fire wardens are often the first to report fires to local fire departments and ranger stations.

A fire warden must be readily available to the public and be willing to accommodate the needs of area residents and visitors. When issuing permits, he or she is likely to offer a few fire safety tips and maybe a friendly joke or two. It's all part of being a "diplomat for forest fire control."

Volunteer emergency fire wardens are the eyes, ears and voice of fire prevention in Wisconsin. They shoulder a big responsibility to the communities and the forests they call home, but many never consider their duties a burden: Service of forty, fifty or even sixty years as an emergency fire warden is not uncommon.



DNR PHOTO

Lumber companies took advantage of the fires, claiming that timber had to be cut quickly to save it from burning. As more forest was cut, more settlers moved in, using fire to clear slash; as the fire hazard grew, the more rapidly logging had to proceed, which left more slash to burn.

Ten percent of the region had been in farms in 1900; by 1920, 23 percent of the land had been put to the plow.

What had become of the forest? The annual fires roasted what few white and red pine seedlings remained. Jack pine, a

the law proved difficult.

In 1895, one year after a devastating blaze leveled Phillips and burnt more than 100,000 acres, the Legislature added the duties of fire warden to the positions of all town supervisors and road superintendents. Fire wardens had authority to prohibit burning, employ fire fighters when necessary, post warnings and report on fire damage. The first state forestry warden was appointed, and other fire legislation required railroads to clear brush from rights-of-way once a year and equip loco-

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# FOREST TO FIRE TO FOREST



ROBERT QUEEN

*"It is much to be regretted that the very superabundance of trees in our state should destroy, in some degree, our veneration for them. They are looked upon as cumberers of the ground; and the question is not how they shall be preserved, but how they shall be destroyed."*

— Increase A. Lapham, 1855

Black Hawk War ends; European settlement begins **1832**

40 sawmills operating in Sheboygan, Manitowoc and Kewaunee counties **1860**

State Conservation Commission investigates "the injurious effects of clearing land of forests" **1867**

*"It is a question whether this valuable timber shall be saved to be used for the convenience of human beings, or be wasted by destructive forest fires. If it is to be saved, it must be cut as fast as possible. It cannot be husbanded and preserved for the future."*

— Lumberman's Gazette, 1881

Lumbering accounts for one-fourth of all wages paid in the state **1888-1893**



DNR PHOTO

State Forestry Department established **1903**

State reforestation fund created **1906**

U.S. Forest Products Laboratory opens in Madison **1910**

First tree nursery established at Trout Lake with 192,000 seedlings purchased from Michigan State College **1911**



DNR PHOTO

Referendum passed allowing state to appropriate money for the purpose of acquiring, preserving and developing forests **1924**

Farming goes bust in the Cutover — many landowners stop paying property taxes, increasing tax burden on neighbors, who are in turn forced to let their land go tax delinquent **1920s**

*"Some human activities, particularly the control of wildfire and the cutting methods used, are having dramatic, but often unrecognized, effects on the forests."*

— Report of the Lake States Forest Policy Workshop, 1984

Federal government establishes national forests in Wisconsin **1925**

First school forests in the nation dedicated at Crandon and Laona, April 26, **1928**

Two million acres of forest land burns over a five-year period **1930-1935**

With the Civilian Conservation Corps (CCC), Wisconsin finally has an adequate fire suppression force **1933**

Throwing of burning tobacco or matches from autos prohibited **1935**

*"Fire has been important in determining almost all of the plant communities and their locations in Wisconsin."*

— Wisconsin Geological and Natural History Survey, 1965



Smokey Bear makes first public appearance at the Fireman's Convention Parade in Hurley, Wis., August 3, **1950**

Fire recognized as a factor in biological diversity of forest; National Park Service lets wildfires burn within park boundaries **1970s**

Forest fires burn over 65,000 acres and destroy 135 homes and buildings in Wisconsin **1977**

Aspen pulp helps Wisconsin lead nation in paper production **1981-present**



Prescribed fire used as forest management tool **1960s-1990s**

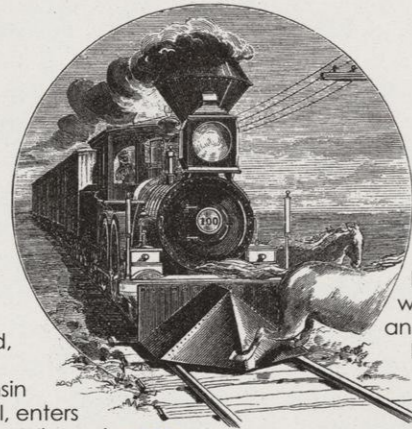
ROBERT QUEEN

Glaciers retreat from northern two-thirds of Wisconsin; spruce, balsam fir, tamarack, paper birch and aspen creep northward **10,000 B.C.**

Early hunters set fires along southern Wisconsin forest borders to drive game, clear underbrush **4000 B.C.**

Temperatures rise; jack pine, red pine, green alder move into spruce regions **1000**

First railroad, the Wisconsin Central, enters northern Wisconsin **1870**



First "closed season" on burning established, prohibiting burning of woods, prairies and cranberry bogs between Aug. 1 and Nov. 30 **1871**

First official state observance of Arbor Day **1892**

Fire sweeps through Phillips, burning 100,000 acres; 13 people die **1894**

*"Northern Wisconsin will not revert to a wilderness with the passing of the lumber, but will be occupied by a thrifty class of farmers."*

— UW College of Agriculture Dean William A. Henry, 1895

State Board of Immigration encourages agricultural settlement of Cutover **1895**

## 10,000 B.C.

"Little Ice Age": Hemlock, white pine, maples and oaks flourish **1550-1650**

White pine falls in northern forest, heard by member of Ojibwa Crane Clan **1600**

French explorer Jean Nicolet tours Green Bay **1634**

First sawmill built at DePere on the Fox River **1809**



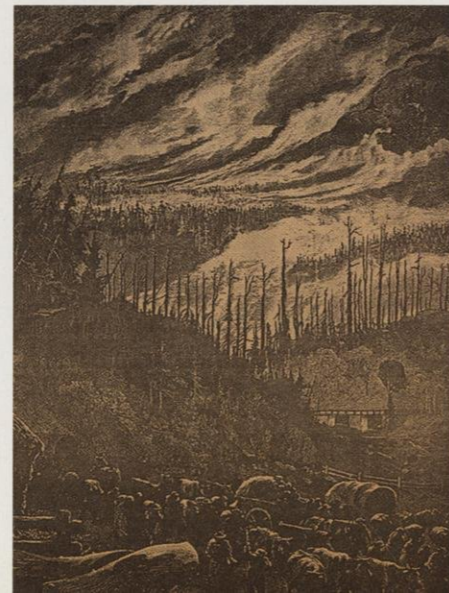
*"Thus sped the days — fearful days — but they brought no relief. The sky was brass. The earth was ashes."*

— Frank Tilton, survivor of the Peshtigo Fire, 1871

Peshtigo fire: Between 1,200 and 1,500 lives lost, more than 1.25 million acres burned **1871**

## 1871

Marshfield burns to the ground in forest fire **1887**



## 1899

Wisconsin produces 9.7 percent of all lumber in U.S. — four billion board feet **1899**

Cost of cutover land, including lake frontage — \$2.50 per acre **1900-1920**

*"The forest fire prevention and control program must be developed and maintained so that forest property or other forested areas will be an insurable risk."*

— Neil LeMay, Chief Forest Ranger, Wisconsin Conservation Department, 1952

## 1911

National Fire Prevention Day inaugurated **1914**

Jack Vilas makes the first fire-spotting flight over northern Wisconsin in a Curtis Flying Boat. June 29, **1915**

**WISCONSIN LEADS AGAIN**  
Noted Aviator, Jack Vilas, the First Man in the World to Use the Air Craft in Locating Forest Fires Is Appointed Forest Ranger  
As a result of a recent flight undertaken by Jack Vilas, renowned American Aviator, with State Forester Griffith as a passenger, Wisconsin is the first state to adopt the hydro-aero plane as an aid in locating forest fires.  
Tuesday, June 22nd, Messrs. Vilas and Griffith made an ascent and when at an altitude of 1600 feet a forest fire was located six miles from Trout Lake.  
Forester Griffith was quick to appreciate the practical use to which such a machine could be put and enlisted Aviator Vilas in the service of the state forthwith so that Mr. Vilas is now a state forest ranger and undoubtedly the first aviator in the world to make use of his hydro-aeroplane for the protection of life and property from forest fires.  
Mr. Vilas has been spending a vacation at the Manitowish summer resort and it should be a matter of satisfaction to the residents of this locality to note the prompt manner in which Forester Griffith availed himself of this new aid in the fight against forest fires, and the public spirited response of Mr. Vilas in accepting the commission.

## 1986

*"Use prescribed fire as one method to prepare sites for reforestation; to create, improve or restore wildlife habitat; and to reduce forest fuels."*

— Land and Resource Management Plan, Chequamegon National Forest, 1986

Pioneer trees — aspen and jack pine — sprout and thrive on burnt land **1930s**

Wisconsin produces 1.4 percent of all lumber in U.S. — 336 million board feet **1939**

CCC disbanded, fire suppression becomes more mechanized and relies on trained fire fighters to compensate **1940s**

## PRESENT

Red pine falls in Northern Highland State Forest, heard by hikers, loggers, bicyclists, bird-watchers, hunters, snowmobilers, skiers, foresters, campers, and a member of the Obijwa Crane Clan **1994**





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motives with devices to prevent sparks and live coals from escaping.

The fires continued despite the well-meaning legislation. What fire did not consume, the lumber companies cut. Disturbed by the rapid depletion of the forests,

the 1897 Legislature appointed a commission to investigate the problem. The commission recommended the establishment of a State Forestry Department, the creation of forest reserves, and the organized protection of forest property by the state.

The commission's recommendations were ignored, due to the strong public desire to see farms replace the forest. It wasn't until 1903 that the state's first comprehensive forestry law passed with many of the 1897 proposals intact.

E.M. Griffith became Wisconsin's first state forester in 1904, and assumed along with his other duties the role of convincing a skeptical

public that forests had value, not only for lumber but for watershed protection and recreation as well. It would be a continuing struggle that eventually cost him his career.

Griffith, unlike many of his contemporaries, could see the forest for the trees. Wisconsin's big trees had been felled and the lumber companies were already moving out to seek timber in the South and West. A small papermaking industry based on pulpwood — the aspen and birch growing up across the Cutover — was developing in Big Lumber's wake. The automobile would soon make summer homes and resorts more valuable than woodland farms.

Griffith understood that fire had no place in a new northern economy based on tourism and papermaking. What the acres of young forest and the cottages and communities scattered across the North



ALL IMAGES DNR PHOTO

(top) Sighting the location of a "smoke" from a fire tower. (bottom) The Civilian Conservation Corps battles a blaze near Mercer, 1936. (facing page) A fire "crowns" — goes up into the tops of the trees.





## INVESTIGATING FOREST FIRE

Not a day goes by that Greg St. Onge doesn't feel the heat of forest tradition. As St. Onge, a DNR forest ranger in Brule, says: "It's been part of a ranger's job to investigate fires since time began."

Although fire-fighting methods have changed over the years, the task of figuring out how a forest fire started has not. A successful forest fire investigation combines knowledge of the physical properties of fire and some plain old detective skills.

"As soon as you get the word, right from the time of the alarm, you begin thinking about why a fire started where it started," he says. "You think about the time of day the report came in. You think about what's in the area where it's occurring...homes, farms, roads, campsites? You think about the local conditions: Has it been dry, not much rain? I'm sure those very questions went through the minds of the early rangers, too."

On the scene, the search begins for clues that will reveal the fire's origin.

"Let's say there's a fire out in middle of a farm field. There are likely only a few possibilities as to why it started...a spark from a tractor, perhaps," says St. Onge. "Now a fire along a roadside — there are lots of possibilities. A cigarette butt flicked out the window, maybe some sparks from the exhaust..."

Physical indicators show in which direction the fire burned. "Vegetation is influenced by the movement of fire," he says. Grass, for instance, will fall based on the path of the fire. "It's like a woodsman cutting a notch in a

tree, to direct which way the tree will fall. Fire may burn the grass on one side, causing it to fall a certain way."

The soot marks on rocks, tree trunks, even acorns can indicate which way the fire moved. "We follow the path of the indicators, and they lead us back to the origin of the fire," says St. Onge.

The evidence at the origin is usually intact — the matches that caused the spark, a burn barrel that got out of control, a smoldering campfire, the fireworks. Then the detective work begins. "We interview people who live on or near the property that burned," St. Onge says. "We ask if they've noticed any unusual activity in the area. More often than not, we do find the person or people responsible for the fire."

Still, forest rangers can't always believe what they hear. St. Onge recalled a recent incident involving two boys, ages 10 and 11, who confessed to starting one fire in a forested area near Bennett. "Indicators at the scene told me they had actually started *three* fires," St. Onge said.

Lightning sometimes leaves its fire mark in unusual ways. A recent fire began in the Brule River State Forest when lightning zapped an oak tree 12 inches in diameter. Near the oak was a four-strand barbed wire fence. "The lightning blew the tree to bits," says St. Onge. "Then it traveled through the ground and into the fence. It blew up the fence 200 feet in one direction, 400 feet in the other direction, just blew it up into little one-inch pieces. We found 200 fires burning across four acres. At the origin of each fire we found a little piece of wire."

needed was protection from fire.

With the help of well-connected friends, including U.S. Senator Robert M. LaFollette, Sr., lumber baron Frederick Weyerhaeuser, and University of Wisconsin President Charles R. Van Hise, Griffith patched together state forest reserves from federal land grants, donations of cutover acres by lumber companies, and lands purchased by the state. He oversaw the construction of the first state tree nursery at Trout Lake, was instrumental in locating the U.S. Forest Products Laboratory in Madison, and trained and hired a small corps of forest rangers. Griffith and his colleagues instituted new fire protection measures in the northern counties, using towers, telephones, fire lanes, and fire-spotting airplanes to pinpoint and control fires.

He also urged that forested lands be taxed differently from other property to encourage private long-term investment in forests. There would be a small annual tax on the land, but the timber would be taxed only when it was cut, and not before.

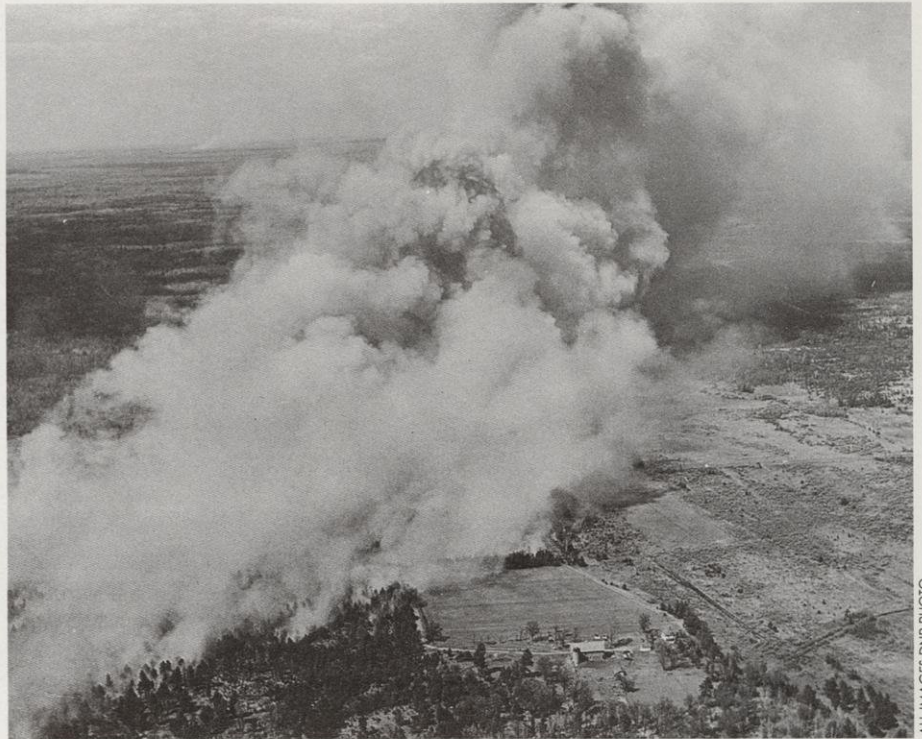
## THE SETBACK

Griffith's decade of forest reform ran into a buzz saw of popular dissent and a judicial snafu in 1913. Local government officials in Oneida, Vilas, Forest, Iron and Price counties protested increasing state ownership of land within their boundaries, insisting that Griffith intended to reforest good agricultural land and turn it into a playground for the wealthy. The State Supreme Court judged that the state's forestry land purchases in the Cutover were invalid, due to an improper amendment to the State Constitution in 1910.

Forestry in Wisconsin was put on hold. A disheartened Griffith resigned in 1915.

In response to the ruling, Wisconsin's small forest ranger force shifted its focus from land acquisition and reforestation to fire control. Fire protection districts were organized in 11 northern counties with one ranger in each district to direct fire-fighting efforts.

This early fire control system met with limited success, largely because of the uncertainty over who was responsible for paying local fire fighters. If a state ranger hired fire fighters to battle a blaze, the state was obligated to pay; if a town fire warden



Smoke from a forest fire billows across Marinette County. (facing page, top) Fire devastation near Land o' Lakes, Vilas County, 1958. (bottom) A farm family flees a conflagration near Brule, 1936.

hired the fire fighters, the town had to foot the bill. Many of the towns lacked funds; they could not (or would not) pay for fire fighters.

While the bills were being settled, the trees continued to be cut and the fires continued to rage.

A multitude of economic, political, social and ecological reasons doomed farming in the Cutover. Perhaps it was the smoke that blinded the settlers who attempted to cultivate the former forest; perhaps it was the propaganda of the lumber and railroad interests with cutover land to sell, or the promotional literature prepared by the university and the state to encourage settlement that deluded them into believing the region was fertile and temperate. It may have been the fact that many settlers desired only to be self-sufficient and did not grow crops for market. For the farmers that were market-oriented, the agricultural depression following World War I surely didn't help.

By the mid-1920's, the word was out: The Cutover was no place for a farm family to thrive or even survive. The influx of settlers ended; land values declined. Farmers short on cash could not pay property taxes. The logging companies, the railroads and other property owners decided it was

not worthwhile to retain titles by keeping tax payments current. County governments saddled with the tax-delinquent lands faced bankruptcy.

## THE RECKONING

The hope that formerly forested land would sustain agriculture died hard. It took more than half a century of flames and foreclosed farms before public policy and individual heartache admitted that what the northern land grew best was, after all, trees.

By 1924, forestry was back in favor with the public. The State Constitution was amended to allow the appropriation of funds to acquire, preserve and develop Wisconsin's forests. The Northern Highland State Forest, Wisconsin's largest, was established in Vilas County in 1925. In 1927, the Forest Crop Law passed, providing the tax relief for forested land proposed by Griffith twenty years earlier. Later additions to the law gave counties, local units of government and school districts the authority to create their own forests from tax-delinquent lands. And in 1928, the U.S. government made the first acquisitions of land for the Nicolet and Chequamegon



national forests.

Public attitudes toward fire shifted, too. What once was tolerated became a menace, a threat to public safety and the new northern economy. In response to the growing mandate for fire control, the 1927 Legislature approved a plan for the complete overhaul of the state's fire protection system. The state and the counties agreed to split the cost for fire fighter pay, and the Conservation Department (the precursor of today's Department of Natural Resources) assumed full responsibility for fire protection on all land in fire districts. On land outside the fire districts, the town chairman still served as the official fire warden.

The late 1920s marked a turning point for Wisconsin's young forestry profession. With support and cooperation from the public, the Legislature, the lumber and logging associations, and conservation groups such as the Izaak Walton League, the Conservation Department's fire protection and reforestation efforts rapidly moved forward. The "mill tax" — a statewide tax levied in 1929 that channeled 20 cents per

\$1,000 of equalized real estate value to a special forestry fund — finally provided a steady source of funding for the forestry program.

As the decades passed, more professionally trained forest rangers joined the Conservation Department. At state nurseries, they raised millions of seedlings to reforest both public and private lands. They helped private landowners get started in tree farm-

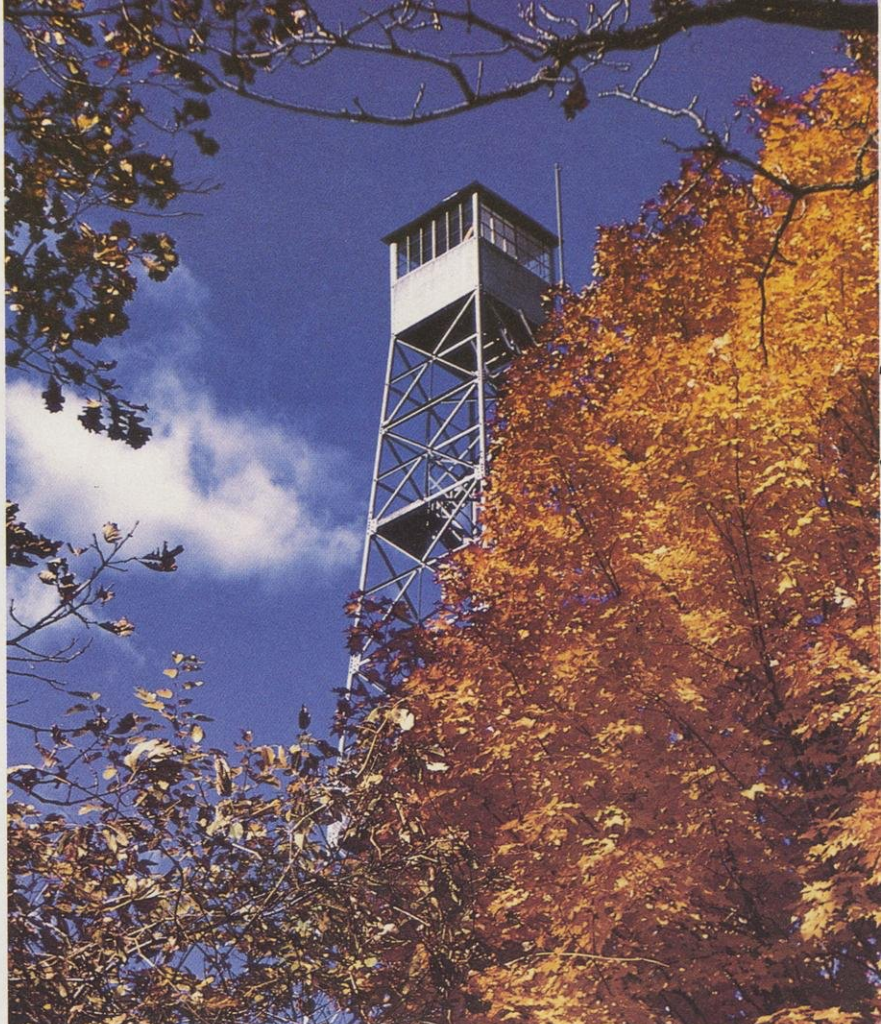
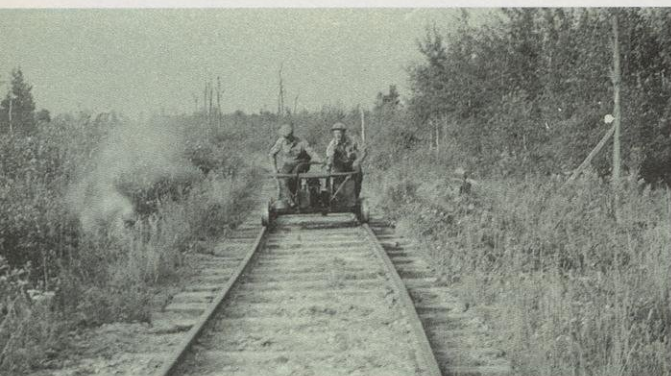
ing, a new endeavor combining agriculture and silviculture. The foresters advised paper and lumber companies on methods of managing forests to support wood-based industries.

Fire protection made it all possible. Rangers introduced innovative fire-fighting techniques, building some of the equipment themselves. They battled blazes with the assistance of the Civilian Conservation





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(top left) Backpack pumps came into use about 1918, and led to the development of larger portable pumps and heavy-duty pumper units mounted on trucks. (middle) Fire fighters rode the rails on “pedes” — hand-operated railroad velocipedes — to extinguish sparks and smokes in isolated areas. (top right) Fire spotters pinpointed smokes from a network of lookout towers linked by telephone (bottom), preventing many fires from growing into deadly infernos.



## BEYOND THE AX AND SHOVEL

Early fire wardens and rangers faced down forest blazes with simple hand tools. The success of their endeavors often depended on how many hands were available to wield those tools.

With the arrival of the Civilian Conservation Corps (CCC) in 1933, Wisconsin finally had enough “hands” to suppress fires. When the CCC disbanded in 1941 and

1942, however, finding enough people to fight the flames once again became a problem.

The answer was to organize a smaller but better trained group of volunteer fire fighters and equip them with the latest in fire-control machinery. Ever since, Wisconsin’s forest fire fighters have been engaged in a tradition of innovation.



(top) White pine returns to an old farm field in Marinette County, 1952. (bottom) The Star Lake Norway pine plantation, 1954.

Corps; they worked closely with communities to educate people of all ages on the need to prevent fire. With competent fire protection, forested land became desirable;

the region witnessed greater investment in wood-based businesses, in the purchase of second homes, and in recreation founded on the new forest's bounty and beauty.

## THE FOREST

Today, the northern forest fashioned by human effort has come under scrutiny from a number of quarters. Ecologists seeking a more biologically diverse forest question former and current silvicultural practices, such as planting monocultures (large stands of the same kind of tree) or extinguishing natural fires set by lightning. Clearcutting, a practice used to encourage natural regeneration, offends the aesthetic sense of visitors expecting to find pristine forests. Meanwhile, wood-based industries wonder whether a forest governed more by nature than by man can produce the quantity and quality of timber they seek.

A bewildering array of recreational interests lay claim to the forest today. Snowmobilers and skiers, hunters and bird-watchers, hikers, campers, anglers, moun-

tain bikers, dogsledders, mushroom fanciers; the list goes on and on. Each group has specific — and sometimes conflicting — needs.

Raging forest fires, tamed by decades of diligent prevention campaigns and years of experience, threaten to make a comeback as more people choose to build homes on small acreages scattered throughout forested regions. Fire-fighting crews are stretched thin when homes as well as trees must be protected. If ignited during a drought, the forest fuels that have accumulated during the past 90 years would likely create a fire far beyond our suppression capabilities today.

The debate over what a forest is and who the forest is for will continue as long as there are people and trees. But it is in large part due to the perseverance of Wisconsin's early foresters that there is a forest here to debate at all.



# Ursa Major

Let us now praise famous bears: Yogi, Winnie-the-Pooh, Teddy — and the most renown Ursus of them all, Smokey.

*Smokey Bear.* No sooner is the name uttered than the plaintive yet powerful phrase, “Only YOU can prevent forest fires” returns to mind. For half a century, the image of a shovel-wielding bear sporting a ranger’s hat and blue jeans ignited America’s imagination. Smokey alerted us to the dangers of accidental wildfire. He introduced us to the majesty of our forests. And he kindled in our collective conscience the idea of protecting natural resources for future generations.

Born in 1944 at the end of a pencil held by illustrator Albert Staehle, Smokey Bear lived on posters, billboards, and in the pages of newspapers and magazines — all part of a voluntary advertising campaign to protect forests, the source of valuable timber for battleships, gunstocks and other war materials during World War II. Later, Smokey’s message would be carried over radio and TV.

In 1950, a bear cub rescued from a forest fire in New Mexico’s Lincoln National Forest became the living counterpart of the familiar fire prevention symbol. Smokey resided at the National Zoo in Washington, D.C. His adopted son, Little Smokey, inherited the shovel and hat when Smokey died in 1976. With Little Smokey’s passing in 1990, the U.S. Forest Service decided to lay the living symbol to rest.

Wisconsin contributed a footnote to the Smokey saga. During the 1950s, forest rangers received requests from communities to enter floats in local parades. The rangers at Mercer thought the bear depicted on the national fire-prevention posters had charisma to burn. Why not put Smokey on a float? The rangers built a



BOTH IMAGES DNR PHOTO



REMEMBER...

5

SMOKEY HAS FOR FIFTY YEARS

(top) The Big Bear prepares to spread the word about fire prevention to high school students at the Trees for Tomorrow camp near Eagle River, 1958. (bottom) Carved from a cedar post, this wooden Smokey made his first parade appearance in Hurley, 1950.

stuffed, wooden-headed Smokey Bear to ride their float in the Hurley Fireman’s Convention Parade on August 3, 1950. The crowd went wild.

Stuffed Smokey’s stilted demeanor sparked another idea: Why not make a Smokey suit that a person could wear? Thus the first living, breathing, walking and talking Smokey Bear made his debut in Wausau during the Logging Congress Parade on September 28, 1950.

Rangers across the country have been donning Smokey suits ever since, bringing life to the message of fire prevention.

Although Smokey Bear’s image has been refined throughout the last five decades, his pitch hasn’t changed: *Be careful*

*with fire. Respect nature. Remember the generations to come.* Being a bear of few words, it’s not likely he’ll need to say much more than that in the next five decades.

It’s just as likely that we’ll continue to listen to this ursine messenger. Let’s face it: There’s something about bears that humans just can’t resist.

Happy 50th, Smokey.

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Cover photos: Aftermath of a forest fire, Burnett County, 1961. (DNR Photo) (inset): A young forest. (Robert Queen)