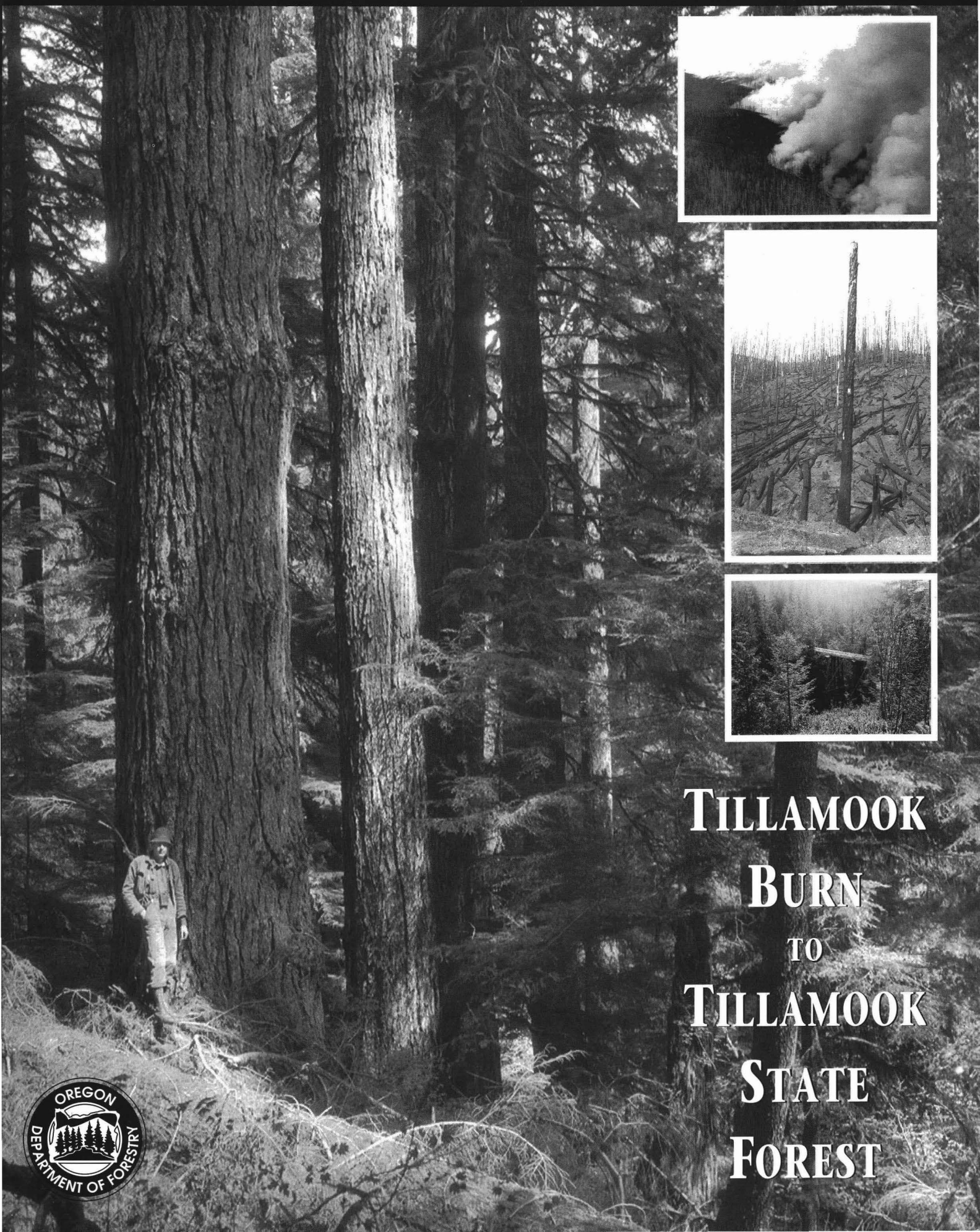
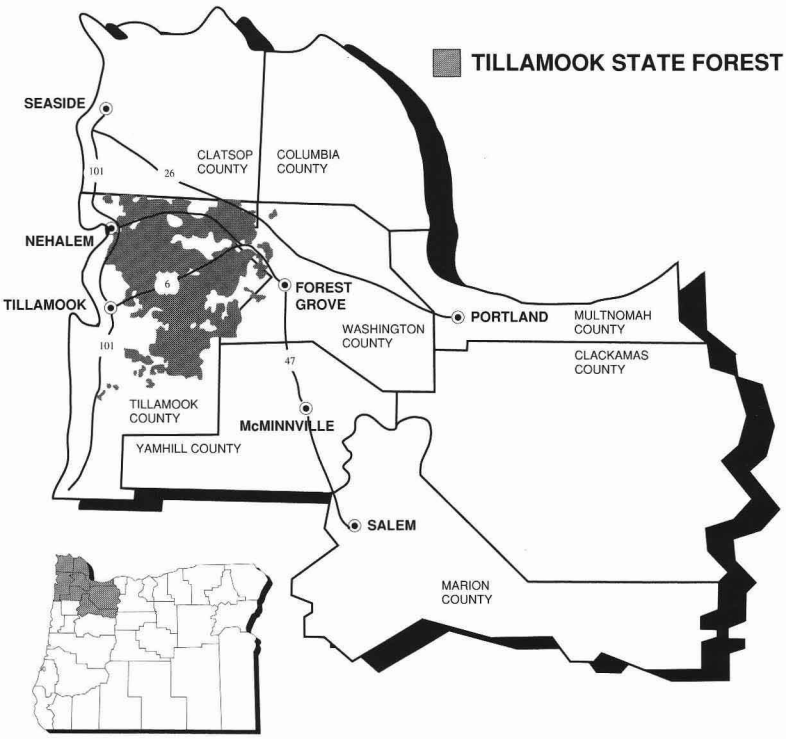


TILLAMOOK BURN TO TILLAMOOK STATE FOREST

OREGON DEPARTMENT OF FORESTRY

Several generations of Oregonians carry memories of a series of forest fires so sweeping that they spurred an entire state into action. These fires created what was for a long time called the "Tillamook Burn" — a wide swath of devastation cut through old growth forests in the Coast Range. From some vantage points, the forest of bare, dead trees stretched as far as the eye could see.

Today, the view has been replaced. A vital, growing young forest of Douglas-fir now stretches to the horizon across the region. The Tillamook State Forest represents a monumental cooperative effort among a diverse population to bring life back to the 355,000 acres destroyed by fire. People from around the area — foresters, timber workers, recreationists, politicians and school children — worked together to replant the Tillamook and reclaim it for the people of Oregon.



The 1933 fire's smoke column (right) rose up to 40,000 feet and could be seen from Salem and beyond.

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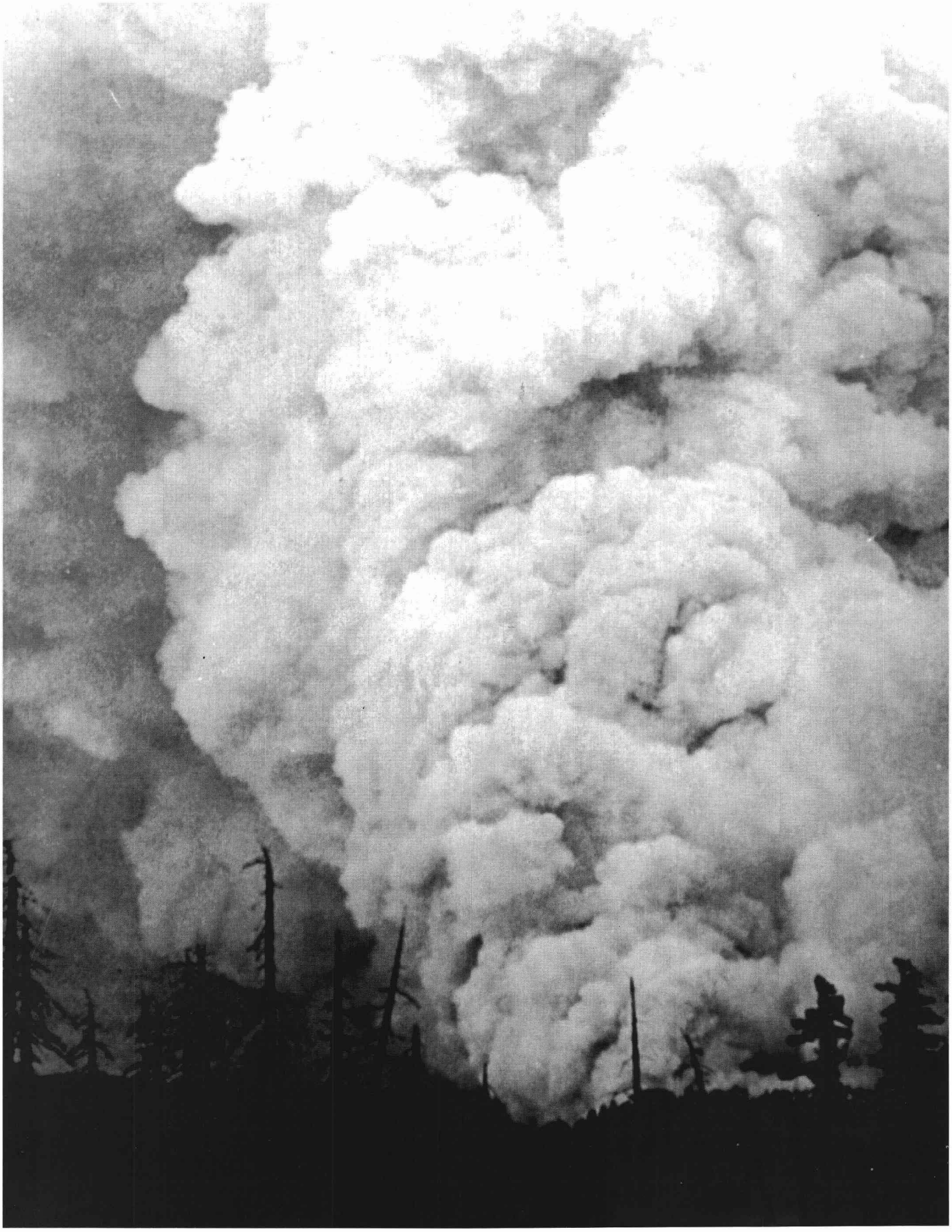


The old growth forest of the Tillamook was a rich resource for a growing timber industry in Oregon at the turn of the century. Here a crew with a one-horse winch yards timber that even downed nearly dwarves the men working it.

THE TILLAMOOK BURN

Early in the morning of August 14, 1933, the sun rose in a cloudless sky. There was a whisper of north wind through the stands of age-old Douglas-fir, cedar and hemlock. The temperature climbed as morning advanced and the wind grew stronger. Rapidly lowering humidity drew moisture from the slashings, the twigs, the moss on the trees, and the debris on the forest floor. It was a restless and uneasy day in the forest.

Foresters had urged loggers to shut down operations voluntarily until the extreme weather conditions passed, but there was no law to require such action in those days.

Up the Gales Creek Canyon, 15 miles from Forest Grove, a logger was still operating. As a huge Douglas-fir log ground over a cedar windfall toward the landing, flames appeared. The fire could have been caused by the friction of the fir log passing over the cedar windfall or by a line burning into a dry piece of wood.

At one o'clock in the afternoon, the Tillamook fire broke out in the Gales Creek Canyon in northwestern Oregon.

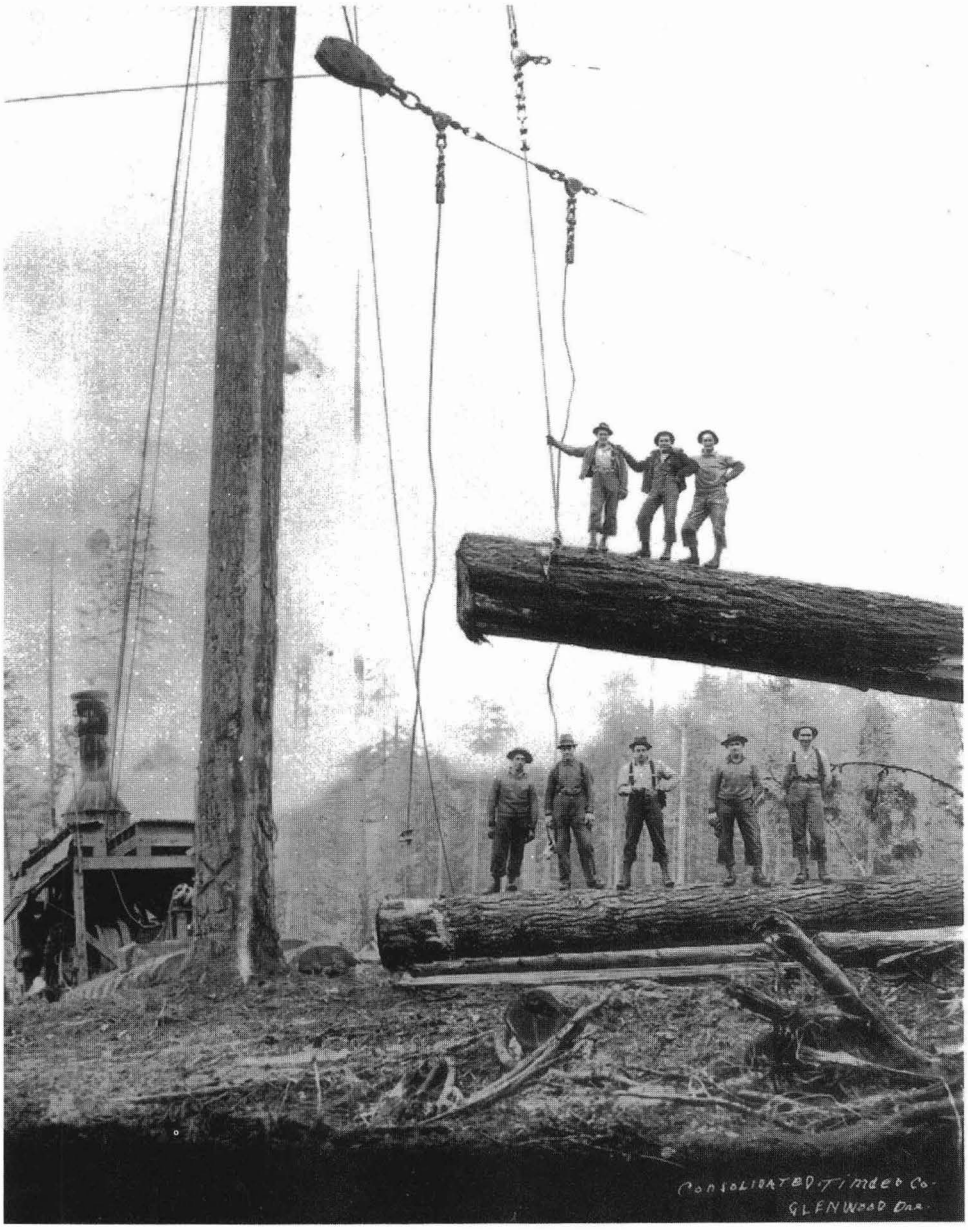
The fire call rang out through the woods. Before the loggers could reach the scene with their fire tools, the fire had raced to the top of a tall snag. The snag became a huge torch with the wind carrying the burning moss and rotting wood a half mile across the canyon into an area of tinder dry slashings.

Weather conditions were ripe for the blowup. North and east winds were blowing with accompanying low humidity. Despite the immediate efforts of the logging crew to extinguish the flames, they soon flared beyond control.

Men were called from the fields, the forests and the cities. A thousand enrollees from the Civilian Conservation Corps hit the fire. They fought the fire for ten days, losing line, backing up and putting in others.

They were heartened toward the end of the first ten days by a slight rain which assisted greatly in their control efforts. There was hope it could be held at the 40,000 acres burned up to that time.

But with the coming of daylight on the morning of August 24, the picture changed. Dust rose in clouds from the summer fallow in the valley, carried by a new surge of east wind. Humidity again dropped. Foresters knew the threat and ordered fire fighters away from the west



At right is an example of the kind of logging equipment that was working the day the 1933 fire started. Behind the spar pole is a steam-powered yarding donkey used to haul in downed timber.

side of the fire.

The fire literally exploded. A wall of flame blasted directly into the nearby stand of 250-foot tall, old-growth Douglas-fir. It slowed only an instant as it climbed to the tops of trees, then took off in a crown fire, the roar of which could be heard for miles.

Within the next 20 hours, the burned area had grown to nearly 240,000 acres. Almost 12 billion board feet of Oregon's finest timber was killed — enough to build more than a million modern five-room houses.

Smoke in the Air, Ashes on the Ground

Over a 15-mile front, the Tillamook fire broke out with a fury. Massive thunderheads of smoke boiled and surged to a height of 40,000 feet, spreading out to darken coastal cities.

The fire rolled through the forest of the Coast Range with a frightening force, uprooting trees, twisting them off and cracking cliffs with the terrific heat. A choking, blinding smoke settled in the valleys until cars had to creep along in a cloud denser than any fog that ever rolled in from the Pacific Ocean. Charred needles of trees, ashes and cinders fell in the streets of Tillamook. The debris fell to a depth where it had to be scooped up in shovels. Ships 500 miles at sea were covered with ash and needles.

20 Hours and 240,000 Acres Later

By late that evening the east wind had died down and a fog rolled in from the Pacific Ocean. But the 40,000 acres of that morning had grown to 240,000 acres just 20 hours later.

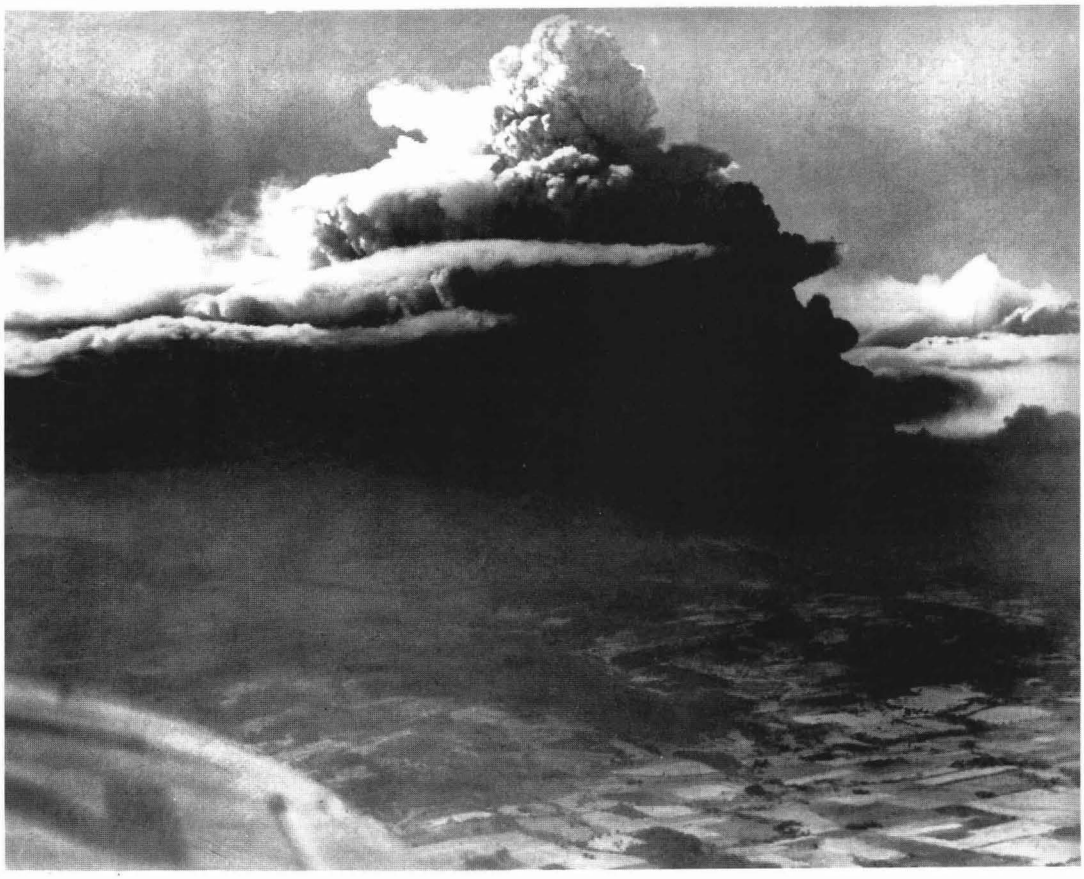
That day Oregon became the location of one of the nation's largest fires of modern times. This one was added to those of bygone days in Oregon—the Nestucca Fire of 1848, the Yaquina Fire of 1853, and the Coos Bay Fire of 1868.

1939 and 1945: The Tragedy Repeats

The 1933 fire was not the end of the tragedy. In 1939 there was another logging-caused fire. This second Tillamook fire covered some 190,000 acres, much of it within the original burn.

And again in 1945—at the regular six-year interval—a third fire broke out in the Burn. Before it was brought under control, 180,000 acres had burned.

There was no holding a fire once it started in the sea of dead trees killed by previous fires. A total of 355,000 acres of forest land were devastated and 13.1 billion board feet of timber was killed in these three fires.



This aerial photograph shows the smoke rising from the Gales Creek area August 24, 1933, looking northwest from the Willamette Valley. The top of the plume rose to 40,000 feet. The day the fire erupted, the humidity level was 18 percent at 6 o'clock that morning.

The aftermath of the 1933 fire, a forest of dead trees along a road reconstructed within the devastated area. Virtually everything was burnt around the snags down to the soil.

The last fire really made the headlines. Newspapers sent their reporters out on the fire lines to feed news and pictures to the papers. Startling and tragic stories, full of human interest, went into the papers and over the air. Editorials demanded that something be done to stop these fires and reclaim this lost empire. They suggested that if the state could not do the job, then it should be turned over to the federal government.

THE STATE INTERVENES

Even before the 1945 Tillamook fire was controlled, Gov. Earl Snell, stirred by strong public sentiment, appointed a committee to explore methods, policies, laws and actions affecting the state's forestry program. From this committee came recommendations dealing with finance, research and organization. The committee challenged Oregonians to undertake a massive reforestation project.

The Legislature submitted a constitutional amendment to the voters which provided for a bond issue not to exceed, at any one time, three quarters of one percent of the assessed valuations of

the state. On the basis of the values at that time, the state could raise a maximum of $10.5 million for the work. The people of Oregon met this challenge with approval of a bond issue in 1948 to finance rehabilitation of this forest land. The legislature, at the request of the State Forester, fixed the maximum at $750,000 to be used in any one year.

Until the end of the 1971-73 biennium, the reforestation of the Tillamook Burn was financed with the bonds Oregon voters had approved in 1948. As the rehabilitated stands begin to generate revenue, a portion of that revenue will go back to the state general fund until the cost of the bond issue is repaid. Since 1973, work to rehabilitate the forest has been paid for with the state's share of proceeds from the sale of timber on state forest lands.

Magnitude without precedent

The rehabilitation effort needed was more than had ever been attempted by a state or federal agency. The Oregon Department of Forestry accepted responsibility for the job, but had no guidelines to follow.

Salvage

Salvage of fire-killed timber in the Burn had started soon after the 1933 fire. Logging operations were under way in practically every drainage by the late 1930s.

Activity was accelerated by the lumber demands of World War II. More than four billion board feet of prime wood volume had been harvested from the snags by the time rehabilitation of the Burn started. This logging made a substantial reduction in the snag concentrations and provided many roads for fire protection access.

The manner in which the salvage logging was conducted, however, brought on complications. Reforestation and fireproofing projects were restricted by the logging, slowing the whole rehabilitation effort.

Unfortunately for the rapid establishment of a new forest, the salvage operation was not an orderly process. Some portions of land were logged four or five times to remove most of the materials. One operator might remove only high grade peelers and sawlogs that could be profitably transported to distant points for manufacture of plywood and high grade lumber. Subsequent operators on the same ground would remove varying amounts of poorer grade logs as the market improved. A much shorter hauling distance to local mills allowed for a higher degree of utilization. This increased activity hampered replanting and erosion-control efforts.

Firebreaks in the Sea of Snags

Foresters looking out over the Burn viewed vast stretches of snags and remembered the repeated fires that ran uncontrollable through the midst of those ghostly giants. Despite the 2000 men available on the 1945 fire and a virtually unlimited supply of bulldozers, pumpers and fire fighting tools, control was impossible among the snags.

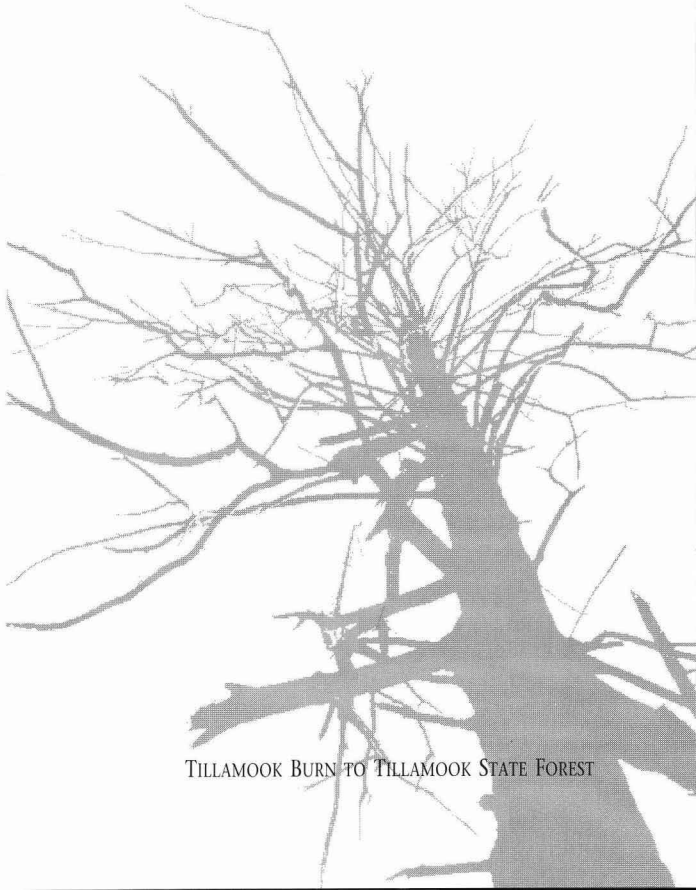
On the ground, the fire was stopped several times and was held where the snags were scarce. But elsewhere the flames continued to spread from snag to snag until finally quenched by the fall rains.

With this vivid experience in mind, foresters considered it a waste of time and money to proceed with extensive reforestation until adequate protection measures had been taken.

To "fireproof" the Burn was impossible, but with improved fire detection capabilities, access roads, properly located and well-equipped fire crews and above all, snag-free fire breaks, the Tillamook Burn could be made a reasonable risk.

Lands deeded with timber reservation

The State of Oregon through its Board of Forestry acquired some 255,000 acres of the Burn, mostly from counties seeking someone to manage the tax-foreclosed timberland. Acquisition started in 1940 and accelerated after rehabilitation was authorized. But the state did not own the snags that were on the land until the former landowner or the county relinquished their rights. The



One of the first jobs in reclaiming and protecting the region was to fell standing snags to create "snag-free corridors." These strips of land helped to prevent the spread of future fires as well as provided logs for salvage operations.

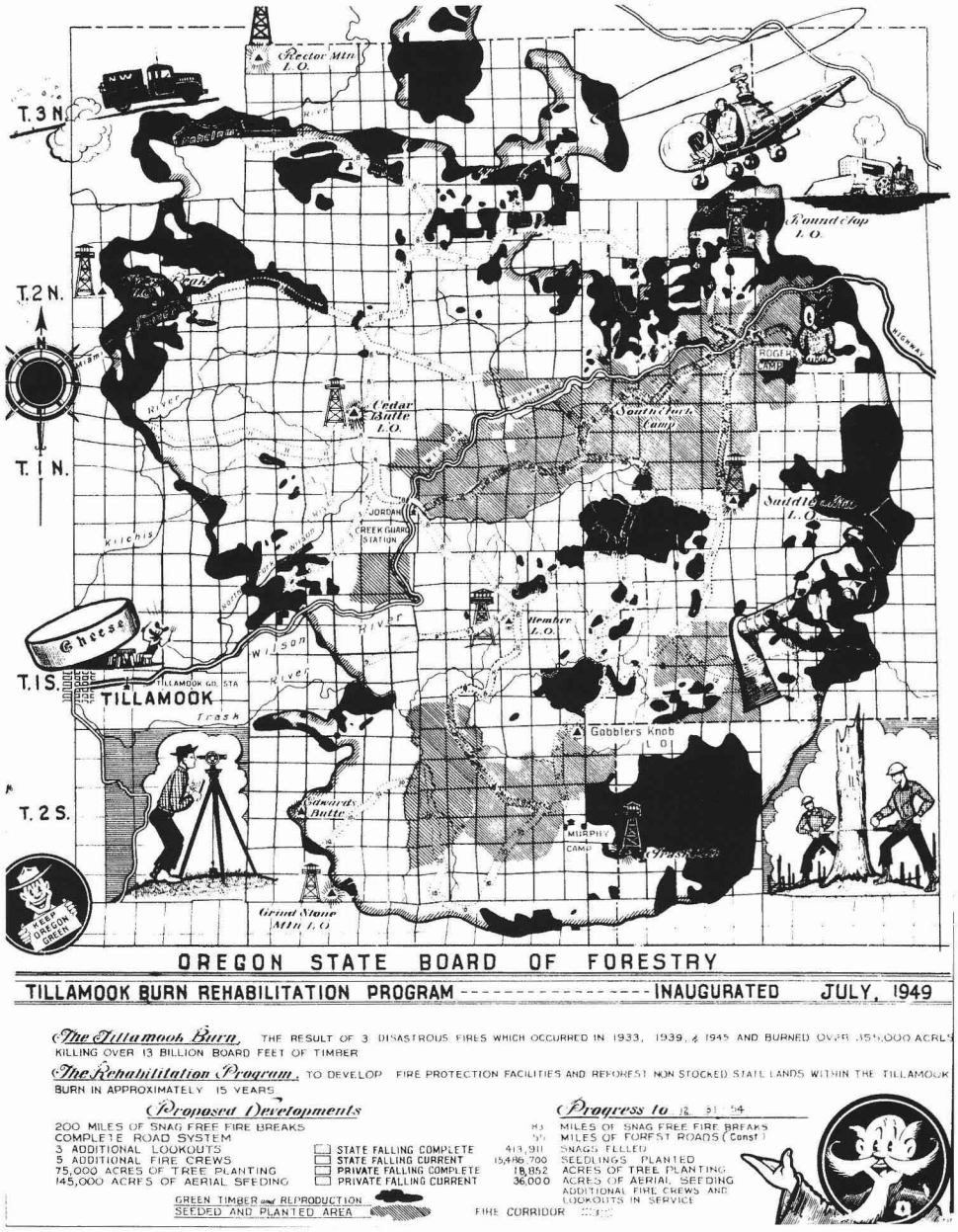
state legislature had made provisions for private landowners within the Burn to hold this fire-killed timber in reserve while deeding the land to the county. They could then withhold payment of taxes until harvest of the snags. Payment would then be made on the basis of five cents per thousand board feet per year whenever the harvest was made.

In other instances the properties were foreclosed upon, the timber committed to long-term county sale contracts, and the land deeded to the state. A few of these contracts were assigned for indefinite periods of time while others were repeatedly renewed. Contract holders were reluctant, even after logging, to give up any part of a contract area for fear of losing any additional salvageable material as markets continued to develop.

All of these legal arrangements complicated and slowed the reforestation efforts.

Planning

The planning phase of the rehabilitation program began with the location of corner markers, the reestablishment of corners destroyed by fire or logging and the running of boundary and subdivision lines. Following that, surveys were made to determine the need and location for access roads, firebreaks, lookout sites, and guard and suppression crew station sites.



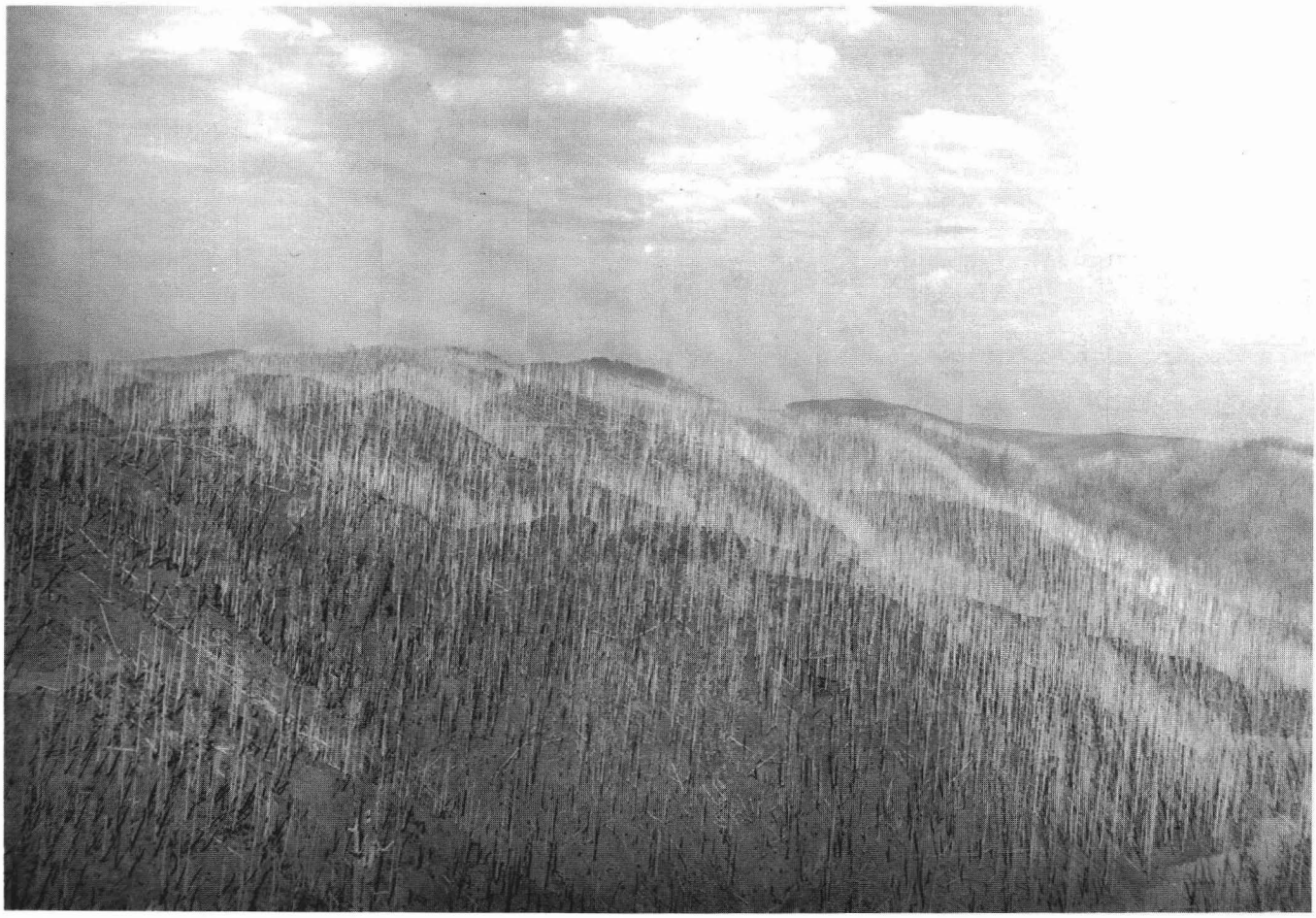
Drawn by long-time Oregon Department of Forestry draftsman and artist Hugh Hayes in 1949, this map commemorates the Tillamook Burn Rehabilitation Program, inaugurated July 1949. Among the whimsical illustrations are indications of the 220 miles of snag-free fire breaks created as part of the proposed developments.

Surveys also determined areas of natural stocking, seed sources, cover types, soil conditions, reforestation needs, and the adaptability of specific areas to aerial seeding or hand planting.

Aerial Photos

About 500,000 acres of the Tillamook Burn and vicinity were photographed from the air during the summers of 1954 and 1955. Repeat flights were made in the summer of 1960 in the western part of Tillamook County, and additional flights were made from time to time as changes in ground cover took place.

Using these photographs, planimetric maps were made. The aerial photographs proved valuable for the timber inventory and road survey work which followed. When color photos were taken, they proved to be even more useful than the black and white.



This photograph shows the snags remaining after fire had swept through the area and subsequent harsh weather had bleached them silver. Aerial photographs proved valuable in salvage and rehabilitation planning efforts.

PROTECTION PLAN

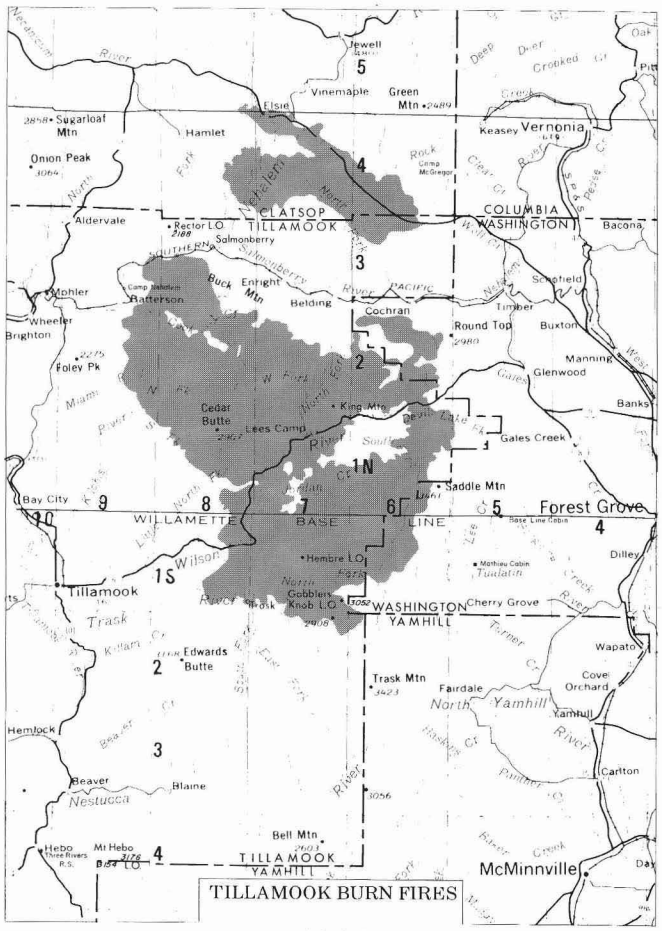
The preliminary protection plan called for the construction of five lookout stations. Quarters and equipment were needed for five five-man suppression crews.

A system of firebreaks was constructed to divide the Burn into major compartments. This was supplemented by a secondary system subdividing those compartments as topography and hazard warranted. Access roads were constructed within or adjacent to the primary breaks. Additional roads were constructed in the compartments. The goal was to provide 30-minute access to the most hazardous areas.

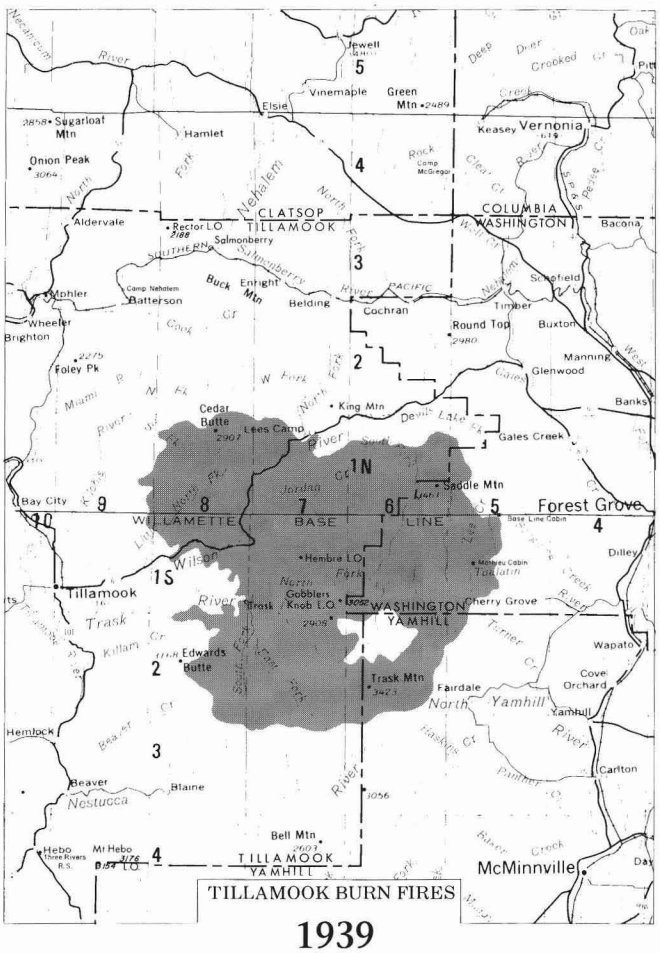
Some salvage timber sales were held following the access road and firebreak construction. The sales partially offset construction costs. They also reduced the amount of flammable material on the ground.

220 MILES OF SNAG-FREE CORRIDORS

More than 220 miles of snag-free firebreaks were constructed under the rehabilitation program, as 1.5 million snags were felled by independent contractors, state crews and inmate crews. The width of the firebreaks varied from 1,000 feet to more than 4,000 feet, depending upon topography, snag concentrations and other physical factors.



1933



1939

The Four Tillamook Fires

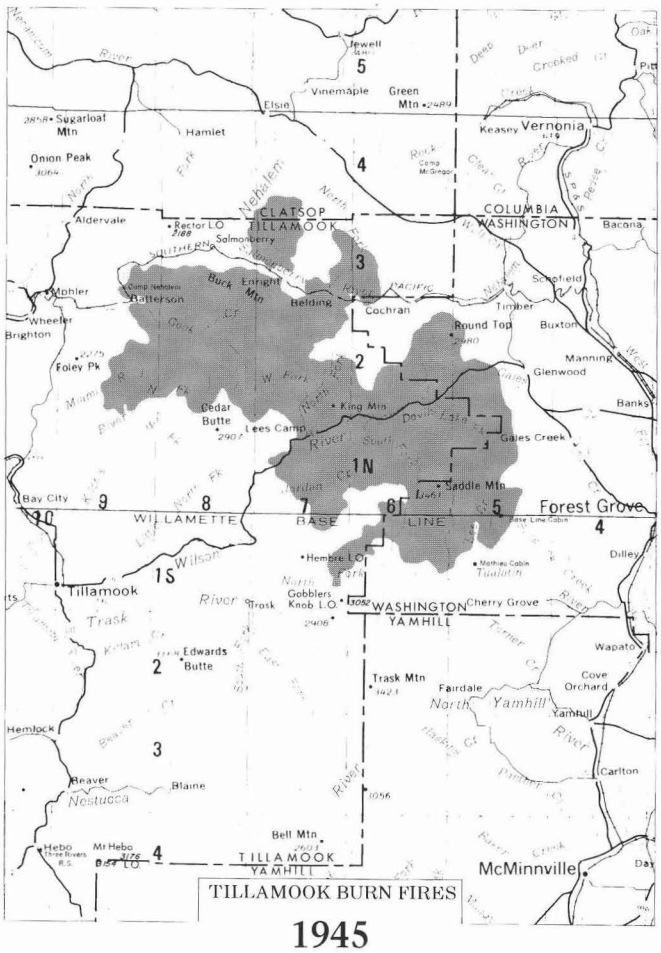
Prior to 1933, nearly all of the land that came to be known as the Tillamook Burn was in private ownership. Following the fires, about 255,000 acres came under state ownership, mostly when private owners failed to pay taxes, which meant the land transferred to the counties and then to the state. Most of the remaining 100,000 acres is owned by five private timber companies and the federal Bureau of Land Management. These owners have also carried out rehabilitation and most of their land is roaded, cleared of snags and reforested. (Additional statistics showing costs for rehabilitation and previous and potential harvest revenues are on pages 22 and 23.)

1933 — Tillamook Fire

Perimeter area	226,222 acres
Unburned area within perimeter	21,527 acres
Burned area	239,695 acres
Timber killed	11,828,712,000 bd. ft.

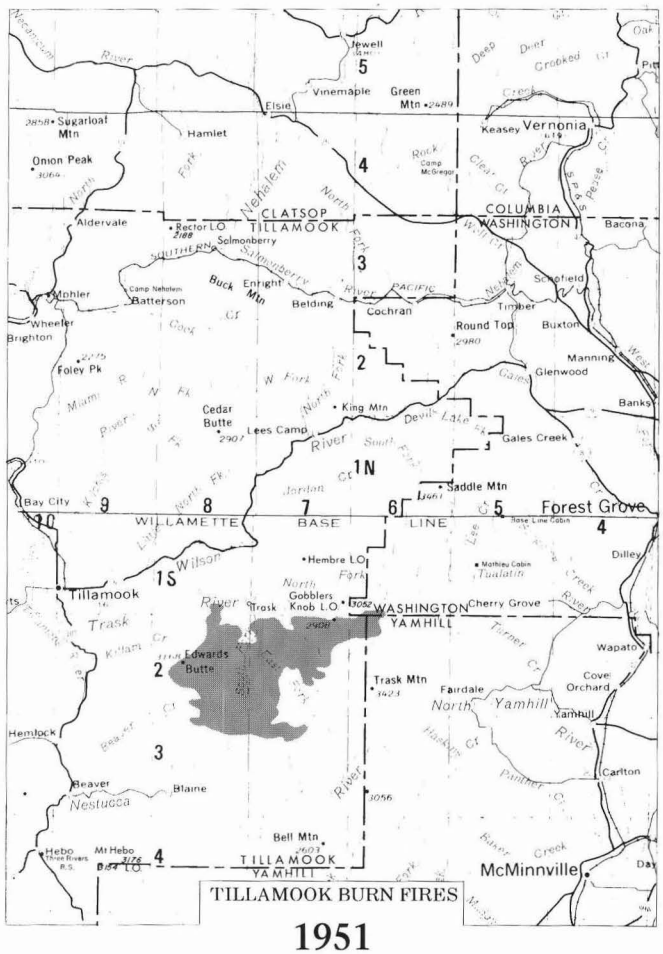
1939 — Saddle Mountain Fire

Perimeter area	209,690 acres
Unburned area within perimeter	19,030 acres
Burned area	189,660 acres
Timber killed	834,220,000 bd. ft.
Additional area burned over	
Green timber	28,180 acres
Logged over	6,384 acres
Previously burned by other fires	15,527 acres
	50,091 acres



TILLAMOOK BURN FIRES

1945



TILLAMOOK BURN FIRES

1951

1945 – Wilson River & Salmonberry Fires

Perimeter area	182,370 acres
Unburned area within perimeter	2,240 acres
Burned area	180,130 acres
Timber killed	439,985,000 bd. ft.
Additional area burned over	
Green timber	12,571 acres
Logged over	36,211 acres
Previously burned by other fires	5,469 acres
	65,150 acres

1951 North Fork Fire & Elkhorn Fire

Burned area	32,700 acres

Total area was burned by 1933 & 1939 fires. No green timber or reforested areas burned. 30 million board feet of felled and bucked snags were burned (more than half was salvageable)

Additional area burned over	None

All Four Tillamook Fires

Perimeter area	360,882 acres
Unburned area within perimeter	5,946 acres
Burned area	354,936 acres
Timber killed	13,102,917,000 bd. ft.

Logging ceases, operators move

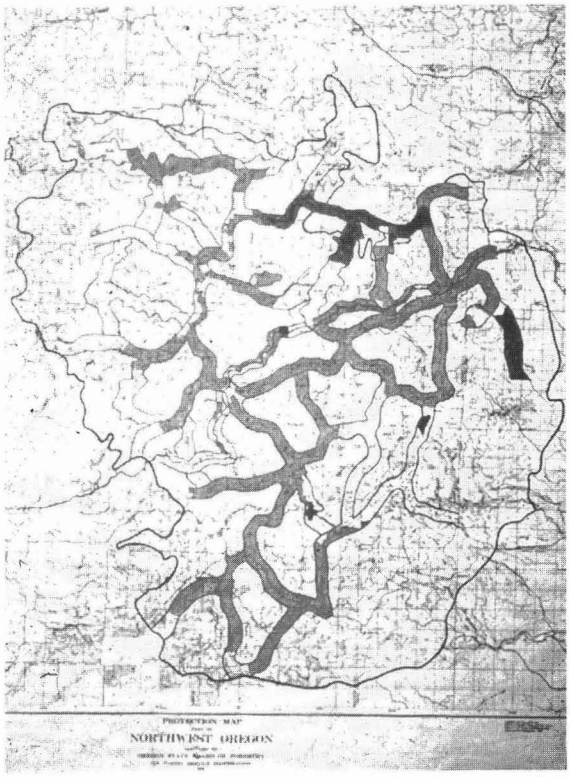
The continued logging on large portions of the Burn hampered the rehabilitation program, particularly the reforestation in the first six years. After that, logging slowed and finally came to an end.

More than half of the fire-killed trees, representing some seven billion board feet of Douglas-fir, were salvaged. The last state timber sale to salvage a significant amount of old growth Douglas-fir snags was in the Tillamook District in 1971. Dead cedar was salvaged in the form of shake and shingle bolts through the 1980s.

Research

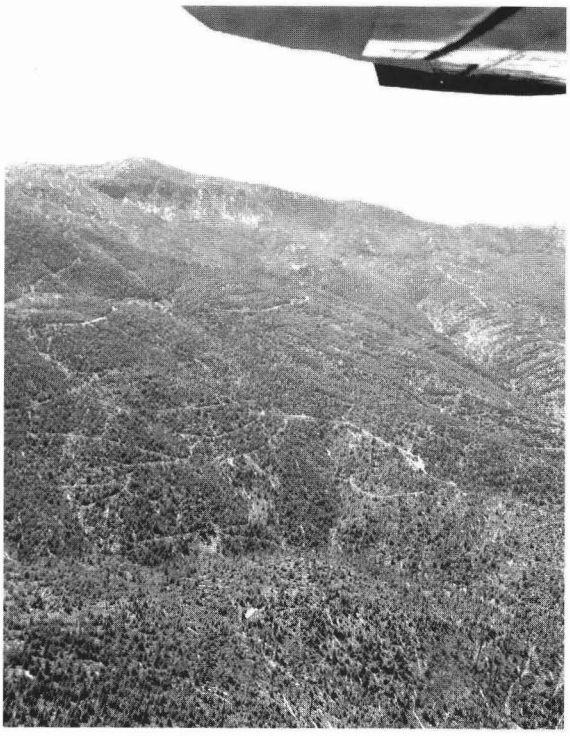
Even before the Tillamook reforestation effort was formally started, the department had made a start in research on how to reforest effectively. In 1943, research began on direct seeding in the Tillamook Burn. Two years later, airplane seeding projects were started. With the passage of a forest research and experimental tax act of 1947, the department developed a more complete forest research effort.

While research was done on many other aspects of forest management, much of the effort focused on ways to reforest the Tillamook Burn effectively. Because of the magnitude of the project, foresters often had little information to guide them. Therefore, the research into new reforestation techniques was applied on the ground as soon as experiments proved successful. The first use of helicopters for aerial seeding was in the Tillamook Burn.



Top: Fallen snags create a fire break to help prevent future fires. Some areas of the Tillamook burned three times over. The construction of 220 miles of snag-free corridors (shown in the map above) provided access for fire-fighting crews as well as a fire break.

The Tillamook State Forest rehabilitation effort was the first use of helicopters to spread seed from the air.



In 1945, the Department of Forestry did an experimental helicopter seeding job. It was not practical for the Burn. The narrow swaths resulted from the seed dissemination system tried.

The department cooperated with the Oregon State Game Commission to conduct research on the increasing deer population's impact on seedlings. Research on controlling rodents that damaged seedlings and ate seed also contributed to effective reforestation.

In 1957, forest research was moved out of the Department of Forestry and located at the Oregon Forest Research Center in Corvallis. In 1961, the research center became a part of Oregon State University as the Forest Research Laboratory, combining forest management research with the forest products research program of OSU.

Brush problem

Brush competition and animal damage soon replaced logging as the major impediment to reforestation.

Encroachment by brush species became more severe each year particularly on the coastal side of the Burn. Brush eradication techniques became more important. Helicopters were used to spray some brush and hardwood tree species. Scarification with tractors was used successfully on some parts of the Burn.

Animal damage

Damage to seedlings by deer, elk, rabbits and mountain beaver increased as the plantations became more extensive. Populations of deer and rodents had built up beyond the normal food supply. The Oregon Fish and Wildlife Commission allowed special hunts to control the deer population.

Walter "Frank" Sargent, assistant manager for the rehabilitation project (left), Douglas Burbridge, tree planting foreman, Glenn French, the forester in charge of tree planting, and Alec Walters, tree planting foreman, examine seedlings for planting in November 1951.

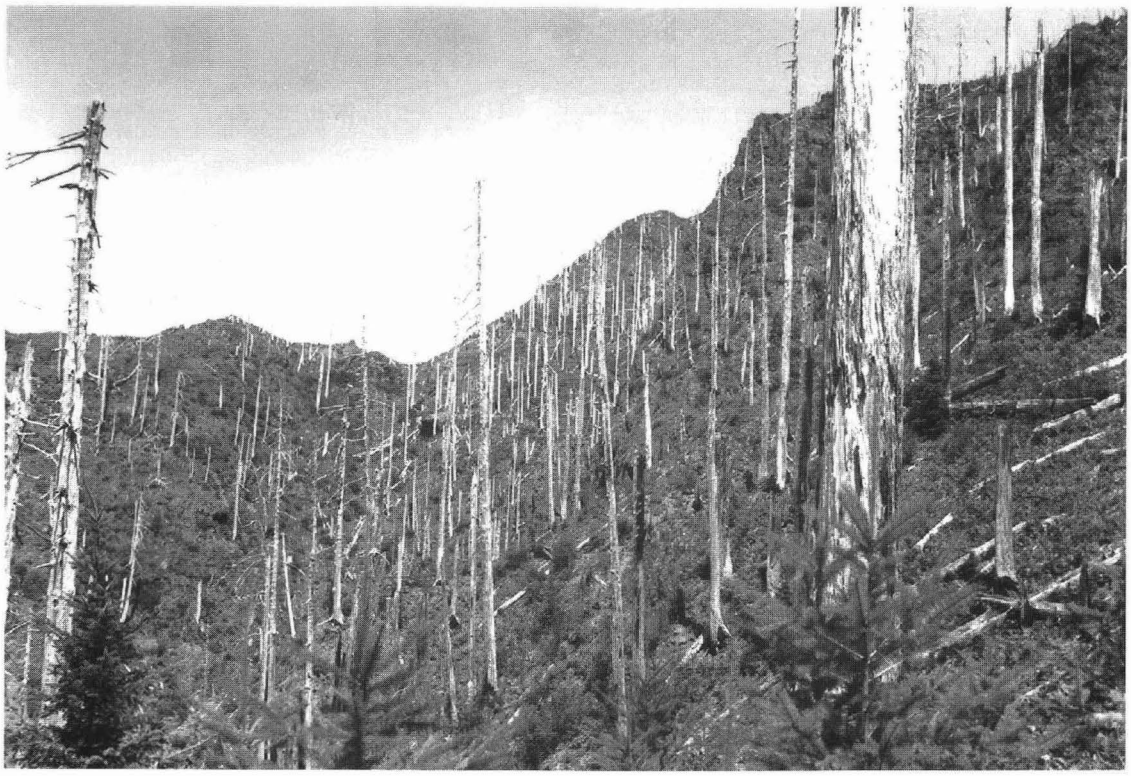
Reforestation

The massive rehabilitation effort cost nearly $13 million from its inception to 1973 and covered 325 square miles of the Burn.

More than 108,000 acres were planted with 72 million two-year-old seedlings, beginning in late November 1949. In addition, more than 116,000 acres were aerially seeded. Douglas-fir seed was sown at the standard rate of 1/2 to 3/4 pound per acre. Costs varied from $4.06 to $8.45 per acre.

The last seeding, covering 2,003 acres, was completed during the seasons of 1967 through 1970. Aerial seeding is not used in the area today because there is too much ground cover for the seeds to reach the soil. Prior to 1970, however, that had not been a problem.

Building roads in the forest for salvage logging and planting, 1951.



Snags stand among growing young Douglas-fir seedlings on Kings Mountain.

This snag is believed to have been the start of the 1951 fire. A logging crew, using dynamite, blew the top of the tree to create a spar pole, but burning debris started a new fire that burned 32,700 acres.

Inmate help

The establishment of a minimum security prison camp on the South Fork of the Wilson River in the Burn in 1951 helped the rehabilitation of the forest. The South Fork Prison Camp of the Oregon State Penitentiary originally provided 50 men to work in snag falling, road building and tree planting.

The population of the camp now varies with penitentiary trends, with a maximum of 150 men in 1997. The work crews have also been called out to large fires in every part of the state, having been trained in fire-fighting. Inmates continue to work in the forest, planting trees, thinning stands, and maintaining trails and campgrounds.

1951 Fires

Two fires, the North Fork and the Elkhorn, started within the Tillamook Burn in 1951. Prompt action by fire crews and the accessibility allowed by roads built into the area allowed the fires to be controlled before they "blew up" like the other Tillamook Fires.

About 32,700 acres burned, all within the former burned area. No reforested areas or green timber were destroyed, but about half of the 30 million board feet of felled and bucked snags that the fires burned through were destroyed.

Rogers Memorial Forest

The Nelson S. Rogers Memorial Forest is located within the Tillamook State Forest. The 3,700-acre forest is located on both sides of the Wilson River highway, state Highway 6, about 20 miles west of Forest Grove at the Coast Range summit.

The memorial forest was dedicated in 1955 by the Board of Forestry in memory of Nels Rogers, Oregon State Forester from 1940 to 1949.

Rogers served as state forester during the time that the constitutional amendment was approved by Oregon voters, authorizing the bonding program that financed the reforestation of the Tillamook Burn. He also guided the development of many of the plans for the reforestation project. He guided the passage of the Oregon Forest Conservation Act in 1941, the first state law in the nation requiring reforestation following harvesting of timber.

Rogers died in September 1949, just two months after the Tillamook rehabilitation project was started.

A sign identifying the memorial forest is located at Rogers Camp, a wayside area just south of the highway at the Coast Range summit. Rogers Memorial Forest is managed as a productive forest as part of the Tillamook State Forest.

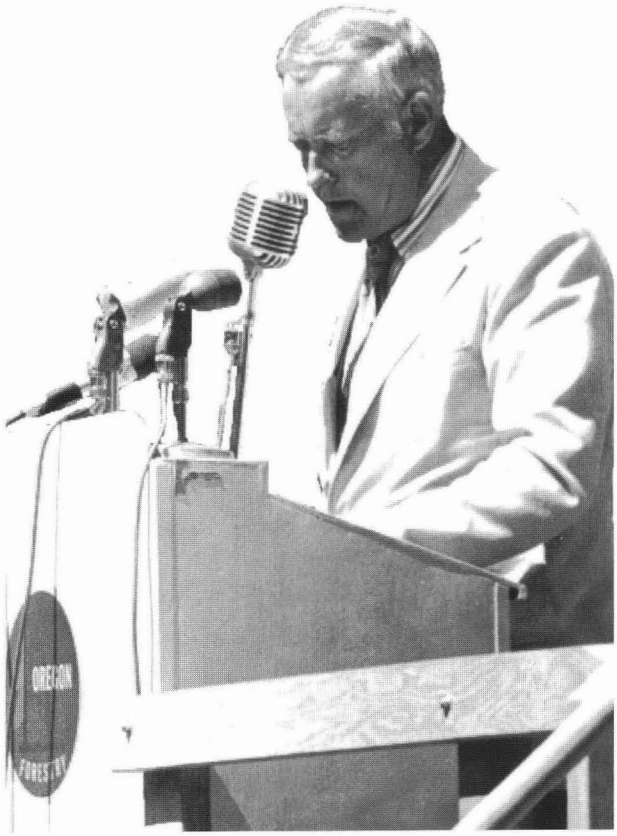
The New Tillamook State Forest

Gradually, the Tillamook Burn began to change. The stands of white snags and blackened stumps gave way to young green forests. Rich soil and heavy rainfalls offered some of the best tree-growing conditions in the world, and the new forest was quick to respond with rapid growth.

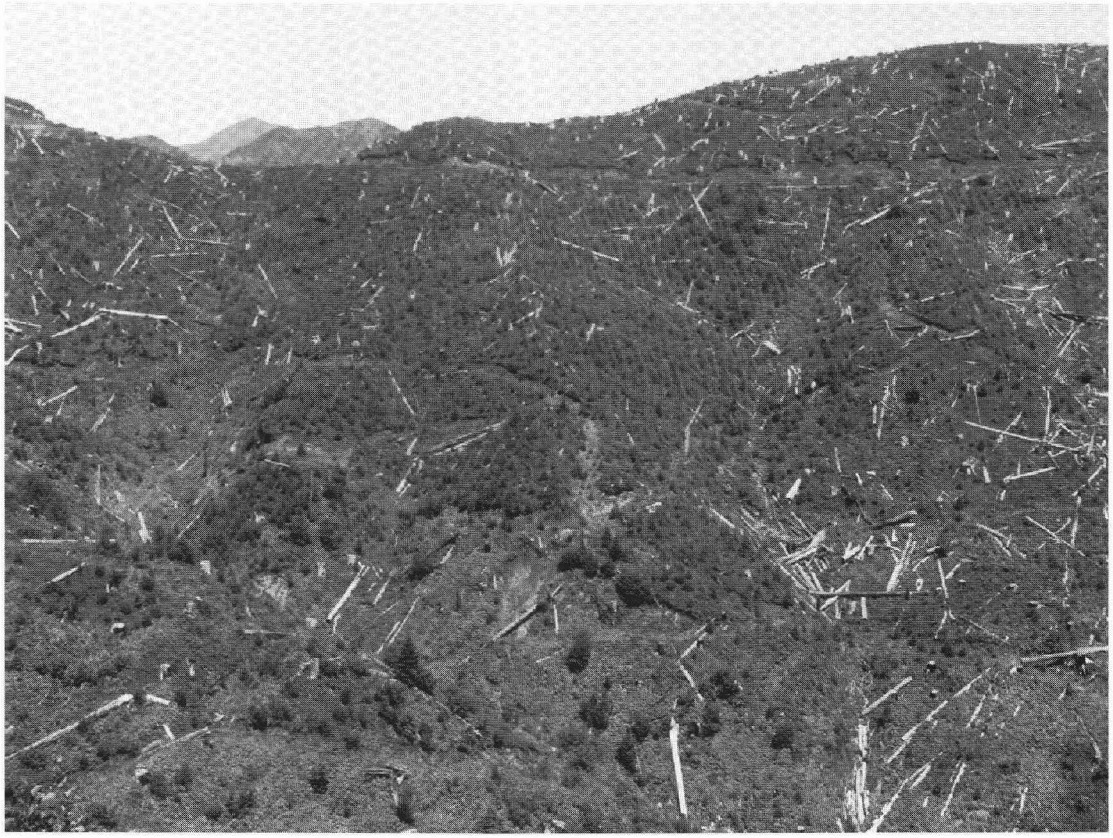
Just 24 years to the day after Gov. Douglas McKay signed the bond program into law, Gov. Tom McCall dedicated the former Tillamook Burn as the new Tillamook State Forest.

The forest covers 364,000 acres of state-owned lands in Tillamook and Washington counties, most of which had burned and had been reforested. The Burn portion of the forest had required the investment of $12 million during those 24 years. Foresters estimate that during the first cycle of growth, the timber alone will return about $6 billion in revenue.

Added to this timber resource are the additional benefits of improved watershed protection, wildlife habitat, and increased opportunities for outdoor recreation and outdoor education.



Top: On June 18,1949, Gov. Douglas McKay signs into law the bond program that would support the rehabilitation of the forest. Above: Gov. Tom McCall dedicates the former Tillamook Burn as the new Tillamook State Forest in June of 1973.



Two views of rehabilitation in the Wolf Creek basin: 1965 (above) and 1981 (below)

THE FOREST TODAY

Production of timber on a sustained basis continues to be the primary goal for management of the Tillamook State Forest and other state forest lands. Revenue derived from these lands is distributed to the counties and local taxing districts. However, the management and harvest of timber is tempered by the need to protect soils, streams, wildlife habitat, recreational opportunities and other forest values.

In 1983, the first thinning timber sale was sold in an area of the former Burn that had been planted in the early years of the reforestation effort. From 1983 to 1997, a total of 9,200 acres of the planted or aerially seeded areas have been commercially thinned. The thinnings allow remaining trees to maintain their fast growth rate. The logs from the thinnings are used to produce small-dimension structural lumber and pulp chips for making paper and other wood fibre products.

A railroad trestle (top) built early in the century stands as a relic in the new Tillamook State Forest. Elk can be seen grazing through several areas of the forest. (bottom)

INTENSIVE FOREST MANAGEMENT PRACTICES

Precommercial thinning and fertilization are currently the main intensive management practices used in the burned portion of the Tillamook State Forest to ensure high future yields of quality timber. Pruning has been done experimentally on a few hundred acres because of the potential high wood quality and resulting economic benefits.

ROOT ROT DISEASE MANAGEMENT

Laminated root rot *(Phellinus weirii)* is a disease that is passed to successive generations of Douglas-fir through contact with other infected roots and stumps. The current level of infestation is widespread throughout the Tillamook State Forest and is estimated to affect 5 to 10 percent of the forest area. Trees that become infected normally die, which can result in a significant loss of value within a particular stand.

Lush undergrowth lines the Gales Creek Trail through the young forest of Douglas-fir. With the building of fire trails through the new forest came a network of 25 miles of developed hiking trails in the South Fork Wilson River area of the forest, along State Hwy 6.

Methods are under development to deal with this root rot. One treatment under consideration is to plant and grow one rotation or more of a disease-resistant species, such as red alder or western red cedar, which will allow the disease to die out. Treatments will be applied along with either commercial thinning or final harvest.

Recreation

Located between the metropolitan Portland area and the Oregon coast, the Tillamook State Forest is a popular recreational area for both Oregon residents and tourists. Many visitors come to the forest each year to fish its streams, hunt in the forests, hike or ride the trails, or just enjoy the outdoors. Many people enjoy just driving through the forest to appreciate the change that has taken place in the last 50 years. Newcomers can hardly tell this forest was once bleak and blackened from fires. Schoolchildren are coming to learn about the forest their parents helped plant.

In 1991, the state legislature passed House Bill 2501, which called for a comprehensive recreation management plan. The plan was completed in January, 1993, and lays out ways to manage the increasing demand for recreation in the forest. The plan also identifies ways to use the forest for education and interpretation, to tell the story of the fires, the reforestation, and the people who helped turn a disaster into an asset.

The Future

Today, the Tillamook State Forest is growing. It will continue to grow as the new forest reaches maturity and harvesting and other uses are sustained into the future. While the Tillamook Burn may remain in the memory of Oregonians, the new Tillamook State Forest will stand as a living monument to the knowledge and abilities of humankind and of the commitment that Oregon citizens made for their new forest.

Fire Statistics

Area Burned

Original area burned in 1933	239,695 acres
Additional area burned in 1939	50,091 acres
Additional area burned in 1945	65,150 acres
Total area burned	**over 354,936 acres**

(More area than either Hood River or Multnomah Counties.)

Volume of Timber Killed

Original green timber burned in 1933	11,828,712,000 bd. ft.
Additional green timber burned in 1939	834,220,000 bd. ft.
Additional green timber burned in 1945	439,985,000 bd. ft.
Total volume of timber burned	13,102,917,000 bd. ft.

(Enough timber for more than one million five-room homes.)

Values Damaged

Value of timber had it not burned in 1933 fire (calculated use over 20-year period)	$442.4 Million
Stumpage Value (11.8 Billion Bd. Ft.; 1993 stumpage rate @ $500 MBF)	$5.9 Billion
Wages for processing the trees	$350 Million
Taxes from forest landowners	$2.4 Million
Value of timber had it not burned in 1939 & 1945 fires	$20.2 Million
Stumpage value (1.3 Billion Bd. Ft.)	
Wages	$16 Million

Salvage Statistics on State Land

Timber Volume Salvaged

1934 - 1948 Four billion board feet of fire-killed timber logged.
1949 - 1955 3.5 billion board feet of fire-killed timber logged.
1934 - 1955 Total of 7.5 billion board feet of logs from fire-killed timber removed from burn out of 13.1 billion board feet killed.

Value Recovered

1934 - 1948 $27,420,881
1949 - 1955 $72,361,076

1934 - 1955 $99,781,957

Rehabilitation Statistics on State Land

Site Preparation

1957 - 1973 68,635 acres of competing vegetation treated mechanically or with chemicals to make room for growth of the new forest.

Reforestation

1948 - 1973 325 square miles (208,000) acres were reforested.
1948 - 1973 72 million Douglas-fir seedlings were planted on 108,000 acres.
1948 - 1973 72,000 pounds of Douglas-fir seed was aerially applied on 116,000 acres (some areas had to be planted or seeded more than once due to plantation failures).

Fire Protection

1949 - 1970	1,500,000 dead trees (snags) felled to develop 220 miles of snag-free corridors for control of fire (Peaked at 210,000 snags felled in 1958-59 to less than 5,000/yr for 1965-70).
1948 - 1970	More than 164 miles of road were constructed in the Burn for fire control and rehabilitation of the burned area.
1948 -	Construction and operation of fire crew stations.
1948 -	Guidelines and cooperative efforts to provide for firesafe, dispersed recreation such as hunting (deer, elk, bear and small game and game birds), fishing (trout, steelhead and salmon), hiking, swimming, horseback riding, motorized traveling by car, motorcycle and 4-wheel drive, berry picking, nature photography and rock collecting.
1951 -	Establishment of inmate work camp at South Fork for fire control, snag felling and reforestation.
1948 -	Construction and operation of lookouts for fire detection.
1965 - 1975	Construction and operation of 7 parks in the Tillamook Forest. They provide a place where forest users can safely build a campfire while they engage in recreation.

Economic Statistics on State Land

Investment

1949-1973	$13 million worth of bonds sold to finance rehabilitation of the burn in this period.
1973 - 1983	Financing assumed by revenues from state forest lands.

Financial return

An investment of $13 million and 24 years of continuous management were expected to return about $2 billion from the initial crop. (1979 stumpage prices used) Revenue in the 1980s from the harvest of timber from this new forest was more than a half million dollars. Based on 1993 values ($400 per thousand board feet) $6 billion of revenue may be returned from future timber harvests.

Management Statistics on State Land

Precommercial Thinning

1968 - 1997	40,600 acres of precommercial thinning completed.

Fertilization

1978 - 1997	Fertilization of 71,100 acres accomplished.

Commercial Thinning (within the Burn)

1983 - 1997	9,200 acres thinned.

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