



Legislative Committee Services

ISSUE BRIEF

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Tillamook Burn: History, Reforestation & Economics

¹**History:** The Tillamook Burn, which consisted of four large forest fires, had at least four significant effects on the landscape of northwestern Oregon: It decimated mid-nineteen hundreds Coast Range timber operations; it severely damaged mid-century northwest Oregon timber economics; it caused initiation of the largest reforestation project in history; and it changed forest management practices for wildfire.

The first blaze, Oregon's largest forest fire, began on August 14, 1933, when at the Gales Creek Logging Company, log dragging operations caused sparks that set off conflagration events of this dry summer. By nightfall of the fire's first day, it had consumed over 400 acres of virgin forest. By August 26, 1933, when the fire was finally brought under control, approximately 240,000 acres had been burned within Tillamook and Washington Counties.

The virgin forest that burned was composed of Douglas fir, western red cedar, and white fir on the higher elevations, with western hemlock and Sitka spruce on the lower slopes. Estimated age of the trees ranged from 150 to 400 years, with tree girths ranging from three to seven feet. Estimated value of timber burned was \$375,000,000. Total economic loss was estimated to be in excess of \$600,000,000. The initial salvage logging operation recovered \$100,000,000. Therefore, net loss of the 1933 fire was approximately \$500,000,000. Three more fires, occurring at six year intervals, struck the area within the following twenty years. The 1939 fire burned about 190,000 acres; the 1945 fire burned just over 180,000 acres; and the 1951 fire burned 32,700 acres.

First Citizen Committee: The 1945 fire was the one that caused the biggest headlines, due, at least partially, to its proximity to wartime Portland (By 1945 total population in Oregon was at 1,227,200 with Portland's population growing by approximately 250,000 during WWII). Accordingly, people and the press began demanding that something be done to regain the lost timber, re-establish the timber economy, and keep such fires from recurring.

In late 1945, Governor Earl Snell appointed a citizen committee to find a solution to the forest fire problem. After several meetings and much deliberation, the committee returned to the governor with a challenge: Oregon needed to undertake a huge forest rehabilitation project for the purpose of restoring the area to its "natural wealth producing status" by transforming "the non-producing burn land into a 300,000 acre growing tree farm."

¹ Facts contained herein were obtained from The Tillamook: A Created Forest Comes of Age, Gail Wells (Oregon State University Press, 1999); Tillamook Burn Country: A Pictorial History, Lucia Ellis, 1983; Dictionary of Oregon History; Oregon Constitution; Oregon Blue Book, 2001-2002; Oregon Legislative History; and various newspaper articles/web pages.

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Replanting the Burn was a job larger than any state or federal agency had ever attempted. Because there was no precedent for such an undertaking, the U.S. Forest Service declined to help the state and many of Oregon's citizens didn't believe such a project was possible. Despite this 'lack of support', the then State Forester, Nelson S. Rogers, who had grown up around Gales Creek, devised a plan and presented it to Governor Snell. The plan called for: 1) fireproofing the burn by felling snags and punching through a network of fire roads and trails; 2) building look-out stations and beefing up fire fighting crews; and 3) creating a vast network of tree plantations.

Financing Reforestation: Even with the reforestation idea in place and support by Oregon's body politic, the question remained of how to finance such an operation: 1945 Oregon statute did not allow for state economic sponsorship of the project. In response to this legal shortfall, Clatsop County Judge Guy Boyington came up with the idea of floating a statewide bond measure, which according to Oregon's constitution, would require a constitutional amendment.

HJR 24 was introduced to the legislature in 1947. Its purpose was 'to provide for the addition of a new article to the constitution in which the credit of the state could be loaned to provide funds for forest rehabilitation, reforestation, and for the acquisition of land for such purposes.' HJR 24 was adopted on April 5 and referred to the people on the same day (Speaker of the House and President of the Senate signed the resolution on April 5). On November 2, 1948 the constitutional amendment passed on a 211,912 to 209,317 vote. In July of 1949, during a ceremony at Owl Camp (at the top of the Coast range divide), Governor Douglas McKay signed the bond papers.

Before any fire breaks could be created or trees planted, the state needed to acquire Burn lands. Most of the areas burned belonged to Tillamook, Washington, and Yamhill Counties, who had acquired them through property tax foreclosures (primarily from private timber companies) during the Depression. In order to facilitate reforestation/rehabilitation, Tillamook, Washington, and Yamhill Counties agreed to turn lands over to the state for replanting in exchange for their keeping most of any future timber revenue. In other words, the state would hold the land and manage its timber, in a trust-type arrangement for the three counties, forever.

Another complication of financing reforestation was that Tillamook, Washington, and Yamhill Counties had sold salvage rights within the Tillamook Burn area to private salvage companies. Therefore, even though the state held county forestland in trust, salvage contracts remained in-force and companies continued to salvage timber through the 1940s and 1950s.

The New Forest

After many attempts at reforestation, including scattering 36 tons of Douglas fir seed over 98,000 acres from helicopters and airplanes, it was discovered that planting by hand was the most effective reforestation method. Beginning in November 1949, forestry crews planted more than 108,000 acres of Tillamook Burn land with 72,000,000 two year old Douglas fir seedlings. By the early 1960s, the Burn area shrouded itself in green and was well on its way to woodland recovery.

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On July 18, 1973, Governor Tom McCall dedicated the Burn as the new Tillamook State Forest. In his remarks, Governor McCall said "Around us now we see the result of our lending a helping hand to the natural process. More than a million snags are gone,...and in their place is a new stand of Oregon's economic life blood. The tress will grow and suffer our harvest, and grow again. The forest... again will feed us."

Economics:**1933 Fire:**

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|-----------------------------------------------|---------------------------|
| Perimeter area of fire | 261,222 acres |
| Unburned area within perimeter | 21,527 acres |
| Burned area | 239,695 acres |
| Timber killed | 11,828,712,000 board feet |
| <i>(a board foot measures 12" x 12" x 1")</i> | |

1939 Fire:

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|----------------------------------|------------------------|
| Perimeter area of fire | 209,690 acres |
| Unburned area within perimeter | 19,030 acres |
| Burned area | 189,660 acres |
| Timber killed | 834,220,000 board feet |
| Previously burned by other fires | 15,527 acres |

1945 Fire:

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|----------------------------------|------------------------|
| Perimeter area of fire | 182,370 acres |
| Unburned area within perimeter | 2,240 acres |
| Burned area | 180,130 acres |
| Timber killed | 439,385,000 board feet |
| Previously burned by other fires | 10,899 acres |

1951 Fire:

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|---------------------------|--------------|
| Perimeter and burned area | 32,700 acres |
|---------------------------|--------------|

The total area of the 1951 fire was burned by the 1933 and 1939 fires but forestry sources report that some 30 million board feet of felled and bucked snags were burned with less than half destroyed.

Four Fires Combined:

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|------------------------------------------------------------|---------------------------|
| Perimeter area of fire | 360,882 acres |
| Unburned area within perimeter | 5,946 acres |
| Burned area | 354,936 acres |
| Timber killed | 13,102,917,000 board feet |
| Value (1933) if not burned (calculated use over 20 years): | \$442.4 million |

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|-----------------------------------|----------------|
| Stumpage Value (11.8 billion bf): | \$90.0 million |
| Value recovered 1934 to 1948: | \$27,420,881 |
| Value recovered 1949 to 1955: | \$72,361,076 |

New Tillamook Forest

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|-----------------|------------------------------------------------------------------|
| Size: | 364,000 acres |
| Investment: | \$12 million over 24 years |
| Revenue return: | \$2 billion from initial crop (based on 1979 stumpage prices) |