



# SERVICE BULLETIN

CONTENTS CONFIDENTIAL

WE ARE COMING TO RECOGNIZE AS NEVER BEFORE THE RIGHT OF THE NATION TO GUARD ITS OWN FUTURE IN THE ESSENTIAL MATTER OF NATURAL RESOURCES. IN THE PAST WE HAVE ADMITTED THE RIGHT OF THE INDIVIDUAL TO INJURE THE FUTURE OF THE REPUBLIC FOR ITS OWN PRESENT PROFIT \*\*\* THE TIME HAS COME FOR A CHANGE. AS A PEOPLE WE HAVE THE RIGHT AND THE DUTY \*\*\*\* TO PROTECT OURSELVES AND OUR CHILDREN AGAINST THE WASTEFUL DEVELOPMENT OF OUR NATIONAL RESOURCES, WHETHER THAT WASTE IS CAUSED BY THE ACTUAL DESTRUCTION OF SUCH RESOURCES OR BY MAKING THEM IMPOSSIBLE OF DEVELOPMENT HEREFTER

*Theodore Roosevelt*

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## THE TALLAMOOK FIRE

By Richard E. McArdle, Pacific Northwest For. Expt. Sta.

During the last half of August 1933, a fire occurred in northwestern Oregon which unquestionably will rank as one of the major forest conflagrations of all time in the United States. Unlike some other disastrous forest fires, the loss in life fortunately was small, but the damage to mature timber was incredibly large. This one fire wiped out one of the few remaining large blocks of virgin Douglas fir forest in private ownership in Oregon. The net burned area will be close to 267,000 acres (over two thirds of this is virgin timber), the fire-killed timber will run to nearly 12 billion board feet, and the loss to industry and the public through timber values, labor, etc., probably will exceed 350 million dollars less whatever may be salvaged from this area.

This fire started shortly after noon on August 14, 1933 in the fresh slash of a logging operation, presumably originating from the friction of a steel cable passing around a stump or by dragging one log across another. The fire was discovered almost immediately and was attacked by the logging crew before it had burned more than a few square feet. But it could not be extinguished. The day was dry and windy; spot fires started elsewhere on the area, and supplementary fire crews rushed to the area were unable to control the fire. By nightfall the fire had burned over some fifty or sixty acres of fresh slash and had spread over about 350 acres in a previously logged and burned area. By 4 a.m. on the next day the fire had burned south to uncut timber and westward into about 75 acres of year-old unburned slash. At this time, other fires, presumably spot fires from the main fire, were burning in various places 2 to 5 miles south of the main fire.

The second day (August 15) also was dry and windy. Nearly 600 fire fighters, including a detachment of 150 CCC men, were unable to hold the fire on any front except the north-eastern corner (the side toward the wind.) It is impossible to picture adequately the difficulties of fire fighting in this particular area. There are almost no roads or trails, the terrain is exceedingly rugged—a continuous series of deep canyons—and in most places the undergrowth is almost impassable. On this second day the fire crowned in old growth Douglas fir timber and covered about 4 sections adjacent to the spot where the fire started; and the group of spot fires to the south merged and crowned over about 5 sections of timber. There were now two large fires separated by about a mile of green timber.

On the next five days the fire spread comparatively little. The wind on some of these days was fairly strong, but the relative humidity was high throughout this period and the area was shrouded in mist and fogs. During these five days nearly all of the fire was trenched by a crew of almost 900 men, including 450 CCC. Things looked pretty bright and encouraging.

Then came another break in the weather and strong east winds accompanied by low relative humidity swept one fire 8 miles and the other fire about 5 miles in a southwesterly direction along opposite sides of a high ridge. The two fires were now one, roughly the shape of a huge horseshoe with the open end of the "shoe" at the southwest. With the impetus of continued strong winds and low relative humidity the fire spread several miles to the southwest in the next 3 days.

This was already a serious fire, having burned over some 35,000 acres, mostly in virgin timber. But the worst was still to come. Shortly before midnight on August 24 a strong east wind developed which continued all of the following day and until the morning of the 26th. With the wind came the low relative humidities which in this region invariably accompany winds from the east. Measurements at various places near the fire showed the wind frequently to be in excess of 30 miles per hour and almost steadily over 20 miles per hour. The fire picked up everywhere and ran about 15 miles to the northwest, chiefly through an old burn, and over 12 miles to the west and south through virgin timber, covering in this one period of 30 hours over 200,000 acres.

Parenthetically, it should be mentioned that another fire in logging slash started in the evening of August 24 about 10 miles north of the starting point of the Tillamook fire. This new fire also "blew up" on August 25 and traveled some 15 - 20 miles to the northwest.

Enormous clouds of smoke rose to an estimated height of 40,000 feet and billowed westward over the Pacific Ocean, darkening the towns along the coast and carrying tons of needles and twigs far out into the ocean; these needles later were washed up on the shore in tremendous windrows.

The fire has not spread much since August 26 but its boundaries at this writing are imperfectly known. As nearly as can be determined, there are about 287,000 acres within the outer edges of the fire. Thus far about 20,000 acres of timber within this zone is unburned and this may later be increased. Unless there is another "blow up", the final net size of this fire will probably be about 267,000 acres.

Figures compiled by the forest survey show that there was more than 12 billion board feet of merchantable timber in one solid block within the boundaries of the fire. Of this, at least 11 billion was killed by the fire. This is as much as the timber cut of the entire United States in 1932. It is 8 or 9 times more than was cut in the whole Douglas fir region last year, and about the same as was cut in this region during the "boom" years of 1926-1929. It is over twice the volume killed by all fires on private land in Oregon during the preceding 20 years.

The stumpage value of this timber was about \$20,000,000, but this is probably the smallest part of the damage. Under ordinary conditions the logging of this block of timber would have extended over a 25-year period; but now, if anything is to be salvaged at all, the logging must be largely accomplished within 4 or 5 years. Had there not been a fire, at least \$5,000,000 a year would have found its way into the pockets of labor (and right out again!) for about a quarter of a century. The expenditures for labor will not increase proportionately for a shorter period because only the best of the burned timber will be taken. The common carrier railroads will lose anywhere from 50 to 100 million dollars in freights. Repairs and replacements for mill machinery will be less than would normally be required. It is difficult to predict how far the influence of this catastrophe will be felt, especially if so great a volume of timber is "dumped" on the market at a very low price. But there is no question whatever about the local effect of the fire. To mention only one local feature, Tillamook County will be hard put to find funds for local government, schools, and the like. Timber contributes about two thirds of the taxes levied in this county; the fire destroyed a very large part of the timber of the county.

Members of the Experiment Station made detailed studies of this fire while it was in progress and are preparing a complete report covering the spread of the fire in relation to weather factors, fuel conditions, topography, and the like.

# Tillamook Fire

4/14 25

August -

50 miles west of Portland

Burned 311,000 acres, 14 billion feet  
of timber within the area. 25% unburned,  
Loss 8 billion feet

60-65% can be salvaged if logged  
in 1934

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|      |               |               |
|------|---------------|---------------|
| 1846 | Yaquina fire  | 450,000 acres |
| 53   | Nestucca "    | 320,000       |
| 65   | Silverton "   | 1,000,000     |
| 68   | Coos County " | 325,000       |
| 68   | Columbia " "  | 300,000       |
| 1902 | Yaquina       | 600,000       |