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THE FIRE MENACE TO FORESTRY.

A radio talk by H. N. Wheeler, Forest Service, delivered through WRC and 35 other stations associated with the National Broadcasting Company, Thursday, May 29, 1930.

You may own no timber and think forest fires do not concern you, - are none of your business. Mother, anxious about sick people in her community said, "Willie, go over and see how old Mrs. Brown is this morning." Very soon Willie came back and said Mrs. Brown says it's none of your business how old she is this morning or any other morning. But forest fires are some of your business because they are due largely to human carelessness, and each year, sweep over about 40,000,000 acres of timber and woodland, carrying death and destruction into all parts of the United States.

The greatest damage done by forest fires is to the trees themselves, because the baby trees are killed and big trees are seriously injured so that later they become diseased or do not develop into first class timber. It is true that the longleaf pine of the South will survive severe fires even while the trees are young, but they are retarded in their growth so that they may require three times as long to mature as would be the case were they not scorched. For proper growth and development the trees need the nitrogen and other fertilizing values of the decayed leaves and twigs and rotting wood on the floor of the forest, but fire destroys the gradually accumulating humus and bakes the ground in such a way that the water can not sink in and furnish the necessary amount of moisture to the growing vegetation. This water running off the surface takes the soil with it, fills streams and reservoirs with mud, ashes, and gravel. Living springs cease to flow, and streams become raging torrents after heavy rains, but dry up in late summer and fall.

Fires injure grazing, killing the good grasses, so that cattle and sheep pastured on burned-over areas put on less flesh than when grazed on lands that have not been burned.

Forest fires destroy not only the shelter and food of wild things, but also many of the animals and birds themselves. In one fire in California in 1928, it is estimated that 300 deer and 15,000 quail were burned to death, and in one bad fire in Minnesota many mother birds as well as thousands of nests of geese, partridge, and grouse were destroyed. Even fish are often killed by the heat or by ashes falling into the stream or they are driven out because of low water and shortage of food.

Forest fires ruin the beauty of the countryside, making the great out-of-doors less attractive to those seeking rest and recreation.

In some sections of the country, particularly in the West, lightning starts forest fires, but for the most part man is responsible. He sometimes sets fires purposely to green up the woods in the spring or under the mistaken notion that they destroy the boll weevil, cattle tick, typhoid and malaria germs, or are necessary in turpentine operations. However, over the country as a whole, most of the fires are due to human carelessness and are started by reckless brush burning, by sparks from locomotives and logging

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engines, or from unextinguished camp fires. But from 25 to 50 per cent come from discarded cigarette stubs and lighted matches thrown from moving automobiles, or cast aside by hunters, fishermen, berry and wild flower pickers, and picnickers.

Since forest fires are largely man-caused, they are preventable and up to the present time it has been the burden of the foresters to see that fires are kept out of the woods. Fire fighting is not really forestry practice, but forestry can not be carried on if the woods are to be burned over repeatedly. Therefore, our national and State forestry departments and some private landholders are organized into fire departments, and expend much of their energy, especially in dry seasons, in preventing fires or fighting those that start. In some States and local communities fire engines and other equipment are available, but in general the shovel, axe, hoe, rake, and saw are the chief tools used in suppression work. To control a forest fire, trenches are made along the front of the fire down through the organic matter to mineral soil. When the wind is blowing at hurricane proportions and the fire is racing through the tops of the trees, sending sparks far in advance of the flames, the fighters work along the edges or start back fires from some high ridge or stream ahead of the fire. The work is fraught with the greatest hardship and frequently with great personal risk. In 1929, 14 fire fighters, one of them a prominent forester, lost their lives in handling fires on the National Forests. The Peshtigo fire in Wisconsin in 1871 took 1500 lives and the great Cloquet fire in Minnesota in 1918 snuffed out the lives of 432 people, destroyed hundreds of homes, and laid waste thousands of acres of forest and woodland.

During a bad season such as 1929 in the Pacific Northwest, and this present spring season in New England and the North Atlantic States, thousands of men are organized like an army to combat this great scourge. Arthur Chapman pictures it thus:

The wind sweeps off the spire-like peak,
And is whirling the cinders high;
While down in the stifling, deadly reek,
We struggle, and all but die.

We have felled the trees in the fire's path,
Till our hands are bleeding and sore;
But always it spreads, with a hiss of wrath,
And leaps the barrier o'er.

We have fought it back, with blaze 'gainst blaze,
And yet has the foe slipped past;
But slowly we yield, in the choking haze,
Till the victory's won at last.

Small pay do we get, and thanks are gruff,
When we've fought the foe to his knees;
But after all, the reward's enough
When we hear the wind in the trees.

When our early forefathers landed in this country they began clearing land and burning the timber and brush so as to make way for agriculture. This process has continued in nearly every part of the country where forests existed. Lands too steep, rocky, or sandy for satisfactory farming were cleared and placed in farm crops, but now no longer profitable for farming, they are being abandoned and burned over almost yearly until literally millions of acres that formerly bore magnificent timber are lying idle and barren, producing practically nothing, going back to State or county for non-payment of taxes - a burden upon State and community. We should be very slow to criticize these early methods, but we are now confronted with the gigantic task of bringing back these tremendous areas into timber production. Of the 1,900,000,000 acres of land in the United States, 1,123,000,000 acres are in neither crop nor pasture. Originally 822,000,000 acres were forested, and even now 470,000,000 acres are classed as timberland, but barely one-third of it is covered with trees. Even some of the prairie regions that are badly eroding can very properly be placed in forests to the advantage of the State and Nation.

To change this appalling picture is not just a problem for our legislators, law enforcement officers or the landowners themselves, but one squarely up to each man, woman, and child in the United States, for we are all individually and collectively dependent upon the forests for our very existence. No country can outlive its forests and just as other countries have become denuded, depopulated shifting sands of desert, so will this country, unless we bend every effort and spend millions of dollars to rebuild the forests.

We are well organized to stop fires that have started, but our need is to prevent them from starting. The United States Bureau of Standards finds that in the United States 170,000 cigarette stubs are discarded every minute of every 24 hours, 365 days in the year and more matches are thrown away than cigarette stubbs. The ends of cigarette papers and match stems can be treated so they will not burn and when discarded will be practically harmless. If all of our matches and cigarettes were so treated it would be a big factor in preventing approximately one-fourth of our fires, not only in the forests but even in the cities. Many other fires due to human carelessness can be prevented by the education of the whole people, but this will require the united efforts of the leaders in all of our business and social activities. To become forest-minded we must be anti-fire-minded, making up our minds that under no circumstances will we individually start fires in the forest and that we will use our influence to prevent others from doing so.

Perhaps the greatest human need for keeping the forests green is for recreation. In 1929, 31,750,000 people visited the National Forests and other millions went to State, county and city forests. Theodosia Garrison writing of the forest says:

Here none may mock an empty purse
Or ragged coat and poor,
But silence waits within the gates
And peace beside the door,
The weary guest is welcomest,
The richest pays no score.