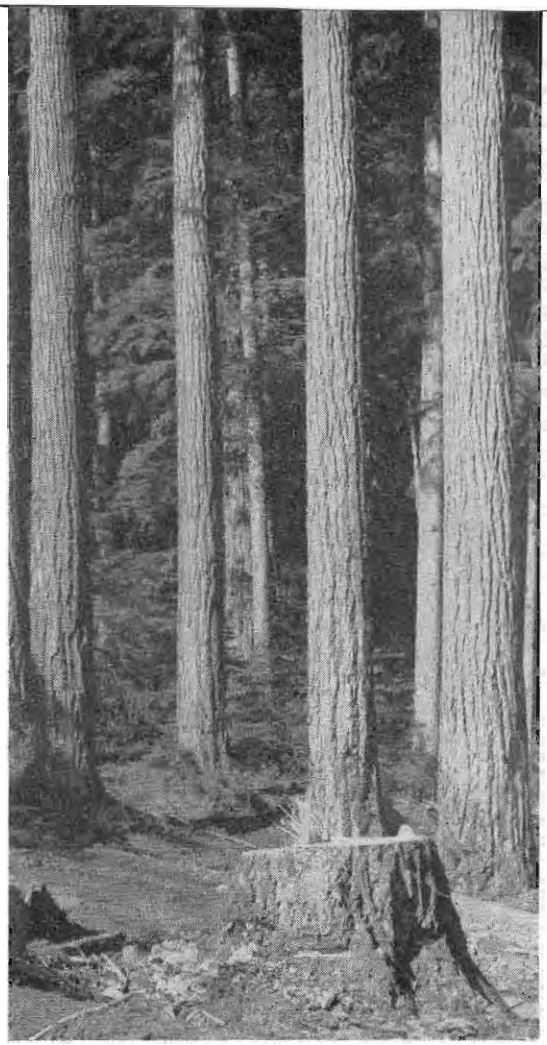
Timber, as well as finished lumber and forest products, represents an important source of traffic and revenues to the western lines of the Milwaukee. This log train, pictured near Kapowsin, Wash., with Mt. Rainier in the background, is taking logs from the Douglas fir country in the Winston Creek area

The Milwaukee Plants a Crop Of Future Traffic

The retreating stand of mature timber in the Pacific Northwest has been a matter of prime concern to the Chicago, Milwaukee, St. Paul & Pacific because of its potential effect on important timber and forest products traffic. It has become increasingly difficult for sawmills, wood plants, and other forest products industries to obtain adequate timber for their needs. In order to insure itself against loss of traffic in lumber and related products, the Milwaukee has—with the establishment of its tree farm project—embarked on what is believed to be one of the earliest and largest reforestation projects undertaken by any railroad.

The road is fortunate in owning some 200,000 acres of forest land, situated in Idaho and Washington, some of which is in the very best areas for the growth of Douglas fir—the monarch of commercial timber. The ownership of this land dates back to 1905 when the Milwaukee Land Company, a wholly owned subsidiary organized for the purpose of buying land and subdividing it into lots for town sites along the lines of the railroad—which was then stretching its rails westward from Mobridge, S. D.—purchased timber lands in Montana, Idaho and Washington to encourage the establishment of wood-using industries along its lines in order to generate long-haul traffic to eastern points.

For many years, the policy of the company was to sell this land and timber as rapidly as industry could absorb it. For the past ten years, however, the Milwaukee



Left—The beginning of a harvest of fine old-growth Douglas fir. These trees make ideal timber because of their tall, clean trunks. Douglas fir seedlings do not grow well in the shade of the mature trees, so it is better forestry practice to log the land clear, then seed it for a new crop. The cut logs are taken to rail heads on log trucks. Right—Receding timber stands have placed a "squeeze" on users of timber and forest products as competition for the remaining stands increases. To assure industries along its line—and producers of important traffic—supplies of timber in the years to come, the Milwaukee is following approved forestry practices in planting logged-off land with young trees

Land Company—in common with other large timber-holding interests—has retained ownership of its lands. Some of this Milwaukee-owned land contains immensely valuable stands of mature Douglas fir ranging in age from 80 years to 500. The remaining land has been "logged off"—meaning that all the valuable timber has been cut. And once "logged off," the land was allowed to go "back to nature."

There was Little Foresight

On some of the "old logging works" in the Pacific Northwest the Douglas firs seeded themselves and second growth trees from 10 to 50 years old now cover the land. However, this is not true in all cases because many of the "old works" either have grown up to hardwood species which are valueless as timber, have not grown anything at all except small brush, or have been swept by repeated fires so that the land is still black and bare. This condition—which, until comparatively recent times, was common on much timber land—was the result of indifference and lack of foresight. Few logging operators or timber owners had the foresight to make specific provision for reforestation. And in most places, fire protection on cut-over land had been given only slight attention. By and large, the only practicing forester was Mother Nature, and as often as not she wasn't given half a chance.

The unremitting efforts of far-seeing members of the timber industry—through their tree farm movement—and of the various state forestry departments and the U. S. Forest Service have effected a change in this trend. Although everything forestrywise is not yet shipshape, there has been a marked change in the care which is being given good forest land.

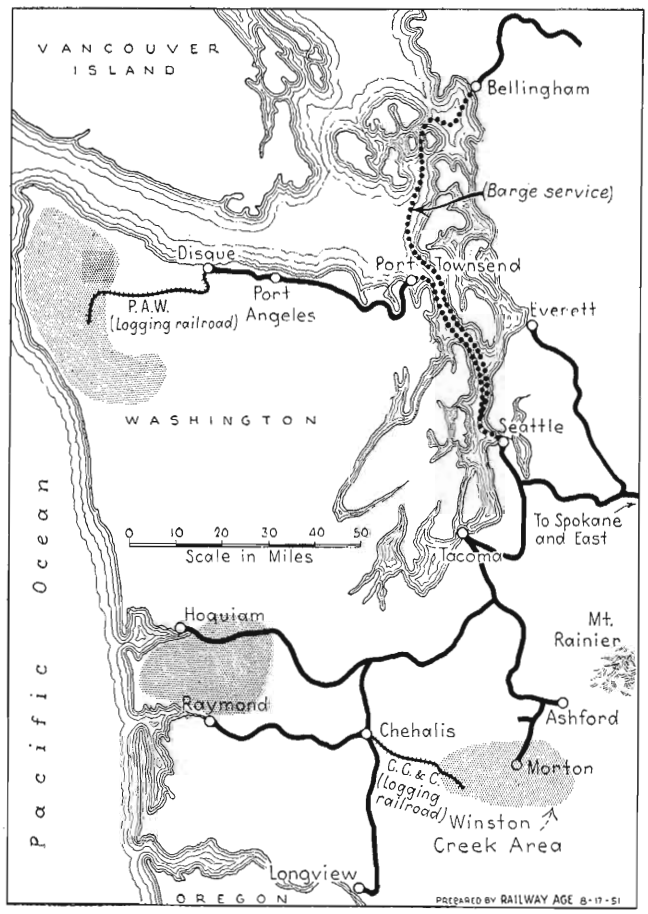
In keeping with this new outlook, and because of the steadily tightening "squeeze" affecting those industries along its lines which do not own their own timber lands, the Milwaukee has undertaken an extensive reforestation and land management program on its own timber lands for the purpose of providing a constant source of supply for the wood-using industries along its lines. An important byproduct, of course, is the steady source of traffic which this timber—and the finished products made from it—will provide for the Milwaukee in years to come.

Scattered throughout the western part of the state of Washington are limited natural areas known to foresters as "Site I" for Douglas fir—meaning the very best ground and location for the growth of this monarch of the forests. These trees live to be 400 to 600 years old, and occasionally grow to a height of 300 feet. They produce good clear lumber, ideal for a multitude of industrial and constructional uses. For this reason, Douglas fir is exceedingly valuable timber—a 100-year old stand carries a value of as much as $1,000 an acre, uncut! On the basis of 100 years' growth, this represents an increase in value at the rate of $10 per acre per year.

One of the elite "Site I" locations for the growth of Douglas fir is in the Winston Creek area of Lewis County, Washington—about 50 air-miles south of Tacoma. Surrounding the "Site I" locality is a large area

of "Site II" land, which is better than average forest land for the growth of Douglas fir. On Winston Creek the Milwaukee Land Company owns 10,000 acres of land—and adjacent to it, the Long-Bell Lumber Company has large holdings, some of which have been "logged-off," and some of which still have standing timber. This valuable land, once logged, obviously should not be allowed to remain unproductive for long. It is here that the Milwaukee has established its tree farm.

The Milwaukee Land Company and the Long-Bell Lumber Company—which have been doing business together for years—accordingly decided to undertake a cooperative reforestation project on 960 acres of adjacent holdings, the results of which will point toward future projects. Although a small percentage of vigorous young seedling trees had established themselves on the logged areas by natural seeding, the density of growth was below that desired. The ground was in good condition for seeding. Tree seed for the project was purchased from the seed plant of the South Olympic Tree Farm Company—a forest management organization protecting thousands of acres of young forests on the south end of the Olympic Peninsula, including some scattered Milwaukee Land Company holdings. A small portion of western red cedar and western hemlock was added to the Douglas fir seed to insure timber growth on areas not suitable for Douglas fir.



The shaded areas on this map show the general locations where the Milwaukee's land holdings in the state of Washington are concentrated, and how the road's lines reach important timber areas in the state. The two holdings on the coast do not present much of a reforestation problem because nature—aided and abetted by heavy fog and cloudy days—provides excellent growing conditions for hemlock. The Winston Creek area is at the lower right. The railroad also has two land-holding areas in Idaho

The Milwaukee is one member of a regionwide committee actively engaged in experimenting with and practical development of direct seeding. Other members are the Oregon State Board of Forestry—the organization which pioneered this work—the Crown-Zellerbach Corporation, Weyerhaeuser Timber Company, the U. S. Fish & Wildlife Service, and the U. S. Forest Service. In planning what is believed to be the first aerial seeding of forest land ever to be undertaken by any railroad in the nation, the Milwaukee benefitted from the combined experiences of the members of this committee.

The actual seeding took place on a quiet clear day last November when the seed was distributed over the ground by a helicopter moving at a ground speed of 45 m.p.h., at an average elevation of 200 feet over the ground. Milwaukee timber men with large yellow flags paced the terrain at right angles to the line of flight, and guided the helicopter pilot over parallel swaths. The area was cross-seeded, with the pilot first seeding on east-west swaths, and then on north-south swaths. In order to check the seed distribution, two other Milwaukee men moved 13 ft. square muslin sheets to various established positions, and counted the seeds which fell on the sheets. In addition, these unseeded plots are now being used as check points for comparison with nearby seeded plots.

The seeded areas will be watched carefully during the next few years, both to determine the success of this seeding project, and to protect the crop from possible damage. As the trees grow larger, they will be carefully thinned, taking out the weaker and leaving the larger stronger trees for growth to maturity. Fire trails and roads have been established, and the lands are being regularly patrolled and watched during forest-fire seasons to prevent the new crop from being destroyed by fire, the most ruthless enemy of the forests.

Long-Range Program

Reforestation is a long-range program—with the eventual benefits sometimes difficult to see in the press of current events. Nonetheless the Milwaukee, through its subsidiary land company, has established a policy of maintaining its present holdings and administering the timber harvest in such a way as to keep the lands continuously productive.

In addition to broadcast aerial seeding, for the past seven years the company has been leaving patches of timber on its Washington lands for use as "seed areas." These patches range in size from 2 to as high as 30 acres. In all cases they are located at higher elevations so that their seed will spread over as much of the surrounding area as possible. There is visible evidence of the success of this system in Winston Creek lands that were logged as long ago as 1944.

In Idaho, rather than leave patches of timber standing for "seed areas," scattered trees are left. Idaho soil seems to germinate conifer seedlings more rapidly, so this scatter system seems to be more effective.

The Milwaukee Land Company was one of the pioneers in establishing the present fire protection organizations in Washington and Idaho. These organizations, in addition to handling fire problems, also take a leading role in the control of insects and tree diseases.

The land is now in the care of Mother Nature, and if the elements at her command are benevolent, the Milwaukee land will soon be green with a timber crop that eventually will do its part to sustain the economy of the West, to support industries dependent on a regular supply of timber, and to provide long-haul freight for the railroad.