

DECEMBER 1952

NORTHEASTERN RESEARCH NOTES

NORTHEASTERN FOREST EXPERIMENT STATION

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*THE SOUTHWESTERN MAINE
FIRE AREA -- FOUR YEARS LATER*

In November 1951 the southwestern Maine area that burned in 1947 was re-studied to find out how the 130,000-acre forest fire affected the local economy, and to find out how well the forest land is being re-stocked.

Economic Effects

Most economic effects of the fire have been so completely masked by other factors that it was impossible to separate and appraise them.

In most towns in the area, population has increased. Tax rates have risen slightly--but not excessively. In many towns the building of summer camps has added more than enough real estate value to offset the loss of tax base resulting from the fire. Tax delinquency has not

increased. Employment has changed slightly: some persons who at the time of the fire were employed in logging are no doubt employed otherwise now. But because of the generally good conditions in industry, few persons have been unemployed since the fire.

At present stumpage prices of \$15 per thousand board feet, the reduction of growth on the burned area (estimated at 9,000,000 board feet yearly) represents an annual loss of about \$135,000 to owners of the burned timber stands.

Re-stocking Conditions

Since our chief concern was reproduction on areas that did not have an adequate stocking of pole- or saw-timber stands remaining after the fire, sample plots for field examination were chosen only on those areas.

Of 148 plots examined, 25% were found to be stocked (40% or more) with softwood seedlings; 66% with hardwood seedlings; and 79% with a combination of softwoods and hardwoods. In all, 67% of the plots had a 40% or better stocking of potentially merchantable species in a position of dominance.

(Species considered potentially merchantable are white pine, red pine, spruce, fir, hemlock, pitch pine, white birch, yellow birch, sugar maple, red maple, red oak, white oak, beech, ash, and aspen.)

Re-stocking apparently was not affected by degree of burn, exposure, slope, soil type, or grazing.

The degree and type of re-stocking for each sample plot were determined from 10-milacre sub-plots scattered at random throughout the plot. Relative stocking with individual species was determined from the subplots for those areas that had a total stocking of 40% or more. These data for individual species were broken down further to show the proportion of the area on which each species was dominant (table 1).

Rehabilitation

Only 5% of the area is now completely un-stocked (79% is stocked 40% or more, 16% is stocked 10-40%). This is a better situation than was presented in earlier reports,* chiefly because white birch, red maple, and pitch pine

Table 1.—Distribution of species on stocked area, in percentage of area on which each is dominant

Species	Present	Dominant	Secondary
	<u>Percent</u>	<u>Percent</u>	<u>Percent</u>
White birch	46	40	6
Red maple	27	20	7
Hemlock	17	3	14
Aspen	14	8	6
White pine ¹	14	3	11
Red oak	10	7	3
Fir	11	1	10
Yellow birch ²	10	5	5
Pitch pine	7	2	5
White oak	4	3	1
Beech	3	1	2
Ash	3	1	2
Spruce	2	—	2
Sugar maple	1	1	—
Gray birch ³	30	5	25

¹Includes less than 1% red pine. ²Includes less than 1% black birch. ³Gray birch, although not considered as stocking, occupied a position of dominance on 5% of the stocked milacre plots.

were included as satisfactory stocking.

The heaviest stocking is white birch, and it is usually dominant. This is not generally considered a good site for white birch. However, general observations, increment borings, and opinions of men in wood-using industries indicate that much of the white birch will make suitable material for dowel and turnery stock. The rest should be easily marketed for pulp, fuel, and other uses.

Hardwood is being used more and more for pulp throughout New England; so red maple should also find a ready market.

Although this is primarily a white pine area, it does not seem advisable to try to re-establish white pine now. Windfalls and other debris would make planting extremely difficult at present. It would be more practical to go along with the hardwoods for the first crop.

White pine was present on half of the 1/5-acre plots examined, and prospects appear favorable for natural seeding of this species when the present crop of hardwood is harvested. In the meantime the white pine present should be aided by cultural operations where necessary.

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* NUTTING, A.D., AND MCGUIRE, JOHN R. OBSERVATIONS ON FIRE-DAMAGED WHITE PINE IN SOUTHWESTERN MAINE, JULY 1948. NORTHEAST. FOREST EXPT. STA., STA. PAPER 19. 9 PP. 1948.

NUTTING, A.D., RETTIE, JAMES C., AND BANKS, WAYNE G. REHABILITATION OF FIRE-DAMAGED FOREST LANDS IN SOUTHWESTERN MAINE. NORTHEAST. FOREST EXPT. STA., STA. PAPER 23. 21 PP. 1949.