

REPORT
OF THE
FOREST PARK RESERVATION
COMMISSION
OF
NEW JERSEY
1914

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FOREST FIRES MUST BE STOPPED

THEY CAUSE A PRO-
PORTION OF MANY
THOUSAND DOLLARS
YEARLY. THEY LOWER
SOIL FERTILITY, LESSEN
TAXABLE VALUES AND
RETARD DEVELOPMENT.
THEY ENDANGER HOMES
AND CROPS AND MAKE
FORESTRY IMPOSSIBLE

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~~DISCARD~~

REPORTS OF
THE FOREST PARK RESERVATION COMMISSION
OF NEW JERSEY

TENTH
ANNUAL REPORT

For the Year Ending October 31st

1914

New Jersey State Library



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REPORTS OF
THE FOREST PARK RESERVATION COMMISSION
OF THE NEW JERSEY

The Forest Park Reservation Commission

HON. JAMES F. FIELDER, GOVERNOR, *ex-officio President*.
HENRY B. KÜMMEL, STATE GEOLOGIST, Trenton, *Executive Officer*.
ELMER H. SMITH, Salem.
WILLIAM W. SMALLEY, Bound Brook.
GEORGE A. STEELE, Eatontown.

ALFRED GASKILL, Trenton, *State Forester (and Secretary)*.
JAMES O. HAZARD, Trenton, *Assistant Forester*.
CHARLES P. WILBER, Trenton, *State Firewarden*.
OFFICE, STATE HOUSE, Trenton.

~~NEW JERSEY STATE LIBRARY~~
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Div. C—JOSEPH E. ABBOTT, Hammonton.
Div. D—LEONIDAS COYLE, Millville.

Letter of Transmittal

To His Excellency, James F. Fielder, Governor of the State of New Jersey and ex-officio President of the State Board of Forest Park Reservation Commissioners:

SIR:—I have the honor to submit the annual report of the Forest Commission for the year ending October 31st, 1914, as required by law. The control of forest fires continues to be our greatest problem. A series of disastrous fires in November has accentuated the situation and caused the Commission to recommend some radical legislation. The report includes a study of the fires that occurred after the close of the official year, and is somewhat belated thereby. The work of the Commission in practical forestry and on behalf of the shade trees apparently meets with public approval. The eleven pages of illustrations and three text figures exhibit more effectively than many words the scope and importance of our work.

Respectfully yours,

HENRY B. KUMMEL,
Executive Officer.

ALFRED GASKILL,
Secretary.

State House, December 29th, 1914.

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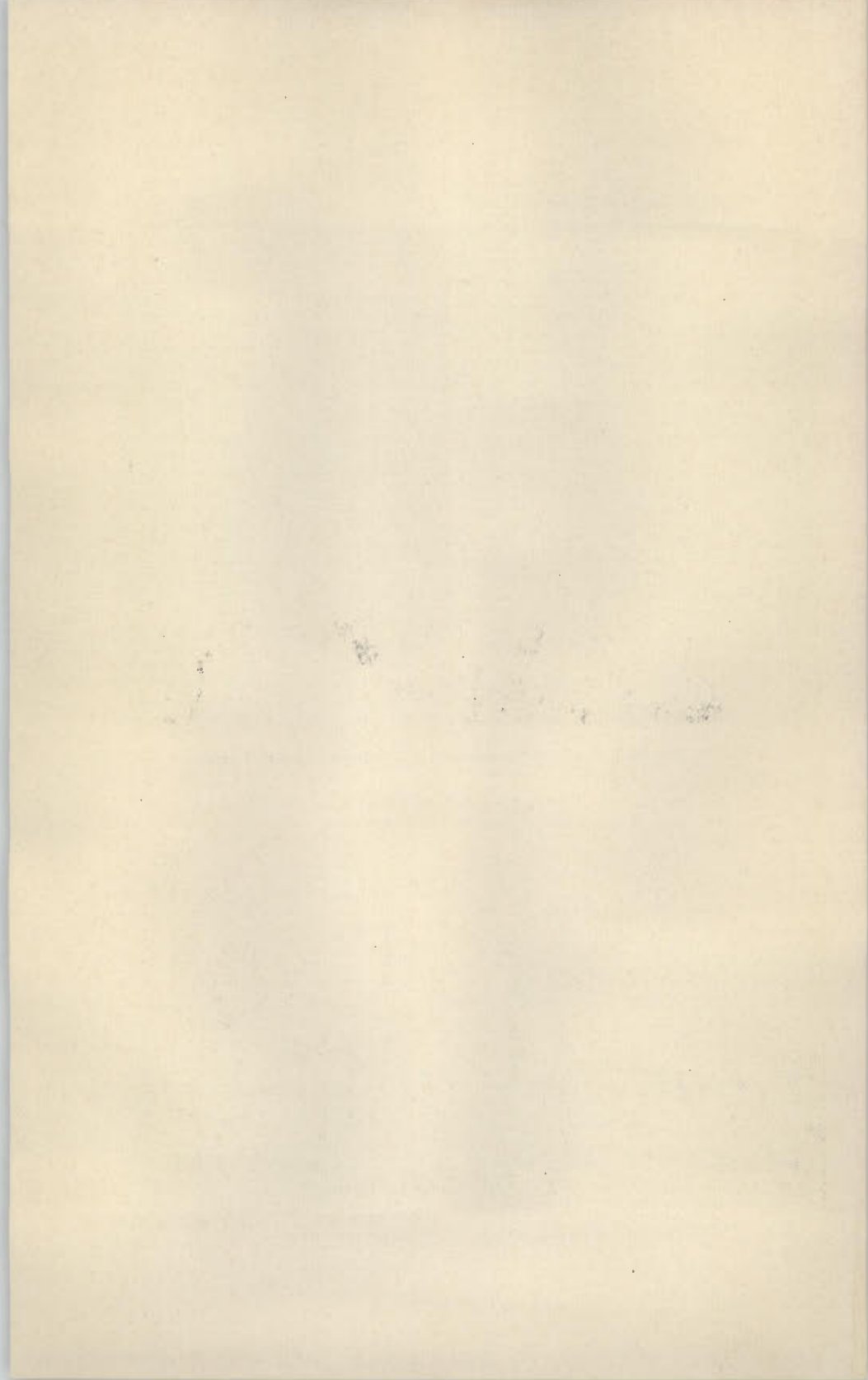




Fig. 1: Big Spring Cabin—Headquarters on Stokes Forest Reserve.



Fig. 2: Forestry Exhibit at Trenton Fair, 1914.

Report of the Forest Commission

With this, its tenth annual report, the Forest Commission rounds out its first decade. Organized June 27, 1905, it strove first, in harmony with the ideas then prevalent, to acquire State reserves and to encourage forest planting, but it quickly determined that in this State the forest fire problem demanded first attention and that there could be no forestry of any kind so long as forest fires continued. Though the acquisition of forest reserves and the encouragement of forest planting have not been set aside, they have been subordinated to the prosecution of a vigorous campaign against the fire evil.

The progress of the Commission's activities is reflected in the support that has been given it by the Legislature; first, in the way of necessary laws and next in the appropriations made year by year. Through these activities the entire two million acres of woodland in the State, without regard to ownership, have gained a measure of security from forest fires that is emphasized rather than weakened by recent disasters, and have increased in market value; 13,656 acres of forest land have been acquired and a lake of 540 acres is provided for; forest owners have been encouraged, and often "shown how," to improve their properties; interest in and knowledge of what to do for shade trees have been greatly advanced. That the task of suppressing forest fires is still far from being accomplished is known to everyone. That the fire service is well organized and each year is better able to handle the situation is made equally clear by the dependence of property owners upon it.

But there is still much to do. The campaign against fires must be pushed with still greater vigor. Only a few of our citizens yet know that forestry has intensely practical aims; they must be educated.

CHANGES IN MEMBERSHIP

The personnel of the Forest Commission has been unusually stable. The general direction by the State Geologist as Execu-

tive Officer has known no change, while seven gentlemen have filled the three appointive places for periods ranging from one to seven years. Upon the retirement of Mr. Pack, at the conclusion of two full terms, the holdover members adopted the following resolution:

Resolved, that in the retirement of Mr. Charles L. Pack the Forest Commission loses a member who ranks as a leader in forestry and conservation throughout the country, and who by his widespread activities has made New Jersey prominent. For six years the State and the Commission have enjoyed his counsel and at times his material help. To his interest is in large measure due the advanced position of forestry in New Jersey.

FOREST FIRES

To the record of a year of drouth, with forest fires that taxed the fire service to the utmost and occasioned losses exceeding those of any year since 1910, must be added a summary of the two weeks of disaster that ended on November 15. It is proper to include that period in this report because it belongs to the fire season 1914, though the official year ended on October 31.

Briefly stated, unusual drouths accompanied by high winds in the late spring and again in the late summer and fall put all vegetation in a condition to be ignited by any casual spark. Up to October 31, the total number of fires was 847, the total area burned 78,655 acres, the loss \$83,880 and the direct cost of fire fighting \$11,822. All these figures are approximately twenty-five per cent. greater than those for last year, except the last which is fifty-five per cent. greater and represents the increased difficulty of handling large or stubborn fires. By adding the November record the number of fires is increased to 1,060, the area burned to 126,000 acres, the loss to \$260,000, and the direct expense to \$18,000.

Serious as this is, it is certain that if the State had had no forest fire service the season would have known a loss comparable with that suffered in 1895, 1885 and 1872, when the damage was estimated at from \$600,000 to \$1,000,000. Some gloomy satisfaction can be found in the reports that other sections of the country suffered almost as much as we.

Attention is invited to the State Firewarden's report, see page 47, in which is discussed the bearing of the various direct causes of fires, the efforts that have been made to limit them

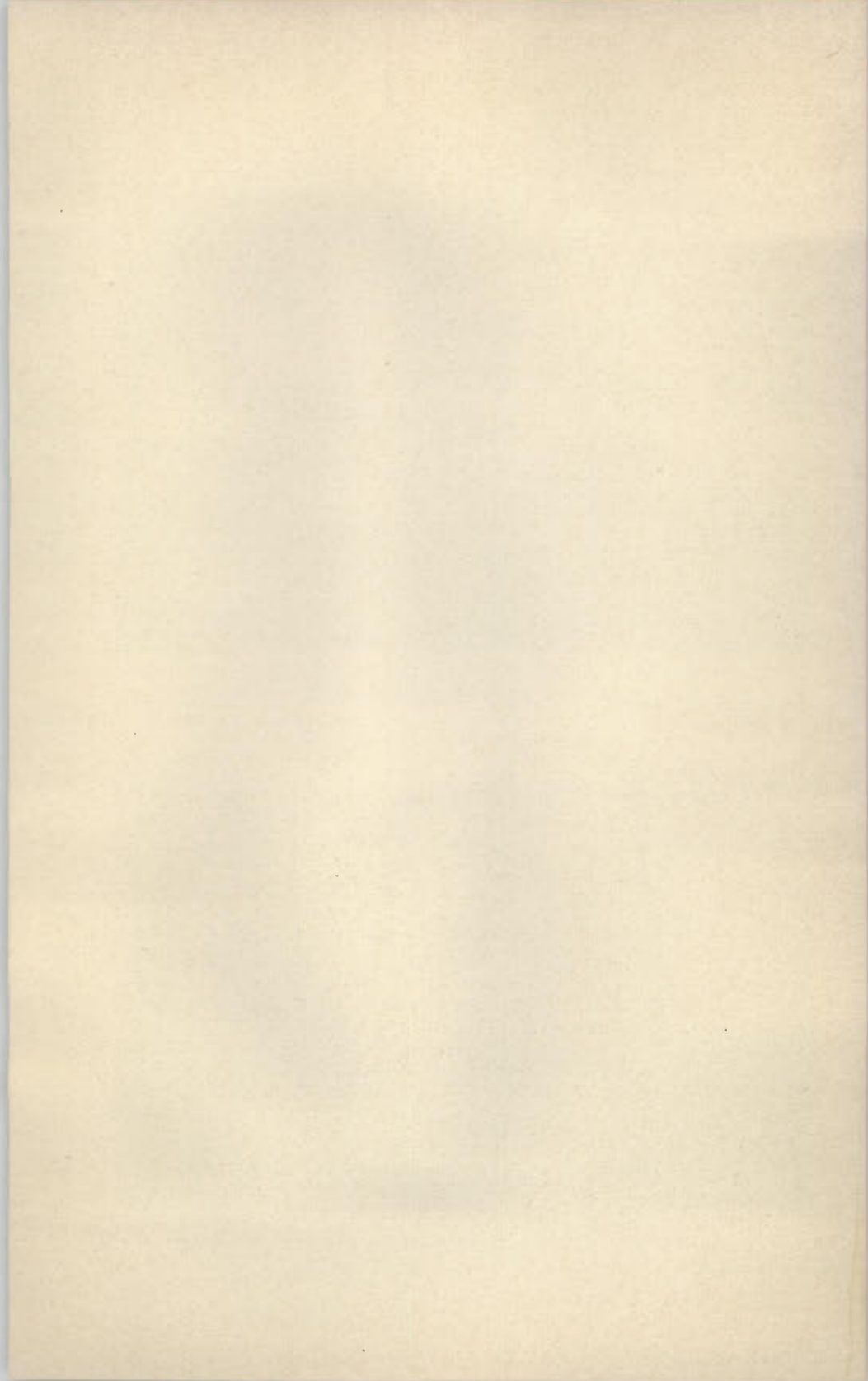




Fig. 3: Fire Lookout Maintained at Cedar Lake Through Co-operation With the Board of Works, City of Newark.



Fig. 4: One Cause of Forest Fires—Logging Slash Left in the Woods.

and the activities of the forest fire service. From this it is apparent that the firewardens have saved a large amount of property which but for them would have been destroyed—unfortunately its value cannot even be estimated with any accuracy—that there is a positive growth in respect to the care that avoids setting forest fires despite much thoughtlessness that is little short of criminal. The violation record is especially significant in that upon no less than 143 individuals or corporations, and in 232 cases involving the railroads, has the responsibility for starting a fire been fixed. The penalties imposed and collected amount to \$821.24 from private parties and \$2,278.32 from the railroads, a total of \$3,099.56.

The record is also satisfactory in showing that 54 per cent. of all the reported fires were extinguished before they had burned so much as five acres, that though the railroads caused most fires those started by them did less damage than others, that the proportion of "cause unknown" fires continues to decrease. In short it is satisfactory in respect to fire control, it is far from satisfactory in respect to fire prevention.

The experiences of this season, especially those of the disastrous period in November, convince the Commission that the State must provide for a strengthening of the fire service as recommended by the State Firewarden, p. 63, and for such modifications in the laws as will meet the most exceptional conditions and prevent a repetition of the losses that have been suffered. Though absolute immunity cannot be expected, our aim is to safeguard every forest until it reaches maturity; anything less is wasted effort.

After giving much thought to the subject it is the Forest Commission's conviction that the fires which originate near habitations, whether they start from the railroads, from land clearing or from any sort of carelessness, are controllable through the firewardens, and gradually but certainly will be reduced in number and in destructiveness. The fires which start in the wilderness are in another class; by gaining headway before they are observed, or before they can be reached, control is difficult and great damage is done before they can be subdued. With a few exceptions all the bad fires of the past season, like most of those every season, started in remote places. Such fires are invariably caused by transients, often city people who have no interest in the property

and usually smokers who are apt to be outrageously careless in the use of matches and tobacco.

The most serious phase of it must be dealt with now because it has been shown that the pleasure seekers, the flower gatherers, the berry pickers, the automobilists traversing roads bordered with inflammable brush cause insignificant damage beside that which has been traced to the sportsmen. The Commission has long been convinced of an inherent antagonism between forest conservation and hunting as now regulated, and that New Jersey must soon give over the effort to preserve those kinds of wild game which are causing agricultural interests as well as forest interests to suffer. The essential question is whether the forests, and the interests associated with them, shall continue to be sacrificed for the pleasure of those who claim the right to use them. In other words, whether the interests of owners and taxpayers or the interest of the sportsmen are paramount. Every consideration of livelihood or profit is on the side of the sufferers because the game laws are avowedly in the interest of sport. Upon the one hand are seventy thousand holders of State hunting licenses—most of them city men with no direct personal concern for the welfare of forest or field; upon the other are the woodland owners, farmers, cranberry growers and suburban property owners who are appealing for relief.

The time to announce this issue has now come, and the Forest Commission does it on behalf of the State—its forests, its farmers, its suburban interests. It is proven that with the opening of the season for deer and for rabbits literally thousands of gunners overran the woods and fields, and, ignoring all warnings, indifferent to the danger created by the drouth, set the State ablaze. It is beside the mark to say that the drouth was exceptional and that the hunting season is usually so wet that serious fires are infrequent, because the same conditions may recur next year. And whether the fires were deliberately set, as is certain in several cases, or were the result of accident or carelessness, need not be dwelt upon. The hunters were in the woods, the fires followed their trails, and, what is almost conclusive, the bad fires began with the deer season (November 2) and were brought under control as soon as it closed, though the drouth was not broken until several days later.

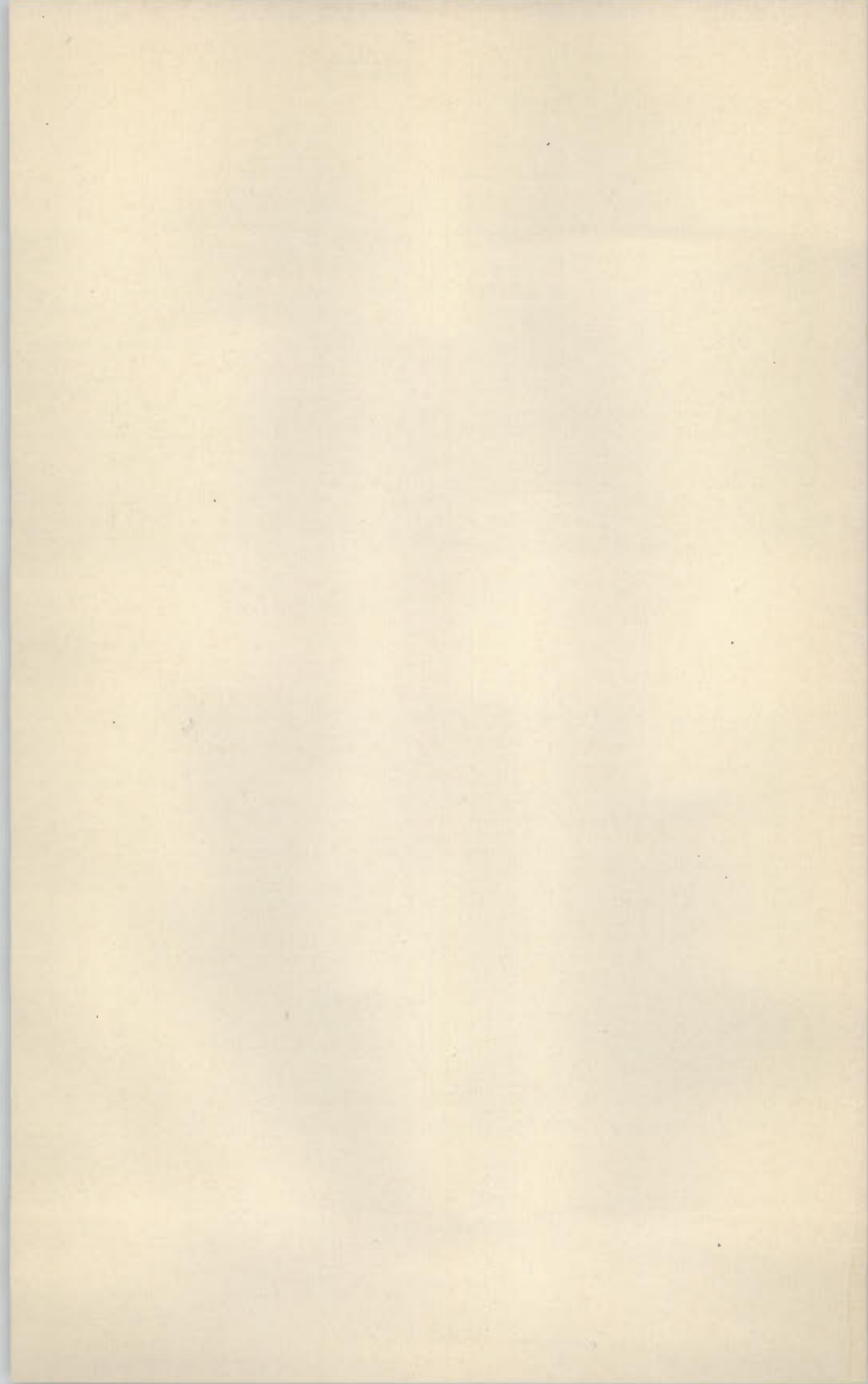




Fig. 5: Open Forest Burned to the Sand; With Seed Trees as Well as Seedlings All Gone the Land Must be Bare for Many Years.



Fig. 6: Pine Forest Near Maturity Completely Killed and Most of its Value Lost.

**IN THE PATH OF THE GREAT FIRE IN BURLINGTON COUNTY
NOVEMBER 4.**

Knowing the facts and viewing the situation as impartially as it can, the Forest Commission concludes that permanent relief from a situation that has become intolerable can be found only in a modification of the game laws by which the inducements offered to sportsmen will be lessened. The protection that is supposed to be afforded by posting one's land is of little real value, because such notices are usually ignored unless they are supported by watchmen maintained at the owner's expense. For the State to maintain fire patrols in sufficient number to be effective is perhaps possible, but entirely too costly to be practicable. The proposition that a network of firelines be established by opening up woods roads—perhaps by the labor of prisoners—is admirable and would undoubtedly help greatly, but does not touch the fundamental exposure; nor does the suggestion made, p. 24, that the wilderness be opened up to traffic and to settlement.

The Forest Commission's urgent recommendation, therefore, is that all protection be removed from deer and rabbits and that their pursuit at all times and in all ways be legalized. These animals do most injury to farm crops, and their protection except during a short season directly induces a horde of gunners to go out from the cities and towns and cause, though unwittingly, most of the property damage that is complained of. Legislation to this end will be advocated. It will be understood that these conclusions bear upon only one class of fires; the whole situation is more fully discussed at pp. 47-54.

PRIVATE FORESTRY

New Jersey stands rather more firmly than other States for the proposition that forestry must be practiced chiefly by private forest owners. That State forests are usually managed more effectively than private forests may be conceded; the controlling fact is that the State owns little woodland and is not prepared to buy large areas. But the obligation to give the forests and their owners a fair chance, to remedy old abuses and correct mistaken notions, to show the public how to practice an art that is little known does rest upon the State.

The Forest Commission believes that its policy of aiding forest owners—see p. 45, as a means of helping solve State problems is wise, and that it is producing results. Though the number of

opportunities for inaugurating practical forestry still leaves much to be desired each year records a few instances of accomplishment similar to that recited in the following letter from B. F. Maupin, under date of October 14, 1914:

"It is a pleasure to tell you that I have nearly finished cutting and marketing the chestnut on my thirty-acre tract of timber, and am sure that I can dispose of the remainder without difficulty. The help which you gave me in handling this timber was invaluable. The forester's visit and report gave me a line on the most profitable products and the prevailing market prices, and put me in touch with a number of good customers. As I had had no previous experience in this line of business, you undoubtedly saved me a good deal of time and money. From the results thus far I think it is conservative to say that I will net about \$35 per acre above all expenses on the chestnut alone, and I will have a good tract of young oak left, worth at the present time \$10 or \$15 per acre. The best offer I could get was \$25 per acre for both chestnut and oak, and this would have meant leaving stump land to detract from the value of my farm."

The forester spent one day on this property; his salary was paid by the State, his expenses by the owner.

Similar assistance has been given with equally satisfactory results to several land owners who wished to plant forests. Forest planting is not strongly advised in this State because a forest can usually be obtained much more cheaply and much more quickly by fostering natural growth, but if the land be unproductive, and especially if evergreens be chiefly used, the undertaking is worth while and may be decidedly profitable. See p. 45.

FOREST RESERVES

Through negotiations that are virtually concluded the State reserves will be augmented by 560 acres, this being the area of Swartswood Lake and the upland to be acquired with it. They have been reduced by 64 acres eliminated from Stokes reserve. With Swartswood reserve the total State holding aggregates 14,216 acres. See p. 25. By the acquisition of the Swartswood area a departure from the practice followed heretofore in respect to forest reserves is recorded. This property is to be added to the State reserves under the law approved May 8, 1907, an act that has been inoperative for want of appropriations. The conveyance covers 544 acres of water, with an approach from the public road, for which \$30,000 is to be paid, and seven parcels of

the adjoining upland, covering 16 acres, all of which will be donated to the State when the lake is acquired and made free to the public.

To those who have criticized the Commission for undertaking to assume control of a property that can contribute nothing to forestry, the answer is made that the Forest Commission has acted as the executive of the Legislature which has clearly expressed its will in the matter; first in 1907 in enacting the law and making an appropriation of \$10,000, which proved to be inadequate to purchase any lake that was worth while; and second in appropriating \$30,000, with the implied understanding that Swartswood Lake was desired. It is believed that the State will receive full value for its outlay as the Commission was insistent that enough land should come with the lake to make the reservation of real public value. Moreover the Commission firmly believes that the Legislature was wise in providing for the purchase of inland water bodies that have been closed to the public by their owners.

It is intended to make Swartswood reserve a public playground. Boat liveries and picnic shelters to be maintained under proper control will make it available to a large number of people. With respect to the other reserves the established policy is continued. Each is expected to serve as a park as well as a demonstration forest to the extent that its location and condition warrant. Particulars are given in the State Forester's report. See p. 25.

A difficulty that developed on the Stokes reserve through the discovery that 64 acres of the included land had been held in adverse possession for more than the statutory limit is to be settled in an arbitration by which the State will recover a portion of the price paid for the property.

With an appropriation of \$10,000 available for land purchase next year, it is expected that several desirable properties will be acquired and the State's holdings increased by at least two thousand acres. This prospect is in entire accord with the Commission's policy of acquiring forest reserves slowly and only when a positive, definite use for each tract can be foreseen. Demonstration forests rather than the bringing of great areas under the control of the State are sought. One such tract will soon be made available without State ownership through an agreement with Rutgers College by which a woodlot of 32 acres lying adjacent

to the State Experiment Stations, and donated by Mr. James Neilson, of New Brunswick, will be devoted to demonstrational work in forestry. This tract is a valuable addition to the adjacent areas that were planted to forest eight years ago under the gift by Prof. John C. Smock. See p. 29.

EDUCATION

Many agencies are invoked in the effort to bring about a general and true appreciation of the importance of forestry and arboriculture. There is active co-operation with the State Department of Public Instruction, the press is a helpful ally, demonstrations in practical forestry are multiplying—see p. 23—lectures are given by the State foresters and State firewardens.

But the most significant step in this direction was the exhibit made at the Trenton Interstate Fair in September-October. Encouraged by the interest aroused by the exhibit of the previous year, the Commission authorized a comprehensive display of State forest resources and activities on a plot of ground made available by the fair management. At least 15,000 people visited the exhibit and three attendants were kept busy answering inquiries. The outlay of \$725, two-thirds of which was paid for a permanent building, apparently was fully justified. See p. 31.

CO-OPERATION WITH STATE DEPARTMENTS AND INSTITUTIONS

The Commission believes that State property of whatever character should serve the people of the State in every way possible—subject only to the specific needs and aims of the institution or department immediately concerned. Under this belief portions of various forest reserves have been suggested as colony sites, or for certain uses by State institutions. But in the opinion of the Attorney-General, the Commission lacks power under its organic law to use the forest reserves for any other purpose than the advancement of forestry. The restriction is clearly unwise because there is almost inevitably included within the bounds of a reserve of several thousand, or even several hundred, acres some land that should be devoted to a higher use than growing timber. There actually is within the forest reserves a considerable area of land

which if cleared would be fit for farming, or which is capable of serving institutional needs. On the other side the reserves themselves can be improved by the labor of State dependents. The Forest Commission proposes to seek a modification in the law which will authorize any use of a forest reserve for the State's advantage. The subject is further discussed on p. 29.

SHADE TREES

The idea that arboriculture is identical with forestry is so general, and the demands for help in that line are so many and so worthy that the Commission has no hesitation about devoting much attention to it. New Jersey is proud of being a home State and can afford to leave nothing undone that will make its towns and cities more attractive and better to live in. Trees unquestionably give permanent value to residential property and realty interests are fast realizing that a city or town with shaded streets has an advantage over newly established locations that is not offset by more modern buildings.

The information given in some detail in the State Forester's report, see p. 32, is of value to all who care for shade trees. It is especially deserving of note that notwithstanding the admitted defects of our shade tree laws, see p. 38, fifty-eight communities maintain shade tree commissions, or their equivalents, and that the appropriations aggregate \$245,078. The statement made on page that the street trees of the State have an apparent value of upwards of nineteen million dollars is startlingly suggestive.

WOOD USERS

A strong effort is being made to establish in the office of the Forest Commission a sort of clearing house, or information bureau, through which those who want to buy wood in any form and those who have it to sell can be brought together. There is now available a list of lumber dealers, a list of buyers of special products such as electric poles, railroad ties, etc., and a bulletin, published by the U. S. Department of Agriculture, of advice about how to dispose of blight-killed chestnut.

The bulletin on "Wood Using Industries of New Jersey" that has been in preparation for two years is on the press and is expected to be ready for distribution shortly. See also p. 32.

COST OF FORESTRY

The *net* cost of all work done by, or under the direction of the Forest Commission, *not* including that expended by individuals on their own account, was as follows: (See also Financial Statement, p. 21.)

BY THE STATE.

For Administration, Care of Reserves, Education, Etc.:

Appropriation	\$11,500.00	
Less income and balance refunded.....	456.30	
		<hr/>
Total		\$11,043.70

For the Forest Fire Service:

Appropriations	\$17,500.00	
Less penalties paid to State Treasurer.....	75.27	
		<hr/>
Total		17,424.73

BY THE TOWNSHIPS.

For Firewardens' salaries and fire fighting expenses...	\$5,973.88	
Less penalties refunded	3,008.61	
		<hr/>
Total		2,965.27
		<hr/>
Grand total		\$31,433.70

LEGISLATION AND APPROPRIATIONS

The last Legislature was asked to enact three laws designed to make the forest fire service more effective. The first remedied several defects in the old law, chiefly with respect to fire fighting costs and the prosecution of offenders, that had developed in the course of its administration. It was passed and approved as Chapter 247, P. L. 1914. The second was an act intended especially to control railroad fires, and to be a substitute for the "railroad fireline law" declared unconstitutional. It was drafted after several conferences with representatives of all the railroads and submitted for enactment after most of them had accepted it as a reasonable, though somewhat drastic, measure. The bill passed the Senate, but was delayed so long in the House that it failed to have consideration at the end of the session. The Commission

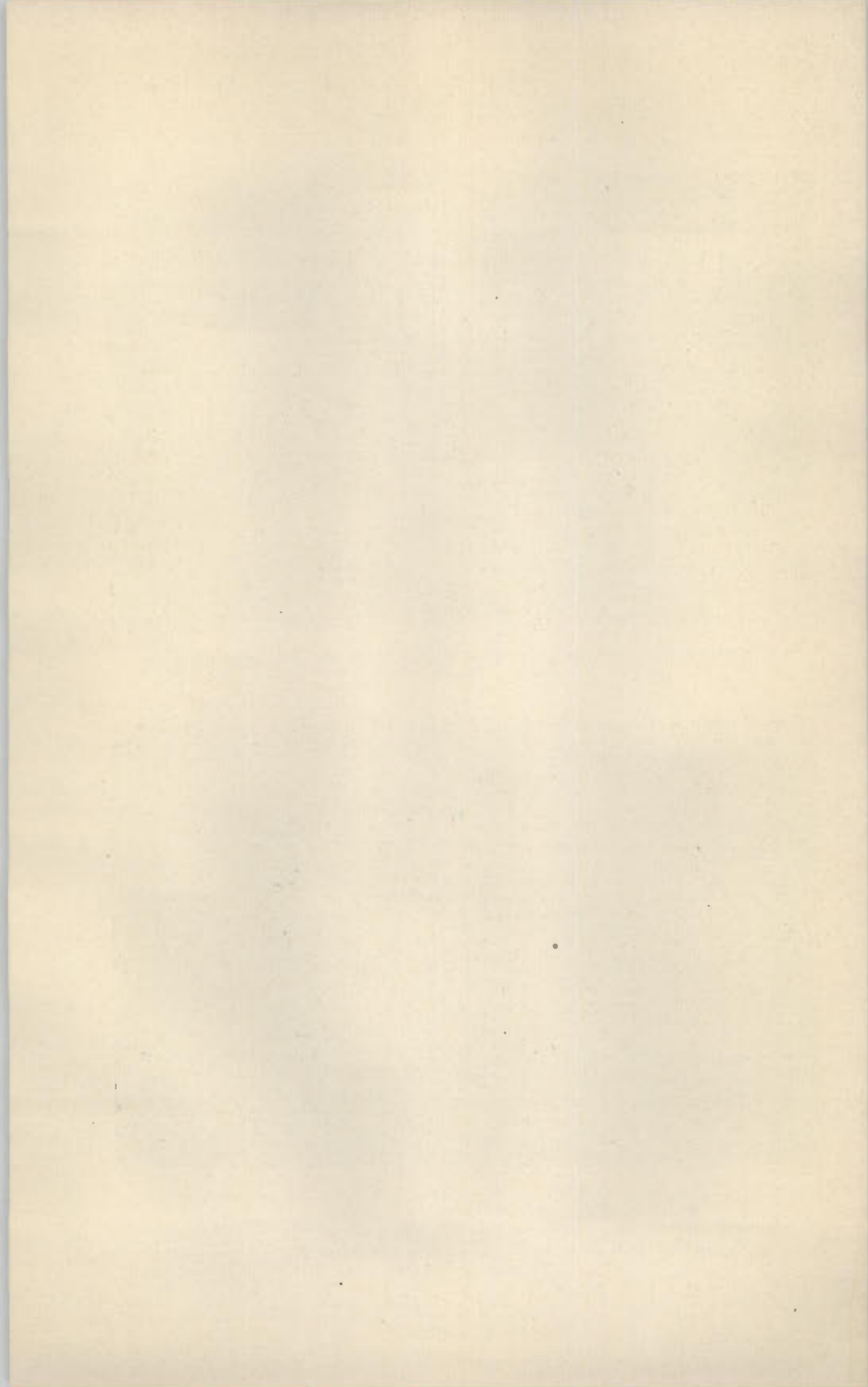




Fig. 7: This Woodlot (Winter View) Yielded \$15.00 Per Acre Net and Left What is Shown Below.



Fig. 8: The Same Location as Above (Summer View) Three Years After Improvement Felling Was Made.

Note fine litter on ground, low stumps, thrifty trees, clean appearance.

DEMONSTRATION OF PRACTICAL FORESTRY ON MOUNT LAUREL FOREST RESERVE.

proposes to offer the bill again at the next session. The third measure was directed against the fire hazard that is created when logging slash and brush or tree litter is left where it falls. The act was less oppressive than it appeared to be because it applied only when the Forest Commission was satisfied that a situation was serious. The bill passed the Senate, but was defeated in the House. This also will be offered again for enactment.

If the Legislature shall pass next year these laws for the more effective prevention of fires, grant authority to use the forest reserves in any way that will serve State interests, and discourage the hunters as recommended at p. 13, the Commission feels that it will have all the statutory support that it now requires. The new shade tree law referred to on p. is important and highly desirable, and the Forest Commission hopes it will be enacted, but it is a measure with which the municipalities are more immediately concerned than the State.

The appropriations already made for 1915 are \$11,500 for forestry, \$16,500 for forest fires and \$10,000 for land purchase. For 1916 an increase of \$1,000 in the first item is necessary to cover desirable improvements and extensions and the cost of administering an increased area of reserves. The appropriation for fires is already so heavily drawn upon to satisfy the unusual bills created in 1914 that a supplemental appropriation of \$6,000 must be asked for to insure the maintenance of the usual service through next year. The experience of this year makes it clear that the preventive fire service needs strengthening; that can be done only by providing more money, and the Legislature will be asked to consider the situation seriously. Even with the extraordinary expenses that have been incurred the fire service costs but a fraction over one cent for each acre of woodland. The appropriation for "forestry" is but five-eighths of a cent per acre more, though this last figure has no strict bearing because the money is used for a wide range of purposes—for educational objects, for the protection and improvement of the forest reserves, for forestry demonstrations and experiments.

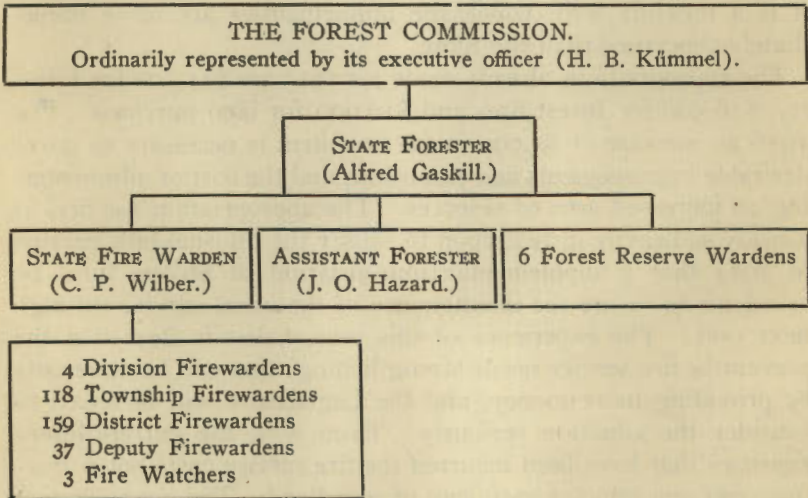
THE FUTURE

The program for the coming year includes no new features except the development of Swartswood reserve. The laws for the

better control of fires and the new shade tree law, see p. 38, must be pressed to enactment; the fire service must be strengthened; the reserves must be developed, both internally and with reference to the needs of other State departments and State institutions; the effort to open, and keep open, many woodland roads that are now overgrown must be continued. This last is important in two ways: first that clogged roads aggravate the fire risk, while cleared roads lessen it, see Figs. 24 and 25, and second that reasonably well kept roads are helpful in opening wild sections for development.

ORGANIZATION

The administrative force of the Commission is on a satisfactory basis and is organized as follows:



Financial Statement

FOR FISCAL YEAR 1914.

ADMINISTRATION ACCOUNT.

Appropriation \$11,500 00

EXPENDITURES.

Salaries and expenses, Foresters and Secretary.....	\$5,141 28	
Clerks and office expenses.....	1,771 06	
Expenses, Members of Commission.....	174 17	
Instruments and Books.....	101 31	
Education and Co-operation.....	96 44	
Postage, Phone, Express.....	174 50	
Advertising Printing.....	329 90	
Bass River Reserve.....	326 09	
Lebanon Reserve.....	439 12	
Mays Landing Reserve.....	96 22	
Mount Laurel Reserve.....	43 28	
Penn Reserve.....	323 63	
Edward C. Stokes Reserve.....	1,261 37	
Exhibits.....	811 02	
Experiments.....	12 50	
Cranberry Bogs.....	295 28	
Miscellaneous.....	6 10	
Unexpended Balance.....	96 73	
		\$11,500 00

FOREST FIRE ACCOUNT.

Appropriation \$17,500 00

EXPENDITURES.

Salaries and Expenses Firewardens.....	\$9,507 42	
Clerks and office expenses.....	942 67	
Postage, Phone, Express.....	220 68	
Extinguishing forest fires.....	4,323 88	
Local Firewardens' salaries and special expenses..	1,650 00	
Equipment.....	22 50	
Patrols, Detectives, Court expenses.....	831 36	
Unexpended Balance.....	1 49	
		\$17,500 00

RECEIPTS BY EXECUTIVE OFFICER.

Balance on hand November 1, 1913.....	\$177 50	
For Products of Reserves.....	296 59	
For Expenses of Foresters in co-operative work..	100 18	
From Settlements with Sundry Violators of Forest Fire Law.....	3,099 56	
Total.....		\$3,673 83
Paid to State Treasurer.....	\$472 04	
Paid to Sundry Township Treasurers.....	3,008 61	
Paid Court Costs.....	7 70	
Balance in hand October 31, 1914.....	185 48	
Due State Treasurer.....	\$144 48	
Due Township Treasurers.....	41 00	
		\$3,673 83

THE FOREST PARK RESERVATION COMMISSION,
 HENRY B. KÜMMEL, *Executive Officer*
 ELMER H. SMITH,
 WILLIAM W. SMALLEY,
 GEORGE A. STEELE.

Report of the State Forester

ALFRED GASKILL.

The State's work in forestry progresses steadily along the lines established.

PRIVATE FORESTRY

Though the State Firewarden reports a disastrous year—p. 47, woodland owners are coming to believe that forest fires ultimately will be suppressed and that growing timber for profit is practicable.

No means has yet been found to determine, even approximately, how much land is under forest management; our correspondence as well as the observations of the field staff make it clear, however, that the forests of the State are receiving a measure of care never before accorded them. That some of the work done is ill advised and of doubtful value is inevitable; most of it is producing results that satisfy the owners.

The chief value of this work, whether it is done under the direction of a State forester or entirely by the owner, lies in the fact that its practicality becomes immediately evident; the neighbors "catch on" and forestry becomes popular. This has happened in several localities.

WOODLOTS

This year marks the beginning of systematic woodlot management in Burlington, Gloucester and Middlesex counties. Heretofore most of it has been done in North Jersey. The demonstration made on Mount Laurel Reserve—see p. 26, increases in value with time, but others can now be found on private property. Figs. 7 and 8.

The chief difficulty encountered when an owner wants to develop his woodlot is to find a market for the product, a difficulty that has been greatly increased since the chestnut blight caused a surplus of chestnut timber—see p. 42. But owners have been helped in this way also and in most cases have been able to dis-

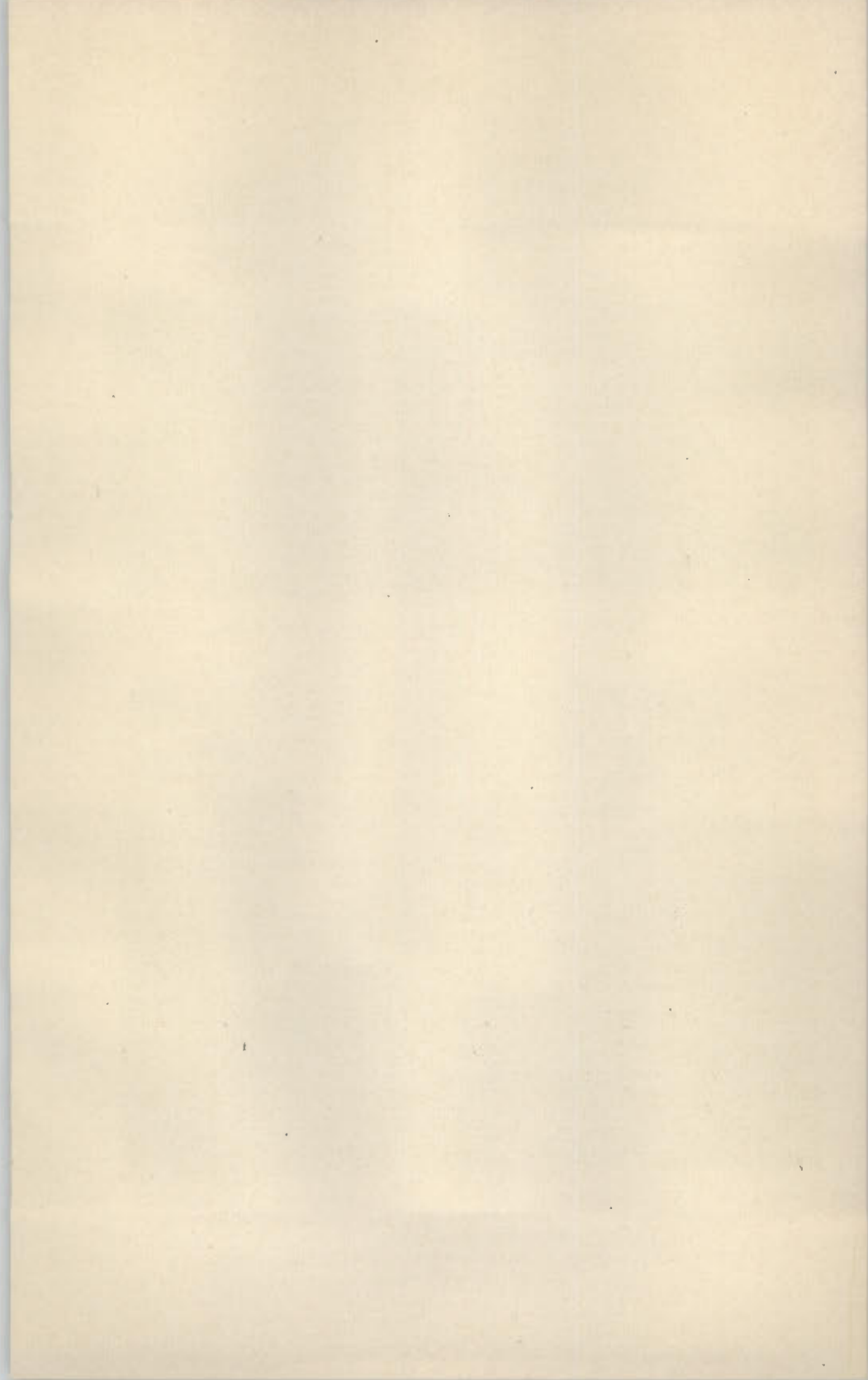




Fig. 9: A Worn-Out Field Planted to Forest. Morris County.



Photo by E. H. Bennett.

**Fig. 10: Why Should Not Some of OUR Sea Coast Towns Look Like This?
Bournemouth, England.**

**TWO PLANTED FORESTS. THE UPPER JUST ESTABLISHED, THE
LOWER IN MATURITY.**

pose of their fellings. The following extract from a letter written by a woodlot owner to the State forester who advised him indicates how one of these problems was worked out:

"I have two other deals pending for 10 and 12 ft. posts and I think I will be able to sell all I can cut. The prices run about two cents a foot, though I know one firm that has been paying two and a quarter cents. The work is going forward very satisfactorily now, but I had a lot of trouble at first getting the men to pay any attention whatever to the height or appearance of the stumps or to the length of cordwood. I had to fire about ten before the rest would take any notice of orders.

I have a market for practically everything, but the 25 ft. poles. Am sorry I cut any this length, but have had one inquiry, and if I do not dispose of them by the end of winter will cut them up for ties. The cordwood will probably stay on my hands till fall, but I can easily sell it then. The information you gave me has been of the greatest possible assistance. The ——— Lumber and Timber Company will use my 30 and 35 ft. poles, also ties and 10 ft. posts. I can market 6 ft. brick yard ties near here and also have an offer for trolley ties. There is going to be a good stand of oak left, much more than I realized when looking the timber over."

FOREST PLANTING

Forest planting aims at the establishment of forests; it employs very small trees and has little in common with shade tree planting—see p. 32. In New Jersey it is quite secondary to the conservation of the forests that we already have and is not strongly advocated. In South Jersey it is advised only under exceptional conditions.

As with the woodlots, there is no means of knowing *how much* work of this kind is being done. It is going on constantly, chiefly in North Jersey, at the rate of not less than 100,000 trees a year. Though this represents only about 100 acres, it is a fair proportion of the area that needs to be planted. Figs. 9 and 10. When planting is to be done evergreens, preferably pines, are usually recommended, because they are more adaptable to forest soils and produce the most marketable lumber in the shortest time. In North Jersey, where the forests are chiefly deciduous, they are needed in the landscape. A bulletin, "Forest Planting in New Jersey," dealing with this subject at large, may be obtained upon request.

The weather this year has been much more favorable to young plantations than it was for several years. From all sections come reports of good growth and satisfactory conditions.

AGRICULTURE

Under the conditions that obtain in this State the relation between forestry and agriculture is close. A large part of our woodland is attached to farms, a much larger part is capable of being converted to farms. The more farms and farmers the more intensively will the forests be managed. Forestry makes no attempt to use, or to justify the use of, arable land; it proposes to devote to tree crops only those areas that are fit for nothing else, and to discover areas within the present forest that should be converted to farms. There are many such. The State foresters and firewardens are willing to help those who wish to locate farms as well as to advise farmers who own woodlots. See p. 45.

LAND SCHEMES

The offer to help locate farms is made chiefly because of the delusions that attend many of the land projects advertised. A number of legitimate developments now under way are commendable; those that work upon the ignorance of city dwellers, and of new immigrants, are denounced. The assistance offered comprehends no more than *general* advice about locations, soil values, markets, roads, etc. State officials can have no part in any bargaining.

In this connection it is not improper to point out that there are many "town" locations which are nothing more than traps to catch the unwary. The sites are often inaccessible, the "improvements" on paper only, the tract a bait for forest fires. Last September the forest on one of these "towns" was ignited and the fire burned for more than two weeks in the dry, peaty soil. When the fire was out the ground level fell nearly two feet and the trees toppled over, their roots being burned off. Fortunately these conditions are not common; intending investors should, however, always be sure of what they buy.

STATE FOREST RESERVES

The number and area of the forest reserves are as follows; Stokes reserve and the total being reduced by sixty-four acres:

Bass River Reserve, Burlington Co., Map in Report 1907.....	1,633 acres
Lebanon Reserve, Burlington Co., Map in Report 1908.....	3,498 acres
Mays Landing Reserve, Atlantic Co., Map in Report 1907.....	373 acres
Mount Laurel Reserve, Burlington Co., no Map published.....	20 acres
Penn Reserve, Burlington Co., Map in Report 1910.....	2,764 acres
Edward C. Stokes Reserve, Sussex Co., Map in Report 1907....	5,368 acres
Total	13,656 acres

The total cost of these properties was \$45,277.00, or an average of \$3.31 per acre. Most of the tracts are now worth considerably more than the State paid for them.

SWARTSWOOD RESERVE

If this property shall be acquired as proposed, see p. 14, the State reserves will be augmented by 544 acres of water and eight adjacent pieces of upland varying in area from a quarter of an acre to twelve acres. The tract is located in Sussex County, 7 miles from Newton, on the Lackawanna Railroad, half a mile from the village of Swartswood, and three miles from Swartswood station or from Stillwater station on the N. Y., S. & W. R. R. It is expected that the lake will be stocked with fish for public use and it is the intention of the Forest Commission to make the property usable for all citizens by the establishment of boat liveries, landing places, picnic grounds, etc. Necessarily the use of the lake will be subject to reasonable regulations.

BASS RIVER RESERVE

1,633 Acres. Warden, S. B. Allen; P. O. New Gretna.

This reserve, six miles from Tuckerton, and only two miles from the shore boulevard at New Gretna, is typical of what is commonly known as the pine barrens. It also is demonstrating the value of South Jersey soils for the production of pine, oak and cedar timber with no other help than the control of fires, from which it has been immune since it came into the possession of the State in 1906. A small quantity of timber is now salable and probably will be utilized during the coming winter. A number of experimental plantations are yielding valuable data. See p. 30.

Early in the fall a proposition was made to divert the traffic on the shore boulevard over a road through the reserve while the bridge across Bass River was under reconstruction. A perfectly amicable arrangement was made with the County Freeholders by which the road has been reconstructed and is being maintained in such a way that the risk of fire is minimized.

LEBANON RESERVE

3,498 Acres. Warden, Victor Bush; P. O. Pemberton.

This property, located nine miles southeast of Pemberton, has suffered seriously from fire, though during the past year only about thirty acres were burned over. But notwithstanding this handicap the forest, chiefly of pitch pine, on many portions is thriving. The reserve affords good opportunity to contrast unburned areas with those that have been sacrificed to forest fires. The chief reason for the injury suffered is that the tract is almost surrounded by properties on which careless logging is conducted and by swamp areas under conversion to cranberry bogs. On a portion of the reserve a colony of feeble-minded boys connected with the Vineland Training School is located. See p. 29. Another portion is devoted to experimental plantations. See p. 30. During the year the reserve has been surveyed and mapped and every part placed under control.

The products are ordinarily small quantities of firewood, sphagnum moss and cranberries. This year 370 crates of cranberries gathered from wild bogs were sold, chiefly to State institutions and State officials. It is observed that though cranberry culture is no part of forestry, the harvest of wild berries is an acceptable source of income. It is probable that the Commission will find it advisable to make some arrangement, either by lease or exchange, under which these cranberry lands shall be productive of a greater income than they ever can be under forestry.

MAYS LANDING RESERVE

373 Acres. Warden, Elsworth Duberson; P. O. Mays Landing.

This tract of pitch pine and oaks lies about one and a quarter miles from the town of Mays Landing and has been devoted since its acquisition to a demonstration of the practicability of creating a forest simply through fire protection. The effort to keep fires off has been successful for eight years, and the forest, though by no means ideal, indicates at every point the value of such simple methods. A number of experimental plantations have also been located within it. See p. 30.

MOUNT LAUREL RESERVE

20 Acres. Warden, Harvey Darnell; P. O. Moorestown.

This little reserve still has much attention through its location in the midst of a farming community three miles from Moorestown, and on account of the demonstration in woodlot management that has been carried on there. The beneficial results of the improvement felling made in 1912 are apparent everywhere, and the demonstration has had a widespread recognition. Figs. 7 and 8. The bulletin descriptive of the work done, "An Example of Woodlot Forestry," is still available for distribution.

PENN RESERVE

2,764 Acres. Warden, Elmer Inman; P. O. Chatsworth.

This tract, in the heart of the wilderness six miles from Chatsworth, on the New Jersey Southern Railroad, affords another example of the effect of fire protection upon a pitch pine forest. One-half the area is young volunteer pine growth, now giving promise of developing into forest form, and one-quarter is mature pine forest, which it is intended to utilize as soon as the ground shall have been thoroughly restocked. The rest is in less satisfactory condition. Only one small fire (in 1912) has burned on the property within the five years since its purchase. A small income is derived from sphagnum moss and wild cranberries.

E. C. STOKES RESERVE

5,368 Acres. Warden, Jay Gould; P. O. Branchville.

This reserve differs from all the others, in that it occupies high, rocky ground and carries a forest of almost pure hardwoods, chiefly oaks. The tract is much more suitable for recreation than are any of the South Jersey reserves. It is most readily reached via Branchville, on the Lackawanna Railroad, from which its nearest point is distant about three miles. Since the conclusion of the cutting contract, given as part of the purchase price, active measures for the improvement of the property have been undertaken. For the time being these consist in nothing more than protection from fire and trespass, though a beginning has been made in the construction of trails which will open up the whole reserve as a public playground. When connection with similar trails across adjacent properties shall have been made, the people of the State will have an upland path, with outlooks whose beauty is unappreciated, extending from the New York line to the Delaware Water Gap. Two camping sites have already been located, and others will be made available if the public cares to take advantage of them.

Though the area of the reserve has been reduced by 64 acres, through the elimination of an adverse holding, see p. 14, it is expected that substantial additions will be made during the coming year, and that portions of the property may be found suitable for the location of colonies of some of the State's dependants.

FIRE

Emphasis is laid upon the fact that the forest reserves are proving year by year that the production of forests is chiefly a question of controlling fire. The best forests will never be created by that means alone, but under our conditions fairly good forests can be so developed. Through constant watchfulness, the maintenance of fire lines and the prompt suppression of such fires as are started, the inherent good qualities of our woodland soils are being brought out. It is especially significant that in a year of very great fire loss only 30 acres out of nearly 14,000 acres in State possession were burned over.

TRESPASS

That the Forest Commission is reasonable in its rules and regulations regarding the use of the reserves is manifest by the fact that trespass is practically unknown. The few who at one time assumed a right to treat the property as their own have not been heard of for several years. Not a single instance of unlawful use was reported during the past year.

STATE FOREST RESERVE

**THIS LAND BELONGS TO THE PEOPLE OF NEW JERSEY
IT MAY BE USED FREELY, BUT MUST NOT BE ABUSED.**

LOOK OUT FOR FIRE. If one is found, put it out or summon the warden.

SMOKERS will be held responsible for fires started by matches, cigar stubs or ashes dropped by them.

HUCKLEBERRIES may be picked, but pickers must not start fire or do any unnecessary damage.

CUTTING TREES or removing wood of any kind is forbidden.

FIREWOOD, LUMBER, MOSS, etc., will be sold when their removal is advisable.

HUNTING AND FISHING are free, subject to the State Game Laws.

THE LAW PROVIDES SEVERE PENALTIES for injuring any forest reserve.

The Forest Park Reservation Commission

State House, Trenton

Victor Bush Warden

11-44-14

Fig. 11: New Forest Reserve Poster.

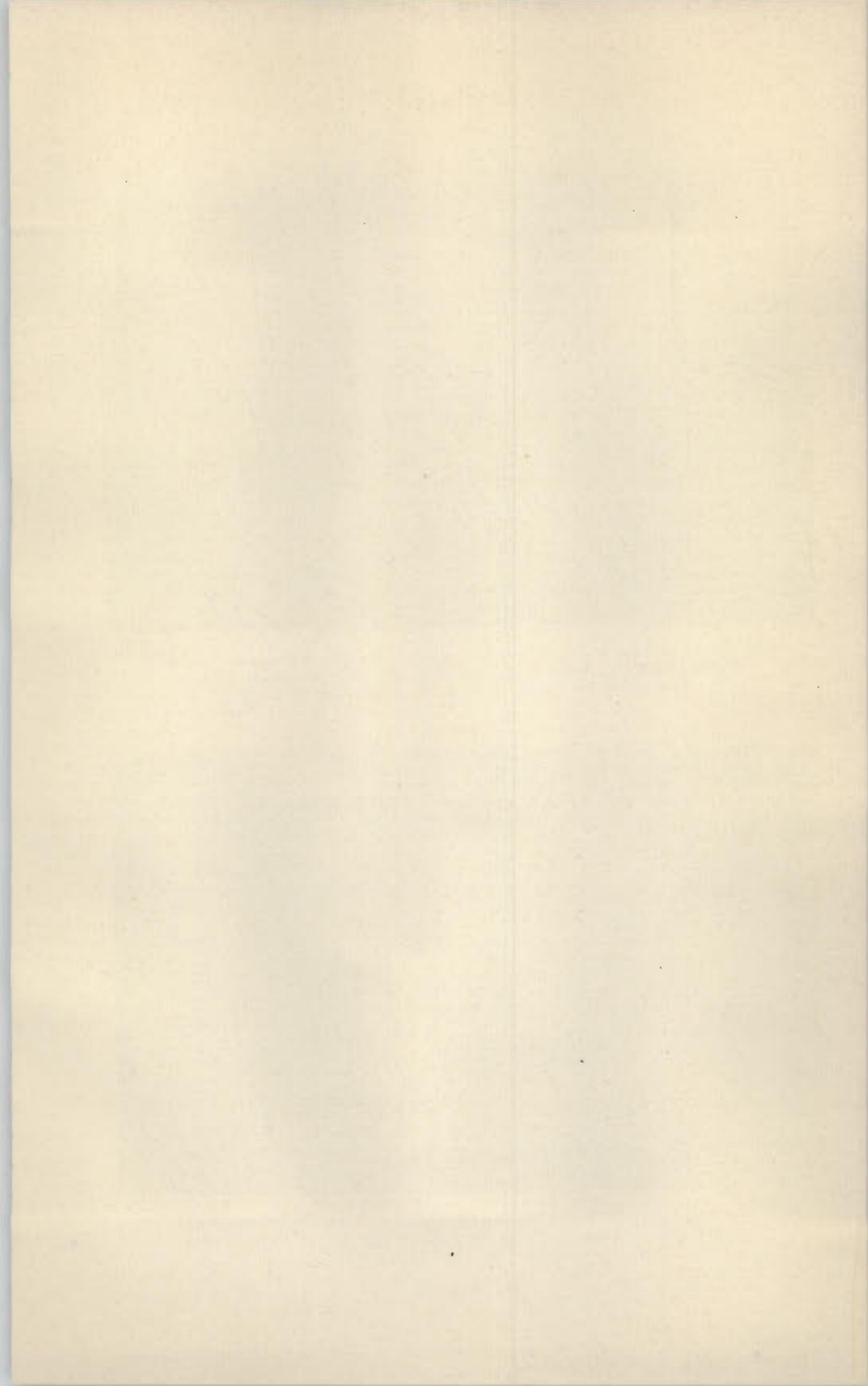




Fig. 12: A Sample Plot in Volunteer Oak From Old Stumps on Lebanon Forest Reserve. Photo Taken Immediately After an Improvement Felling Which Yielded Enough Wood to Pay All Costs.



Fig. 13: Same Plot as Above Three Years Later. The Trees Are Beginning to Develop a Form That Will Produce Timber at the Rate of 500 Board Feet an Acre Each Year.

PRODUCTS

The income from the sale of reserve products is still insignificant; it cannot amount to much for many years because the properties when acquired were so degraded that time is necessary to put any in condition to yield more than a few cranberries, a little sphagnum moss and a small lot of wood now and then. The crop of cranberries this year, chiefly from Lebanon, was unusually large and yielded \$545.65 at a cost of \$311.00. Sales of all kinds totaled \$720.74, a part of which, however, was not collected until after the close of the fiscal year. It is expected that some cedar will be sold next year from Lebanon and from Bass River.

USE BY STATE DEPENDENTS

The forest reserves afford good opportunity for the development of the co-operative idea between State institutions, and for the practical use of State land for many purposes. Though the forest reserves are intended to afford demonstrations in forestry, there is no good reason why the arable land within them should not be devoted to its best use.

Under an agreement entered into with the Commissioner of Charities and Corrections, a portion of the Lebanon forest reserve at Four Mile was made available for a colony of the Feeble-Minded Training School at Vineland. The colony has been established and promises to be successful.

As soon as specific legislative authority shall have been obtained it is proposed that other areas shall be devoted to similar uses. In return the department or institution that makes use of a forest reserve will be expected to help protect the whole property from fire, to furnish labor to work on its roads and in other ways to advance the interests with which the Forest Commission is charged.

NEW BRUNSWICK TRACTS

The "Conger Tract," which for eight years, under the benefaction of Prof. John C. Smock, has given opportunity for experiments and demonstrations in forest planting, is to be supplemented and made more valuable through the generosity of Mr. James Neilson, who proposes to deed to Rutgers College thirty-

two acres of woodland immediately adjoining the Conger tract and the State Experiment Station, to be used for demonstrations in forestry. Though the State holds title to neither tract, the agreements made with the Trustees of Rutgers College provide that the Forest Commission shall exercise sole control over them. Under the Smock gift the State has derived a positive benefit at practically no cost. The plantations are now old enough to be of considerable value. The Neilson gift will make it possible to demonstrate woodlot management beside forest planting on the same liberal terms. It is designed that the students of Rutgers College, especially those taking the agricultural courses, shall be given field instruction in forestry on these tracts.

FORESTRY AT STATE INSTITUTIONS

The State owns a considerable area of woodland attached to various institutions which has had comparatively little care. Without seeking to interfere with the management of any of these properties, it is submitted that each forest offers an opportunity for a demonstration in forestry that may be quite as valuable as any that can be made on a forest reserve specifically acquired for the purpose. In two or three cases the State Forester's advice has been sought and plans have been submitted, but none are yet in execution.

Though the State foresters make no claim to be expert landscapists, they are quite as ready to consider scenic values and opportunities in any State forest as to try to develop its commercial possibilities. Needless to say this kind of forest work is *not* considered in connection with private interests.

EXPERIMENTAL FOREST PLANTING

The experimental plantations that have been established for from two to seven years on Bass River, Lebanon and Mays Landing reserves, and on the Conger tract at New Brunswick, continue to yield facts and suggestions of much value. The plantations of loblolly pine at Lawrenceville indicate that the species will grow that far north at something like its usual rapid rate, provided some protection from winter wind is given. As these plantations increase in age we shall know more about how to establish forests in this State. In large measure this work is for

the future rather than for the present, because, as we often have said, the need to plant forests in New Jersey is not yet; it will come after our natural forests have been more fully conserved and developed.

FORESTRY EXHIBIT

Encouraged by the measurable success of the exhibit made at the Trenton Interstate Fair in 1913, another exhibit was made this year upon an enlarged scale. See Fig. 2. The space occupied was 55 feet by 100 feet and the old fashioned post and rail fence which enclosed it showed a practical use for blight-killed chestnut. The central feature within the enclosure was a substantial slab cabin 20 feet by 25 feet, in which were displayed large pictures of forestry operations, a collection of forestry tools, etc., and which will be used permanently to store exhibit material. In the space outside were arranged a large variety of local forest products, a practical forest plantation, a demonstration of tree doctoring and several features intended to emphasize the loss occasioned by forest fires. In fact this exhibit, like every other effort of the Forest Commission, was made to bear strongly upon the forest fire evil. An attempt was made to label every feature of the exhibit in a way to tell the visitor the things he was most likely to want to know—for instance, that the chestnut fence was as cheap, or cheaper, on an annual upkeep basis, as a modern metal fence, and much stronger. The label on each wood article showed its value as a woodlot product as well as its worth as merchandise. A demonstration of woodlot management made by means of placards in the grove nearby failed to awaken much interest.

FOREST PRODUCTS AND LUMBER BUYERS' CATALOG

It is now pretty generally realized that to market a commodity is more important, and usually more difficult, than to produce it. This is especially true of wood products because the material has to be taken as it is, does not always conform to accepted standards and often is not yielded in quantity great enough to arouse the interest of buyers. On the other hand the exhaustion of sources of supply creates a demand for many kinds of woods.

To meet this situation, and to help buyers of wood, as well as sellers, is our constant effort. There is now a catalog of lumber

and wood dealers; of pole, tie and other specialty buyers, of users of many special kinds of wood. This information is available to anyone who wants it.

WOOD INDUSTRIES

As a means of showing where New Jersey stands with respect to lumber needs and lumber production, of suggesting substitute woods and new sources of supply, and of emphasizing the opportunity that is offered forest owners, a special bulletin "The Wood Using Industries of New Jersey," has been prepared and is now on the press. The study was made in co-operation with the United States Forest Service and the data were collected by agents of the Department of Agriculture and of the Census Bureau. The publication shows that, *excluding* crude lumber and building material, the industries of New Jersey consumed in 1912 upwards of twenty-five million board feet of lumber valued at \$4,580,000; that the forests of the State produced only 11 per cent. of what was used and that though our present production can be greatly increased the demand is likely always to exceed the supply. This means abundant opportunity for buyers and sellers to get together. The bulletin contains statistics of the wood requirements of each of the principal industries and a directory of manufacturers. As soon as they are issued copies will be sent free upon request.

SHADE TREES

Considerable space is given this subject, first, because more people are immediately interested in it than are interested in forestry, and, second, because the information that generally is wanted can be summarized in a few paragraphs and made immediately available.

The shade tree idea, which, in most communities, embraces also the maintenance of municipal parks, is extending rapidly throughout the State. There is little doubt that New Jersey is well in the van in this line of work. The State foresters are constantly asked to give advice and direction, particularly to smaller communities which can not afford technical assistants of their own. Though this service begins to press somewhat

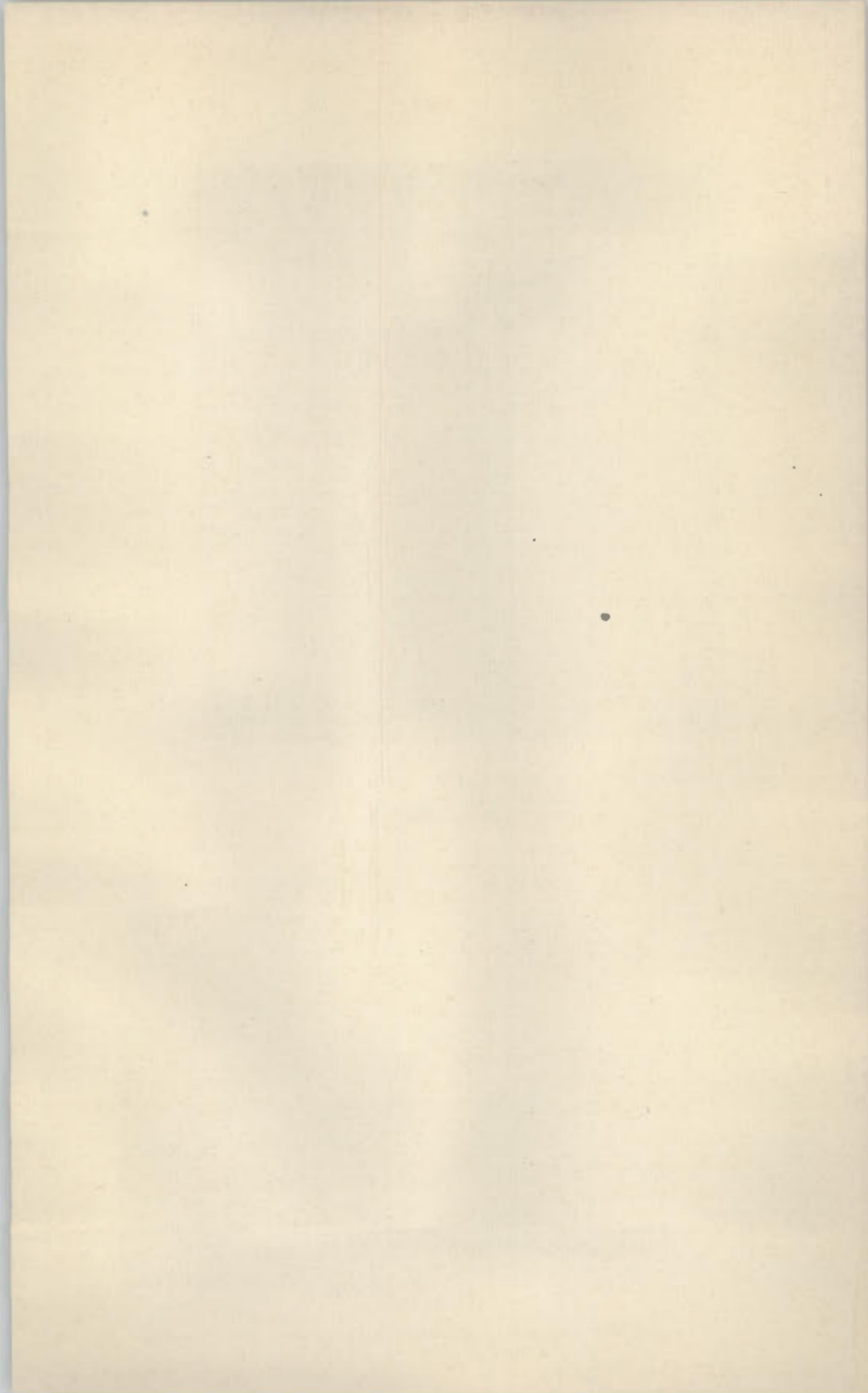




Photo by E. H. Bennett.

Fig. 14: A Good Way to Carry Electric Wires Through Tree Crowns. The Cross-Arms Securely Bolted to the Branches Do No Harm But Give Strength. East Orange.



Photo by E. H. Bennett.

Fig. 15: Effective Shade Tree Work. Pin Oaks 7 Years After Planting Out. East Orange.

heavily upon our force and our funds it should on no account be interrupted; rather should the means of giving more help of the kind be provided.

SHADE TREE COMMISSIONS

An emphatic mark of progress is found in the increase in the number of shade tree commissions. According to the best information obtainable, and as shown in Table I, there are now fifty-eight shade tree commissions, or equivalent organizations, in as many communities. This is six more than were reported last year. Though most of these commissions continue to operate under the law of 1893 and its supplements, a change to commission government in several communities is causing the abolition of shade tree commissions and the assumption of their powers by the municipal commissioners. There can be no objection to this if activity equivalent to that of the voluntary commissioners is assured. The appropriations, which aggregate \$175,000, are held, in practically every case, to be insufficient for the proper conduct of the work in hand. Except in a few of the larger communities, the sums appropriated are indeed almost insignificant.

It is a fact that a shade tree commission organized under our laws may be, and usually is, a force of positive value. Manifestly work of this kind can not be done without someone to direct it. If there is no money to pay a director, enthusiasm and public spirit must take its place.

TABLE I.—SUMMARY OF SHADE TREE COMMISSIONS IN THE STATE, AND THEIR ACTIVITIES.

Community.	Commission Appointed.	Appropriation 1914.	Lines of Work Followed.	Special Needs.	Executive.
Allendale (3)	1910	\$64.62	Trimming, doctoring.	.....	Max Arlt, Sec.
Asbury Park (3) ..	1913	300.00	Trimming, planting.	Trees that thrive near sea.	Hugh S. Kinmouth, Pres.
Atlantic City (3) ..	1913	2,000.00	Not yet active.	.....	Charles F. Wahl, Chm.
Audubon	1914	None.	Education, co-operation.	To systematize private work.	Joseph W. Tantum, Pres.
Bayonne (1) .....			.....	.....	Walter H. Gantz, Pres. Park Com.
Belleville (3)	1912	1,850.00	Trimming, planting.	Co-operation of public.	D. S. Tillon, Sec.
Bergenfield	1914	None.	Care of trees.	More trees.	Thomas W. Head, Chm.
Beverly (2)	1912	150.00	Trimming.	More trees.	J. Fletcher Street, Sec.
Bloomfield (2)....	1909	1,700.00	Trimming, planting, spraying.	More money.	John A. Rassbach, Sec.
Bogota	1911	200.00	Planting, spraying, trimming.	Larger appropriations.	E. A. Gibbons, Sec.
Bound Brook	1911, 1914	250.00	Education, planting, improving.	More funds, enforcement of ordinances.	George O. Smalley, Pres.
Caldwell (3)	1912	350.00	Planting, spraying.	More trees, better care.	John Espey, Mayor.
Carlstadt (3)	1912	None.	Not yet active.	.....	.....
Chatham	1909	168.10	Planting, care.	Advice, support.	H. DeB. Page, Sec.
Dover	1911	1,000.00	Spraying, park work.	More money.	P. C. Buck, Pres.
East Orange	1904	8,000.00	Planting, general care.	More flexible law.	E. H. Bennett, Arborist.
East Rutherford ..	1906	250.58	Planting, cultivating, etc.	More money.	John C. Weaver, Pres.
Elizabeth	(4)	9,900.00 (5)	Improvement of trees and parks.	An arborist.	.....
Englewood	3, (4)	.....	Spraying, trimming, etc.	Provision for planting, etc.	.....
Glen Ridge	1911	1,000.00 (5)	Planting, trimming, park work.	.....	Frederick B. Williams, Sec.
Hackensack	(7)	2,000.00	Spraying, pruning, general care.	.....	D. G. Jeffers, Comm.
Haddonfield (3) ..	1911	400.00	Trimming, planting.	Authority to remove useless trees.	Allen Clymer, Sec.

TABLE I.—SUMMARY OF SHADE TREE COMMISSIONS IN THE STATE, AND THEIR ACTIVITIES—*Continued.*

Community.	Commission Appointed.	Appropriation 1914.	Lines of Work Followed.	Special Needs.	Executive.
Hasbrouck Heights	1911	\$300.00	Trimming, planting, general care.		W. S. Lawrence, Sec.
Haworth	1911	94.00	Trimming, planting, care.	More money.	H. B. Van Dusen, Chm.
Irvington	1911	1,350.00	Trimming, planting, removal.	Larger working funds, an arborist.	David W. Greene, Com'r.
Jersey City	1908(6)	87,000.00	Planting, maintenance, park and playground work.	More parks and playgrounds, more attention to old trees.	A. Harry Moore, Director.
Kearny	1909	2,250.00	Planting, pruning, spraying.	More money.	Geo. McClintick, Sec.
Lakewood	1910	100.00	Planting, pruning, spraying.		A. D. Davis, Sec.
Lyndhurst	1914	None.	Trimming, planting, spraying.	Appropriations.	R. W. Lindsay, Sec.
Maywood	1911	100.00	Trimming, planting.		Ernst Bilhuber, Chm.
Merchantville	1912	250.00	Planting, general care	To conserve old trees.	S. Bryan Smith, Sec.
Metuchen (3)	1908, 1913		Recently reorganized, not yet active		G. W. Litterst, Pres.
Montclair	1909	11,050.00 (5)	Spraying, planting, general care		J. A. Anderson, Sec.
Morristown (3)	1910	1,000.00	Spraying, doctoring	More money.	Jas. G. Lidgerwood, Sec.
Mount Holly	1913	None.	Encouraging private work	More money.	Charles Harker, Pres.
Newark	1904	63,881.41 (5)	Maintenance, improvement.	Enforcement of ordinances, increased appropriations.	Carl Bannwart, Sec.
North Plainfield	1910	250.00	General care and advice	More money.	Henry Crofut White, Pres.
Nutley	1912	800.00	Spraying, trimming, planting.	Money and competent help.	E. L. Broadbent, Sec.
Palmyra	1911	200.00	Planting, trimming.	More money.	James E. Russell, Chm.
Passaic	(1)	40,000.00 (5)	Maintenance, improvement.	To develop newly acquired parks.	Winfield J. Schleich, Sec.
Paterson	(1)	1,000.00	Spraying, pruning, etc.	Larger appropriation.	Clarence N. Merritt, Sec.
Perth Amboy	1911	1,000.00	Planting, trimming, etc.	Trees that will live.	J. C. Donehue, Pres.

TABLE I.—SUMMARY OF SHADE TREE COMMISSIONS IN THE STATE, AND THEIR ACTIVITIES—*Continued.*

Community.	Commission Appointed.	Appropriation 1914.	Lines of Work Followed.	Special Needs.	Executive.
Point Pleasant	1910	None.	Advisory.	Advice about planting.	Clarence M. Murphy, Chm.
Pompton Lakes	1913	125.00	Planting, general care.	More money.	John J. Bartholf, Pres.
Ridgefield	1910	75.00	Trimming, etc.	Funds to extend work.	M. R. Jacobus, Pres.
Ridgefield Park (8)					
Ridgewood	1912	800.00 (5)	Planting, spraying trimming, etc.	Funds.	William H. Maier, Pres.
Riverton	1910	500.00	Pruning, spraying, surgery, etc.	Money to do more work.	J. C. De La Cour, Sec.
Roselle Park	1910, 1914	400.00	Spraying, trimming, etc.	More trees, betterments.	Herman E. Gothberg, Jr., Sec.
Rutherford	1908	1,600.00	Maintenance, improvement.	Maintenance, improvement.	Roger W. Morgan, Sec.
Somerville	1912	.....	Trimming.		Jacob Shurts, Sec.
South Orange	1903	1,100.00	Spraying, trimming, etc.	More money.	George K. Badger, Sec.
Summit	(4)	.....		
Totowa	1914	Open.	Improving, planting, etc.	Education of public.	F. H. Hopper, Sec.
Verona (3)	1912	200.00	Spraying, trimming.	Money.	E. N. Bush, Sec.
Westwood	(4)	.....	Planting.		
Woodbury (3)	1910	.....	Activities suspended.		
Wood Ridge (3)	1910	70.00	Planting, pruning, education.	Education of public.	E. A. Schutter, Sec.

- (1) Park Commission has charge of shade trees.
- (2) Statement refers to 1912; no report for 1913 or 1914.
- (3) Statement refers to 1913; no report for 1914.
- (4) Attention given to shade trees by a committee of Council.
- (5) Part devoted to park work.
- (6) Now under commission government; work directed by Department of Parks and Public Property.
- (7) No Shade Tree Commission, but trees and parks cared for by Improvement Commission (Town Gov't).
- (8) Shade Tree Commission extinguished by adoption of commission government.

ARBORISTS

The lack of technical advice continues to be the greatest handicap under which the majority of shade tree commissions labor. It is out of the question for many communities to provide arborists, even as consultants; in most cases there is not enough work to keep such a man busy even if there were money to pay him. The Forest Commission accordingly offers to supply this lack so far as its means permit.

SHADE TREE CENSUS

In an effort to find out something about the value of the trees on our streets a letter was addressed to each shade tree commission suggesting that it take a census of the trees under its control. To reduce the work to the lowest practicable limit, and to make the results comparable, it was proposed:

1. That every tree which appeared to have at least 10 years more life be tallied. 2. That every tree which was badly injured, or entirely misplaced, be ignored. 3. That species be not considered. 4. That size and general condition be the sole factors. 5. That all trees be grouped and values assigned according to the following table:

Diameter. Breast High.	Values.	
	Good.	Fair.
Less than 2".....	\$3 00	\$2 00
2" to 4".....	5 00	3 00
4" to 6".....	10 00	6 00
6" to 9".....	20 00	10 00
9" to 12".....	40 00	20 00
12" to 16".....	80 00	30 00
16" and over.....	100 00	40 00

This scale is arbitrary, and the values assigned, especially for the larger trees, are low, but it assumes a limit to tree values and gives conservative totals.

Unfortunately only eight communities have yet found it practicable to compile figures but their totals as follows are significant:

Bogota	1,663 trees, worth	\$41,499=	\$36.88 per capita
Bound Brook	1,663 trees, worth	83,855=	21.12 per capita
East Orange	25,000 trees, worth	810,000=	23.57 per capita
Glen Ridge	3,738 trees, worth	122,263=	37.50 per capita
Hackensack	7,839 trees, worth	259,863=	18.50 per capita
Irvington	8,032 trees, worth	184,104=	15.50 per capita
Newark	62,250 trees, worth	1,685,005=	4.85 per capita
Rutherford	8,000 trees, worth	80,000=	11.35 per capita

If the average per capita of these eight cities, \$7.72, be applied to the whole State (1910 census 2,537,167), and the estimate is not too high because towns and villages have relatively more trees than have cities, New Jersey can assume a property interest in street shade amounting to more than nineteen million dollars.

SHADE TREE LAWS

Unfortunately the revision of our jumble of laws which it was hoped might be enacted last year is still unaccomplished. The committee engaged in the work has, however, practically brought its labors to a conclusion and the result promises to be acceptable to most interests. It is hoped that the new law, which is intended to replace all existing statutes, will be passed next winter. The chief objects sought by this new legislation are to get rid of the contradictions found in the present laws, to provide commissions with definite powers (and definite limitations), to prescribe reasonable control over the funds that may be available, and to correct, so far as statute can, the opportunities for abuse of authority that reside in the old laws.*

CO-OPERATION

Co-operation is the heart of shade tree work. Even where a commission with ample funds is maintained it is necessary for the official body to work in harmony with property owners. The principle that no public body may destroy property without compensation applies as well to a shade tree commission as to any other. The collateral principal that a public body can accomplish much more by working with, rather than by working against, property owners who may be affected applies with especial force. No man's shade tree exists for him alone. If it is healthy the whole community enjoys it. If it is neglected, or decadent, or a menace, the community shares the owner's loss. The co-operative idea applies particularly to the activities of public service corporations. Though gas companies, electric companies and other users of the streets are becoming more and more careful in respect to the trees with which they come in contact it is found repeatedly that when a controversy arises a shade tree commission can usually accomplish more than can an individual. A practical application of this principle to electric wiring is shown in Fig. 14.

* The new law was passed and approved April 14, 1915.

DAMAGES AND CLAIMS

This year again the Forest Commission and various local commissions have helped to settle a number of controversies arising from injuries to trees. In numerous cases gas companies have settled out of court for trees that were destroyed; in other cases it was possible to show that the gas company was not at fault; in a few no positive decision could be reached. In other instances controversies involving electric wires were adjusted equally satisfactorily.

It is the policy of the Forest Commission to enter into disputes of this kind only when both parties join in making their request and agree that the decision of the visiting forester shall be accepted as final. This sort of advice is offered because it is advisable to establish the principle that such controversies are better determined upon a basis of fact than by an action in court. The position of the Commission and its officers is absolutely impartial. No compensation is accepted for the service rendered.

Efforts to avoid claims for damages by anticipating the injury are likewise frequently made. This applies most commonly to road and sidewalk improvement, whereby mature trees are injured. In this direction local officials can do quite as much good as can those representing the State. The one point to be constantly borne in mind is that the conversion of a country road into an improved town highway can not be accomplished without destroying some trees that were planted long ago with little regard to lines and grades. Many trees can be saved if the engineers are induced to depart somewhat from straight lines. This departure rarely does harm; in some instances it even may be an improvement. Figs. 16 and 17.

ENEMIES

Climatic conditions this year have been in general more favorable to shade trees than for several years past. The early summer drouth was less severe, consequently newly planted trees had a better opportunity to establish themselves. Insects in the main have been less harmful than usual, though the hickory borer is still active and an abnormal flight of "June bugs" in May caused the defoliation of many trees. Ashes and oaks suffered particu-

larly. Fungus diseases, with the exception of the chestnut blight, have likewise disturbed our trees in no important way. The more serious dangers that threaten are considered more fully under the subject of tree pests. See p. 41.

TREES NEED CARE

The public is once more reminded that shade trees, especially those along the streets, are unavoidably and necessarily under a constant strain, and that in consequence they require care and attention at all times to keep them in good condition. It is literally true that most shade trees suffer from one ill only, neglect. It is strange that property owners will expend almost any amount of care and money on their shrubbery and lawns yet think it entirely unnecessary to bestow thought upon their trees. Any shade tree that is given one-tenth the care ordinarily devoted to a rose bush can be kept in thrifty condition until old age brings about the inevitable decay.

FEEDING AND WATERING

Forest trees rarely suffer from lack of food or lack of water because nature provides both in the unremoved litter on the ground and in the unrestricted root system. But shade trees do suffer in this way, and many street trees are lost because they are not given water to replace that which is driven off through the leaves by the heat radiated from pavements and house walls. Owners are advised:

First, to see that their trees do not lack water; if rain fails, use the hose and thoroughly soak the ground beneath them. A drenching once a week is better than a sprinkling every day. After it dries, rake the surface soil to prevent evaporation: *Second*, to be sure that the roots of the trees are not smothered by a close pavement, or even by a thick sod. Old trees may survive such treatment, young ones rarely will. The best condition is found in a free earth space (footing) about the base of each tree, which should be kept well cultivated. Unless this footing can include at least four square feet, it is best not to try to have a tree: *Third*, to apply fertilizer every spring. If a tree has lacked for a number of years, apply in the fall, as well as in the spring, until a normal condition is reached. Well rotted stable manure or street sweepings, not contaminated with oil or tar, worked into the top soil is most satisfactory. If that is objectionable, use a commercial fertilizer composed as follows: For loamy or sandy soils, equal weights of nitrate of soda, acid phosphate, muriate of potash and ground bone. For heavy soils, 2

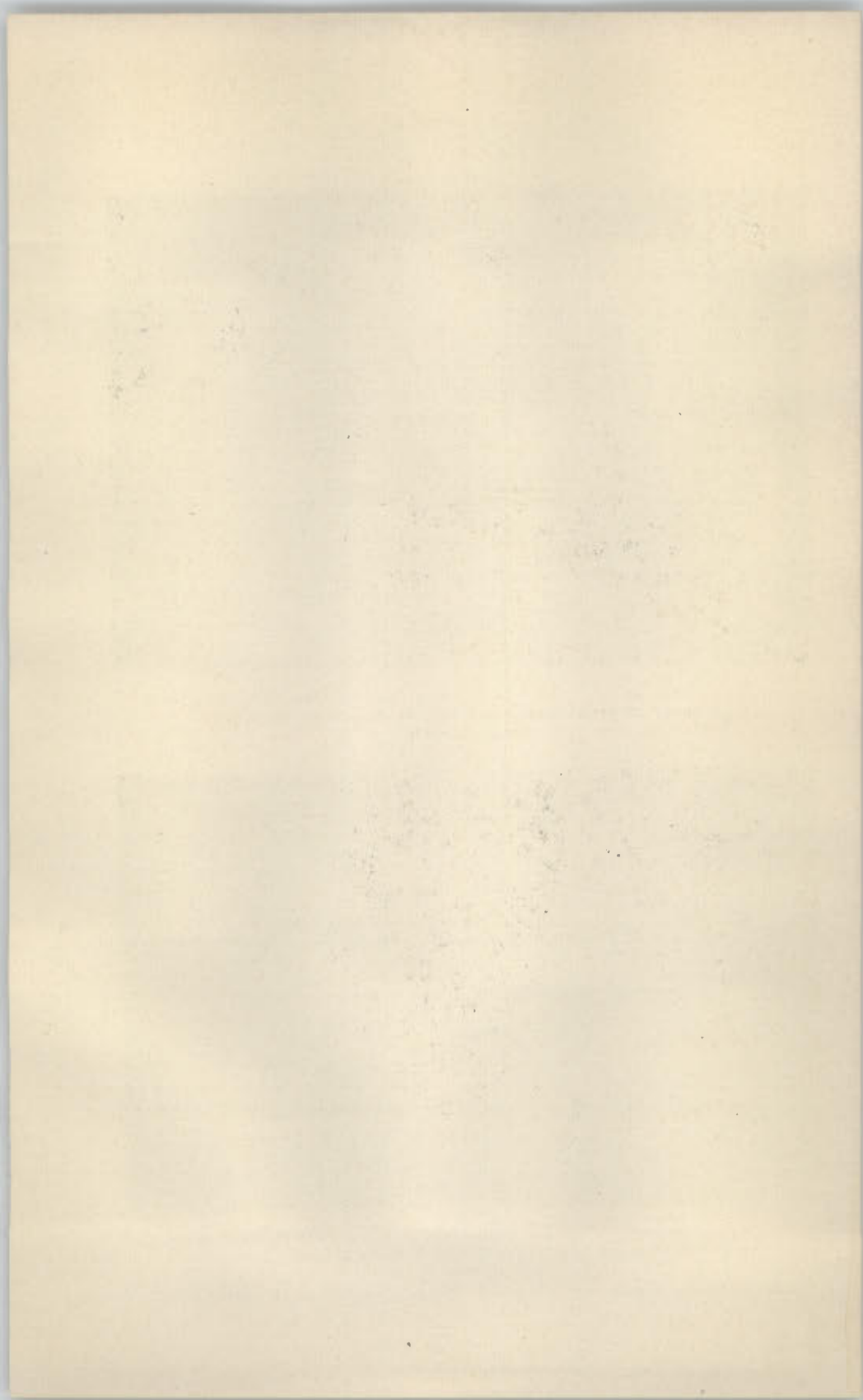




Photo by C. F. Lawton, New Bedford.
Fig. 16: A Street Modernized Without Sacrificing Old Elms.
Massachusetts.



Photo by E. H. Bennett.
Fig. 17: A Sidewalk Deflected and a Curb Built to Save a Fine Tree.
East Orange, N. J.
SHADE TREES NEED NOT ALWAYS YIELD TO STREET IMPROVEMENT.

parts nitrate of soda, 3 parts acid phosphate, 1 part muriate of potash, 2 parts bone meal. In either case, use not over $1\frac{1}{2}$ pounds of the mixture to 100 sq. ft. of exposed soil. If the footing of a tree is small, apply 1 ounce of fertilizer for each 4 square feet once a month, between April and September.

ROADSIDE TREES

The desire to extend the provisions of the shade tree laws to country roads has not yet been attained. Important as the object is, the practical difficulty of providing for maintenance as well as for original installation must first be overcome.

OILED ROADS

Conclusive evidence that the use of various oils and tars for road surfacing have an ill effect upon roadside trees is still lacking. The subject continues to have attention, though it has not been thought necessary to undertake the series of experiments that a year ago was considered advisable. Some studies made by foreign investigators seem to indicate that any determination based upon one kind of road and one kind of oil and one kind of soil would not give equal, or even comparable results, if any of the factors were varied. It has been indicated that the tar products of various manufactures differ so greatly in their composition that any study to be of value would have to begin with chemical analyses of the surfacing materials and include the assumption that the same material would continue to be used.

TREE PESTS

With the exception of the chestnut blight and the hickory borer the enemies that beset our trees have been less numerous and less active than for several years past. The cottony maple scale, the tulip soft scale and a line of ills affecting maples chiefly, have been conspicuously less prevalent. This statement merely emphasizes the fact that weather conditions determine in large measure the activity of most tree pests, not that it is safe to relax our vigilance or to expect that we shall not always have some of these things with us. The State Entomologist and the State Plant Pathologist, both located at New Brunswick, are constantly active in looking after plant troubles. They and the State Forester are

always glad to have submitted data relative to what appears to be a threatening disease or a dangerous insect. The situation with respect to the more serious pests is stated below:

CHESTNUT BLIGHT

The disease gives no sign of abating. In the northeastern counties but few live chestnut trees can now be found. Cape May remains the one county in the State in which the blight has not appeared. Everywhere there is activity in felling affected trees so that at least a part of their value may be saved. So great is the quantity of timber thrown on the market that even railroad ties and electric poles are sluggish. Cordwood is a drug and fence posts only a little better. But chestnut lumber in proper sizes is salable. Those who are forced to sell are advised, therefore, to have sawed into stock shapes as much of their timber as possible, to rebuild their fences, or to store up posts and rails, and to minimize the production of cordwood. Architects and builders are urged to specify chestnut wherever it can be used. The wood is as strong as hemlock or spruce and much more durable. There is no reason why it should not be used for ordinary framing.

If the chestnut blight were confined to New Jersey alone, or if there were any remedy for it, the situation would not be so serious. Unless nature calls a halt, as is possible, conditions in all the Middle States are likely to be worse before they are better. Since the trouble was first recognized in 1907 no effort has been spared to acquaint the people with the situation. As there is still much misapprehension regarding this calamity, the facts in connection with it may be thus summed up:

1. The chestnut blight is a fungus disease, probably imported from China. Its life history has been thoroughly worked out; there is nothing mysterious about it.

2. Insects are not primarily responsible, though they may help to spread the disease.

3. The disease works between the bark and the wood, and by growth around the stem girdles and kills the tree, or branch, that is attacked. It attacks chestnuts only.

4. A few trees appear to be immune to the disease, but most are susceptible, and when attacked will die sooner or later. A tree may sometimes be given increased length of life by carefully amputating the diseased portions. It is at best only a temporary remedy, and the expense is rarely justified.

5. There is no known remedy. Anyone who claims to be able to save a tree should be referred to the State Plant Pathologist—not employed upon the strength of his own assertions.

6. The wood of blighted chestnut trees is affected in no way by the disease, but is as good for any purpose as the wood of trees felled in health and treated similarly. This does not mean that blight-killed chestnut will not decay. Insects and rot fungi invariably begin their work as soon as, or before, a tree is dead from whatever cause; but investigations lately made

show that where trees are felled and used within two years after death, there need be no loss. Dead trees should not be allowed to stand long lest they afford breeding places for harmful insects or foster other diseases.

A study of the chestnut situation made by the United States Department of Agriculture, in co-operation with the forestry departments of the States immediately interested, has resulted in Farmers' Bulletin No. 582, "Uses for Chestnut Timber Killed by the Bark Disease." This gives much information about how to work up trees, the volume and value of trees of different sizes, logging costs, etc. It will be sent free upon request made of the Secretary of Agriculture, Washington, D. C.

The following are the current prices for chestnut products in this State, in all cases delivered at the railroad, and subject to the reservation that in some localities oversupply makes sales difficult at any price:

Sawed lumber	\$25 00 per M bd. ft.
No. 1 Railroad Ties.....	60 each
No. 2 Railroad Ties.....	40 "
35 ft. Electric Poles—Class B.....	3 50 "
40 ft. Electric Poles—Class B.....	4 50 "
45 ft. Electric Poles—Class B.....	5 50 "
50 ft. Electric Poles—Class B.....	7 00 "
Round Fence Posts, 6½ ft. long.....	10 "
4 Hole Fence Posts, 7 ft. long.....	22 "
Split Fence Rails, 11 ft. long.....	12 "

ELM LEAF BEETLE

Indications throughout the State point to the disappearance, temporarily at least, of this insect in an aggressive form. It appears to be safe to advise elm tree owners and shade tree commissions that systematic spraying may be omitted, unless evidence of the reappearance of the beetles shall be found. Watchfulness is necessary.

HICKORY BARK BEETLE

The destructiveness of this insect continues in many parts of the State. The pest is not universal, but appears to be localized in sections where hickory trees have been weakened by fire, lack of food, change in condition due to building improvements and so on. Attacks on the twigs, by which the foliage is made to wilt and fall, can be controlled in a measure by pruning. A moderate infestation of the trunk can be reduced somewhat by applying a coat of whitewash, in which arsenate of lead has been mixed, or of strong whale oil soap suds. This is not an infallible remedy, and those who resort to it may be disappointed. If "shot holes" through the bark are observed in any number, the tree is doomed and should be removed at once. In any case, burn all the trimmings, and at least the bark of felled trees, before spring in order that the larvæ and eggs of the insects may be destroyed. In connection with any remedial measures, a tree should be stimulated with fertilizer and water.

BROWN TAIL MOTH AND GYPSY MOTH

These dreaded pests from New England continue to threaten us. A single live specimen of the latter was found in flight, but it is believed that through the activity of the State Entomologist, in conjunction with scouts detailed by the United States Department of Agriculture, neither insect has obtained a foothold within our borders. Citizens are urged to report every suspicious case to the State Entomologist.

OAK BLIGHT

Throughout North Jersey there is a rather widespread affection of the black, scarlet and red oaks, and some trees have died. The cause of the trouble has not yet been determined. In South Jersey, and to some extent in North Jersey, the striped oak worm continues to defoliate scrub oaks and other species of the black oak group, but no particular harm has been done. The insect can easily be controlled through an arsenate of lead spray wherever a valued tree is attacked.

TUSSOCK MOTH

In several cities, by no means all, this insect does considerable damage and is a general nuisance. It is easily controlled, however, by picking off and destroying the cocoons in winter and banding the trees with cotton batting in May. If the early treatment is omitted, or is not effective, the caterpillars can be poisoned on the foliage by a spray of arsenate of lead, as for elm leaf beetle.

LEOPARD MOTH

In several of the northeastern cities considerable damage is done by the larvæ of this insect, but the trouble is not general. Control is difficult, as the borers live in the trees two full years. It is advised that owners of trees watch carefully for the appearance of the borers, and that when found they be pursued in their burrows with wires or with carbon disulphid. It is scarcely possible for a shade tree commission to observe as closely as is desirable all the trees that may be affected. Wherever the insects appear, insectivorous birds, which eat the moths, should be encouraged.

WHITE PINE BLISTER RUST

Though this disease still threatens, it appears to have found no footing in this State. Owners of white pine, especially those who have young plantations, are urged to keep a careful watch and to report promptly any appearance of disease or blight. On account of the danger of introducing the disease, it is still advised that white pine be not planted in large quantities, but that other species which are not affected be used in the main.

MAPLE BLIGHT

The diagnosis that the very common failure of maple trees, especially sugar maples, and Norway maples, is not due to a disease but to a simple

lack of water is supported by the fact that reports of such injury have been much fewer this year than usual. Most of the growing season was sufficiently wet. Where the trouble manifests itself the remedy is to supply water, or fertilizer, or both, and in some cases to reduce the draft on the roots by thinning the crown. This should be done by inside pruning, rarely by outside clipping, never by topping.

TREE DOCTORS—WARNING

Complaints continue to be made of the appearance of men who mutilate trees under the pretence of improving them. It is, therefore, necessary to repeat, and to emphasize, the warning that has been published for several years past against employing such people. Owners of trees are urged to give them proper attention. They are urged as strongly not to employ irresponsible men, and particularly not to allow an unknown man to prune or to doctor a tree on his own assertion that the tree needs it. Plenty of trees do need doctoring or pruning, but owners of such are advised to consult their local shade tree commission, or if there is no such organization, to apply to the State Forester, the State Entomologist, or the State Plant Pathologist, either of whom will recommend competent operators.

SHADE TREE BOOK AND CIRCULAR

The Commission's publication, "The Planting and Care of Shade Trees" continues to be in demand and apparently furnishes the information that many people want. The circular "Who Looks After Your Shade Trees," is still being distributed, chiefly through shade tree commissions.

STATE AID IN FORESTRY

To encourage the practice of forestry on private lands by owners who know little about its methods and have properties too small to justify the regular employment of a forester, the Forest Commission offers the services of its foresters, so far as their time will permit, to all who ask for them. When it is necessary, or advisable, a competent forester will study the situation on the ground and confer with the owner; otherwise advice will be given by mail. If a *woodlot* is to be improved and considerable cutting is to be done, a part of the trees to be felled will be marked

to guide the owner in the removal of the rest. Advice in regard to markets will be given, but in no case will the forester have part or interest in a sale.

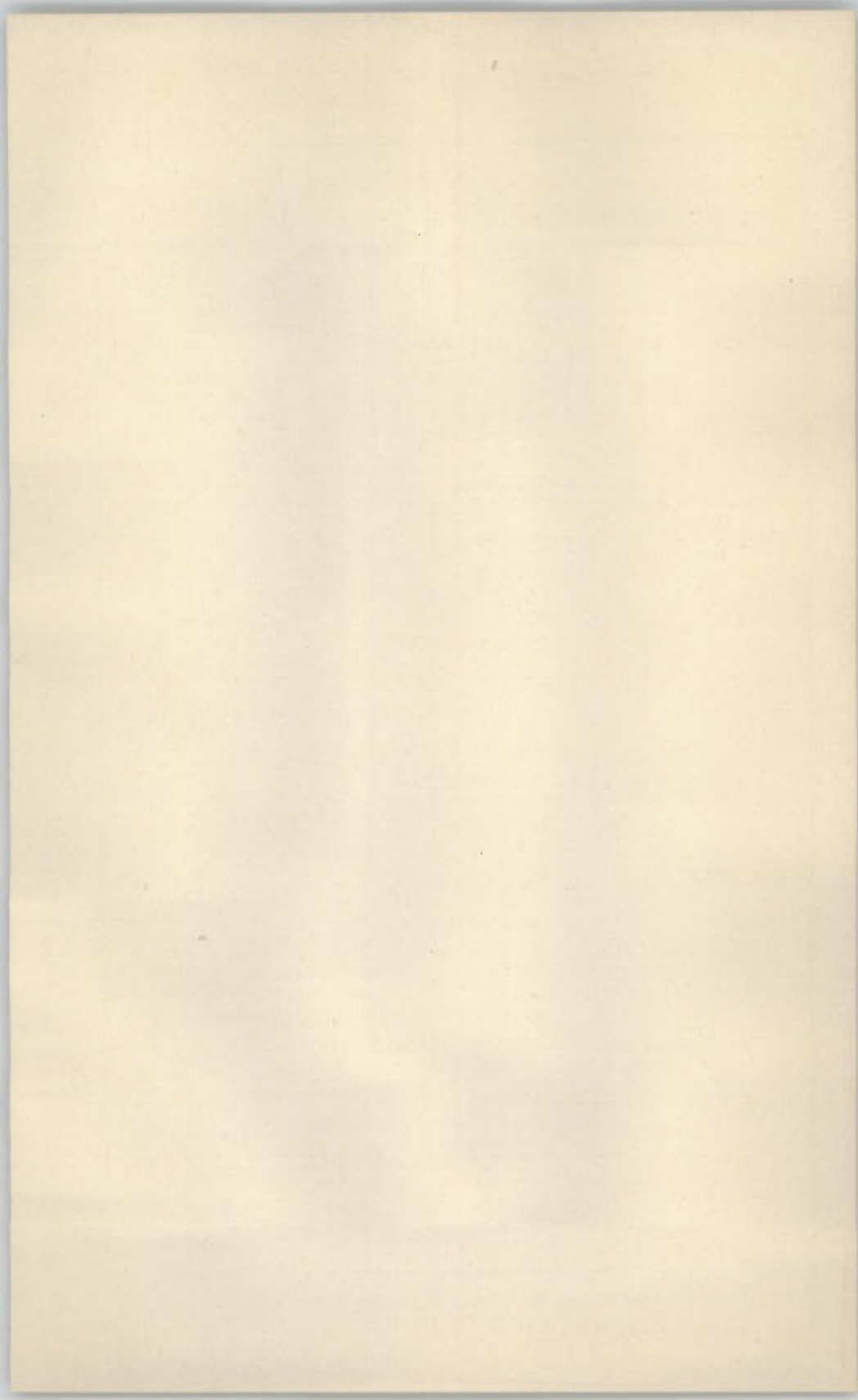
Those who wish to undertake *forest planting* will be advised regarding the most suitable species for their situations, how to obtain the trees and how to plant them. *No young trees or seeds are furnished by the State.* Fire protective plans will also be formulated.

In all cases the assistance given is advisory. There is no obligation to follow any recommendation made, though where the forester's advice is acted upon the Commission claims the right to inspect the property from time to time and to publish facts concerning the work for the benefit of the public.

Similar aid will be given regarding *Shade Trees*, except that inspections can ordinarily be made only upon the request of a Shade Tree Commission or similar public agency—not of an individual.

The cost to any owner is the forester's actual expenses while away from Trenton. His salary is paid by the State. Public institutions, shade tree commissions, etc., will be aided without charge.

Write to the State Forester, Trenton, about anything relating to forest trees—not fruit trees.



THE
FOREST FIRE SERVICE
 OF NEW JERSEY
 BY TOWNSHIPS
 1914

Scale of Miles
 0 1 2 3 4 5 6 7 8 9 10

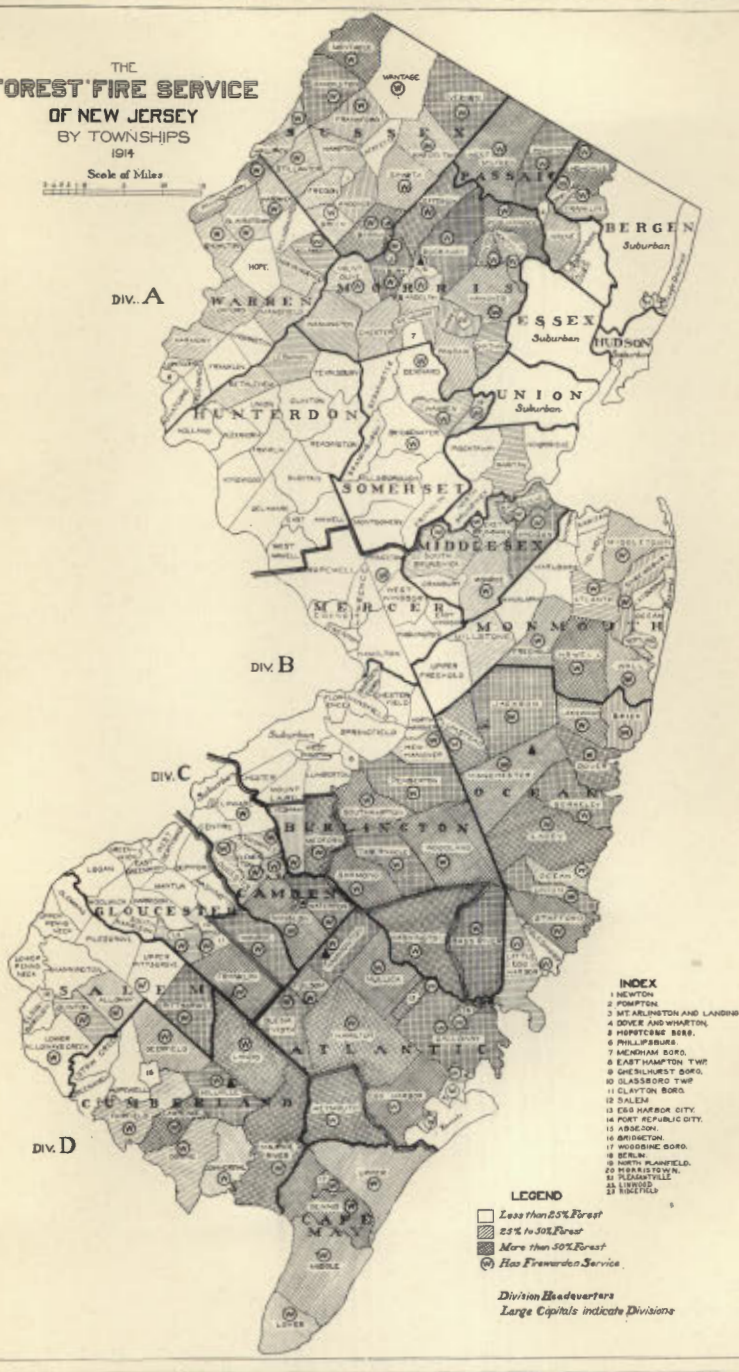


Fig. 18: The State, Showing Forests and Where Forest Fire Service is Maintained.

Report of the State Firewarden

CHARLES P. WILBER.

THE FIRE SEASON

The close of the official year 1914 found New Jersey in the grip of an unparalleled drouth which was the culmination of a year of dry weather in which but two months, January and July, furnished normal rainfall. This deficiency of rain was also peculiar in that it was cumulative in both spring and fall and that many of the spring rains, and practically all of those of the late summer and fall, occurred in sporadic and usually local down-pours. In the spring season, as early as late March, fires began to give trouble, but, as was the case last year under somewhat similar conditions, large fires did not result until the high winds of such dates as April 19 and April 22-24 fanned what would normally have been small fires to an abnormal size. On these dates sixteen such fires burned from 250 to 3,000 acres apiece. During May the dry weather continued and culminated in a total absence of rainfall from the 15th to the 27th, and this with the prevalent high winds added twenty-one bad fires with areas burned of from 1,000 to 3,000 acres each. In the two months April and May occurred 462 fires, or more than one half of all those recorded for the year.

The arrival of long delayed foliation, and absence of high winds, reduced the situation to normal in June and July, and the fires in these months were fewer in number and did less damage than usual.

With the opening of August the State entered a period of drouth absolutely unprecedented, the conditions of which are summed up as follows in the United States Weather Bureau's report for September: "This year in September the rain amounted to less than a tenth of the normal. At a few stations it was the driest month on record, * * * and since State averages have been compiled it was the driest September in the State. Dry Septembers in previous years have usually been preceded by wet Augusts, but this year August was considerably drier than

normal, and August and September together were the two driest consecutive months on record." Despite this situation there were no serious fires during these two months

The drouth conditions were but little alleviated by the meager rains of October, the official weather report for which month reads as follows: "The unusually dry weather that has prevailed since July, in New Jersey, has continued unabated, * * *. Each station in the State has shown a deficiency in rainfall during each of the past three months." Despite this, the year closed with but few serious fires added to those of the spring, which is a direct testimony to the effectiveness of the forest fire service, since the 123 fires started in October are in number far in excess of those recorded for the same period since the service was first organized.

The situation in this State, aggravated though it was, was to a large degree a common plight. Two Governors, those of Massachusetts and Oregon, were impelled, and able under their laws, to suspend the hunting season because of the drouth, and the entire northeast suffered from fires to an unusual extent.

EARLY NOVEMBER FIRES

Although the record of the fires of November, 1914 officially belongs in the report for 1915, the conditions for the first two weeks of the new year are so integral a part of the season's unusual features, and bear so intimately on the discussion of the situation presented, that its more salient features and figures are here summarized.

The first of November found the State with a total deficit of 15 inches in the annual rainfall to that date; no permanent relief from which condition was given until the 17th. During this fortnight high winds prevailed, the season for game opened and fires of a magnitude and in numbers never before known for so brief a period swept the State. A total of 212 fires are recorded as having burned during this time, of which the sportsmen are charged with starting 59, or 27 per cent. Seventy-five of the total 212, including practically all of the more serious and stubborn fires, were coincident with the deer hunting season of four days. The total area burned in these two weeks exceeded 70,600 acres and the losses were more than \$177,600. The acreage burned in this period was, therefore, as great as, and the loss suffered twice that, during the whole of the previous abnormally dangerous year.

NUMBER AND AREA OF FIRES

A season so unusually provocative of fires should naturally show an increased number. (See Table II.) It is encouraging to find, therefore, that, though more fires were reported in 1914 than in any previous year, the number does not exceed the usual increase expected because of the more complete record made each year. Still more noteworthy is the fact that 451 fires were held to embryo, or less than five acre, size, which is the same proportion as last year. (See Table III.) Further, the 25 per cent. of the total fires that burned more than 100 acres is not a great increase over the percentage of the previous season. The total area burned, 78,655 acres (see Tables II and VII), was appreciably greater than in either of the last two years, though analysis brings out the fact that 40,157 acres, or more than half, were burned by 35 disastrous fires on dates that are recorded as especially hazardous.

TABLE II.—FOREST FIRES IN 1914, AND IN PREVIOUS YEARS.

Year.	No. of Fires.	Total Acres Burned.	Acres per Fire.	Total Loss.	Loss per Fire.
No organized service, incomplete reports.					
1872 .....	.....	100,000 .....	.....	\$1,000,000 .....	.....
1880	54	71,074	1,316	252,240	\$4,671
1885 .....	.....	128,000 .....	.....	1,128,000 .....	.....
1895	49	66,120	1,349	600,000	12,245
1902	65	98,850	1,520	169,323	2,605
1903	79	85,046	1,076	305,744	3,870
1904	81	41,530	512	193,413	2,388
Organized fire service.					
1907	167	11,525	69	11,647	70
1908	533	52,978	100	64,536	121
1909	563	93,525	166	133,944	238
1910	611	81,452	133	127,850	209
1911, Forest Fires	289	64,404	122	86,940	165
Embryo Fires †....	239				
1912, Forest Fires	214	26,291	48	21,501	39
Embryo Fires †....	331				
1913, Forest Fires	311	53,823	77	67,205	99
Embryo Fires †....	367				
1914, Forest Fires	396	78,655	92	83,880	99
Embryo Fires †....	451				

† Burned less than five acres.

The cost of fire fighting has been unusually high (see Table VII), partly because of the heavy expense entailed in handling the larger fires, but mainly because larger crews were needed to insure control of any blaze under the drouth and wind conditions that prevailed.

TABLE III.—FOREST FIRES BY RELATIVE AREA BURNED, AND BY COUNTIES, 1914.

COUNTY.	Number of Forest Fires.					Total Embryo Fires (less than 5 acres).
	5-10 Acres.	11-100 Acres.	101-1000 Acres.	Over 1000 Acres.	Total.	
<i>North Jersey,</i>						
Bergen		2			2	2
Morris	17	30	3		50	47
Passaic	4	13	4		21	22
Somerset	8	6	2		16	26
Sussex	7	6	2		15	12
Warren		4			4	23
Fires that burned in more than one county			1		1	
Total	36	61	11		109	132
<i>South Jersey,</i>						
Atlantic	13	25	15	5	58	108
Burlington	3	15	10	4	32	12
Camden	4	12	2		18	45
Cape May	6	5	6	2	19	38
Cumberland	5	22	11		38	26
Gloucester	6	6	3		15	4
Mercer						1
Middlesex	8	26	8	1	43	22
Monmouth	6	12	6		24	12
Ocean	7	16	7		30	44
Salem	1	3			4	7
Fires that burned in more than one county			4	2	6	
Total	59	142	72	14	287	319
State totals.	95	203	83	14	396	451
Per cent. of total	11	24	10	2	47	53

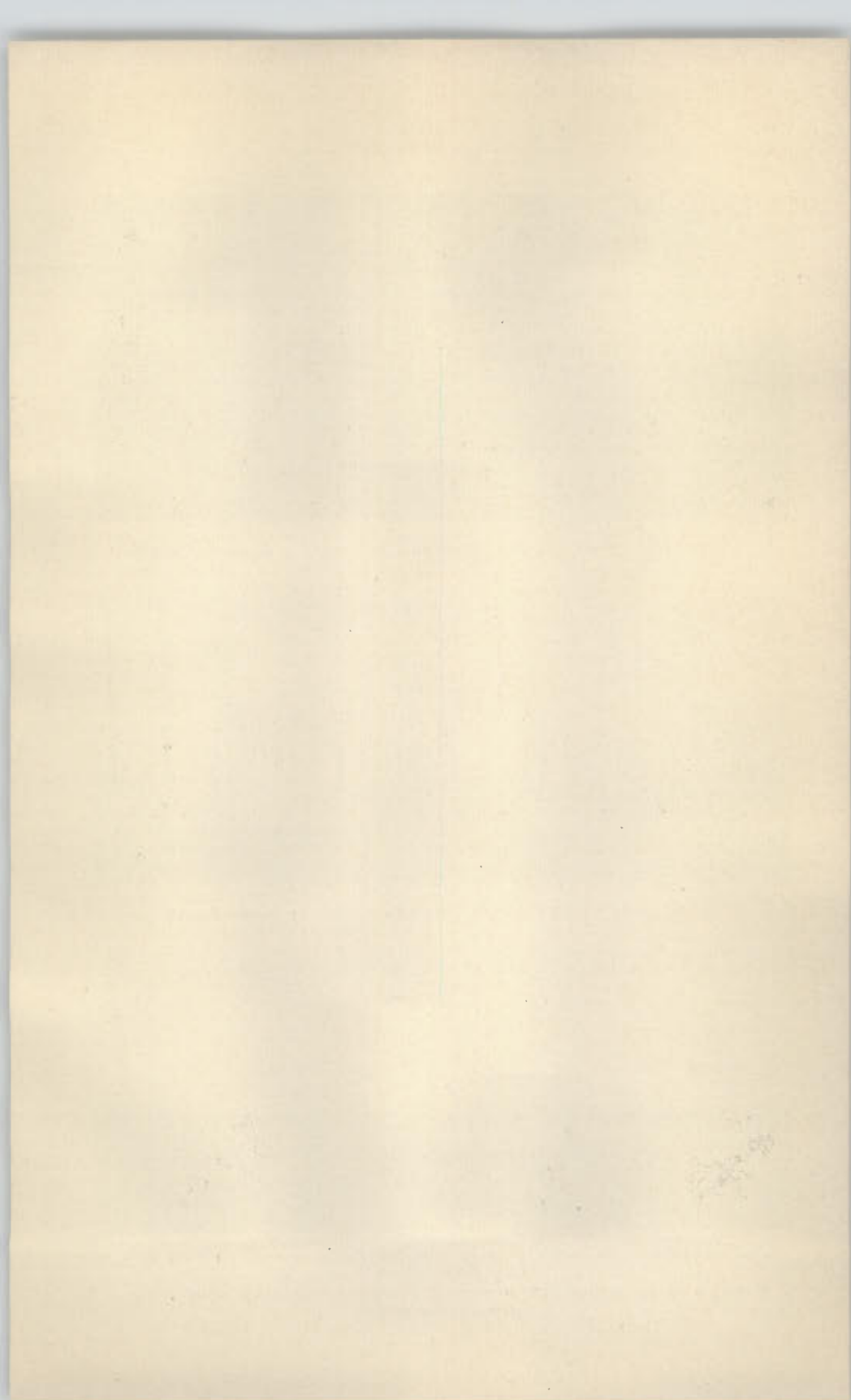




Fig. 19: Pine Forest Slightly Burned by a Surface Fire. Atlantic County.



Fig. 20: Pine Forest Killed by Repeated Fires. Burlington County.



Fig. 21: Young Pine Forest Growing Vigorously Under Protection From Fire. Bass River Reserve.
FOREST FIRES SUPPRESS OUR PINE FORESTS. NATURE STRIVES TO REPRODUCE THEM.

CAUSES OF FIRES

(See Table IV.)

RAILROAD FIRES

The status of the railroads as the major offenders in setting fire is still maintained. But of the 847 fires reported in 1914 only 303, or 36 per cent., came from this source and 215, or 71 per cent. of these were embryo fires. The record last year showed 31 per cent. and 68 per cent. respectively. It is a satisfaction to observe that despite adverse conditions, and an increase in the total number of fires reported, the railroads set only a few more fires than they did last year, and in addition have been themselves largely instrumental in holding to small size those that they started. In fact, not only do local wardens get prompt and willing support from most railroad trackmen but the railroad men are growing so active that they now suppress small blazes in considerable number so quickly that no knowledge of them reaches the wardens. However, not until this same co-operation can be secured from engine and roundhouse crews in the operation and upkeep of motive power will the railroad fire situation be effectively controlled as both the Commission and the railroad managements desire and feel certain it can be.

BRUSH FIRES

The increase from 47 to 78 in the number of fires known to have been set by the burning of refuse and brush was a natural outcome of the prevailing weather conditions. That 53 of these 78 fires were traced with certainty to their origin was due in large measure to the permit requirement. From the history of these fires it is evident that in most cases the escape of fire was due to mischance or lack of experience, rather than to recklessness or mischievous intent. This class of fires will never be eliminated entirely; they can be and are being reduced in number by strict enforcement of the law and by persistent educational effort.

TABLE IV.—FOREST FIRES BY CAUSES AND COUNTIES, 1914.

COUNTY.	NUMBER OF FIRES.													
	Locomotive.		Brush Burning.		Smokers.		Sportsmen.		Miscellaneous.		Unknown.		Totals.	
	FF	eF	FF	eF	FF	eF	FF	eF	FF	eF	FF	eF	FF	eF
<i>North Jersey.</i>														
Bergen .....	...	1	...	...	...	...	1	1	...	...	1	...	2	2
Morris	12	20	4	3	9	6	6	3	1	5	18	10	50	47
Passaic	10	9	1	1	1	7	4	2	1	1	4	2	21	22
Somerset .....	...	1	1	5	4	3	1	1	...	2	10	14	16	26
Sussex	8	5	...	...	2	3	2	1	1	1	2	2	15	12
Warren	3	21	...	...	...	1	...	...	...	...	1	1	4	23
Fires that burned in more than one county .....	...	...	...	...	...	...	...	...	...	...	1	...	1	...
Totals	33	57	6	9	16	20	14	8	3	9	37	29	109	132
<i>South Jersey.</i>														
Atlantic	12	69	8	6	15	6	2	...	8	11	13	16	58	108
Burlington	3	1	7	5	5	1	5	...	2	...	10	5	32	12
Camden	7	28	3	3	2	1	4	...	...	3	2	9	18	45
Cape May	8	24	4	2	...	1	...	...	1	2	6	9	19	38
Cumberland	1	3	3	2	4	4	3	...	4	5	23	12	38	26
Gloucester	1	2	5	...	1	1	...	...	...	1	8	...	15	4
Mercer .....	...	...	...	...	...	...	...	...	...	...	...	1	...	1
Middlesex	4	4	...	1	1	1	...	2	2	1	36	13	43	22
Monmouth	11	6	1	...	2	3	1	1	1	1	8	1	24	12
Ocean	7	21	6	4	5	6	...	2	3	4	9	7	30	44
Salem	1	...	...	1	...	...	...	...	1	1	2	5	4	7
Fires that burned in more than one county .....	...	...	2	...	1	...	...	...	1	...	2	...	6	...
Totals	55	158	39	24	36	24	15	16	23	29	119	78	287	319
State totals	88	215	45	33	52	44	29	14	26	38	156	107	396	451
Per cent. of total.	36		9		11		5		8		31		.....

FF—Forest Fires.

eF—Embryo Fires (area less than 5 acres).

SMOKERS' FIRES

Each year as the interest of the wardens in knowing how their fires start increases, and as their thoroughness in determining causes improves, the number of fires attributed to smokers grows. There is no question that, were the facts known, this class of fires would absorb nearly all of those now listed as due to sportsmen and to unknown origins. (See Table IV.) As has been said in each previous report, the careless smoker, of all classes of menace to the forests, ranks as the most vicious and the most difficult to control. The fact that 4 per cent. more of the total number of fires than last year is so listed therefore in only small part shifts the burden of responsibility from the unknown to this class. That the actual number of smokers' fires (96) is double that of last year is probably due to more accurate reports, not to an increase in the usual carelessness of the smokers.

SPORTSMEN'S FIRES

That the sportsmen start many fires has long been a recognized fact. Annually the open seasons for gunners have been periods of stress in forest fire control, though that this should be so seems anomalous with interests so allied as those of forests and game. The year's record (See Table IV) shows an increase from 35 to 43 in the number of fires known to have been caused by sportsmen. During the first two weeks in November of a total of 212, 59 fires, a large part of which were exceptionally severe, are charged to this class. It is evident, therefore, that some drastic remedy is demanded. The fault lies not largely with the gunners as such, but in the fact that most hunters smoke and as smokers are careless in the extreme. The November record is conclusive in that despite an executive plea for caution, repeated press warnings, notices on game charts, emphatic public protests, and self evident conditions of extreme danger, they took no heed but left a trail of fire and destruction in their wake. It is true that the usual difficulty was aggravated this season by an exceptional drouth, but that fact should have inspired caution, as it did not. The deer hunters in particular, limited to a season of five days as they alone are, and penetrating the most remote sections, as they alone do, have been most culpable. Fires started in such locations

are necessarily tardy of discovery, hard to reach and difficult beyond others to control. The rabbit season, though longer and though it does not lead the gunners so far afield, presents its particular menace in the numbers it attracts and in the proportion of them to whom the danger from a small spark dropped in the woods is either unknown or unrealized, or is a matter of little concern.

Two remedies only are presented; namely, the insurance of adequate caution by each individual gunner or the removal of the incentive that now calls him out in such numbers and within a limited time. Fire barriers at their best are inadequate, effective patrol is plainly impossible, licensed guides, if effectual, are not feasible because of the numbers involved and the transitory character of the sportsmen.

MISCELLANEOUS FIRES

A small number of fires (see Table IV) come each year from causes too various and unstable to be specifically listed. Such fires this season have been more numerous than before but in proportion to the total are practically the same. Among others in this group are those started by tramways, by sawmills, by fireworks displays, from burning buildings and by children at play. In many of these instances each year, and in one aggravated case this year, the legislation that was sought last year would have prevented trouble. Wherever an obvious fire hazard is created some means should be available to correct or control the condition *before* a fire starts, or at least to render fires less aggravated if ignited. One of the fire service's most urgent needs is statutory power to enforce precautionary measures—such as patrols, slash disposal, mechanical changes or fire lines, wherever and whenever a serious risk is developed.

TABLE V.—THE RELATION OF THE PRINCIPAL RAILROADS OF THE STATE TO FOREST FIRES, 1914.

RAILROAD.	Forest Exposure in Miles.	Number of Fires Chargeable in 1914.		Claims Presented on Account 1914 Fires.		Proportion of Responsibility.	
		Total Number.	Per Each 10 Miles of Forest Exposure.	Number.	Amount.	Per cent. of Year's Railroad Fires Chargeable.	Per cent. of Year's Total Fires Chargeable.
D., L. & W.....	52	25	4.8	21	\$83.70	8	2.9
Erie	32	6	1.9	6	37.70	2	.7
Mt. Hope Mineral..	3	2	.....	2	6.00	.....	.2
N. J. Central.....	202	59	2.9	42	474.00	18	7.
N. Y., S. & W.....	29	50	17.	38	265.60	15	5.9
Pennsylvania	310	49	1.6	29	167.75	15	5.7
Raritan River.....	13	6	4.6	1	4.00	2	.7
Reading	157	120	7.7	90	454.75	37	14.
Tuckerton	38	5	1.3	3	13.12	1	.6
Wharton & Northern	15	2	1.3	.....	.....	.....	.2
Totals	†851	*324	3.8	232	1,506.72	.....	*37.6

† Does not represent the entire R. R. forest exposure of the State.

* Does not correspond to same figure in Table IV., because in several cases one report covered a number of fires, and in others the fires are classed as "Brush" because they escaped from tie heaps or right-of-way clearings.

THE FOREST FIRE SERVICE

THE STATE FORCE

The activity of the State Firewarden's force has continued to include the stimulation and instruction of the local fire service, but because of the effort previously made along these lines less emphasis in this direction has been necessary. The unusual climatic conditions and resultant bad fires made necessary personal attendance by the State and Division wardens at an unusually large number of fires. The volume of other business handled by the State wardens in the field was also far in excess of that in past years. (See Table VI.)

TABLE VI—SUMMARY OF FOREST FIRE BUSINESS 1914 WITH SOME COMPARATIVE FIGURES FROM THREE YEARS PRECEDING.

Year	Forest Fires Reported.	Embryo Fires Reported ‡	Cases Specially Investigated.	Cases Violation Fixed.	Local Fire Service.		Action on Supposed Violations During 1914. †						
					Townships Covered.	No. of Firewardens.	Individual.				Railroad Claims.		Dropped.
							Court Trial.		No Trial.		Settled.	Pending.	
							Settled.	Pending.	Settled.	Pending.			
1911 ...	309	239	206	237	100	228	...	...	...	...	6	....	....
1912 ...	214	331	133	235	111	261	...	3	...	...	39	....	5
1913 ...	311	361	96	348	113	269	2	1	21	...	121	....	10
1914 ...	396	451	235	369	118	277	1	1	78	29	168	58	34
Totals....							3	*5	99	29	334	§58	¶49

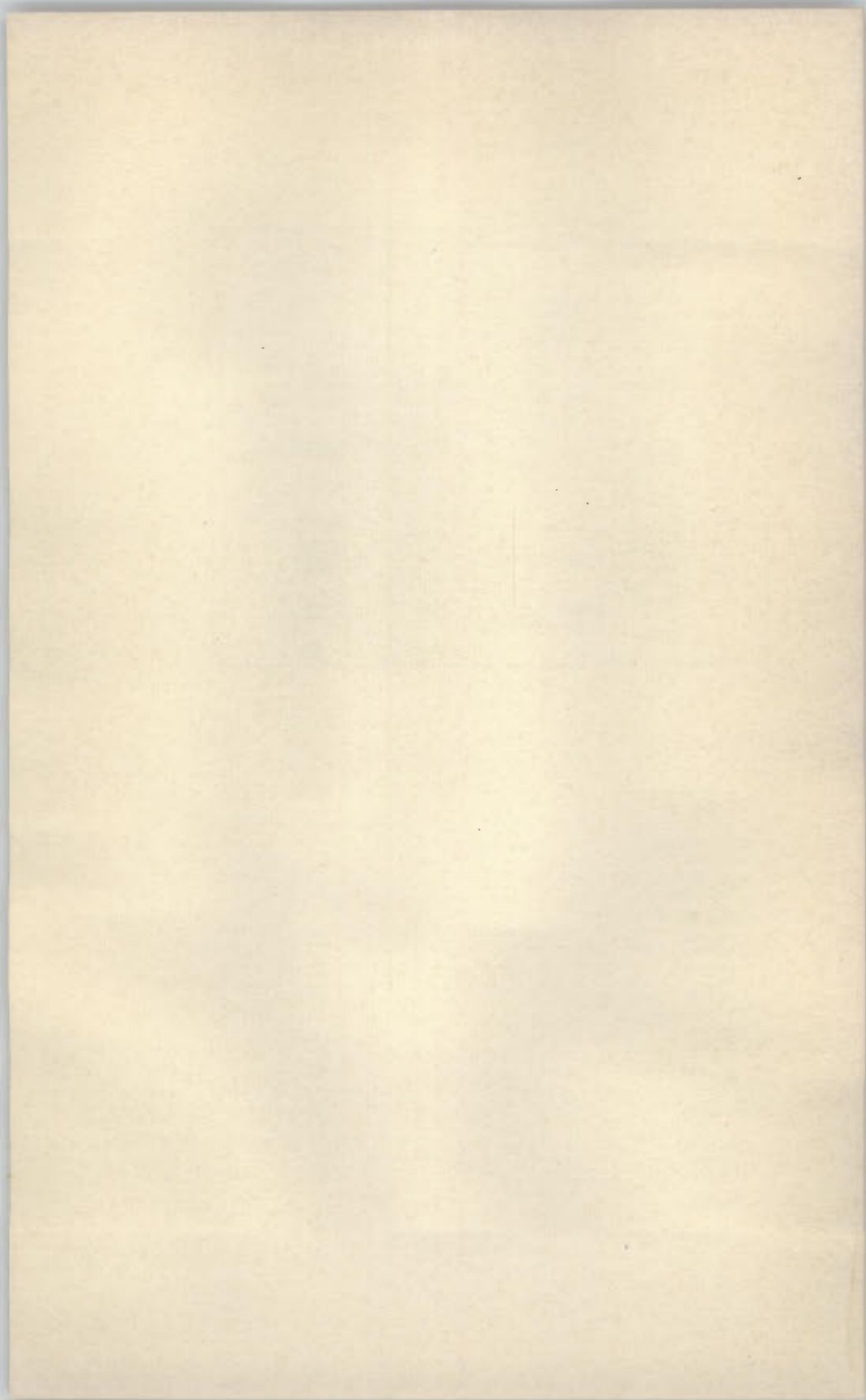
† See also Tables VIII, IX, and X.

‡ Burned less than 5 acres.

* Four cases now awaiting court decision on appeal. One 1914 case convicted, but judgment not yet satisfied.

§ All of these cases but 2 or 3 were settled shortly after the close of the official year, October 31, or are for fires that burned near that time.

¶ Mostly R. R. fires for which there was no bill or for which the township bill was presented too late to admit of claim.



NEW JERSEY'S LAW FORBIDS SETTING
FOREST FIRES
 It also requires a written permit for lighting fire near the woods.
 Don't throw away lighted matches, cigars, cigarettes or tobacco.
 Watch every lawful fire until it is dead.

LA LEGGE DEL NEW JERSEY PROIBISCE IL METTER
FUOCO AI BOSCHI
 Richiede ancora un permesso in iscritto per accendere i fuochi vicino ai Boschi.
 Non gittate via fiammiferi, sigari, sigarette o tabacco accesi.
 Guardate ogni fuoco legale, finchè è spento.

NEW JERSEY ÁLLAM TÖRVÉNYEI TILTJA
AZ ERDŐT FELGYUJTANI
 Csakis írott engedéllyel gyújthat tüzet közel erdőkhez.
 Ne dobjon el égő gyufát, szivart, cigarettát vagy dohányt a puszta.
 Vigyázzon hogy minden égő anyagot előbb kioltson.

דא געזעסן פון ניוזשיריד ערלויבט ניש צו מאכען
פיוער אין די וועלדער
 מען פא האבען א געשריבענען ערלויבעניש פיוער צו מאכען ליגען די וועלדער.
 וואסעס ניש אויסק ברוינענדיקע טראנקע, סיגארעס, סיגארעטעס אדער טאבאק.
 דעם ערען געקעגליבען פיוער ביז עס איז אויסגעלעשען.

STAN NEW JERSEY PRAWA ZABRANIA ZAPALAC
LASOWE OGNIE
 I tak samo ząda pisemnie pozwolenstwo azaby zapalic ognie przy lasach.
 Nie rzucaj zapalone zapalki, cygarety, papierosy, albo tobaki.
 Pilnowac kazdy wolny ognia do tegozacy az sie ugasi.

John Doe.....FIREWARDEN.....Palisades.....TOWNSHIP
FOREST PARK RESERVATION COMMISSION OF NEW JERSEY
 87-16 HIGHL. TRUSTEE

Fig. 22: Wherever this Poster is Seen a Permit is Required to Make Fire Near the Woods.

**DONT START
 FOREST FIRES**



**DROP NO LIGHTED MATCHES OR TOBACCO
 LEAVE NO FIRE UNWATCHED**
 FOREST PARK RESERVATION COMMISSION OF NEW JERSEY

Fig. 23: Warning Posted in all Parts of the State.

TWO FOREST FIRE POSTERS (Reduced).

LOCAL ORGANIZATION

The effort of the past year has been primarily to continue the strengthening and improvement of the existent local organization rather than to seek any enlargement of its scope. The service has been newly installed, however, in five townships as follows: Linwood Borough, Atlantic County; Green Township, Morris County; Plumstead Township, Ocean County; Upper Pittsgrove Township, Salem County; and Ogdensburg Borough, Sussex County. The number of wardens in the work locally has likewise seen an increase from 269 to 277. The year shows also for the second time comparatively few changes in the personnel, with the consequent advantage of a more stable organization and a growing esprit de corps.

Two new features of the service are important: First, the successful effort made to place local wardens in wilderness sections which heretofore have had no protection; and second, an improved condition of preparedness among many local wardens. This is evidenced in three ways: by the provision of fire fighting equipment by local governing bodies, by the organization of stable corps of helpers whose assistance is ready and whose abilities are known, and by the appointment of permanent deputies to substitute for the wardens when they are not immediately accessible. The value of the motor in securing more prompt, and therefore more efficient, service grows more apparent as its use becomes more general.

RURAL MAIL PATROL

An adjunct to the local warden system, the advantage of which is growing, is the co-operation first inaugurated by the United States Post Office Department in 1912. By a general order then issued, all rural mailmen were instructed to do forest fire patrol duty by notifying the nearest warden of all fires observed along their routes. Each year since then there has been increasing activity along this line, and a considerably wider interest has been evidenced the past year by the larger number of fires reported to firewardens.

FEDERAL FIRE PATROL

The fund provided by the Federal Government, under the so-called Weeks Law appropriation, for the maintenance of patrol

and lookout watchmen, was again continued for 1914. This sum, \$2,000, which by the terms of the law is applicable only to North Jersey, has made possible in the State an object lesson of the value of these features, the more general inauguration of which is elsewhere urged. (See p. 63.) In addition to the actual fire control service rendered, which this season has been particularly emphasized, the general impetus given to forest protection in the section covered has been very noticeable and helpful in the extreme.

The fire watcher at the Cedar Pond Lookout (see Fig. 3), who was on duty from the middle of April to the last of November, enabled the local firewardens in the territory he overlooked to have early knowledge of each forest fire in the district and in numerous instances small blazes, by being promptly reported, were cut off before they gained headway. Those in charge of the property of the city of Newark, through whose co-operation the station was made possible and on whose property the tower stands, are specific and emphatic in their testimony to the value of the protection afforded the city's large water supply area. Like commendation of the lookout's value has also come often from local wardens on other areas within its scope.

With the opening of May patrol was installed on two areas of special danger in Morris, Passaic and Sussex counties and was continued until the fall patrol was organized. As was the case on different though similar areas the preceding year, when the same system of mounted men was maintained, no large fires occurred on the areas so patrolled and the few small ones that did start were promptly suppressed. When the gunning season opened on October 10th this patrol was shifted and with the addition of seven more men was organized to control, as completely as could be, the localities most frequented by the gunners. The system again proved its efficiency, both by controlling numerous small fires in their incipiency and by securing assistance for the more dangerous fires with a promptitude commendable and valuable in the extreme.

FIREWARDEN'S REPORT.

TABLE VII.—FOREST FIRES BY COUNTIES AND TOWNSHIPS, 1914.

County and Township.	Number.		Acres Burned.	Loss to Forests and Other Property.	Cost to Extinguish.	Paid by †		
	Forest Fires.	Embryo Fires.				Township.	State.	Offenders.
<i>Atlantic County—</i>								
Absecon (City)	..	..	..	..	..	..	..	..
Buena Vista	9	8	2,028	\$1,600	\$134.85	\$44.67	\$44.68	\$45.50
Egg Harbor	13	11	10,085	11,205	433.57	146.48	146.47	140.60
Egg Harbor (City)	..	4	..	..	25.00	12.50	12.50	..
Folsom	..	..	..	..	..	..	..	..
Galloway	5	30	93	100	186.10	36.25	36.25	113.60
Hamilton	7	1	5,250	4,845	337.21	168.60	168.61	51.00
Hammonton	8	10	816	525	192.20	66.60	66.60	64.00
Linwood	..	..	..	..	..	..	..	..
Mullica	10	25	791	470	215.83	44.34	44.33	132.16
Pleasantville	..	..	..	..	..	..	..	..
Port Republic	..	..	..	..	..	..	..	..
Weymouth	11	19	1,130	1,585	323.97	135.97	135.98	52.00
Total	63	108	28,668	\$20,170	\$1,848.73	\$655.41	\$655.42	\$598.86
<i>Bergen County—</i>								
Franklin	1	..	30	\$60	\$14.40	\$7.20	\$7.20	..
Hohokus	1	..	750	750	..	..	..	..
Oakland (Boro.)	1	1	12	10	5.70	1.60	1.60	\$2.90
Ridgefield (Boro.)	..	1	..	..	2.00	1.00	1.00	..
Total	3	2	792	\$820	\$22.10	\$9.80	\$9.80	\$2.90
<i>Burlington County—</i>								
Bass River	4	1	296	\$340	\$171.86	\$82.63	\$82.63	\$25.00
Evesham	2	1	62	62	23.00	11.50	11.50	..
Medford	4	2	1,495	2,980	314.82	157.41	157.41	..
New Hanover	2	..	400	600	48.40	24.20	24.20	..
Pemberton	1	..	500	500	107.00	20.00	87.00	5.00
Shamong	5	1	1,273	2,275	312.82	123.03	123.03	66.76
Southampton	2	1	100	85	23.95	11.97	11.98	..
Tabernacle	2	1	150	150	20.00	3.00	3.00	14.00
Washington	1	2	8	38	21.40	6.00	6.00	6.00
Woodland	11	3	8,225	6,525	379.80	179.90	179.90	20.00
Total	34	12	12,509	\$13,555	\$1,423.05	\$619.64	\$686.65	\$136.76
<i>Camden County—</i>								
Berlin	2	1	40	\$40	\$4.00	\$2.00	\$2.00	..
Chesilhurst (Boro.)	..	1	..	..	3.00	1.50	1.50	..
Clementon	4	4	64	50	64.00	29.50	29.50	\$5.00
Delaware	..	1	..	..	10.00	5.00	5.00	..
Gloucester	2	2	65	140	26.85	12.67	12.68	1.50
Voorhees	1	3	25	25	29.45	12.23	12.22	5.00

60 REPORT OF THE FOREST COMMISSION.

TABLE VII.—FOREST FIRES BY COUNTIES AND TOWNSHIPS, 1914.—Continued.

County and Township.	Number.		Acres Burned.	Loss to Forests and Other Property.	Cost to Extinguish.	Paid by †		
	Forest Fires.	Embryo Fires.				Township.	State.	Offenders.
<i>Camden County—Con.</i>								
Waterford	2	1	170	220	39.60	19.80	19.80	5.00
Winslow	9	31	510	832	205.15	30.72	30.73	143.70
Total	20	44	874	\$1,302	\$382.05	\$113.42	\$113.43	\$160.20
<i>Cape May County—</i>								
Dennis	5	2	3,270	\$2,975	\$574.68	\$265.22	\$265.21	\$44.25
Lower	9	9	.....	.....	19.25	5.62	5.63	8.00
Middle	4	22	460	1,110	146.90	48.15	48.15	50.60
Upper	9	5	1,778	2,405	271.30	85.00	85.00	101.30
Woodbine (Boro.)	4	...	340	340	33.20	16.60	16.60	.....
Total	22	38	5,848	\$6,830	\$1,045.33	\$420.59	\$420.59	\$204.15
<i>Cumberland County—</i>								
Commercial	3	1	206	\$125	\$109.05	\$54.52	\$54.53	\$10.00
Deerfield	7	4	982	915	71.00	32.50	32.50	6.00
Downe	2	3	35	125	122.90	61.45	61.45	.....
Fairfield	4	...	388	900	46.00	23.00	23.00	.....
Landis	10	4	1,285	1,837	189.10	88.97	88.98	11.15
Lawrence	1	1	50	100	23.30	11.15	11.15	.....
Maurice River	7	1	3,195	2,385	549.89	269.18	269.18	11.50
Millville (City)	8	11	700	785	153.30	76.65	76.65	.....
Total	42	25	6,841	\$7,172	\$1,263.54	\$617.42	\$617.44	\$38.65
<i>Gloucester County—</i>								
Clayton (Boro.)	2	...	33	\$35	\$26.50	\$2.75	\$2.75	\$21.00
Elk	1	...	100	100	6.00	3.00	3.00	.....
Franklin	6	2	518	1,245	147.25	71.62	71.63	4.00
Monroe	9	3	563	725	154.77	60.63	60.64	32.00
Total	18	5	1,214	\$2,205	\$334.52	\$138.00	\$138.02	\$57.00
<i>Mercer County—</i>								
Princeton	1	1	.....	.....	\$4.00	\$2.00	\$2.00	.....
Total	1	1	.....	.....	\$4.00	\$2.00	\$2.00	.....
<i>Middlesex County—</i>								
East Brunswick	9	3	597	\$940	\$145.15	\$72.57	\$72.58	.....
Madison	9	6	635	1,195	228.35	105.97	105.98	\$16.40
Monroe	5	...	904	825	187.00	93.50	93.50	.....
Sayreville	20	13	2,316	2,180	231.40	113.70	113.70	4.00
South Brunswick	1	1	.....	.....	.....	.....	.....	.....
Total	43	22	4,428	\$5,310	\$791.90	\$385.74	\$385.76	\$20.40

FIREWARDEN'S REPORT.

TABLE VII.—FOREST FIRES BY COUNTIES AND TOWNSHIPS, 1914.—Continued.

County and Township.	Number.		Acres Burned.	Loss to Forests and Other Property.	Cost to Extinguish.	Paid by †		
	Forest Fires.	Embryo Fires.				Township.	State.	Offenders.
<i>Monmouth County—</i>								
Atlantic	1	4	350	\$350	\$34.25	\$13.12	\$13.13	\$8.00
Freehold	7	...	972	1,205	215.55	107.77	107.78	.....
Howell	13	6	462	758	343.15	62.15	62.15	218.85
Middleton .....	...	...	...	...	...	...	...	...
Shrewsbury	4	2	1,350	2,540	92.80	20.82	20.83	53.15
Wall	1	...	40	100	21.50	10.75	10.75	.....
Total	26	12	3,174	\$4,953	\$707.25	\$214.61	\$214.64	\$280.00
<i>Morris County—</i>								
Boonton	1	...	20	\$20	.....	.....	.....	.....
Denville	2	6	20	20	\$19.00	\$1.00	\$1.00	\$17.00
Hanover	10	9	742	949	175.00	83.50	83.50	13.00
Jefferson	6	3	154	2,160	229.81	113.41	113.40	3.00
Montville	5	2	118	118	34.50	14.75	14.75	5.00
Mt. Arlington .....	...	...	.....	.....	.....	.....	.....	.....
Mt. Olive .....	..	1	.....	.....	10.10	5.05	5.05	.....
Pequannock	8	13	272	390	231.50	69.00	69.00	93.50
Randolph	6	...	195	355	56.80	28.40	28.40	.....
Rockaway	9	10	279	416	255.40	124.70	124.70	6.00
Roxbury	5	3	339	410	86.55	26.85	26.85	32.85
Total	52	47	2,139	\$4,838	\$1,098.66	\$466.66	\$466.65	\$170.35
<i>Ocean County—</i>								
Berkeley	9	2	427	\$550	\$129.60	\$29.87	\$29.88	\$69.85
Brick	4	1	525	1,030	216.20	108.10	108.10	.....
Dover	1	3	10	15	36.20	18.10	18.10	8.00
Eagleswood .....	...	...	.....	.....	.....	.....	.....	.....
Jackson	3	3	850	1,425	128.45	60.23	60.22	8.00
Lacey	9	13	950	1,210	319.50	119.45	119.45	80.60
Lakewood .....	..	4	.....	.....	30.00	12.00	12.00	6.00
Little Egg Harbor....	1	1	100	105	11.25	1.62	1.63	10.00
Manchester	2	11	1,200	2,430	119.55	13.55	13.55	97.45
Ocean .....	...	...	.....	.....	.....	.....	.....	.....
Plumstead	1	1	8	10	7.00	3.50	3.50	.....
Stafford	1	3	10	10	27.00	8.50	8.50	10.00
Union .....	..	2	.....	.....	31.70	11.25	11.25	9.20
Total	31	44	4,080	\$6,775	\$1,056.45	\$386.17	\$386.18	\$299.10
<i>Passaic County—</i>								
Pompton	11	8	1,840	\$1,172	\$319.50	\$145.90	\$145.90	\$27.70
West Milford	13	14	3,418	3,735	706.25	298.90	298.90	108.45
Total	24	22	5,258	\$4,907	\$1,025.75	\$444.80	\$444.80	\$136.15

TABLE VII.—FOREST FIRES BY COUNTIES AND TOWNSHIPS, 1914.—Continued.

County and Township.	Number.		Acres Burned.	Loss to Forests and Other Property.	Cost to Extinguish.	Paid by †		
	Forest Fires.	Embryo Fires.				Township.	State.	Offenders.
<i>Salem County—</i>								
Alloway	1	2	80	\$200	.....	.....	.....	.....
Lower Alloways Creek	2	1	45	70	\$65.00	\$32.50	\$32.50	.....
Pittsgrove	1	4	45	300	31.00	15.50	15.50	.....
Quinton	1	...	8	10	6.25	.....	.....	\$6.25
Upper Pittsgrove	1	...	700	1,000	34.10	17.05	17.05	.....
Total	6	7	878	\$1,580	\$136.35	\$65.05	\$65.05	\$6.25
<i>Somerset County—</i>								
Bernard .....	...	10	.....	.....	\$97.75	\$29.50	\$29.50	\$38.75
Bridgewater	5	4	145	\$180	81.25	40.62	40.63	.....
North Plainfield	10	10	590	765	171.75	75.25	75.25	25.00
Warren	1	2	80	100	20.00	9.00	9.00	2.00
Total	16	26	815	\$1,045	\$370.75	\$154.37	\$154.38	\$65.75
<i>Sussex County—</i>								
Byram	2	1	157	\$260	\$35.30	\$12.90	\$12.90	\$9.50
Frankford .....	...	...	.....	.....	.....	.....	.....	.....
Green	1	...	400	750	25.85	12.92	12.93	.....
Hampton .....	...	...	.....	.....	.....	.....	.....	.....
Hardyston	4	6	151	633	72.85	11.75	11.75	49.35
Hopatcong .....	...	...	.....	.....	.....	.....	.....	.....
Montague	1	1	9	100	22.90	11.45	11.45	.....
Ogdensburg .....	...	...	.....	.....	.....	.....	.....	.....
Sandyston .....	...	...	.....	.....	.....	.....	.....	.....
Sparta	6	3	254	360	72.45	27.62	27.63	7.00
Stillwater .....	...	...	.....	.....	.....	.....	.....	.....
Vernon	3	2	92	120	77.40	28.70	28.70	10.00
Wallpack .....	...	...	.....	.....	.....	.....	.....	.....
Wantage .....	...	...	.....	.....	.....	.....	.....	.....
Total	17	13	1,063	\$2,223	\$306.75	\$105.34	\$105.36	\$85.85
<i>Warren County—</i>								
Allamuchy	1	...	25	\$25	\$17.00	\$8.50	\$8.50	.....
Blairstown .....	...	1	.....	30	4.50	.....	.....	5.00
Hardwick .....	...	...	.....	.....	.....	.....	.....	.....
Knowlton	3	13	49	130	43.50	1.00	1.00	41.50
Pahaquarry .....	...	9	.....	5	4.00	2.00	2.00	.....
Total	4	23	74	\$190	\$69.00	\$11.50	\$11.50	\$46.50
State total	* 427	451	78,655	\$83,880	\$11,837.13	\$4,828.52	\$4,877.67	\$2,308.86

* This total is greater than the actual number (396) because in 31 cases one fire burned in two or more townships.

† The sum of these columns often differs from the corresponding "Cost to extinguish" item because a fine was larger than the bill, or a bill was withdrawn, etc.

FIREWARDENS' CONFERENCES

Pursuing a plan inaugurated first in 1913, conferences of local wardens were held in March of this year, one in each of the four divisions. (See Fig. 18.) Though hampered by bad weather in two instances the attendance was unexpectedly large, and, as was the case in the first series of meetings, each gathering was felt to be a thorough success. Two results of particular value have grown out of these meetings: One is a spirit of more ready co-operation between the wardens of adjoining townships which gives the fire service greater power as a unit by weakening the importance of political boundaries, the strict recognition of which has always been a severe handicap. The other is an increased understanding by individual wardens that the movement for forest protection, of which they are a part, is State wide and permanent, and, therefore, more worth while.

EXTENSIONS NEEDED

The progress so far made appears to be substantial and the foundation laid locally promises continuing growth. As a fire fighting machine the existent service, while it has its weak links, is developing into an effective unit. There are, however, some features of forest protection at present not in use in this State whose value is certain and provision for which, already advocated in previous reports, is again urged.

With fire fighters available as they are now in New Jersey, and with fires sure to start, a system of prompt detection and attack is the paramount need. The local wardens and the Division wardens are all helping to discover fires early and get fighters to them while small, but because of the area that must be covered, and the palpable impossibility of expecting the local, low-salaried wardens to be always on guard, some more effective agency is required. The experience during a period of years of both the Federal Forest Service and many of the States has proven beyond question that a corps of fire watchers is the best guarantee of prompt attack at all fires. And this conclusion is fully supported by the results obtained in North Jersey in connection with the fire lookout which has been maintained for the past two years through Federal aid and in co-operation with the City of Newark

on their water supply property. (See p. 58, Fig. 3.) Funds so far provided have not been sufficient to permit of such work as a State enterprise and continued effort, made for three years past, has determined that such protection cannot be secured by co-operation with the private interests involved. It is plain, therefore, that if this most important feature, the need of which is imperative, is to be established, the cost must be borne by the State.

In certain locations and at certain times there should also be fire patrolmen. In fire prevention such a force has more value than any other one factor. The patrol is also of proven value in promptly controlling fires that start. This is confirmed by the State's own experience in North Jersey for four years under the Federal Patrol (see p. 57), as well as by that of the Federal Government, many States, protective associations and private timber interests. The advantage of this means of security should not be withheld from the endangered areas in South Jersey for which it is not now available. Nor should its withdrawal from the northern area be made requisite if a continuation of the generous Federal provision of the past is interrupted.

VIOLETIONS

New Jersey still maintains its unique position as the most vigorous enforcer of a forest fire law. This year the responsibility for 43 per cent. of the total number of reported fires was fixed on the originator. Despite this fact, however, prosecutions again have been few, the policy pursued being corrective, not punitive. Intentional, malicious and even negligent violation of the law is fast growing less. This is due unquestionably to the rigorous but fair enforcement of the statute, engendering as it has both widespread knowledge of its provisions and sympathy with its aims.

Although the penalties collected increase in number and aggregate amount each year the attitude engendered by the settlement of each case on its individual merits is evidenced by the following letters, which are but two of a number of like nature received.

"Kindly find my check enclosed for \$2.00 as per your favor of the 14th instant. I thank the Commission for their courtesy and fairness in the matter."

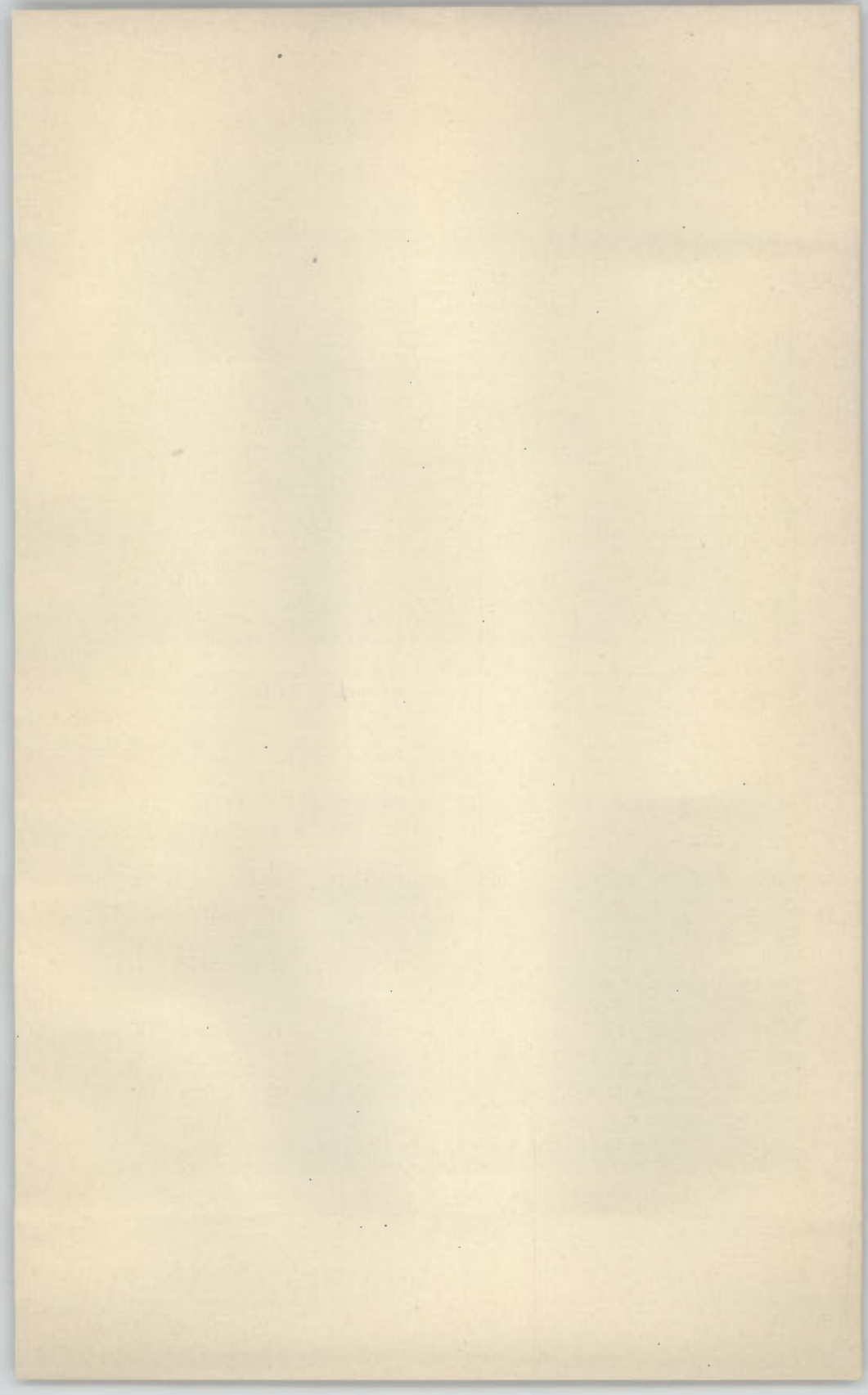




Fig. 24: Forest Fires Are Easily Started, as Here, When a Woods Road is Filled With, and Bordered By, Inflammable Material.



Fig. 25: Forest Fires Are Less Likely to be Started Where Roads Are Kept Clean Like This.

"Please accept my most sincere thanks for the kind consideration which you gave this matter, and I appreciate very much the leniency which you have shown. Previous to the fire, my experience in matters of this kind was very limited indeed; but now, after my experience, I can fully realize the importance of this branch of your work and the great good that can be accomplished by it, and can assure you that, unless caused by conditions entirely beyond my control, there will be no repetition of this experience on any property which I possess. I am not acquainted with the Firewarden, and I would be greatly obliged if you will extend to him my sincere thanks for the work that he and his men did; or, if you will advise me his name and address, I will write him myself.

"Thanking you again for your kind letter, and if at any time there is anything I can do to assist you in your work, kindly advise me. I will send you check for \$21.50, as requested, before July 15th."

Of the new business in 1914, final disposition already has been made of 76 per cent. As is usual, over one-half of the 88 unfinished cases are railroad claims, disposal of most of which is promised before the end of the calendar year.

In 1914 there were 27 known violations of a purely technical nature, that is, where a brush fire was set without a permit but no forest fire burned. This is an increase of more than 100 per cent. over the figure for last year and represents increased activity on the part of the wardens. Though it is certain that in some sections such violations often occur and are unknown, there is no doubt that their number is decreasing year by year through the wider alertness of the local wardens in their detection and through their growing willingness to make such offenses known. The advance in apprehending fires so started is the measure of reduced danger from needless brush fires.

In addition to the new business there were 208 cases carried from former years. The year closed with action still pending on but four of them; the settlement of these awaits the decisions of the courts on appeal.

TABLE VIII.—VIOLATIONS OF THE FOREST FIRE LAW HANDLED IN 1914: STATUS OCTOBER 31, 1914

Kind of Violation	1911 Cases Carried Over.		1912 Cases Carried Over.				1913 Cases Carried Over.				1914 Cases.					Totals.					Additional Cases Settled between Nov. 1, 1914, and Apr. 1, 1915.†
	Totals.	Settled.	Totals.	Pending.	Settled.	Dropped.	Totals.	Pending.	Settled.	Dropped.	Totals.	Pending.	Settled.	Dropped.	Offender out of Jurisdiction.	Totals.	Pending.	Settled.	Dropped.	Offender out of Jurisdiction.	
Railroad	6	6	43	...	39	4	126	...	121	5	250	58	168	24	.....	425	58	334	§33	.....	52
Brush Burning ..	...	...	4	*3	...	1	21	†1	17	3	80	14	60	3	...	105	18	77	7	...	7
Smokers .....	...	...	...	...	...	...	3	...	1	2	16	5	8	3	.....	19	5	9	5	.....	3
Miscellaneous ...	...	...	...	...	...	...	5	...	5	...	21	7	10	4	.....	26	7	15	4	.....	4
Totals	6	6	47	*3	39	5	155	†1	144	10	367	84	246	34	...	575	88	435	49	...	66

‡ The official year ends Oct. 31. This section, therefore, is not strictly a part of this report.

* All cases on which the disposition awaits only on the court decision on appeal.

† Offender tried and convicted but judgment not yet satisfied.

§ Dropped in almost every instance because the township bill was not presented or was received too late to admit of claim.

TABLE IX—SUMMARY OF CLAIMS AGAINST THE VARIOUS RAILROADS ON ACCOUNT OF FOREST FIRES, 1914.

RAILROAD.	Disposition of Claims in 1914.														Supplement.*			
	1911 Cases Carried Over.		1912 Cases Carried Over.			1913 Cases Carried Over.			1914 Cases.				Total Cases Handled.				Cases Settled Since Nov. 1, 1914.	Cases Still Pending Dec. 15, 1914.
	Totals.	Settled.	Totals.	Settled.	Dropped.	Totals.	Settled.	Dropped.	Totals.	Pending.	Settled.	Dropped.	Totals.	Pending.	Settled.	Dropped.		
D., L. & W.....	2	2	....	5	5	....	21	1	19	1	28	1	26	1	....	1
Erie	1	1	....	6	2	4	....	6	2	4	....	....	2
Lehigh & Hudson.....	1	1	....	....	....	....	....	1	....	1	....	....	....
Lehigh & New Eng.....	2	2	....	....	....	....	....	2	....	2	....	....	....
Mt. Hope Mineral.....	2	2	....	....	2	2	....	....	2	....
N. J. Central.....	42	40	2	48	14	28	6	90	14	68	8	....	14
N. Y. S. & W.....	4	4	....	25	23	2	43	15	22	6	72	15	49	8	4	11
Pennsylvania	6	6	35	31	4	15	14	1	29	9	20	....	85	9	71	5	....	9
Raritan River	5	....	1	4	5	....	1	4	....	....
Reading	2	2	....	33	33	....	92	13	73	6	127	13	108	6	6	7
Tuckerton	3	3	....	4	2	1	1	7	2	4	1	1	1
Totals.....	6	6	43	39	4	126	121	5	250	‡58	168	24	425	58	334	33	13	‡45

* The official year closes October 31. This section is therefore not strictly a part of this report.

‡ The majority of these claims are for fires that burned in the later days of October.

PENALTIES COLLECTED

A total of \$3,099.56 was collected in penalties during the year, of which amount the railroads paid \$2,278.32 and other persons or agencies \$821.24. Under the law each penalty is applied to the cost of fire fighting so as to relieve in equal part the townships concerned and the State of the expense involved. The figure for this year sets a new maximum of fire fighting charges transferred from public treasuries to the persons through whose laxity they were incurred.

PUBLICITY

This phase of the Fire Service work again merits special notice. In the last analysis it is from the individual that we must look for complete fire control: first, by preventing the start of fires through the development of an adequate spirit of caution in the use of matches and of fire; and second, by an aroused purpose to suppress all blazes while small, through the growth of a vital interest in curtailing the annual fire waste. To this end the continued hearty co-operation of the press and the distribution of the usual annual publication help, but means should be afforded to provide printed and pictorial matter for distribution in quantity, and for educational and instructive material for use at fairs and exhibitions.

TABLE X.—VIOLATIONS OF THE FOREST FIRE LAW, 1914.

DATE.	COUNTY AND TOWNSHIP.	OFFENDER.	OFFENSE.	SETTLEMENT.
Atlantic County—				
January 18	Buena Vista	Reading R. R.	Fire set by locomotive	Paid firewarden's bill, \$5.00.
January 21	Buena Vista	Reading R. R.	Fire set by locomotive	Paid firewarden's bill, \$5.00.
February 9	Buena Vista	Reading R. R.	Fire set by locomotive	Paid firewarden's bill, \$3.00.
April 7	Buena Vista	Pennsylvania R. R.	Fire set by locomotive	Paid firewarden's bill, \$3.00.
April 22	Buena Vista & Hamilton.	J. Schmonell	Set fire without permit and allowed it to escape	Pending, fled jurisdiction.
April 28	Buena Vista	Charles Baker	Set fire without permit	Paid fine, \$10.00.
April 28	Buena Vista	Serafino Picatazi	Set fire without permit	Released with warning.
May 18	Buena Vista	A. Gentile	Allowed brush fire to escape	Paid fine, \$2.00.
May 29	Buena Vista	Reading R. R.	Fire set by locomotive	Paid firewarden's bill, \$11.50.
May 31	Buena Vista	Reading R. R.	Fire set by locomotive	Pending, claim submitted.
July 23	Buena Vista	Reading R. R.	Fire set by locomotive	Paid firewarden's bill, \$4.00.
April 14	Egg Harbor	Robiczek and Seaman	Narrow gauge locomotive caused fire	Pending.
April 17	Egg Harbor	Robiczek and Seaman	Narrow gauge locomotive caused fire	Pending.
April 23	Egg Harbor	Andrew Booy	Allowed brush fire to escape	Paid fine, \$5.00.
April 24	Egg Harbor	Robiczek and Seaman	Narrow gauge locomotive caused fire	Pending.
May 14	Egg Harbor	Robiczek and Seaman	Narrow gauge locomotive caused fire	Pending.
May 18	Egg Harbor	William Mooney	Set fire without permit and allowed it to escape	Paid fine, \$6.00.
May 19	Egg Harbor	Robiczek and Seaman	Narrow gauge locomotive caused fire	Pending.
November 15	Galloway	Reading R. R.	Fire set by locomotive	Paid firewarden's bill, \$3.00.
November 25	Galloway	Reading R. R.	Fire set by locomotive	Paid firewarden's bill, \$8.00.
December 6	Galloway	Reading R. R.	Fire set by locomotive	Paid firewarden's bill, \$5.00.
April 11	Galloway	Reading R. R.	Fire set by locomotive	Paid firewarden's bill, \$5.00.
April 19	Galloway	Pennsylvania R. R.	Fire set by locomotive	Paid firewarden's bill, \$4.00.
April 23	Galloway	Reading R. R.	Fire set by locomotive	Paid firewarden's bill, \$5.00.
April 23	Galloway	Reading R. R.	Fire set by locomotive	Paid firewarden's bill, \$2.00.
May 1	Galloway	Reading R. R.	Fire set by locomotive	Paid firewarden's bill, \$2.00.
May 7	Galloway	Reading R. R.	Fire set by locomotive	Paid firewarden's bill, \$3.00.
May 10	Galloway	Reading R. R.	Fire set by locomotive	Paid firewarden's bill, \$2.00.
May 10	Galloway	Reading R. R.	Fire set by locomotive	Paid firewarden's bill, \$2.00.
May 15	Galloway	Reading R. R.	Fire set by locomotive	Paid firewarden's bill, \$4.00.
May 22	Galloway	Reading R. R.	Fire set by locomotive	Paid firewarden's bill, \$4.00.
May 23	Galloway	Reading R. R.	Fire set by locomotive	Paid firewarden's bill, \$2.00.
May 26	Galloway	Reading R. R.	Fire set by locomotive	Paid firewarden's bill, \$6.00.
May 27	Galloway	Reading R. R.	Fire set by locomotive	Paid firewarden's bill, \$4.00.

TABLE X.—VIOLATIONS OF THE FOREST FIRE LAW, 1914—Continued.

DATE.	COUNTY AND TOWNSHIP.	OFFENDER.	OFFENSE.	SETTLEMENT.
	Atlantic County—Con.			
May 31	Galloway	Pennsylvania R. R.	Fire set by locomotive	Paid firewarden's bill, \$6.00.
June 3	Galloway	Pennsylvania R. R.	Fire set by locomotive	Paid firewarden's bill, \$12.00.
June 7	Galloway	Reading R. R.	Fire set by locomotive	Paid firewarden's bill, \$5.00.
June 18	Galloway	Reading R. R.	Fire set by locomotive	Paid firewarden's bill, \$8.00.
June 20	Galloway	Pennsylvania R. R.	Fire set by locomotive	Paid firewarden's bill, \$2.00.
July 21	Galloway	Reading R. R.	Fire set by locomotive	Paid firewarden's bill, \$5.00.
July 23	Galloway	Reading R. R.	Fire set by locomotive	Paid firewarden's bill, \$5.00.
September 29	Galloway	Pennsylvania R. R.	Fire set by locomotive	Pending, claim submitted.
October 10	Galloway	Pennsylvania R. R.	Fire set by locomotive	Pending, claim submitted.
February 4	Hamilton	Mrs. Maggie Roetz	Set fire without permit	Released with warning.
April 22	Hamilton	Charles McCombs, et als..	Set camp fire without permit	Prosecuted, convicted and served jail sentence.
April 25	Hamilton	Joseph Barthat	Set fire without permit	Paid fine, \$1.00.
April 29	Hamilton	Joseph Thorpe	Set fire without permit	Released with warning.
November 23	Hammonton	Albert Brown	Set fire by careless smoking	Paid fine, \$5.00.
March 27	Hammonton	Reading R. R.	Fire set by locomotive	Paid firewarden's bill, \$2.75.
April 18	Hammonton	Edw. J. Beglin	Allowed brush fire to escape	Released with warning.
April 22	Hammonton	Antonio Caruso	Set fire without permit and allowed it to escape	Released with warning.
April 23	Hammonton	Joseph Scheffner	Allowed brush fire to escape	Paid fine, \$12.00.
May 2	Hammonton	Lloyd Sorden	Set fire without permit and allowed it to escape	Paid fine, \$2.00.
May 2	Hammonton	Antonio Bernato	Set fire without permit	Paid fine, \$5.00.
May 23	Hammonton	Pennsylvania R. R.	Fire set by locomotive	Paid firewarden's bill, \$4.00.
May 27	Hammonton	Reading R. R.	Fire set by locomotive	Paid firewarden's bill, \$5.00.
June 3	Hammonton	Pennsylvania R. R.	Fire set by locomotive	Paid firewarden's bill, \$5.00.
June 6	Hammonton	Reading R. R.	Fire set by locomotive	Paid firewarden's bill, \$4.00.
June 10	Hammonton	Joseph Tomasella	Set fire by careless smoking	Released with warning.
June 18	Hammonton	Reading R. R.	Fire set by locomotive	Paid firewarden's bill, \$6.00.
October 12	Hammonton	Columbus Day Society	Fire caused by fireworks	Paid fine, \$13.25.
December 13	Mullica	Reading R. R.	Fire set by locomotive	Paid firewarden's bill, \$1.75.
January 20	Mullica	John Reynolds	Set fire without permit	Paid fine, \$10.00.
April 10	Mullica	Mike Cwiwk	Set fire without permit	Paid fine, \$10.00.
April 11	Mullica	Pennsylvania R. R.	Fire set by locomotive	Paid firewarden's bill, \$8.00.
April 12	Mullica	Pennsylvania R. R.	Fire set by locomotive	Paid firewarden's bill, \$3.00.
April 18	Mullica	Reading R. R.	Fire set by locomotive	Paid firewarden's bill, \$6.00.
April 22	Mullica	Edward G. Heal	Set fire without permit and allowed it to escape	Released, secured withdrawal of bill from fire fighters.
April 24	Mullica	Reading R. R.	Fire set by locomotive	Paid firewarden's bill, \$2.00.
May 16	Mullica	Reading R. R.	Fire set by locomotive	Paid firewardens bill, \$66.16.

TABLE X.—VIOLATIONS OF THE FOREST FIRE LAW, 1914—Continued.

DATE.	COUNTY AND TOWNSHIP.	OFFENDER.	OFFENSE.	SETTLEMENT.
May 19	Atlantic County—Con. Mullica	Elwood Vigilance Committee	Set fire without permit	Dropped; insufficient evidence.
May 31	Mullica	Pennsylvania R. R.	Fire set by locomotive	Paid firewarden's bill, \$2.00.
June 12	Mullica	Joseph Popeal	Fire set by careless smoking	Released with warning.
September 10	Mullica	Pennsylvania R. R.	Fire set by locomotive	Pending.
September 30	Mullica	Reading R. R.	Fire set by locomotive	Paid firewarden's bill, \$5.00.
October 6	Mullica	Italian Laborer—name unknown	Set fire without permit and allowed it to escape	Pending—fled jurisdiction.
October 10	Mullica	Pennsylvania R. R.	Fire set by locomotive	Pending, claim submitted.
October 11	Mullica	Reading R. R.	Fire set by locomotive	Pending, claim submitted.
October 29	Mullica	Pennsylvania R. R.	Fire set by locomotive	Pending.
October 29	Mullica	Pennsylvania R. R.	Fire set by locomotive	Pending.
October 31	Mullica	Reading R. R.	Fire set by locomotive	Pending.
April 7	Weymouth	Reading R. R.	Fire set by locomotive	Paid firewarden's bill, \$4.00.
April 13	Weymouth	Reading R. R.	Fire set by locomotive	Paid firewarden's bill, \$1.00.
April 18	Weymouth	Reading R. R.	Fire set by locomotive	Paid firewarden's bill, \$1.00.
May 26	Weymouth	Reading R. R.	Fire set by locomotive	Paid firewarden's bill, \$5.00.
May 26	Weymouth	Reading R. R.	Fire set by locomotive	Pending, claim submitted.
May 30	Weymouth	Reading R. R.	Fire set by locomotive	Paid firewarden's bill, \$11.00.
May 31	Weymouth	Reading R. R.	Fire set by locomotive	Paid firewarden's bill, \$1.00.
May 31	Weymouth	Reading R. R.	Fire set by locomotive	Pending, claim submitted.
June 2	Weymouth	Reading R. R.	Fire set by locomotive	Paid firewarden's bill, \$1.00.
June 20	Weymouth	Reading R. R.	Fire set by locomotive	Paid firewarden's bill, \$1.00.
June 20	Weymouth	Reading R. R.	Fire set by locomotive	Paid firewarden's bill, \$3.00.
June 21	Weymouth	Reading R. R.	Fire set by locomotive	Paid firewarden's bill, \$3.00.
June 21	Weymouth	Reading R. R.	Fire set by locomotive	Paid firewarden's bill, \$4.00.
June 24	Weymouth	Reading R. R.	Fire set by locomotive	Paid firewarden's bill, \$3.00.
July 27	Weymouth	Reading R. R.	Fire set by locomotive	Paid firewarden's bill, \$2.00.
October 22	Bergen County— Oakland	New York Susquehanna & Western R. R.	Fire set by locomotive	Pending, claim submitted.
April 6	Burlington County— Bass River	M. A. Loveland	Allowed brush fire to escape	Dropped.
April 13	Bass River	Samuel B. Anderson	Allowed brush fire to escape	Paid fine, \$25.00.
April 13	Bass River	C. C. Seamons	Set fire without permit	Dropped.
March 27	Medford	John Liden	Set fire without permit and allowed it to escape	Released with warning.
May 2	Pemberton	Joseph J. White	Employee set fire without permit	Paid fine, \$5.00.
October 1	Shamong	George Taylor	Set fire without permit	Pending.

TABLE X.—VIOLATIONS OF THE FOREST FIRE LAW, 1914—Continued.

DATE	COUNTY AND TOWNSHIP.	OFFENDER.	OFFENSE.	SETTLEMENT.
Burlington County—Con.				
October 27	Shamong	New Jersey Central R. R.	Fire set by locomotive	Pending, claim submitted.
October 30	Shamong	New Jersey Central R. R.	Fire set by locomotive	Pending.
May 1	Tabernacle	New Jersey Central R. R.	Fire set by locomotive	Paid firewarden's bill, \$14.00.
May 2	Washington	George Gossler	Allowed brush fire to escape	Released, secured with withdrawal of bill from fire fighters.
June 16	Washington	Frank Downs	Set fire with permit and allowed it to escape	Paid fine, \$6.00.
May 1	Woodland	Victor Ritzendollar	Allowed brush fire to escape	Released with warning.
May 20	Woodland & Bass River	L. Weiser	Allowed brush fire to escape	Paid fine, \$20.00.
Camden County—				
April 24	Clementon	J. Y. Blank	Set fire without permit and allowed it to escape	Paid fine, \$5.00.
January 18	Gloucester	Reading R. R.	Fire set by locomotive	Dropped, township bill too tardy.
March 25	Gloucester	Reading R. R.	Fire set by locomotive	Paid firewarden's bill, \$1.50.
May 18	Voorhees	David Smith	Set fire without permit and allowed it to escape	Paid fine, \$5.00.
September 5	Voorhees	Mrs. Sarah Brown	Fire escaped from camp fire	Released with warning.
April 7	Waterford	Sasto Intestomino	Set fire without permit	Paid fine, \$5.00.
May 20	Waterford	A. G. Barker	Set fire without permit and allowed it to escape	Pending.
June 7	Waterford	Denton Greenwell	Allowed brush fire to escape	Dropped; offender fled jurisdiction.
January 14	Winslow	Reading R. R.	Fire set by locomotive	Paid firewarden's bill, \$5.00.
January 23	Winslow	Reading R. R.	Fire set by locomotive	Paid firewarden's bill, \$2.25.
February 9	Winslow	New Jersey Central R. R.	Fire set by locomotive	Paid firewarden's bill, \$5.00.
March 31	Winslow	Reading R. R.	Fire set by locomotive	Paid firewarden's bill, \$5.75.
April 5	Winslow	New Jersey Central R. R.	Fire set by locomotive	Paid firewarden's bill, \$1.25.
April 6	Winslow	New Jersey Central R. R.	Fire set by locomotive	Paid firewarden's bill, \$2.25.
April 8	Winslow	New Jersey Central R. R.	Fire set by locomotive	Paid firewarden's bill, \$2.25.
April 9	Winslow	New Jersey Central R. R.	Fire set by locomotive	Pending, claim submitted.
April 10	Winslow	Reading R. R.	Fire set by locomotive	Paid firewarden's bill, \$2.60.
April 11	Winslow	Reading R. R.	Fire set by locomotive	Paid firewarden's bill, \$11.15.
April 13	Winslow	Reading R. R.	Fire set by locomotive	Paid firewarden's bill, \$13.00.
April 13	Winslow	Reading R. R.	Fire set by locomotive	Paid firewarden's bill, \$2.50.
April 13	Winslow	New Jersey Central R. R.	Fire set by locomotive	Paid firewarden's bill, \$4.25.
April 17	Winslow	Reading R. R.	Fire set by locomotive	Paid firewarden's bill, \$5.00.
April 18	Winslow	Reading R. R.	Fire set by locomotive	Paid firewarden's bill, \$4.75.
April 19	Winslow	Reading R. R.	Fire set by locomotive	Paid firewarden's bill, \$6.75.
April 19	Winslow	Reading R. R.	Fire set by locomotive	Paid firewarden's bill, \$3.75.
April 19	Winslow	Reading R. R.	Fire set by locomotive	Paid firewarden's bill, \$2.65.
April 19	Winslow	Reading R. R.	Fire set by locomotive	Paid firewarden's bill, \$14.00.

TABLE X.—VIOLATIONS OF THE FOREST FIRE LAW, 1914—Continued.

DATE.	COUNTY AND TOWNSHIP.	OFFENDER.	OFFENSE.	SETTLEMENT.
Camden County—Con.				
April 19	Winslow	Pennsylvania R. R.	Fire set by locomotive	Paid firewarden's bill, \$15.70.
May 2	Winslow	Pennsylvania R. R.	Fire set by locomotive	Paid firewarden's bill, \$4.25.
May 3	Winslow	Pennsylvania R. R.	Fire set by locomotive	Paid firewarden's bill, \$14.60.
May 29	Winslow	Reading R. R.	Fire set by locomotive	Paid firewarden's bill, \$2.00.
October 29	Winslow	Reading R. R.	Fire set by locomotive	Pending, claim submitted.
October 31	Winslow	Reading R. R.	Fire set by locomotive	Pending, claim submitted.
October 31	Winslow	New Jersey Central R. R..	Fire set by locomotive	Pending, claim submitted.
Cape May County—				
April 23	Dennis	Eugene Watson	Allowed brush fire to escape	Paid fine, \$5.25.
October 11	Dennis	Pennsylvania R. R.	Fire set by locomotive	Pending.
November 6	Lower	Reading R. R.	Fire set by locomotive	Paid firewarden's bill, \$2.00.
June 10	Lower	Reading R. R.	Fire set by locomotive	Paid firewarden's bill, \$2.00.
June 12	Lower	Reading R. R.	Fire set by locomotive	Paid firewarden's bill, \$4.00.
November 27	Middle	Reading R. R.	Fire set by locomotive	Paid firewarden's bill, \$2.00.
April 11	Middle	Reading R. R.	Fire set by locomotive	Paid firewarden's bill, \$3.00.
April 17	Middle	Reading R. R.	Fire set by locomotive	Paid firewarden's bill, \$3.00.
April 23	Middle	Edward Endicott and Henry Stites	Set by sparks from sawmill	Pending.
May 3	Middle	Pennsylvania R. R.	Fire set by locomotive	Paid firewarden's bill, \$4.00.
May 15	Middle	Reading R. R.	Fire set by locomotive	Paid firewarden's bill, \$12.10.
May 20	Middle	Reading R. R.	Fire set by locomotive	Dropped; township bill too tardy.
June 6	Middle	Reading R. R.	Fire set by locomotive	Paid firewarden's bill, \$5.00.
June 7	Middle	Pennsylvania R. R.	Fire set by locomotive	Paid firewarden's bill, \$2.25.
June 13	Middle	Reading R. R.	Fire set by locomotive	Paid firewarden's bill, \$3.00.
June 20	Middle	Reading R. R.	Fire set by locomotive	Paid firewarden's bill, \$3.00.
September 29	Middle	Pennsylvania R. R.	Fire set by locomotive	Pending, claim submitted.
October 10	Middle	John Norton	Fire set by camp stove	Released with warning.
April 6	Upper	Reading R. R.	Fire set by locomotive	Paid firewarden's bill, \$4.00.
April 11	Upper	Reading R. R.	Fire set by locomotive	Paid firewarden's bill, \$2.00.
April 24	Upper	Reading R. R.	Fire set by locomotive	Paid firewarden's bill, \$15.00.
May 24	Upper	Reading R. R.	Fire set by locomotive	Paid firewarden's bill, \$10.50.
June 11	Upper	Reading R. R.	Fire set by locomotive	Paid firewarden's bill, \$6.00.
June 13	Upper	Reading R. R.	Fire set by locomotive	Paid firewarden's bill, \$23.80.
June 16	Upper	Arden M. Ellis	Set fire without permit and allowed it to escape	Released with warning.
April 23	Woodbine & Upper	Israel Katz	Set fire without permit and allowed it to escape	Pending.
May 3	Woodbine	Mr. Lach	Set fire without permit and allowed it to escape	Released with warning.

TABLE X.—VIOLATIONS OF THE FOREST FIRE LAW, 1914—Continued.

DATE.	COUNTY AND TOWNSHIP.	OFFENDER.	OFFENSE.	SETTLEMENT.
Cumberland County—				
April 13	Commercial	N. J. Lore	Allowed brush fire to escape	Paid fine, \$10.00.
March 17	Deerfield	Israel Goldstein	Set fire without permit and allowed it to escape	Paid fine, \$6.00.
May 19	Deerfield	David Rathenberg	Set fire without permit and allowed it to escape	Pending.
June 29	Landis	Pennsylvania R. R.	Fire set by locomotive	Paid firewarden's bill, \$4.25.
September 30	Landis	Pennsylvania R. R.	Fire set by locomotive	Pending, claim submitted.
December 12	Maurice River	H. M. Smith	Set fire without permit	Paid fine, \$5.00.
April 23	Maurice River & Dennis, Cape May County	Henry Hampton	Set fire without permit	Paid fine, \$11.50.
October 23	Maurice River	Pennsylvania R. R.	Fire set by locomotive	Pending.
January 11	Millville	Asher & Milerd Cole	Fire set by children	Released with warning.
March 17	Millville	David Walsh	Set fire without permit	Released with warning.
May 2	Millville	Leon and Delbert Mullen, Harry Rounds	Children set fire	Released with warning.
Gloucester County—				
October 30	Clayton	Archibald Porch	Allowed brush fire to escape	Pending.
April 6	Franklin & Upper Pittsgrove, Salem County	John Franzen	Set fire by careless smoking	Released with warning.
April 6	Franklin	Pennsylvania R. R.	Fire set by locomotive	Paid firewarden's bill, \$2.00.
October 30	Franklin	Pennsylvania R. R.	Fire set by locomotive	Pending.
April 4	Monroe	W. B. Plesenton	Allowed brush fire to escape	Pending.
April 5	Monroe	J. M. Jergenson	Set fire without permit and allowed it to escape	Paid fine, \$25.00.
April 7	Monroe	John Glenskye	Set fire without permit	Paid fine, \$1.00.
April 7	Monroe	Thos. Walker	Fire set by small boy	Released with warning.
April 24	Monroe	Andrew Latro	Set fire without permit and allowed it to escape	Paid fine, \$5.00.
May 20	Monroe	Reading R. R.	Fire set by locomotive	Dropped; township bill too tardy.
September 4	Monroe	Ignatis Armaniyl	Set fire without permit	Paid fine, \$1.00.
October 28	Monroe	Jacob Williams	Employee set fire by careless smoking	Pending.
October 31	Monroe	West McIntyre	Set fire without permit and allowed it to escape	Pending.
Middlesex County—				
September 30	Madison	New Jersey Central R. R.	Fire set by locomotive	Pending.
November 5	Sayreville	Raritan River R. R.	Fire set by locomotive	Paid firewarden's bill, \$4.00.
April 8	Sayreville	Raritan River R. R.	Fire set by locomotive	Dropped, township bill too tardy.
April 11	Sayreville	Raritan River R. R.	Fire set by locomotive	Dropped, township bill too tardy.
April 12	Sayreville	Raritan River R. R.	Fire set by locomotive	Dropped, township bill too tardy.
April 14	Sayreville	Raritan River R. R.	Fire set by locomotive	Dropped, township bill too tardy.

TABLE X.—VIOLATIONS OF THE FOREST FIRE LAW, 1914—Continued.

DATE.	COUNTY AND TOWNSHIP.	OFFENDER.	OFFENSE.	SETTLEMENT.
Monmouth County—				
May 1	Atlantic	New Jersey Central R. R.	Fire set by locomotive	Dropped, township bill too tardy.
May 2	Atlantic	New Jersey Central R. R.	Fire set by locomotive	Dropped, township bill too tardy.
May 23	Atlantic	New Jersey Central R. R.	Fire set by locomotive	Paid firewarden's bill, \$8.00.
April 21	Howell	George Clayton	Set fire without permit	Paid fine, \$2.00.
April 21	Howell	Wm. Taylor	Set fire without permit	Paid fine, \$2.00.
April 21	Howell	Geo. R. Addison	Set fire without permit	Paid fine, \$2.00.
April 23	Howell	New Jersey Central R. R.	Fire set by locomotive	Dropped, township bill too tardy.
April 23	Howell	New Jersey Central R. R.	Fire set by locomotive	Dropped, township bill too tardy.
May 17	Howell	New Jersey Central R. R.	Fire set by locomotive	Dropped, township bill too tardy.
May 19	Howell	New Jersey Central R. R.	Fire set by locomotive	Paid firewarden's bill, \$4.00.
May 23	Howell	New Jersey Central R. R.	Fire set by locomotive	Paid firewarden's bill, \$11.00.
May 23	Howell	New Jersey Central R. R.	Fire set by locomotive	Paid firewarden's bill, \$9.00.
September 7	Howell	New Jersey Central R. R.	Fire set by locomotive	Pending, claim submitted.
September 23	Howell	Pennsylvania R. R.	Fire set by locomotive	Pending.
September 28	Howell	New Jersey Central R. R.	Fire set by locomotive	Pending.
October 27	Howell	New Jersey Central R. R.	Fire set by locomotive	Pending, claim submitted.
October 30	Howell	New Jersey Central R. R.	Fire set by locomotive	Pending, claim submitted.
October 30	Howell	Pennsylvania R. R.	Fire set by locomotive	Pending, claim submitted.
October 31	Howell	New Jersey Central R. R.	Fire set by locomotive	Pending, claim submitted.
October 31	Howell	New Jersey Central R. R.	Fire set by locomotive	Pending.
April 13	Shrewsbury	Wm. H. Roberts	Fire set by careless smoking	Paid fine, \$5.00.
October 10	Shrewsbury	John McGuire	Allowed brush fire to escape	Paid fine, \$2.00.
October 30	Shrewsbury	New Jersey Central R. R.	Fire set by locomotive	Pending, claim submitted.
October 30	Shrewsbury	New Jersey Central R. R.	Fire set by locomotive	Pending, claim submitted.
Morris County—				
November 20	Denville	D. L. & W. R. R.	Fire set by locomotive	Paid firewarden's bill, \$1.75.
November 22	Denville	D. L. & W. R. R.	Fire set by locomotive	Paid firewarden's bill, \$1.00.
December 3	Denville	D. L. & W. R. R.	Fire set by locomotive	Paid firewarden's bill, \$2.00.
December 14	Denville	D. L. & W. R. R.	Fire set by locomotive	Paid firewarden's bill, \$4.25.
April 7	Denville	E. B. Earls	Set fire without permit	Released with warning.
April 10	Denville	D. L. & W. R. R.	Fire set by locomotive	Paid firewarden's bill, \$2.00.
April 17	Denville	D. L. & W. R. R.	Fire set by locomotive	Paid firewarden's bill, \$3.00.
April 19	Denville	D. L. & W. R. R.	Fire set by locomotive	Paid firewarden's bill, \$5.00.
April 3	Hanover	D. L. & W. R. R.	Fire set by locomotive	Paid firewarden's bill, \$4.00.
April 10	Hanover	Jack Clingen and Roelker Grandon	Fire set by boys and allowed to escape	Released with warning.
April 13	Hanover	Edward Jones	Set fire without permit	Paid fine, \$5.00.
April 18	Hanover	D. L. & W. R. R.	Fire set by locomotive	Paid firewarden's bill, \$4.00.
March 25	Jefferson	D. L. & W. R. R.	Fire set by locomotive	Paid firewarden's bill, \$3.00.

TABLE X.—VIOLATIONS OF THE FOREST FIRE LAW, 1914—Continued.

DATE.	COUNTY AND TOWNSHIP.	OFFENDER.	OFFENSE.	SETTLEMENT.
Morris County—Con.				
May 10	Jefferson	N. Y. S. & W. R. R.	Fire set by locomotive	Dropped.
December 6	Montville	D. L. & W. R. R.	Fire set by locomotive	Paid firewarden's bill, \$5.00.
April 13	Montville	10 Tramps	Maliciously set fire	Dropped, insufficient evidence.
April 14	Montville	Fred Krauss	Fire set by careless smoking	Dropped, insufficient evidence.
November 6	Pequannock	N. Y. S. & W. R. R.	Fire set by locomotive	Paid firewarden's bill, \$20.00.
April 4	Pequannock	N. Y. S. & W. R. R.	Fire set by locomotive	Paid firewarden's bill, \$3.00.
April 14	Pequannock	N. Y. S. & W. R. R.	Fire set by locomotive	Paid firewarden's bill, \$19.00.
April 18	Pequannock	W. J. Hequembourg	Set fire without permit and allowed it to escape	Paid fine, \$21.50.
April 30	Pequannock	N. Y. S. & W. R. R.	Fire set by locomotive	Dropped, township bill too tardy.
May 22	Pequannock	N. Y. S. & W. R. R.	Fire set by locomotive	Pending, claim submitted.
April 19	Randolph	Nathan Rosenfarb	Set fire without permit and allowed it to escape	Pending.
April 19	Rockaway	Andrew Mordak	Children set fire without permit...	Released with warning.
April 19	Rockaway	Mt. Hope Mineral R. R. ..	Fire set by locomotive	Paid firewarden's bill, \$2.00.
April 11	Rockaway	Mt. Hope Mineral R. R. ..	Fire set by locomotive	Paid firewarden's bill, \$4.00.
September 23	Rockaway	Henry F. Herring	Set fire without permit and allowed it to escape	Released with warning.
May 1	Roxbury	New Jersey Central R. R. ..	Fire set by locomotive	Paid firewarden's bill, \$24.00.
May 1	Roxbury	D. L. & W. R. R.	Fire set by locomotive	Paid firewarden's bill, \$4.00.
May 1	Roxbury	D. L. & W. R. R.	Fire set by locomotive	Paid firewarden's bill, \$2.00.
May 23	Roxbury	D. L. & W. R. R.	Fire set by locomotive	Paid firewarden's bill, \$2.45.
Ocean County—				
April 13	Berkeley	New Jersey Central R. R. ..	Fire set by locomotive	Paid firewarden's bill, \$3.00.
April 13	Berkeley	New Jersey Central R. R. ..	Fire set by locomotive	Paid firewarden's bill, \$3.00.
April 23	Berkeley	Pennsylvania R. R.	Fire set by locomotive	Paid firewarden's bill, \$13.00.
May 20	Berkeley	New Jersey Central R. R. ..	Escaped from section men's clearing right of way.....	Paid firewarden's bill, \$8.40.
May 20	Berkeley	Toms River Chemical Co. . .	Allowed fire to escape from plant..	Paid fine, \$8.25.
May 23	Berkeley	Pennsylvania R. R.	Fire set by locomotive	Paid firewarden's bill, \$26.20.
June 2	Berkeley	New Jersey Central R. R. ..	Fire set by locomotive	Paid firewarden's bill, \$3.00.
January 19	Dover	New Jersey Central R. R. ..	Fire set by locomotive	Paid firewarden's bill, \$5.00.
April 11	Dover	New Jersey Central R. R. ..	Fire set by locomotive	Paid firewarden's bill, \$3.00.
April 10	Jackson	John Lemming	Fire set by careless smoking	Dropped
October 6	Jackson	William Greening	Fire set by careless smoking	Pending.
January 15	Lacey	New Jersey Central R. R. ..	Fire set by locomotive	Dropped, township bill too tardy.
April 2	Lacey	New Jersey Central R. R. ..	Fire set by locomotive	Paid firewarden's bill, \$3.50.
April 14	Lacey	New Jersey Central R. R. ..	Fire set by locomotive	Paid firewarden's bill, \$3.50.
April 18	Lacey	Cedar Crest Orchard & Produce Co.	Allowed brush fire to escape	Paid fine, \$24.00.

TABLE X.—VIOLATIONS OF THE FOREST FIRE LAW, 1914—Continued.

DATE.	COUNTY AND TOWNSHIP.	OFFENDER.	OFFENSE.	SETTLEMENT.
Ocean County—Con.				
May 7	Lacey	Cedar Crest Clay Mines....	Narrow gauge locomotive caused fire	Paid fine, \$19.00.
May 20	Lacey	New Jersey Central R. R..	Fire escaped from section men clearing right of way	Paid firewarden's bill, \$3.60. Paid firewarden's bill, \$4.00.
June 18	Lacey	Tuckerton R. R.	Fire set by locomotive	Released with warning.
August 14	Lacey	E. E. Lacour	Set fire without permit	Pending, claim submitted.
October 9	Lacey	New Jersey Central R. R..	Fire set by locomotive	Pending.
October 23	Lacey	New Jersey Central R. R..	Fire set by locomotive	Pending.
October 31	Lacey	New Jersey Central R. R..	Fire set by locomotive	Pending.
May 1	Lakewood	John Jackson	Set fire without permit and allowed it to escape	Pending.
April 23	Little Egg Harbor	S. B. Anderson	Set fire without permit and allowed it to escape	Paid fine, \$10.00.
November 20	Manchester	New Jersey Central R. R..	Fire set by locomotive	Paid firewarden's bill, \$2.75.
April 11	Manchester	New Jersey Central R. R..	Fire set by locomotive	Paid firewarden's bill, \$3.00.
April 18	Manchester	New Jersey Central R. R..	Fire set by locomotive	Paid firewarden's bill, \$1.00.
May 10	Manchester	New Jersey Central R. R..	Fire set by locomotive	Paid firewarden's bill, \$20.30.
May 10	Manchester	New Jersey Central R. R..	Fire set by locomotive	Paid firewarden's bill, \$46.90.
May 18	Manchester	New Jersey Central R. R..	Fire set by locomotive	Paid firewarden's bill, \$2.00.
May 19	Manchester	New Jersey Central R. R..	Fire escaped from section men clearing right of way	Paid firewarden's bill, \$10.00.
June	Manchester	E. Ahrweiler	Set fire without permit	Paid fine, \$5.00.
June 16	Manchester	New Jersey Central R. R..	Fire set by locomotive	Paid firewarden's bill, \$4.00.
September 26	Manchester	New Jersey Central R. R..	Fire set by locomotive	Pending, claim submitted.
September 26	Manchester	New Jersey Central R. R..	Fire set by locomotive	Pending, claim submitted.
April 24	Plumstead	John Britton	Set fire without permit and allowed it to escape	Dropped.
June 3	Stafford	Tuckerton R. R.	Fire set by locomotive	Dropped, township bill too tardy.
October 24	Stafford	Tuckerton R. R.	Fire set by locomotive	Pending.
September 30	Union	Tuckerton R. R.	Fire set by locomotive	Paid firewarden's bill, \$9.20.
Passaic County—				
April 23	Pompton	Erie R. R.	Fire set by locomotive	Paid firewarden's bill, \$7.00.
April 24	Pompton	Erie R. R.	Fire set by locomotive	Paid firewarden's bill, \$4.40.
May 2	Pompton	Erie R. R.	Fire set by locomotive	Paid firewarden's bill, \$9.00.
September 29	Pompton	David Miller	Fire set by careless smoking	Pending.
October 3	Pompton	Erie R. R.	Fire set by locomotive	Pending, claim submitted.
October 3	Pompton	Erie R. R.	Fire set by locomotive	Pending, claim submitted.
October 9	Pompton	S. P. Rhinesmith	Set fire without permit	Pending.
November 2	West Milford	N. Y. S. & W. R. R.	Fire set by locomotive	Paid firewarden's bill, \$8.00.
November 4	West Milford	Henry C. Townsend	Built camp fire without permit...	Released with warning.

TABLE X.—VIOLATIONS OF THE FOREST FIRE LAW, 1914—Continued.

DATE.	COUNTY AND TOWNSHIP.	OFFENDER.	OFFENSE.	SETTLEMENT.
Passaic County—Con.				
November 6	West Milford	N. Y. S. & W. R. R.	Fire set by locomotive	Paid firewarden's bill, \$2.75.
November 25	West Milford	N. Y. S. & W. R. R.	Fire set by locomotive	Paid firewarden's bill, \$4.00.
February 13	West Milford	N. Y. S. & W. R. R.	Fire set by locomotive	Paid firewarden's bill, \$5.80.
April 4	West Milford	N. Y. S. & W. R. R.	Fire set by locomotive	Paid firewarden's bill, \$3.00.
April 18	West Milford	N. Y. S. & W. R. R.	Fire set by locomotive	Paid firewarden's bill, \$13.00.
May 3	West Milford	N. Y. S. & W. R. R.	Fire set by locomotive	Paid firewarden's bill, \$9.00.
May 18	West Milford	Abigail Cahill	Set fire without permit and allowed it to escape	Released with warning.
May 23	West Milford	Erle R. R.	Fire set by locomotive	Paid firewarden's bill, \$10.00.
May 25	West Milford	N. Y. S. & W. R. R.	Fire set by locomotive	Paid firewarden's bill, \$2.00.
September 19	West Milford	N. Y. S. & W. R. R.	Fire set by locomotive	Pending.
October 14	West Milford	N. Y. S. & W. R. R.	Fire set by locomotive	Pending, claim submitted.
October 22	West Milford	N. Y. S. & W. R. R.	Fire set by locomotive	Pending, claim submitted.
October 28	West Milford	N. Y. S. & W. R. R.	Fire set by locomotive	Pending, claim submitted.
Salem County—				
May 23	Pittsgrove	Harry Learner	Set fire without permit and allowed it to escape	Pending.
April 13	Quinton	Pennsylvania R. R.	Fire set by locomotive	Paid firewarden's bill, \$6.25.
Somerset County—				
March 25	Bernards	Mrs. George Guest	Set fire without permit and allowed it to escape	Released with warning.
April 14	Bernards	Wm. Childs	Set fire without permit and allowed it to escape	Paid fine, \$10.00.
April 14	Bernards	D. L. & W. R. R.	Fire set by locomotive	Paid firewarden's bill, \$1.00.
May 16	Bernards	Mrs. A. H. Joline	Guest set fire by careless smoking.	Paid fine, \$8.00.
June 29	Bernards	D. L. & W. R. R.	Section men carelessly burning ties.	Paid firewarden's bill, \$8.75.
September 22	Bernards	D. L. & W. R. R.	Section men carelessly burning ties.	Pending.
November 19	North Plainfield	Howard Karitsky	Small boy set fire	Dropped, boy irresponsible.
April 4	North Plainfield	J. A. Powelson	Set fire without permit and allowed it to escape	Paid fine, \$5.00.
May 2	North Plainfield	John Le Maire	Set fire without permit and allowed it to escape	Paid fine, \$20.00.
May 3	North Plainfield	Anton Jensen	Set fire without permit	Released with warning.
May 4	North Plainfield	Unknown old gentleman	Fire set by careless smoking	Dropped.
December 19	Warren	W. T. Hutchinson	Fire set by careless smoking	Paid fine, \$2.00.
April 8	Warren	Charles Fister	Set fire without permit	Released with warning.
Sussex County—				
May 29	Byram	Abraham Crown	Fire set by careless smoking	Released with warning.
September 16	Byram	James Batson	Set fire without permit	Released with warning.
October 30	Byram	D. L. & W. R. R.	Fire set by locomotive	Pending.

TABLE X.—VIOLATIONS OF THE FOREST FIRE LAW, 1914—Continued.

DATE.	COUNTY AND TOWNSHIP.	OFFENDER.	OFFENSE.	SETTLEMENT.
Sussex County—Con.				
November 26	Hardyston	N. Y. S. & W. R. R	Fire set by locomotive	Paid firewarden's bill, \$2.25.
April 10	Hardyston	N. Y. S. & W. R. R	Fire set by locomotive	Paid firewarden's bill, \$4.25.
April 11	Hardyston	N. Y. S. & W. R. R	Fire set by locomotive	Paid firewarden's bill, \$1.25.
April 19	Hardyston	N. Y. S. & W. R. R	Fire set by locomotive	Paid firewarden's bill, \$7.00.
April 19	Hardyston	N. Y. S. & W. R. R	Fire set by locomotive	Paid firewarden's bill, \$4.00.
May 22	Hardyston	N. Y. S. & W. R. R	Fire set by locomotive	Paid firewarden's bill, \$1.50.
October 12	Hardyston	N. Y. S. & W. R. R	Fire set by locomotive	Pending, claim submitted.
October 28	Hardyston	N. Y. S. & W. R. R	Fire set by locomotive	Pending, claim submitted.
May 24	Hopatcong	S. Baker	Set fire without permit	Released with warning.
May 24	Hopatcong	John Curtis	Employees set fire without permit.	Dropped, insufficient evidence.
November 4	Sparta	N. Y. S. & W. R. R	Fire set by locomotive	Paid firewarden's bill, \$5.00.
November 4	Sparta	N. Y. S. & W. R. R	Fire set by locomotive	Paid firewarden's bill, \$9.00.
April 12	Sparta	N. Y. S. & W. R. R	Fire set by locomotive	Dropped, township bill too tardy.
May 3	Sparta	S. W. Vanderhoof	Fire set by careless smoking	Pending.
May 23	Sparta	Harry Search	Fire set by careless smoking	Pending.
October 23	Sparta	N. Y. S. & W. R. R	Fire set by locomotive	Pending.
December 10	Vernon	Frank Carr	Set fire without permit	Paid fine, \$10.00.
October 19	Vernon	James Ryan & John Specht.	Set fire without permit	Pending.
Warren County—				
May 2	Blairstown	D. L. & W. R. R	Fire set by locomotive	Paid firewarden's bill, \$5.00.
January 30	Hardwick	Mrs. Julia A. Voss	Set fire without permit	Released with warning.
December 14	Knowlton	N. Y. S. & W. R. R	Fire set by locomotive	Paid firewarden's bill, \$1.00.
December 15	Knowlton	N. Y. S. & W. R. R	Fire set by locomotive	Paid firewarden's bill, \$2.00.
February 12	Knowlton	N. Y. S. & W. R. R	Fire set by locomotive	Paid firewarden's bill, \$4.00.
February 12	Knowlton	D. L. & W. R. R	Fire set by locomotive	Paid firewarden's bill, \$1.00.
February 12	Knowlton	D. L. & W. R. R	Fire set by locomotive	Paid firewarden's bill, \$3.00.
March 23	Knowlton	N. Y. S. & W. R. R	Fire set by locomotive	Paid firewarden's bill, \$1.00.
April 14	Knowlton	N. Y. S. & W. R. R	Fire set by locomotive	Paid firewarden's bill, \$1.00.
April 24	Knowlton	N. Y. S. & W. R. R	Fire set by locomotive	Paid firewarden's bill, \$1.00.
April 24	Knowlton	N. Y. S. & W. R. R	Fire set by locomotive	Paid firewarden's bill, \$1.00.
April 30	Knowlton	N. Y. S. & W. R. R	Fire set by locomotive	Paid firewarden's bill, \$1.00.
May 1	Knowlton	N. Y. S. & W. R. R	Fire set by locomotive	Paid firewarden's bill, \$10.50.
May 1	Knowlton	D. L. & W. R. R	Fire set by locomotive	Paid firewarden's bill, \$3.00.
October 3	Knowlton	N. Y. S. & W. R. R	Fire set by locomotive	Pending, claim submitted.
October 31	Knowlton	N. Y. S. & W. R. R	Fire set by locomotive	Pending, claim submitted.
October 31	Knowlton	N. Y. S. & W. R. R	Fire set by locomotive	Pending, claim submitted.
April 19	Pahaquarry	N. Y. S. & W. R. R	Fire set by locomotive	Dropped, township presented no bill.
May 3	Pahaquarry	N. Y. S. & W. R. R	Fire set by locomotive	Dropped, township presented no bill.
May 4	Pahaquarry	N. Y. S. & W. R. R	Fire set by locomotive	Dropped, township presented no bill.
May 10	Pahaquarry	N. Y. S. & W. R. R	Fire set by locomotive	Dropped, township presented no bill.
June 3	Pahaquarry	N. Y. S. & W. R. R	Fire set by locomotive	Dropped, township presented no bill.
June 7	Pahaquarry	N. Y. S. & W. R. R	Fire set by locomotive	Dropped, township presented no bill.
June 15	Pahaquarry	N. Y. S. & W. R. R	Fire set by locomotive	Dropped, township presented no bill.

REPORT OF THE COMMISSIONERS OF THE LAND OFFICE

Year	Area (Acres)	Value	Notes
1870	1000	10000	
1871	1000	10000	
1872	1000	10000	
1873	1000	10000	
1874	1000	10000	
1875	1000	10000	
1876	1000	10000	
1877	1000	10000	
1878	1000	10000	
1879	1000	10000	
1880	1000	10000	
1881	1000	10000	
1882	1000	10000	
1883	1000	10000	
1884	1000	10000	
1885	1000	10000	
1886	1000	10000	
1887	1000	10000	
1888	1000	10000	
1889	1000	10000	
1890	1000	10000	
1891	1000	10000	
1892	1000	10000	
1893	1000	10000	
1894	1000	10000	
1895	1000	10000	
1896	1000	10000	
1897	1000	10000	
1898	1000	10000	
1899	1000	10000	
1900	1000	10000	

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