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REPORT
of the
Wisconsin Special Legislative Committee
on
FORESTRY
of the
Senate and Assembly



Made to the
Members of the 1915 Session of the Wisconsin
Legislature

Pursuant to

CHAPTER 670 OF THE LAWS OF 1913.

Q. 9015-458

REPORT

of the

Legislature
Wisconsin Special Legislative Committee

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PERSONNEL OF COMMITTEE AND ASSISTANTS

Members

Senators:

A. PEARCE TOMKINS, Chairman, Ashland, Wis.
HENRY A. HUBER, Stoughton, Wis.
W. L. RICHARDS, Milwaukee, Wis.

Assemblymen:

AXEL JOHNSON, Secretary, Turtle Lake, Wis.
R. J. NYE, Superior, Wis.
H. M. LAURSEN, Shell Lake, Wis.
E. J. KNEEN, Bangor, Wis.
O. F. ROESSLER, Jefferson, Wis.

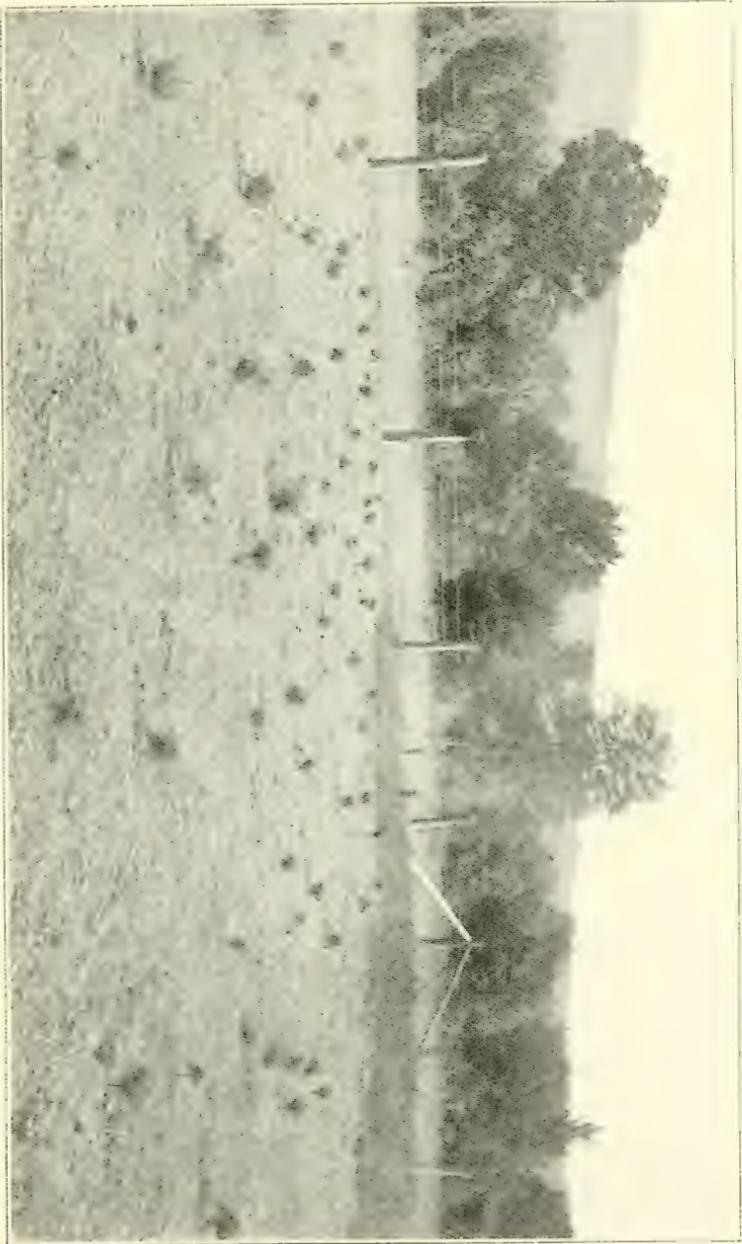
Clerical Force

A. V. GRUHN, Reporter, Racine, Wis.
C. H. RAWLINSON, Clerk, La Crosse, Wis.

Cruisers

JOSEPH STEVENS, Washburn, Wis.
ERNEST DOPP, Superior, Wis.
GEO. L. COTT, Shell Lake, Wis.

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1. Monaghan Plantation. White Pine. Two Years After Planting. Mt. Alto, Pa.

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Letter of Transmittal

Honorable Sirs:

On behalf of the Special Legislative Committee on Forestry, appointed under Chapter 670 of the Laws of 1913, I transmit herewith their report.

Very respectfully yours,
(Signed) A. PEARCE TOMKINS,
Chairman.

To the Members of the Wisconsin Legislature for
the Session of 1915.

Dated, Ashland, Wis., Jan. 4, 1915.

Hotel Wisconsin, Milwaukee, Wisconsin,

January 4, 1915.

Mr. Roessler moved that the report herewith submitted by the Chairman be adopted as the final report of this Special Legislative Committee on Forestry, the same be filed with the secretary of state with the request that he have printed two thousand copies thereof; that no bill defining the extent of the proposed permanent reserve or a method of disposal of the agricultural lands be submitted at this time but that such bill be offered separately to the Legislature at a future date, the report to contain a statement that such a bill will be so offered; and that the Chairman be authorized to affix the signatures of the members of this Committee now present on said report.

The motion was seconded by Mr. Nye and upon roll call the vote was as follows: *Ayes*—SENATORS Huber and Tomkins. ASSEMBLYMEN Johnson, Nye, Kneen and Roessler. *Noes*—None. *Total Vote*—Ayes, 6; Noes, none.

Approved:

(Signed) A. PEARCE TOMKINS.

Chairman.



2. Monaghan Plantation. White Pine. Four Years After Planting. Mt. Alto, Pa.

INTRODUCTION

A storm of protest was raised in Northern Wisconsin by the statement in the report of the State Forester for the years 1911 and 1912 that the present state forest holdings of 400,000 acres should be increased so that the reserve would consist of between one million and one million and a half acres in order to block up and consolidate the present State lands. The same report claimed that the State should purchase at least 800,000 acres more in the permanent forest reserve area and it recommended that the Legislature pass a bill defining the boundaries of the reserve as follows: Commencing at the southwest corner of T. 38, R. 3 E., Price county, thence east along the south line of T. 38 to the eastern boundary line of Forest county, or the southeast corner of T. 38, R. 14 E.; thence north along the east line of R. 14 E., to the Wisconsin-Michigan boundary line, or the Menominee river; thence west along the Wisconsin-Michigan boundary line to the northeast corner of section 13 in T. 44, R. 4 E.; thence south on the east line of R. 4 E. to the northeast corner of T. 43, R. 4 E.; thence west to the northwest corner of T. 43, R. 4 E.; thence south to the northwest corner of T. 41, R. 4 E.; thence west to the northwest corner T. 41, R. 2 E.; thence south to the southwest corner of T. 41, R. 2 E.; thence east to the northwest corner of T. 41, R. 2 E.; thence east to the northwest corner of T. 41, R. 3 E.; thence south to the southwest corner of T. 38, R. 3 E., or the point of beginning, excepting from the same the following:—

1. Lands within the limits of any village or city.
2. The following townships or portions of townships:
 - (a) T. 39 R. 6, E.
 - (b) The south half of T. 40, R. 6 E.
 - (c) The east two-thirds of T. 38, R. 9 E.
 - (d) The south two-thirds of T. 38, R. 10 E.
 - (e) T. 38, R. 11 E.
 - (f) T. 40, R. 10 E.

(g) T. 41, R. 10 E.

(h) The north two-thirds of T. 41, R.
11 E.

The announcement of the above policy, together with the misunderstanding brought about by a lack of knowledge of the intention of those interested in forestry, engendered such a feeling in the north-eastern part of Wisconsin, particularly in the counties of Forest, Iron, Oneida, Price and Vilas, that every pressure possible was brought to bear upon the members at the last session of the Legislature to stop further purchases by the Board. This seemed partly to have grown out of a misunderstanding, not as to the location of the lands to be taken as a permanent forest reserve, but as to the character of the lands so to be used. A large delegation was present at the hearing on the bill creating this Special Joint Committee and a great deal of interest and bitterness was displayed by the people of the district affected.

An examination of the pages of the report of the State Forester* will show conclusively that it never was the intention of the Forestry Board to take any but non-agricultural lands. The following was the language used by him: "The proposed act should clearly point out that it is the intention of the state to eventually acquire all the unoccupied and non-agricultural lands suitable for forestry within the boundaries of the forest reserve."

This will also be seen from the following quotations from the reports of the State Forester:

"It is one of the tenets of forestry that no land should be held permanently under forests which is more suitable for agriculture, and every parcel of land within the state forest reserve will be examined with this in mind, so that land which is valuable for agriculture may be withdrawn and offered for sale. By such careful selection, the creation of an adequate state forest reserve will in no way retard the development of northern Wisconsin, but, on the other hand, the state's forest policy of cutting conservatively, and so always having something to cut, will in a few years give to all the settlers near the re-

* Report 1911-1912, Page 21.

serve, plenty of good paying work during the winter, when it is most needed. Every state has areas that are not arable, and such, but only such, should be held permanently under forests.”(*)

“The best available estimates show that there is approximately 13,000,000 acres of unimproved land in the twenty-two northern counties. Most of this land has a good soil, is free from rocks and is well adapted to farming, so that eventually probably 10,000,000 acres will be used in some form of agriculture, leaving some 3,000,000 acres for forest growth.

“It should be understood that these figures are mere estimates, based upon the best available figures, but they are probably approximately correct in the proportion of agricultural to non-agricultural land and give some idea of the situation.

“It need not be feared that the State Board of Forestry will try to class agricultural as forest land, for it is one of the main tenets of forestry that timber should not be held upon land suited to agriculture, as there is enough land in every country which is suited only to forest growth. However, although foresters receive some training in soil analysis, they are not experts and should not attempt to finally classify lands, where the question is a close one to decide, as it is in so many sections of northern Wisconsin.”(†)

“Town and county officials and land companies are naturally loath to admit that any of their land is non-agricultural, and they are prone to charge foresters with discouraging settlement. But the tenets of forestry are that no land should be kept for forestry that is more valuable for agriculture, and certainly the Forestry Board would be inclined to welcome settlers in the forest reserve as they would usually prove good workmen whose interests would be identical with those of the state.

“But the Forestry Board would be doing a great wrong to encourage any man to locate on an isolated tract of rather doubtful agricultural land in the heart

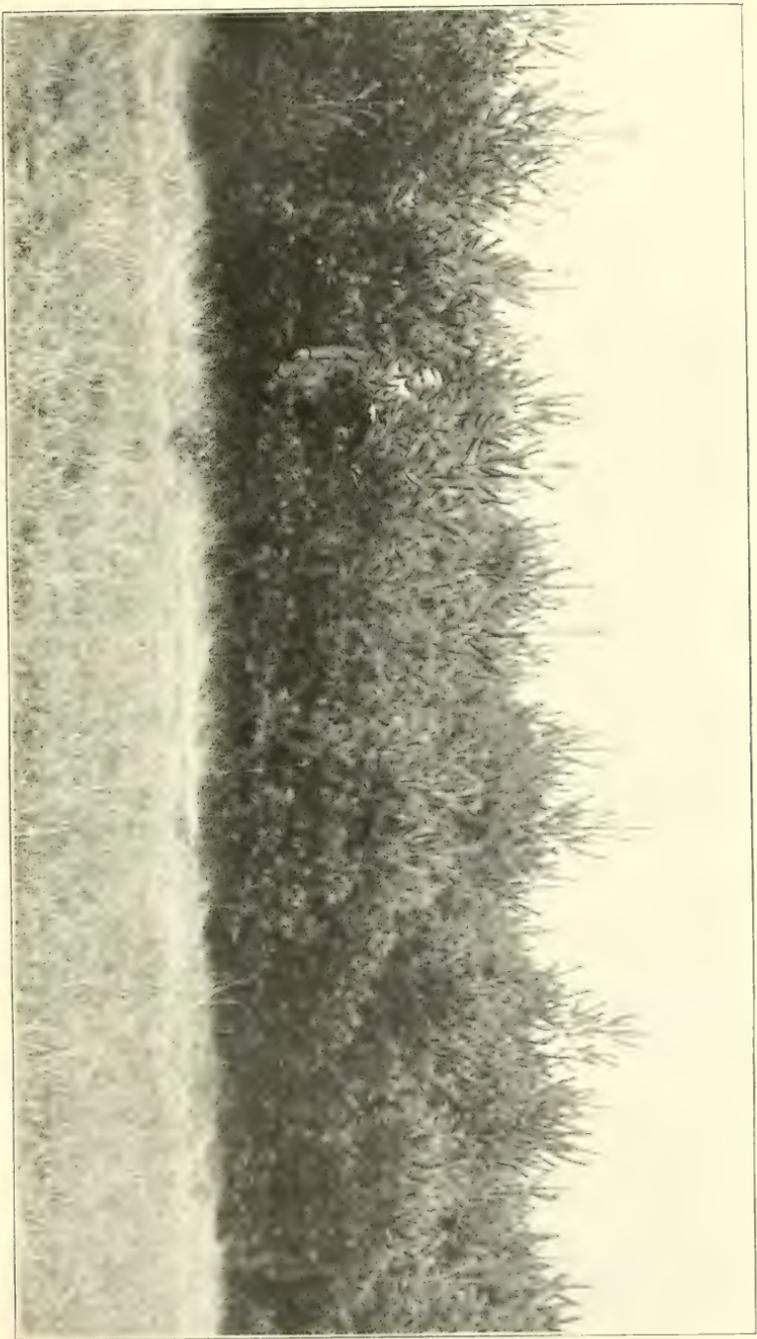
* Report 1906, Page 7.

† Report 1909-'10, Page 59.

of the forest reserve, for though the man might be willing, it would doom his wife and children to a hard, lonely existence without the benefits of good schools of a growing community." (*)

The people of Northeastern Wisconsin were led to believe that it was the purpose of the Forestry Board to acquire all the lands within this proposed area excepting a few townships adjoining the settlements, villages or cities therein. If the language used by the State Forester is carefully studied it can clearly be seen that this was not their purpose. The intention was to restrict future purchases to a given area and to confine those purchases as nearly as possible to lands not suited to agricultural use and unprofitable for farming. This could not be done, of course, without acquiring some agricultural lands, but where the attention of the Board had been called to lands of known agricultural value, these districts had been eliminated and the lands offered for sale by the State.

During the session Bill No. 487, A. was enacted unto a law and became chapter 670 of the Laws of 1913. This bill provided for the appointment of three members of the Senate by the President thereof and five members of the Assembly by the Speaker thereof whose duty it was, first, to report at the next regular session what areas of land now held as forest reserve, and those parts proposed to be included within such forest reserve, within the counties of Forest, Iron, Price, Oneida and Vilas are better adapted to agricultural than to forestry purposes and whether the best interests of all persons concerned, and especially the taxpayers of the State will not be better promoted by devoting said lands to other than reforestation purposes. Pursuant to this act the following members were appointed: Senators: A. Pearce Tomkins, Henry A. Huber, W. L. Richards, Assemblymen: Axel Johnson, Ray J. Nye, H. M. Laursen, E. J. Kneen and O. F. Roessler.



3. Monghan Plantation. White Pine 10 years after planting. Mt. Alto, Va.

METHODS OF INVESTIGATION.

On the 20th day of October, 1913, the members of this Committee together with three practical cruisers of long experience, Messrs. Joseph Stevens of Washburn, Wis.; Ernest Dopp of Superior, Wis.; and George L. Cott of Shell Lake, Wis.; met at Minocqua in Oneida County and proceeded, first, to the State Forestry Headquarters at Trout Lake.

During a period covering the next nineteen days, from this point and from Boulder Jct., the Blue Grass Farm, Kraft's Camp in 43-7, Star Lake, Sayer, Eagle River, Tomahawk Lake, Rhinelander, Knapp's Resort on Sugar Camp Lake in 38-9, Minocqua, Hazelhurst, Powell, Manitowish, Mercer, Winchester and the Ranger's Cabin at Rest Lake, the Committee under the guidance of the above named cruisers and with the assistance of different forest rangers furnished by the Department of Forestry spent their time in a personal examination of the following townships or parts of townships: Township 38 north, range 6 east; T. 38 N., R. 7 E.; T. 38 N., R. 8 E.; T. 38 N., R. 9 E.; T. 38 N., R. 10 E.; T. 39 N., R. 5 E.; T. 39 N., R. 6 E.; T. 39 N., R. 7 E.; T. 39 N., R. 8 E.; T. 39 N., R. 9 E.; T. 40 N., R. 6 E.; T. 40 N., R. 7 E.; T. 40 N., R. 8 E.; T. 40 N., R. 9 E.; T. 40 N., R. 10 E.; T. 41 N., R. 3 E.; T. 41 N., R. 4 E.; T. 41 N., R. 6 E.; T. 41 N., R. 7 E.; T. 41 N., R. 8 E.; T. 41 N., R. 9 E.; T. 42 N., R. 4 E.; T. 42 N., R. 5 E.; T. 42 N., R. 6 E.; T. 42 N., R. 7 E.; T. 42 N., R. 8 E.; T. 42 N., R. 9 E.; T. 43 N., R. 4 E.; T. 43 N., R. 5 E.; T. 43 N., R. 7 E.; T. 44 N., R. 5 E.

These trips were made on foot except where, by use of horses, railroad speeders, and trains time could be made in going to and from a starting point. Care was at all times taken to know almost the exact location of the different parties into which the Committee was divided. Every effort was made to reach the farms located in the area visited and to engage the farmers in conversation and get their

ideas as to the agricultural possibilities of the lands with which they were familiar. In this way the Committee got most excellent information as to the character of the soil and general topography of the country. The visit was made at a time of the year when a considerable distance could be covered with very little fatigue and when the trees were devoid of foliage and the ground bare so that soil conditions could be plainly seen. This trip was made to cover the wildest part, perhaps, of the forest reserve area and into a region where there were very few settlers, although, of course, on many occasions the Committee visited territories which were quite thickly populated, especially for this Northern country. Notes were made on every section reached, and on the return of the party to headquarters at night one member of each crew dictated a report of the day's trip with such additions as the other members and cruiser accompanying them might suggest. These were signed by the Committee members and cruisers and have been preserved.

The route covered by each crew was planned by the Chairman of the Committee and an examination of the map showing the area inspected will demonstrate that some of the townships were covered most thoroughly.

The rangers were of great assistance as guides, being familiar with the different roads, section corners, quarter posts, lakes and other land marks and were depended upon to guide the Committee to the places desired to be reached, where, with the assistance of the cruisers, no difficulty was had in ascertaining the exact location.

On February 5 and 6, 1914, pursuant to notices published for several weeks in all of the newspapers printed in Vilas county, a hearing was called at the Court House in Eagle River. Through a misunderstanding upon the part of some of the people interested from that district and a desire to have the meetings held in the summer, an attempt was made to adjourn this meeting by the people of Vilas

county. On arrival at Eagle River, however, it was found that several people desired to be heard, so that the day of the 5th and part of the 6th were occupied in taking testimony as to the character of the soil and the agricultural possibilities of Vilas county in particular and all the lands in the forest reserve area in general.

After this hearing adjournment was had until the 10th of March, 1914, at Phillips, Wis., where after notice being given as in the case of the Eagle River meeting, a hearing was held and many witnesses appeared and testified.

Like hearings were then held at Hurley in Iron county on the 11th; Crandon, Forest county on the 12th and 13th; Eagle River on the 16th and 17th; Rhinelander, Oneida county, on the 19th and 20th. These hearings were all well attended; many cruisers, lumbermen, real estate men, farmers, and others well acquainted with the lands in these five counties were sworn as witnesses and furnished the Committee with much information.

On June 22d several members of the Committee met at Minocqua, Wis., and by the use of two automobiles made a trip which included Woodruff, Coon's resort at Trout Lake, the Wright Farm, Blue Grass Farm, Boulder Jct., A. L. Stevenson Farm in T. 41-7, State Headquarters at Trout Lake, High Lake, Forestry Cabin in Section 12-42-8, Star Lake, Sayer, St. Germain Lake, Eagle River, Sugar Camp Lake in T 38-9, Rhinelander, where a morning was spent in company with Senator W. T. Stevens in visiting several farmers, Newbold, McNaughton, Hazelhurst, and back to Minocqua. All farms within reach were inspected. At this time of the year, though the spring was somewhat backward, opportunity was presented to get a good idea of what could be expected from the soil. Small grain was all up, the hay had most of its growth, and corn and potatoes were above the ground. This trip covered much of the same area visited by the Committee in the fall. Mr. John Bolger, a farmer and

heavy land owner of Minocqua and Mr. E. M. Weaver, Chief Forest Ranger, were with the party. The reason for covering substantially the same area as examined in the fall was to see the territory at a time when everything was in bloom and growing, because the former trip was made at a period when practically all vegetation was dead. While it might be said that in both of these trips the territory covered was some of the wildest and poorest in the proposed forest reserve, still, visits were made to some of the very best kind of land. Members of the Committee at all times went out of their way to visit the fields of farmers and into their granaries and cellars to see what crops had been harvested.

Prior to this last trip an attempt was made to have the Executive Committee of which Mr. A. W. Brown is the Chairman and Mr. B. N. Moran the Secretary, and known as the "Executive Committee Representing the Counties of Forest, Iron, Oneida, Price and Vilas," plan a trip and accompany the party, but this was refused, they stating that the trip should be made at a later date.

In the latter part of July the Chairman of this Forestry Committee wrote to the Secretary of the above mentioned Executive Committee asking that they fix a date or dates for the Committee to make another tour of inspection in their company and under their guidance, but no reply was had to this letter.

On July 23, 1914, the following members of the Committee met at Buffalo, N. Y.; Senators: A. Pearce Tomkins, and H. A. Huber; Assemblymen: R. J. Nye, E. J. Kneen, and H. M. Laursen for the purpose of making a tour of inspection of the forest reserves of Pennsylvania, New York and Connecticut and with the further idea of visiting as many private plantings of white and norway pine as could be conveniently reached and of seeing as much as possible of the natural reproduction of these two specie where they had been protected from fire and otherwise.



4. Monaghan Plantation, White Pine, Twelve Years After Planting, Mt. Alto, Pa.

Grubb, Photo.

On the afternoon of the 24th the members were met at Galeton, Potter County, Pa., by Hon. Robert S. Conklin, Hon. I. C. Williams, Hon. Simon B. Elliott, and Hon. J. Linn Harris, of the State Forestry Conservation Commission, together with several other foresters and parties interested in forestry work. Visits were made to the State Nursery at Asaph in Tioga county, plantings of trees about Cross Fork in Potter county, and an inspection made of their ranger cabins, telephone lines, roads, and fire lines in what is known as the Stewardson Township district. Every courtesy possible was extended by Mr. Conklin and the other gentlemen of Pennsylvania and much valuable information received as to the practical work in forestry and an ample opportunity given to compare the work of the Pennsylvania forestry department with that of our own State.

On July 27 the party was taken in charge by Hon. Clifford R. Pettis, State Supt. of Forests, of New York State, at Saranac Lake, N. Y. This is in the Adirondack Forest Reserve. Visits were made to Raybrook and Chub Hill plantations, Saranac Inn Nursery, Lake Clear Nursery, and the Carley Nursery and to the State plantings at Lake Clear Junction and Paul Smiths. The plantings in New York are more extensive than in Pennsylvania and the work has been carried on since 1901 so that plantings of trees up to thirteen years were seen. The oldest growth was of scotch pine near Lake Clear Junction. These trees averaged eighteen feet in height. Several plantings of white and norway pine were also seen. These, without exception, were doing well, illustrating that the planting, cultivation and growing of pine trees from nursery stock is feasible. Nowhere was there any failure or sign of failure.

Mr. Pettis also accompanied the Committee to Warrensburg and Chestertown, N. Y., in the territory West and North of Lake George. Here many thousands of acres of natural, second growth of white pine were seen ranging in age up to sixty years. The

soil in this territory is sandy by reason of which it seems that the white pine seed has a much better opportunity to germinate, and, therefore, the very best results were obtained from natural seeding. Many stands of pine were here seen which would be coveted by the lumbermen of Northern Wisconsin. In fact, the growth is such now that some of it is being cut.

Considerable of the lands upon which were found this second growth of white pine were old abandoned farms which had been cultivated for many years and given up because of their light sandy nature making them unprofitable for farming.

No better opportunity could possibly be had for studying the attempts of nature to reforest cut-over and abandoned farm lands. Everywhere that any seed trees had been left, excellent growths were found; and where the fire had been kept out the second growth stand was fully as good as the virgin timber. There is no reason why, with the proper fire protection, much of Northern Wisconsin will not in time become rehabilitated with a growth of white and norway pine of great commercial value.

Mr. Charles Faxon of the Faxon Estate at Chestertown imparted much valuable information to the Committee, showed them over his holdings and accompanied them on a visit to his private plantings, one of which was white pine planted in 1884. This planting adjoined a natural second growth forest so that a very good opportunity was afforded for a comparison of natural and artificial forest growths.

At Warrensburg the Committee visited a plantation of white pine thirty years old. This planting was made by an Episcopal Congregation, was two acres in extent, and showed a fine growth.

On the 31st day of July the Committee was met by Hon. Walter O. Filley, Chief Forester for the State of Connecticut, at Hartford, Conn. Under his direction the Rainbow plantations conducted by the Forestry Department and consisting of many different varieties in all ages of growth up to fourteen

years, were visited. We next saw the planting of white and norway pine owned by Mr. Amos Bridge of Hazardville, Conn., planted by the Shakers some forty or forty-five years ago. The next day in company with Mr. Filley and Professor J. W. Toumey, Dean of the Yale Forestry School, plantings of the New Haven Water Company adjacent to the City of New Haven, and two private plantings at Greenfield Hill near Bridgeport were examined. Not only from the work seen and the plantations visited but from the opportunity afforded in coming in contact with men thoroughly versed in the work of the forestry departments of these three great States did the Committee gain much valuable knowledge.

On Aug. 3, in company with Hon. Robert S. Conklin a trip was made to the Mt. Alto Forestry School at Mt. Alto., Pa, and here the Old Forge, Irishtown, Monaghan and South Mountain plantations were seen. The plantings were older than in the North Central part of Pennsylvania and the results obtained covered a longer period of time. Pennsylvania has planted 6,000 acres principally to white and norway pine averaging 2,000 trees to the acre. This planting has cost on an average, \$9 per acre, exclusive of cost of land and interest on the investment.

On all the tours of inspection many growths of white, scotch, norway and western yellow pine, European larch and norway spruce were seen. These plantations covered hundreds of acres and all stages of growth from one year to twelve years. Everywhere the results were the same. Nowhere had the attempt to grow trees proved unsuccessful. The stock all appeared thrifty and showed wonderful growths each year. Some of these were measured by the Committee and reached a growth of thirty-five inches for this year, and it was stated that they would probably grow another three inches before the season was over.

The Committee held a meeting with the members of the Forestry Commission of Pennsylvania and

Hon. I. C. Williams, Deputy Commissioner of Forestry, Hon. Simon B. Elliott and other gentlemen present went into detail and described the work done by the Forestry Department of Pennsylvania from its inception.

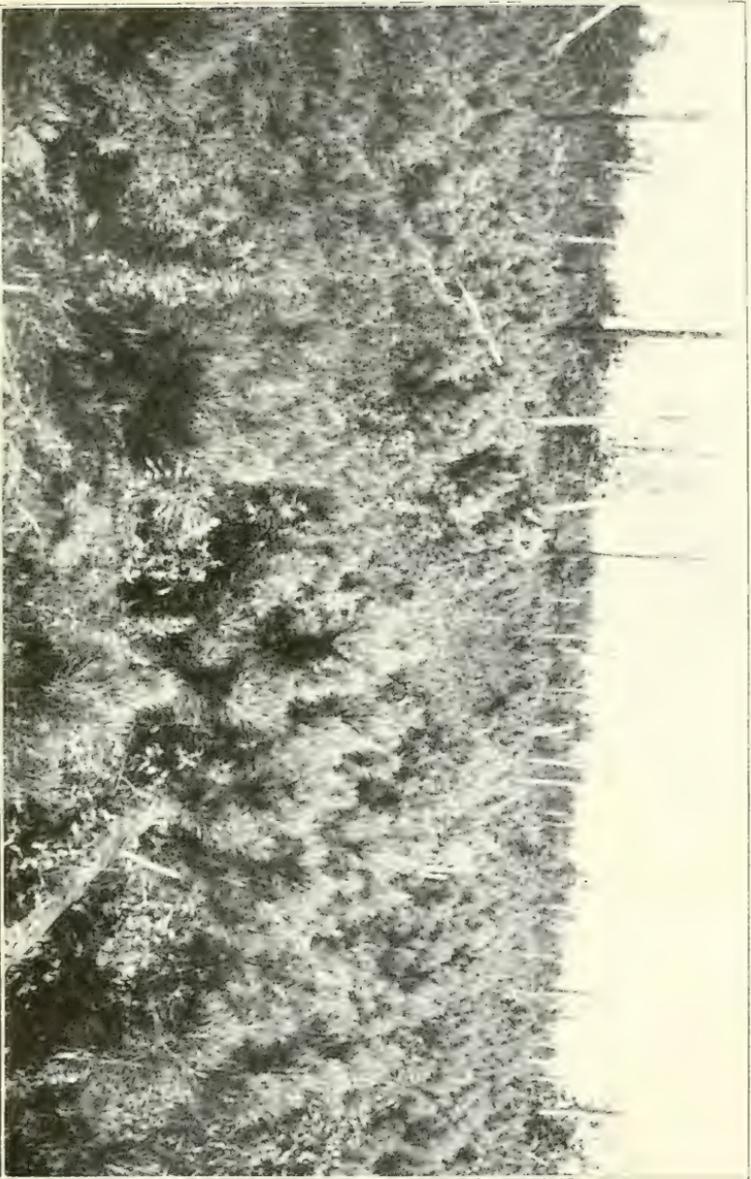
Both Mr. Pettis of the New York Department and Mr. Filley and Prof. Toumey of Connecticut were most kind in furnishing every bit of information possible and answering the many questions of the Committee.

Careful observations were made of the soil, climatic and other conditions with the idea of ascertaining just how far conditions in the States visited compared with those of our own.

The people of Wisconsin will, no doubt, be interested in the comparison of the work of our own State with that of the East. While we have been at work a very few years only, what has been done measures up in every way with the work of our sister States. The nursery beds at Trout Lake compare very favorably with Eastern nurseries and are fully as good as any the Committee saw elsewhere. Our plantings of pine, while much younger, are doing fully as well. These plantings have all been made from stock grown in our own nurseries with the exception of a few thousand Western Yellow pine purchased from the State of Michigan before our own nurseries were turning out any planting stock. When it comes to results obtained in the construction of fire lines, telephone systems and rangers' cabins and the general work of maintenance, we believe the results we have accomplished are as good, if not better, than those of the three eastern States visited.

The State Forester is to be congratulated on the field force under him. We found them all to be very thorough and much interested in their work.

On Nov. 12, 13, and 14, 1914, a general hearing was held at the Hotel Wisconsin at Milwaukee. Notices were sent out to a great number who had signified a desire to express their views as to the kind of a forestry policy Wisconsin should engage in.



5. Natural Reproduction. White and Norway Pine on Cut-Over Lands

The meeting was well attended, considerable interest shown, and much valuable information was elicited.

On Dec. 18 a meeting was held at the City of Rhineland in Oneida county for a conference with members of the Legislature from that territory and with others from the district affected by the plan for a proposed permanent forest reserve.

**SUMMARY OF WORK AND FINANCIAL
HISTORY OF THE STATE BOARD
OF FORESTRY**

*(Furnished by Mr. E. M. Griffith, State Forester,
upon questions submitted by the Committee.)*

Office Force.

	Salary
State Forester.....	\$3,600
Chief Clerk.....	1,500
Stenographer.....	900
Total.....	\$6,000

Field Force.

	Number.	Salaries.
<i>Forestry Assistants</i>	5	\$3,600
1 at \$85 per month.		
2 at \$60 per month.		
2 at \$50 per month.		

NOTE. Two of the forestry assistants devote almost their entire time to the forest nurseries and planting work.

<i>Forest Rangers</i>	12	\$11,200
1 at \$130 per month, Head Ranger, (furnishes two horses)		
3 at \$100 per month (each furnish one horse)		
3 at \$85 per month.		
5 at \$50 per month.		

NOTE. Where it is necessary for a ranger to purchase and keep a horse he is allowed \$15 per month.

	Number.	Salaries
<i>Timber Cruiser</i>	1	\$1,500
1 at \$5 per day for time he actually works.		
<i>Locomotive Inspector</i>	1	\$1,500
1 at \$5 per day for time he actually works.		
<i>Laborers at Headquarters Camp</i>	2	780
<i>Laborers on forest reserve, variable (approx.)</i>		10,000
Crews building roads, fire lines, nursery work, planting, etc.		
Total.....		\$28,660

Buildings.

The following buildings have been erected on the state forest reserve, viz:

<i>Big Trout Lake</i>	<i>Cost.</i>
Headquarters Camp.....	\$5,968
Barn.....	1,115
Boathouse and Pumping Station.....	770
Ice House and Woodshed.....	576
Carpenter Shop.....	285
Chicken and Tool House.....	85
Total.....	\$8,829
<i>Rest Lake</i>	
Ranger Cabin.....	\$1,600
Barn.....	510
Mens' Cabin.....	520
Woodshed and Ice House.....	275
Wagonshed and Tool House.....	165
Total.....	\$3,100
<i>Oxley</i>	
Ranger Cabin.....	\$1,500
Barn.....	757
Mens' Cabin.....	502
Woodshed and Ice House.....	300
Total.....	\$3,059
<i>Plum Lake</i>	
Ranger Cabin.....	\$1,614
Mens' Cabin.....	560
Barn.....	481
Ice House and Woodshed.....	287
Wagonshed and Tool House.....	124
Total.....	\$3,069
<i>Star Lake</i>	
Ranger Cabin.....	\$2,108
Barn.....	863
Mens' Cabin.....	472
Ice House and Woodshed.....	266
Total.....	\$3,709
<i>Wildcat Lake</i>	
Ranger Cabin.....	\$2,411
Barn.....	731
Mens' Cabin.....	475
Woodshed and Ice House.....	342
Total.....	\$3,962

Tomahawk Lake

Ranger Cabin.....	\$1,987
Barn and Wagon Shed.....	802
Mens' Cabin.....	125
Ice House and Woodshed.....	305
Total.....	\$3,519

Carroll Lake

Mens' Cabin.....	\$524
Ice House and Woodshed.....	374

\$898

**Buildings Purchased by State for Use of Forest Rangers
and Patrolmen**

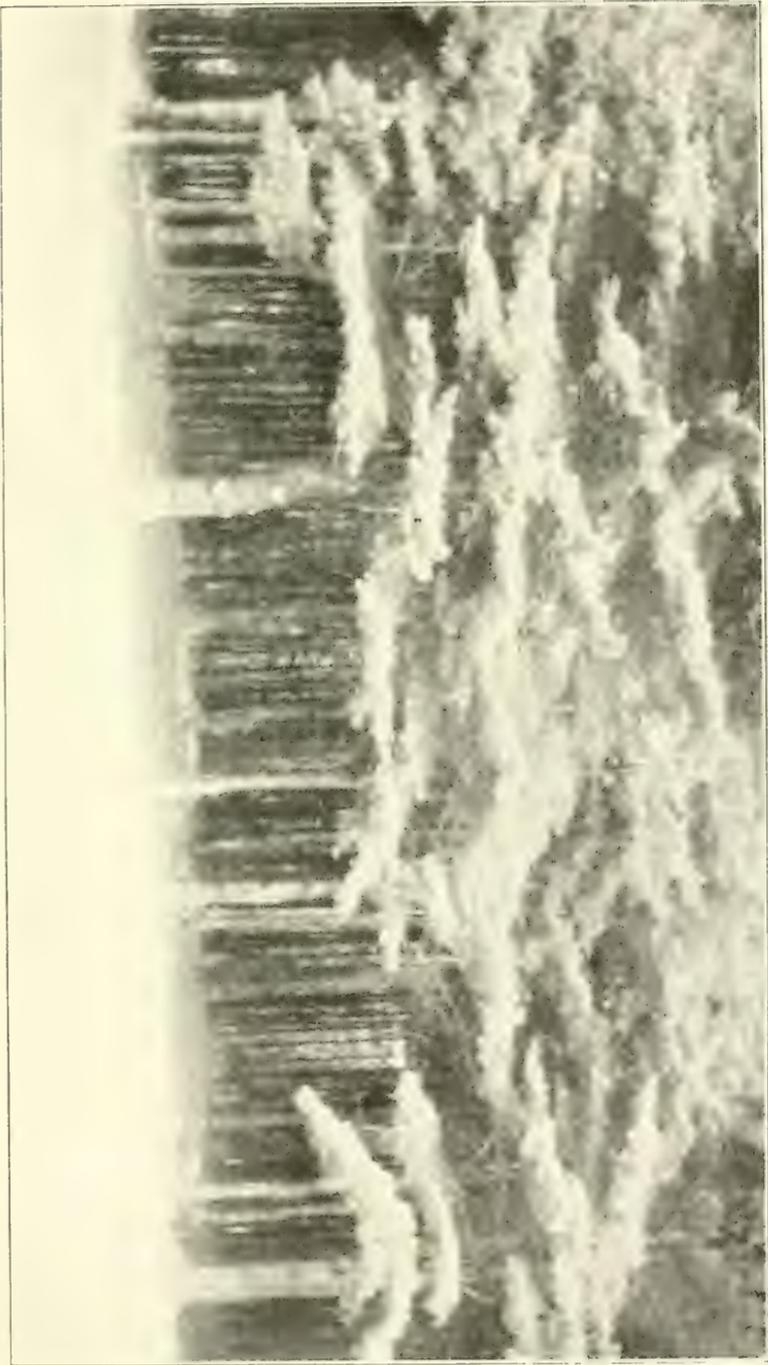
<i>Vilas County</i>	<i>Value</i>
Cabin in Sec. 28, 41-7 E.....	\$ 50
Cabin in Sec. 12, 42-8 E.....	300
Cabin in Sec. 14, 43-7 E.....	100
Total.....	\$450
<i>Iron County</i>	<i>Value</i>
Cabin in Sec. 32, 42-4 E.....	\$100

Forest Nurseries

Two forest nurseries are maintained, one at Big Trout Lake, Vilas county, and the other at Tomahawk Lake, Oneida county. The nursery at Big Trout Lake contains approximately 8 acres, and has an annual average output of 1,000,000 trees. The average cost of raising the young trees of all species including everything—value land, clearing, fencing, seed, salaries, labor, depreciation, etc., is as follows:

1 year seedlings.....	\$.78 per thousand
2 year seedlings.....	.90 per thousand
2 year transplants.....	1.72 per thousand

The Tomahawk Lake nursery was started in the spring of 1914, and will produce its first planting stock in 1916. It contains 3 acres and the annual output will be between 400,000 and 500,000 trees. It is expected that the cost of producing the trees will be approximately the same as at the Trout Lake nursery.



6 Second Growth White and Norway Pine. Mt. Alto, Pa.

Tonkins Photo.

Forest Plantations

Approximately 1,000 acres of land in the forest reserve which had been cut and burned over before it was acquired by the State and which was not restocking naturally, have been replanted with the following species, viz: White pine, Norway pine, Norway spruce, Scotch pine, and Western yellow pine, the first two species largely predominating. Some 1,110,200 trees were used in the planting operations, and it is estimated that at least 85 per cent of all the trees are growing and are in a fine healthy condition, and this is more than sufficient to assure a good, heavy stand of timber. The average cost of the plantations, including everything—cost of trees, transportation, salaries, wages, etc., has been \$4.98 per acre.

Sale of Nursery Stock

In order to encourage the reforestation of lands from which the timber has been cut and which are not suitable for farming, the policy has been adopted of selling planting material to citizens of the State, at a small cost. During 1914 there were sold to citizens of the State for reforestation in Wisconsin 24,000 trees at an average price of \$3.50 per thousand trees. It is expected that this demand for state nursery stock will increase rapidly.

Surveying Island and Lake Lots

Congress granted to Wisconsin as additions to the forest reserves, all unsurveyed islands in inland lakes North of town 33. In this way 637 islands have been added to the forest reserve, and nearly the entire time of one of the forest rangers is taken in surveying these islands and the lake frontages which are being laid off in lake lots. The forest ranger detailed to this work receives \$85 a month.

Locomotive Inspection

The passage of Chapter 494, Laws 1911, gave Wisconsin one of the strongest and most practical

laws in the country for reducing the number of forest fires set by railway locomotives, donkey, traction and portable engines. One inspector is employed and each season he inspects between 600 and 700 locomotives, and sees that the railroad rights of way are kept clean and free of inflammable material. The inspector is paid \$5 a day and his traveling expenses.

Cruiser and Trespass Agent

One timber cruiser is employed and this man also acts as trespass agent. His duties are to look after the 88,822 acres of land owned by the State outside of the forest reserve, to prevent timber trespass and to report on all sales of land or timber. He receives \$5 a day and his traveling expenses.

Care of State Parks

The Legislature in 1913 gave the care and supervision of the State Parks to the State Board of Forestry and made the following appropriations for their maintenance and improvement for two years:

<i>Park</i>	<i>Acreage</i>	<i>Appropriation</i>
Peninsula State Park.....	3,700 acres	\$18,000
Marquette State Park.....	1,671 acres	8,000
Devil's Lake State Park.....	1,040 acres	10,000
Interstate State Park.....	550 acres	2,000
Total.....	6,961 acres	\$38,000

Camp for Convalescent Consumptives

The State Board of Forestry is co-operating with the State Board of Control in establishing a camp for convalescent consumptives on the shores of Tomahawk Lake, in Oneida county. The patients will be given work both in the forest nursery at Tomahawk Lake and in forest planting.

Forest Ranger School

The State Board of Forestry is co-operating with the University in conducting a course which trains

men for the work of forest rangers. From January 6 to April 14 the instruction is at the University. From April 16 to August 1 the students are given instruction and work on the forest reserves, and when working for the State they are allowed \$40 per month and board.

Game Preserve

In co-operation with the Game Warden's department 218 acres of forest reserve land near Big Trout Lake, Vilas County, have been enclosed in a game proof fence and stocked with deer. The Government has offered to give Wisconsin 50 elk and it is expected that these will be received early in 1915, and placed in the game preserve. By liberating the deer and elk as their number increases the forest reserve will be kept stocked.

Study of Farm Woodlots

In cooperation with the U. S. Forest Service, a study of farm woodlots is being made in order to assist farmers in the better management of their woodlands, including the cooperative marketing of their timber. Sixteen counties have been completed, and within two years it is hoped to complete the work for the entire State. Two of the forestry assistants are now devoting their entire time to the work. They receive \$50 per month and their traveling expenses.

Study of the Taxation of Timberlands

In cooperation with the U. S. Forest Service, a report has been issued on "The Taxation of Forest Lands in Wisconsin." The main purpose of the study was to determine the extent of the burden now carried by timberlands as a result of the present methods of taxation, and what influence, if any, such methods of taxation have or will have on the practice of forestry by private owners. The U. S. Forest Service paid the salaries of the foresters in

charge of the work and Wisconsin paid their traveling expenses. The cost to Wisconsin of this study was \$612.54.

Study of the Wood-Using Industries

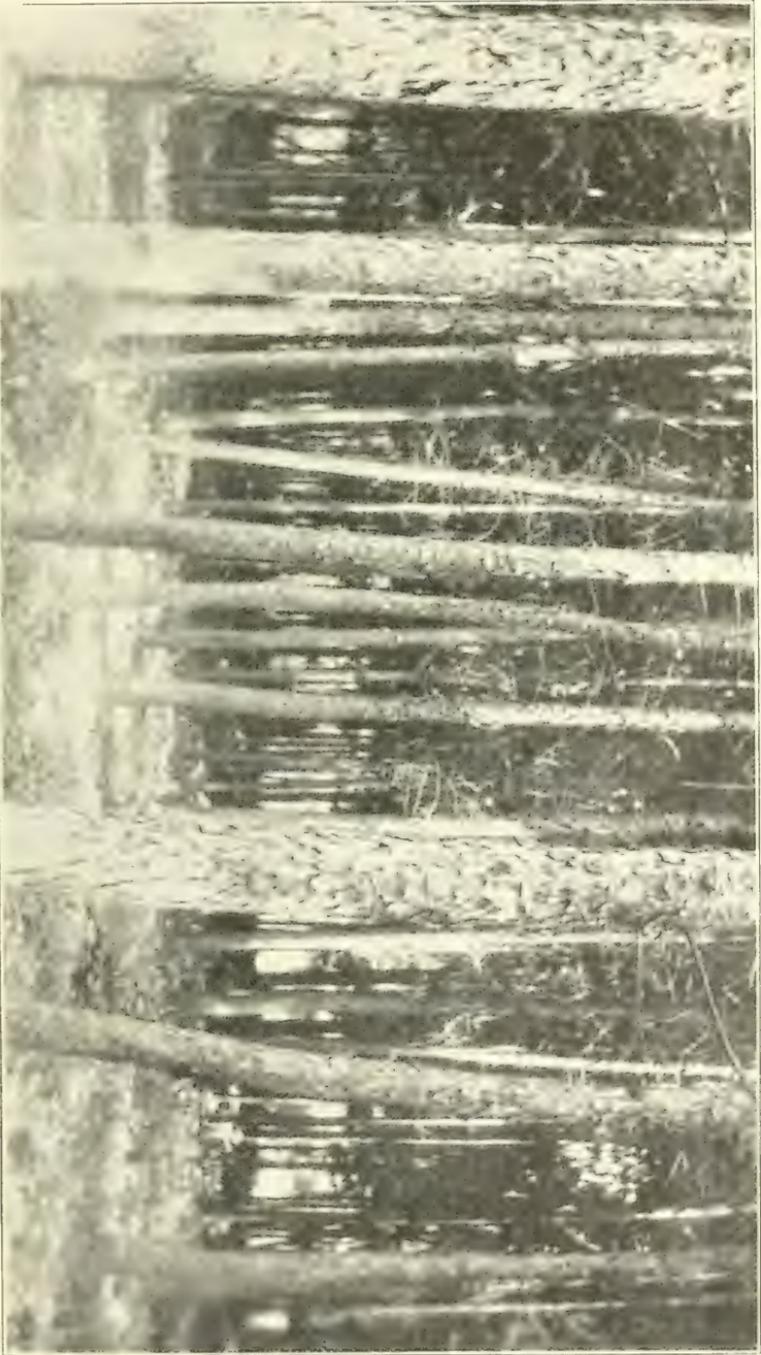
In cooperation with the U. S. Forest Service a report has been issued on the "Wisconsin Wood-Using Industries." The study was made with the idea that by gaining a knowledge of the needs of the manufacturers and of the timber resources of the State, a rational forestry policy could be outlined so that the producing and consuming industries dependent on wood may be perpetuated and enlarged.

The U. S. Forest Service paid the salaries of the foresters in charge of the work, and Wisconsin paid a portion of their traveling expenses. The cost to Wisconsin of this study was \$107.25.

Federal and State Fire Protective Work

Congress under the provisions of the Weeks Law, authorized the U. S. Forest Service to cooperate with the various states in protecting timberlands upon the headwaters of navigable streams from forest fires. The act provides, however, that no part of the appropriation shall be used in any state that has not established a forest fire patrol system of its own, and therefore only a few states were able to qualify.

Wisconsin's application for assistance in protecting the headwaters of the Wisconsin and Chippewa rivers was approved, and for the last four years the Wisconsin State Board of Forestry has been allowed \$5,000 each year to employ Federal patrolmen. From about May 1 to December 1, twelve Federal patrolmen are employed to assist an equal number of state forest rangers in protecting all lands from fire within the forest reserve. During the last two seasons the Chicago & Northwestern Railway has contributed over \$900 each year to employ forest patrolmen, and lumber companies and private individuals have also cooperated in this all-important work of prevention.



7. Inside View of Second Growth White and Norway Pine. Mt. Alto, Pa.

Tomkins, Photo.

Lookout Towers

For forest fire protection, four 55-foot steel lookout towers have been built on some of the highest hills within the forest reserve. From all the towers the country can be seen for 10 miles in almost any direction, and during dangerously dry weather the observers report immediately by telephone any fire or smoke that may be seen. The average cost of the towers has been \$136.90.

Cutting Stubs

Old dead stubs are one of the most prolific means of spreading forest fires, as the fire quickly runs up the dead bark to the top of the tree, and a slight wind will carry the burning bark for long distances. Such old stubs have been cut back for six rods on each side of over 125 miles of roads and fire lines at an average cost of less than \$6 per mile.

Slash Burning

Where the slash from old lumbering operations is heavy, and especially where it adjoins timber or other valuable property, it is necessary to pile and burn it so that it shall not be a constant menace to the forest reserve. Over 1500 acres of dangerous slashings have been destroyed at an average cost of \$5 per acre.

Roads

In order to make the forest reserve easily accessible to the forestry force, to the few settlers who live in this region, and to the thousands of tourists, and also to serve as fire lines, there have been constructed 248 miles of dirt roads, at a cost of \$32,734, or an average cost of \$131.58 per mile.

Fire Lines

To control the spread of forest fires, the forest reserves have been gridironed with a system of roads

and fire lines. In this way the reserves have been split up into blocks and through this system it is comparatively easy to confine a forest fire to a small area. There have been built 141 miles of fire lines at a cost of \$11,939, or an average cost of \$84.67 per mile.

Telephone Lines

The telephone is the most important aid in forest fire prevention and fire fighting, as the headquarters camp and all the ranger cabins and lookout towers are connected, and help can be promptly secured as soon as a forest fire starts. There have been built 76 miles of telephone lines at a cost of \$2,731, or an average cost of \$35.93 per mile.

**SUMMARY OF THE FINANCIAL HISTORY OF THE STATE
BOARD OF FORESTRY FROM ITS ORGANIZATION
TO DATE.**

Appropriations for Administration Purposes:

1903- 4.....	\$4,045
1904- 5.....	5,500
1905- 6.....	9,800
1906- 7.....	9,800
1907- 8.....	9,800
1908- 9.....	9,800
1909-10.....	9,800
1910-11.....	9,800
1911-12.....	35,000
35,000.....	1912-13
1913-14.....	35,000
<hr/>	
Total.....	\$173,345

Gifts of Land to the Forest Reserve:

Nebagamon Lumber Co., 4,321.07 ac. at \$10.00.....	\$ 43,210
Federal Government, 19,950.57 ac. at \$5.00.....	99,752
Federal Government, 637 islands.....	204,566
<hr/>	

Total Value of Donations.....\$347,528

Total Value of Donations to the Forest Reserve.....\$347,528
Total Appropriations for Administrative Purposes..... 173,345

Excess Donations over Appropriations.....\$174,183

Purchases of Forest Reserve Lands:

Acreage purchased from \$2.00 or less to \$2.56	60,217.62 acres
Acreage purchased from 2.68 to 3.50	56,972.54 acres
Acreage purchased from 3.75 to 4.60	38,451.95 acres
Acreage purchased from 5.00 to 6.50	3,270.67 acres
Acreage purchased over 6.50	90.77 acres
<hr/>	

Total Acreage Purchased..... 159,003.55

Acreage of Lands Purchased and Donated:

Total acreage purchased.....159,003.55
Total acreage donated..... 24,271.64

Total.....183,275.19

From the above it will be noted that the donations of land comprise over $13\frac{1}{2}$ per cent of the total acreage of all lands acquired.

Reforestation Fund.

Congress in 1906 granted to Wisconsin 20,000 acres of land as an addition to the state forest reserve and the act provided that the scattering and agricultural land can be sold, but that all income from the lands can only be used for reforesting the forest reserve. Out of the "Government Reforestation Fund" is being paid the cost of the reforestation work in Wisconsin, and there now is a balance of \$16,000, which will pay for the work for several years, and there will be more income from the same source in the future.

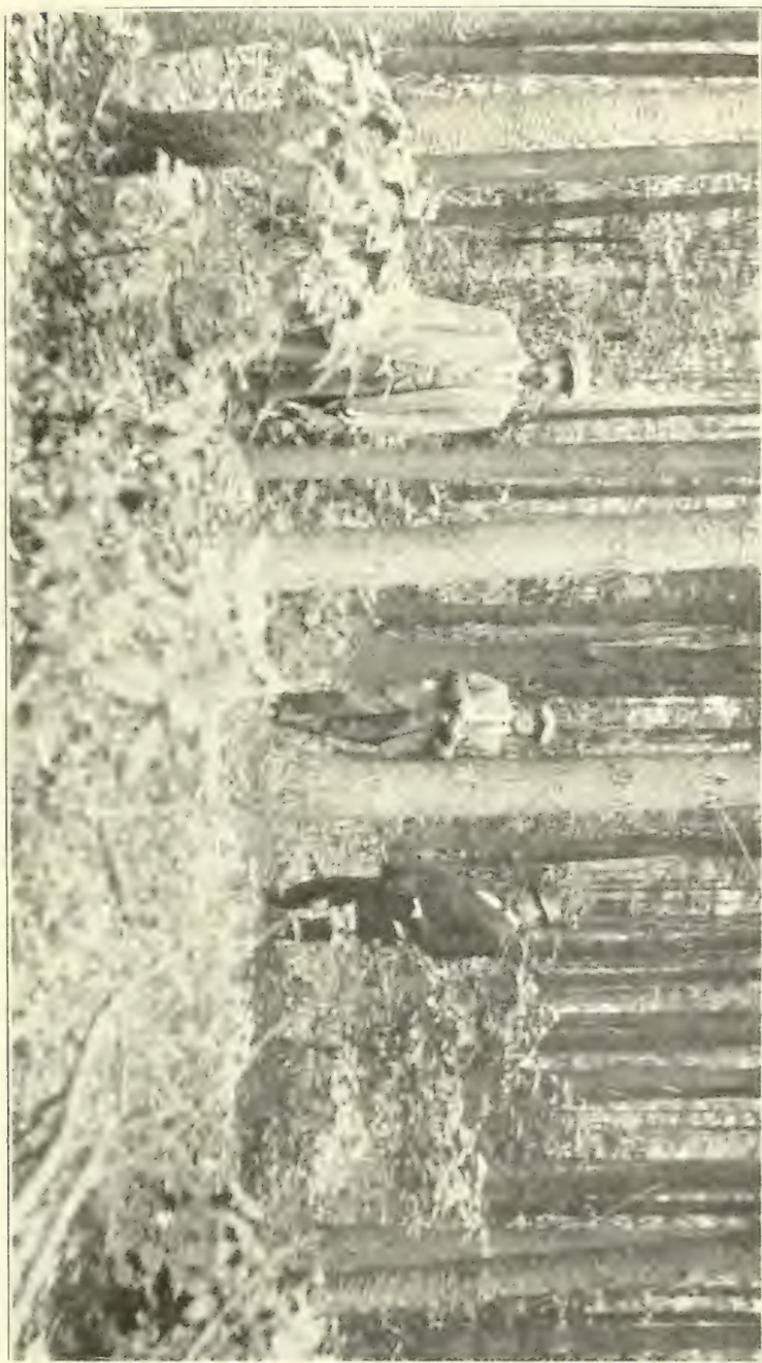
Conditions of Gifts

The above act of Congress provides that if the forestry work is ever abandoned in Wisconsin the state must return to the Federal government the balance of the 20,000 acres remaining unsold, and must also refund to the government all moneys received under the grant and not used in reforestation and the interest which has accrued on the fund. This would mean that at the present time we would lose some 14,000 acres of land and would have to pay back to the government approximately \$15,000.

The gift of land from the Nebagamon Lumber Company and also the gift of 637 islands from the government have the same conditions attached, namely, that they must be returned to the donor in case the state gives up its forestry work.

Therefore, as will be seen from this statement, Wisconsin would lose by abandoning its forestry work all donations or \$347,538.00.

The total appropriations for administrative purposes have been \$173,345.00; the purchases of forest reserve lands amounting to 159,000 acres at an average price per acre of \$3.32 makes a total of approximately \$528,000.00; all of which makes a



8. Shaker Plantation. White and Norway Pine About 45 Years After Planting. Hazardville, Conn.

Grubb, Photo.

total expenditure of approximately \$700,000.00. Deducting therefrom the value of donations, \$347,000.00, leaves a total investment of about \$353,000.00.

To off-set this the State owns 327,450 acres of land and 637 islands donated by the National Government, and in addition, the value of all forestry improvements. Certainly, the investment to date has proved most satisfactory.

Since the large purchases by the State during the last few years the claim has been made that a great part of the lands so acquired for forestry purposes are good agricultural lands, some even placing the proportion as high as seventy or eighty per cent. If this be true, certainly the investment has been a good one, the average price which the State has paid being only \$3.32 per acre. It is well known that lands of agricultural worth cannot be purchased in Northern Wisconsin at even double that figure, so certainly the State has lost nothing on account of these purchases, but must have made a good investment.

REPORT AND FINDINGS OF COMMITTEE

Two questions upon which the Committee were to report to the 1915 session of the Legislature are presented in the law creating it: First, what areas of land now held as forest reserve and those parts proposed to be included within such reserve within the counties of Forest, Iron, Oneida, Price and Vilas are better adapted to agricultural than to forestry purposes. Second, whether the best interests of all persons concerned, especially the taxpayers of the State, will not be better promoted by devoting State lands to other than reforestation purposes.

Having this in view the Committee have deemed it one of their duties to make a general study of the subject of forestry and to submit their views upon this subject. To many this will seem strange when all of the leading countries of the world and nearly all of the older states of the Union—in fact, all of those in the northeastern part of our country—have been for many years and are now engaged in the reforestation of those lands located within their borders which are not suited to agriculture. We cannot believe it necessary that the people of Wisconsin be shown that the general policy or idea of forestry is sound and a success commercially.

Mr. Simon B. Elliott, member of the Pennsylvania Forestry Reservation Commission, and author of "The Important Timber Trees of the United States," in the latter work, says: "All will agree that lands suitable for agriculture should be reserved for that purpose; but it is equally true that land not so suited, and which has borne a crop of trees, can and should once more be devoted to that use; and there is a large area of that kind of land in this country."

He also added in an interview:

"It is not good policy to permit attempts to be made to induce settlers, with a view to home-making, to go on lands not suited to agriculture. Aside from the moral feature involved there inevitably

comes failure and the desertion of such regions, all tending to the injury and discredit of the State. No State has ever profited by attempts to induce settlers to go on land for the purpose of home-making where the region is not adapted to profitable agriculture. To avoid this the State would best secure such land and, where practicable, devote it to tree growing, thus converting what otherwise would be practically a barren waste into a productive one."

The only question pertinent to this matter would seem to be whether any of the lands within the proposed forest reserve can be better and more profitably used for the benefit of the people of the State by planting to trees and by encouraging the growth of the natural reproduction thereon.

Oftentimes in discussing the general forestry question with the average citizen he is prone to say, "Yes, such conditions might apply to Germany; such conditions might apply to the mountainous regions of Pennsylvania or New York; such conditions might apply to the Southern States where the growing season is long; but in Northern Wisconsin where the growing season is short, the lands and conditions are different—forestry cannot be carried on successfully." Authorities on the subject, however, claim an entirely different state of affairs. Wisconsin conditions are ideal for the growing of trees. We do not labor under the handicap of the European forests which have been restored and made productive. And we have one great advantage over them; we are not limited to a few inferior kinds or species of trees. Wisconsin can grow white and norway pine, and these are recognized as the most productive and most profitable trees of forest growth.

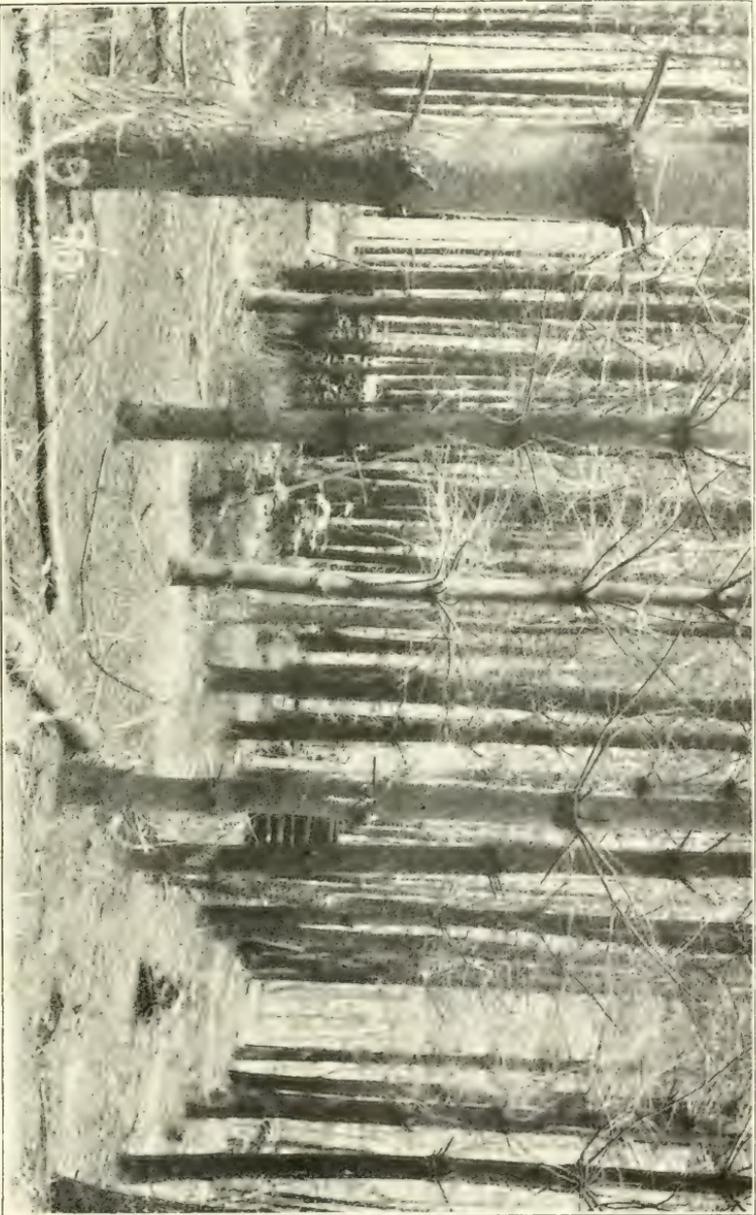
When we speak of reforestation we have in mind both the natural reproduction and the artificial planting or growing of trees. In the first, nature is simply encouraged in her effort to re-establish the native species of timber. This is too well known to need much explanation. By the establishment of a forestry protection system, consisting of foresters,

with forest rangers, telephone lines, lookout towers, fire lines and roads, the young and growing timber is protected from the onslaughts and ravages of fire.

By artificial reforestation we mean the growing of the young trees in the nurseries, the transplanting of the same on the cut-over lands and their protection by the methods heretofore mentioned.

That artificial reforestation will become a source of profit to the State has been proven beyond doubt, not only in such countries as Germany, the Scandinavian Peninsula, Denmark and France, but also by experimental plantations carried on in the United States. The Germans claim an average annual net revenue of \$3.50 per acre from their planted forests. There can be no question of ultimate profit if properly managed for the manifest reason that by the time a forest planted now becomes mature, our present naturally grown ones will have become so exhausted that the market price of all forest products must be that of the cost of growing trees from the seed plus a fair profit, just as the price of wheat, corn or any other product of the soil is and must be that of its cost with reasonable profit added. Demand and supply will regulate price here as well as elsewhere.

The Monaghan plantations near Mount Alto in Franklin County, Pennsylvania, afforded one of the best opportunities for the Committee to see results obtained from the planting of white pine. This plantation was made on an old cultivated field. The best results cannot be obtained from such planting. Foresters all agree that where there is a growth of other varieties for protection such as aspen, pin cherry and the like, the pine growth is much more sturdy. This planting was made in April, 1902, for experiment only. The young trees were two years old when set out, at a distance of four feet. A photograph taken in 1904, two years after planting, shows them less than six inches in height. A later photograph, taken in December, 1906, shows a maximum height of 31.50 inches with



9. White Pine and European Larch. Twenty-five Years After Planting. Connecticut.

practically every tree growing. Measurements were made in October, 1906, and prior thereto which show the following facts: Number of trees measured, 3,558. Average growth in the year 1906, inches 12.085; average growth in the year 1905, inches 6.9; average growth in the year 1904, inches 5.8; average total height year 1906, inches 33.5.

At the time of the Committee's visit in August, 1914, the average height of these trees was about twelve feet and the highest exceeded fifteen feet. Photographs are shown herein of this plantation in 1904, 1906, 1912 and 1914.

While many other plantings of white and norway pine equally as promising were visited by the Committee, we believe them to be the best illustration of what can be expected along these lines because we were able to secure photographs of them at various stages of their growth.

Figures in the office of the State Forester show that the cost of planting in Wisconsin has averaged \$4.98 per acre while members of the Pennsylvania Forestry Commission stated that it had cost them about \$9 per acre. Wisconsin plantings have been made with about a thousand trees to the acre while the Pennsylvania foresters have used almost double this amount. A further item of cost in the latter State is by reason of the added expense of growing nursery stock. On the heavy soils where their nurseries are located the planting, care, and cultivation of the seedlings is much more difficult and expensive, and the setting out of the trees in the forests on the heavier soils makes necessary a great deal more work.

Another thing of interest in connection with this is that the work now being done and which it will be possible to do in the next few years with just the two Wisconsin nurseries—the one at Big Trout Lake, the other at Tomahawk Lake—in the way of artificial reforestation is being paid for by the Federal Government and, therefore, imposes no burden on the people of Wisconsin. The Government in mak-

ing its grant of 20,000 acres provided that the money received from the sale of scattering lands or from the sale of timber, or from, in fact, any source connected with the handling of the said gift, could be used only for reforesting the permanent forest reserve—that is, in the up-keep of the nurseries and the cost of planting. At the present time, as has been stated, the nurseries are turning out approximately one million trees per year. This is sufficient to plant about one thousand acres. At a cost of \$4.98 per acre, which includes the cost of the seed, cost of raising the plants, and cost of transplanting, this means a total expenditure of about \$5,000 a year. The department now has on hand in this Federal fund over \$16,000, sufficient to carry on the work and take care of the out-put from the nurseries for three years, and it is stated that by that time considerably more than this amount will again be in their hands. So, the cost of artificial reforestation in Wisconsin will be borne by the Federal government for many years to come, and as much as a thousand acres a year can be planted, making the only cost of such work to the people of the State their initial investment in acquiring the land and the expense of fire protection.

Even on the very poorest lands in Connecticut, light sandy soil which has been farmed for generations, both the white and norway pine plantings were doing well. This was true everywhere, even on the very poorest soils, and from their observations the Committee is well satisfied that there is no reason for attempting to plant scotch or western yellow pine any more than for experimentation on the lands in the forest reserve. White and norway pine will grow on any of it.

In the cut-over territory in the forest reserve quicker and cheaper results can be had by the encouragement of natural second growth. By the artificial planting under the improved methods of to-day no inconsiderable areas can be replanted with white and norway pine which in the end will be profitable to the people of the State and serve as

an encouragement to the owners of private lands and educate them so that they will become interested in the replanting of their lands. In the Eastern States the demand is already taking the output of the State nurseries, and in New York the Forestry Department complain because they have too little left for the replanting of their own lands. Millions of small trees are now being purchased from their nurseries and planted upon private estates. From 1908 to 1913 their total sales aggregated 12,014,635 trees, sufficient to reforest approximately 12,000 acres.

This work is only in its infancy. Each year as the people become educated as to the returns which may be expected from such work the demand will increase and it will require hundreds of acres of nursery beds to keep up with the advancement.

Already demands have been made upon the Wisconsin Forestry Board for nursery stock. The Dupont Powder Co., operating in Bayfield county, attempted to procure white and norway transplants for the replanting of their cut-over lands. On account of our output of only one million trees for 1914 and by reason of the necessity for planting State holdings, this request was refused.

There is no intention on the part of the State Board of Forestry of Wisconsin, or, in fact, of the Forestry Departments of any of the States, to enter into competition with commercial nurseries. At the present time, however, these nurseries have been unable to supply the millions of trees required for private planting, but as soon as they are able to do so and furnish the stock at a reasonable price, the States will be glad enough to retire from this side of the work and devote their planting stock to reforesting State lands. The commercial nurseries up to date have only been able to keep up with the demand for the ornamental stock, whereas in Germany they can supply planting stock by the tens of millions. It will only be a few years when private individuals in Wisconsin will take up this

work and many thousands of acres of our cut-over lands, unprofitable for agriculture, will be devoted to the growth of pine. Nothing will so stimulate and encourage this enterprise as the example the State Forestry Board expects to set forth in planting State lands. In the last few years a number of private owners have expressed a desire to reforest their lands—large holders who have waited until the soil survey of their district was completed, so they would know upon expert advice which lands were non-agricultural.

In a way, the task given this Committee to decide which of these lands are best adapted to agricultural use is an impossible one. The only way this can be determined in detail is by a soil survey and a thorough cruising of these lands, forty by forty, by competent judges of farm lands. This would demand many months of hard labor and could not be undertaken by the members of this Committee. All we could do was to visit as much of the territory as possible, getting a general idea as to whether any of the lands were unfit for farming and whether the agricultural development of Wisconsin might be hindered by the taking of some of these lands from the market and by their use for reforestation purposes.

The question as to just what lands are available for reforestation is a debatable one. It is hard in this day and age to specify what are agricultural and what are non-agricultural lands. In the wild unsettled areas of Northern Wisconsin one is liable to be greatly deceived, and while at this time he might say that some of the lands were non-agricultural, or might better say not profitable from an agricultural standpoint, a few years may work a mighty change—a wonderful change—and the demand be such that practically all of these lands would be required for agricultural purposes.

Nevertheless, the lesson as learned in some of our sister States of the East may be a guide to us in this. In the Blue Mountains of Potter County,



10. White Pine Plantation. Planted in 1910. Photo in 1914. Near Crossfork, Potter County, Pa.

Graham, Photo.

Pennsylvania, Wisconsin's famous violinist, Ole Bull, conceived the idea of establishing a colony of Norwegian immigrants. He attempted to purchase several thousand acres, went so far as to build himself a castle, and many of the families moved upon the land with the intention of carving out farmhomes. True, on account of a defect in title he became discouraged and gave up the idea. But now, after fifty-two years, these lands are still unoccupied and vacant with no prospect whatever of their ever being used for farming. The soil in the valleys is a rich red and yellow shale; the climate much the same as in the Northern part of Wisconsin, and still, in thickly settled Pennsylvania this land is really of less value and can be purchased at a lower price than some of the poorest cut-over lands in our State.

During the last half dozen years the State of Pennsylvania has started a forest reserve in this county, bought up these lands at prices under \$5 per acre and is now replanting them. While this is a mountainous region, there is much of the land in the broad valleys which could be profitably used for farming if there was a demand for it. It has stood for many years since the removal of the timber, blackened and barren. Now, by artificial planting and the protection of the natural growth Pennsylvania expects to make it bear timber with profit to the commonwealth.

The soil in this county is heavier than anything in our proposed forest reserve, and by reason of that they cannot expect as good results from the natural second growth of pine. On account of the heavy nature of the soil the pine seed has no opportunity to germinate and the hardwoods get such a start that only in a few places is there any showing of pine whatsoever.

This condition does not apply in Warren county, New York. In the territory adjacent to Chestertown where the soil is of a light sandy character, which soil largely predominates in all parts of the

Adirondack Forest Reserve, the natural reproduction of white pine is wonderful. Here vast areas have reforested themselves with as fine a growth as ever stood on these lands.

If Wisconsin is to continue its Forestry work and have a forest reserve, the question of its location is first to be considered. There are millions of acres of undeveloped land in Northern Wisconsin. Just what percentage of these will ultimately be used for agricultural purposes cannot at this time be determined. Many things must be taken into consideration in determining this. Even the very poorest of lands if located adjacent to good tillable soil can be profitably used for grazing and pasturage, but where there are large areas of poor or unprofitable agricultural lands it would seem that these might best be used for forestry.

In the lands held by the State there are, of course, some good agricultural lands. Generally speaking, however, the average State holding does not compare favorably with the land that is held by speculators or by those who are engaged in farming. Invariably, in their investigations, the members of the Committee found the State lands about the poorest in the locality inspected. We believe the report of the soils survey now being made will bear out the opinion of the Committee in this regard. The Forestry Department has refused to make a number of purchases by reason of the agricultural value of the lands. In fact, they have had several farms offered at very low prices. So it is not altogether an accident that the State owns the poorer lands. Naturally, the better lands have gone into the hands of the actual settler more rapidly and the owners have not been so anxious to dispose of them at low prices.

The eye of the State and Nation for many years has been turned to that area in the Northeastern part of the State situated in the counties of Forest, Iron, Price, Oneida and Vilas, having in view its adaptation to forestry purposes. All the State

and National soil surveys for many years have shown a considerable area of light sandy soil of inferior agricultural quality in this district. While there are other places in Wisconsin with soil of this nature which could, no doubt, be better used for forestry than for farming, if we are to have a forest reserve at all the selection in a general way has been well made.

There is no section of the state where so large an area of sparsely settled lands can be found. The State Forester's records show that in a district equal to twenty-two townships within the reserve, an area of five hundred square miles, there are now but twenty-one farmer settlers. And this report from the office of the State Forester the Committee found upon investigation to be true; that while there were other people living within this district, they were either resorters, shackers, or trappers—at least, not making their living at farming.

Certain it is, that in carrying on the work of reforestation by the encouragement and protection of the natural second growth, in order to make it profitable the land must be held in considerable areas by reason of the expense of maintaining the roads, fire lines, telephone system, and other things necessary to the conduct of the work. Still, if the poorer lands in some of the better settled portions which are surrounded by farms and improved lands could be used for this purpose, the aid of the settler in keeping back the fires and protecting the timber would be of no little help. For that reason it would seem that the poorer lands in all parts of Wisconsin which will grow white and norway pine should be acquired for this purpose and every effort made to have them replanted to trees, whether in the hands of the State or of private owners.

Future commercial interests of the State may demand its extension into other sections.

While climatic conditions may be discouraging to settlement—a hindrance in growing certain crops—we do not consider them germane to the question

here submitted. On the better lands of this territory farming can be engaged in with profit so that such conditions simply limit the field of operation and confine the farmer to the growth of particular crops, yet with the opportunity for fairly good returns.

In their investigation the Committee saw many different kinds of land; some of the very lightest sand; some sandy loam; and some clay loam. They also found large areas which were very rough, covered with gravel, stone and huge boulders, yet anyone who would condemn all the lands in the proposed forest reserve by reason of these observations would be unfair to this section of the State. Nevertheless, there are large areas—in fact, a major portion of the lands which the Committee have had an opportunity to investigate—which they believe to be better adapted to forestry than to farming. Most of these lands will not be called into use by tillers of the soil for many years to come.

There can be no good reason why, if these lands are used by the Forestry Department, it will in any way interfere with the agricultural development of Northern Wisconsin. Neither is there any reason why the settlement of the good agricultural lands should interfere with the forestry policy. There is ample room for both, and the development of the one should but assist in the development of the other. Wherever forestry is being carried on, in other States or in other countries, it is conducted hand in hand with the agricultural advancement. The farmers of Pennsylvania are ardent supporters of the Forestry Commission.

There should be no dispute between those interested in the general welfare of Northern Wisconsin, whether interested in making it a rich agricultural region or interested in the reforestation of its poorer soils and rough lands such as cannot be profitably used for farming. Agricultural writers, even those who are interested in the agricultural development say that twenty-five per cent of all the lands in



11. Irishtown Plantation. Scotch Pine. Planted in 1900. Near Mt. Alto, Pa. Photo in 1914.

Griffin, Photo.

the Northern half of the State are unsuitable for the growing of crops. If there are, as is said, 13,000,000 acres in the Northern part of the State still undeveloped, and twenty-five per cent of it is non-agricultural, then we have three and one quarter millions of acres upon part of which, at least, the State can conduct this work.

Large areas are covered with swamp, some of which cannot even be used for tree planting, while others naturally reproduce themselves with such species as tamarack and spruce. Certainly so large an area as this should satisfy the most ardent advocate of silva-culture, yet it shows that a few hundred thousands of acres devoted thereto will create no dearth of lands left to farm.

Why anyone should feel that the statement that twenty-five per cent of the lands of any section of the State are non-profitable for agriculture is detrimental to its best interests is inconceivable. We have but to turn to Germany with her 208,000 square miles to find that 54,000, an amount equal to almost the total area of the State of Wisconsin, is in forests. Certainly in a country which has been developed to almost the last degree, the fact that one-fourth of its area is in forests does not detract from its standing as a nation and an example to others in intense development.

There are thousands of acres of land in Northern Wisconsin which, on account of the poor character of the soil and its rough nature, will not be used for farming either in this generation or several to come. This can be said without detracting from the agricultural possibilities of the section in which they are located.

There is no section in the State where an attempt at reforestation can show as rapid results and quick illustration of its possibilities as the beautiful lake region of Northeastern Wisconsin. Most of the soil is of a light sandy nature. On this a rapid natural reproduction may be expected. There are now large areas where beautiful young growths of white and

norway pine are springing up. If these can be kept free from fire and protected from the other natural ravages of the elements it will not be many years before the covetous eye of the woodsman will again turn to this district. It is well known that in a few years these little stands of natural reproduction will reseed the other areas. This is especially true on the light sandy soils where the white and norway pine seed have such a splendid opportunity to germinate. Where some of the smaller pine were left by the loggers, they have scattered seed over large areas. Where fire has not reached some of the growths are beautiful. A few years of fire protection and the results will be worth while.

In addition, too, this territory was logged by rail. Miles and miles of railroad grade have been constructed through the territory. These can be quickly converted into most excellent roads and fire lines. There is no place where a cheaper system of fire protection can be inaugurated.

Furthermore by reason of the hundreds of lakes the opportunity for the construction of fire lines between them, a most unusual opportunity is afforded in the blocking out of forest areas and the confining of fires to limited districts.

The system of protection from forest fires in Wisconsin is not new or untried. The methods are those found to be most effective by National and State organizations. The Western Forestry Conservation Association, the States of New York, Pennsylvania and Minnesota, and the National government protect their standing timber by the same methods. It has proven successful and is in operation by many private associations holding timber land. Wisconsin's system was established in 1911 and no areas of any extent in the district covered have been burned. The largest area under immediate supervision and protection which has been burned over since this system of protection was inaugurated does not exceed ten acres.

The forestry holdings now consist of 327,450 acres

to which should be added, however, the acreage of 637 islands donated by the National government on which surveys have not been fully completed. The holdings in the proposed permanent reserve are as follows:

Forest County.....	24,281
Iron County.....	27,102
Oneida County.....	48,488
Price County.....	5,657
Vilas County.....	128,010

Making a total within the proposed forest reserve of 186,537 acres exclusive of the islands. In addition to this there are 5,086 acres in the Brule River Reserve and 47,003 acres of Indian Reservation lands, which make a total of 238,627 acres of lands which the Forestry Board now propose to hold for permanent forestry purposes. That is, these lands are located within the area where the future work is proposed to be conducted.

Whatever of these lands may be of agricultural value lying in sufficient tracts to warrant settlement will be placed upon the market for sale to actual settlers.

If it were certain that the holdings outside of the State lands were to be used by actual settlers, the whole problem would be easy of solution. There would be no real reason for blocking up State lands. There would be no danger from fire—in fact, the settlers would assist in protecting the timber growth.

The great danger lies in the large private holdings of unimproved lands which are not protected and where the opportunity is given for fires to originate by the lack of an adequate protective system.

The State owns 88,822.49 acres of land in the following counties outside of the proposed permanent forest reserve area. The holding in each county is herewith given.

	<i>Acres</i>
Ashland.....	3,966.20
Bayfield.....	1,188.60
Burnett.....	3,649.21
Douglas.....	1,797.25
Florence.....	3,639.16
Forest.....	11,460.60
Iron.....	1,639.07
Langlade.....	1,058.42
Lincoln.....	1,041.32
Marinette.....	1,491.21
Oneida.....	23,173.38
Polk.....	846.40
Price.....	12,150.51
Rusk.....	2,215.87
Sawyer.....	11,213.22
Vilas.....	2,360.84
Washburn.....	2,628.23
TOTAL.....	88,822.49

These lands are scattering, some of them of agricultural value, and so located that it is recommended that they be sold and the proceeds applied to the purchase of lands in the proposed permanent reserve.

The first work should be confined to this district.

No matter where the forest reserve is located, the same cry of opposition would go up. The question is, "Are we to have a forest reserve at all?" If so, it must be somewhere. And no tract can be found that is more suitable than the one selected.

There should be no misunderstanding, however. There is no intention when we say that the present work should be confined to this proposed area, to take all of the lands therein. Every safeguard should be provided so that the agricultural lands shall be devoted to that use and only those unprofitable for farming used for forestry. The intention is simply to limit the field of operation for the reason that quicker and better results will follow, there being no desire to acquire lands of even possible agricultural worth.



12. Old Forge Plantation. White Pine. Planted 1908. Near Mt. Alto, Pa.

Grubin, Photo.

The plan has been proposed that the State have small forest reserves in several counties. This plan would not be practicable. Supervision would be expensive; fire protection would be expensive; and either more nurseries would have to be established, the expense of maintaining them being correspondingly greater, or plants would have to be transported and planting crews moved from point to point. The whole expense would be increased, and the main object of forest reserves would be defeated if they were not located on the headwaters of the important rivers.

The present holdings are ample upon which to demonstrate what Wisconsin can accomplish in this work. The claim is made that if these lands are not fit for agricultural purposes the State cannot lose by reason of delaying their purchase; that certainly they will not increase in value unless they have some agricultural worth. This however, is not true. This beautiful lake region is bound to become the mecca for sportsmen, health seekers and resorters. The lake frontages are now eagerly sought, and much of the opposition to the present forestry policy is occasioned by the demand for sites upon these beautiful bodies of water. This alone is bound to increase the value of these lands.

Another thing that will add to their value is the growth of timber upon them. While the modern lumberman scoffs at the idea that there is any value in the timber that has been left, it will only take a few years to demonstrate otherwise. Looking back over the last few years of lumbering one finds that species of timber considered practically valueless twenty-five years ago are now in great demand and that prices for the so-called inferior grades of all timber have increased while the better grades have no more than held their own. The demand for pulpwood, ties and other products of a like nature will make all of the growing timber in this district of inestimable value; so that the Forestry Board's opportunity for purchasing lands is now at its very

best. It would be a mistake, however, to attempt to carry on this work over too large an area with the funds at hand. The next few years will demonstrate its practicability. Then the people of Wisconsin will willingly contribute more money toward the purchase of lands and more towards the protection and planting of trees.

The claim is oftentimes made that it is too late to start forestry in Wisconsin; that this work should have been done while the State still owned or could have purchased some of the virgin and growing timber. An investigation will prove that this is not true, that wherever forestry is being carried on it consists in the protection of the natural reproduction of timber and of artificial planting. An exception to this, however, is in the work being conducted by the National government where the field of operation is confined to large holdings of virgin timber. In all of our Eastern States and in the foreign countries this is not the case.

The State is the owner within the proposed permanent forest reserve of approximately 50,000 acres of virgin timber. None of this timber should be sold unless mature or there is real demand for the land for agricultural purposes. The State has some large bodies of timber in Forest County near the railroad. If these are offered for sale it should only be in such a way as will secure the agricultural development of the land itself.

Twenty years ago lumbermen made a successful plea to have the State Park lands in Iron and Vilas Counties put on the market so that the lands could be put on the tax roll and the country would develop. The lands were offered for sale, the lumbermen getting the timber, but the country did not profit thereby in the way of development.

In the light of history and experience we believe these timberlands should be conserved.

The more recent investigations tend to substantiate the claim that in order to secure a uniform stream flow and the best results from our vast

waterpowers, the headwaters of our rivers should be protected with a forest growth. The following extract from Page 30 of the report of the "U. S. Geological Survey, No. 13," by Hon. George Otis Smith, Director, shows the result of recent investigation: "The results of the Burnt Brook-Shoal Pond Brook studies are held to show that throughout the White Mountains the removal of forest growth must be expected to decrease the natural steadiness of dependent streams during the spring months at least. The foregoing conclusion forms a strong basis for arguing the desirability of painstaking methods of administration in respect to forest lands in the White Mountain region. Deforestation followed by fires as in the Burnt Brook basin results in conditions unfavorable to natural spring storage because conducive to rapid snow melting and stream run-off. Control of White Mountain lands that would reduce fires to a minimum and promote normal reforestation must result in a great improvement over present tendencies and this improvement in forest cover can logically be expected to favorably affect stream regulation to the extent quantitatively indicated in the comparison of the forested Shoal Pond Brook with the deforested Burnt Brook."

In the mountainous countries of Europe some governments do not allow private land owners to cut timber on watersheds, except under strict regulations, and the land must be reforested within a prescribed period.

Under the Weeks law which provided for the purchase of the Appalachian-White Mountain forest reserve, no lands can be purchased until the U. S. Geological Survey has certified that the presence of forests upon such lands will affect the stream flow. The Geological Survey made a careful examination of two areas in the White mountains and compared conditions where there was forest cover and where the forest had been removed. They found that on the cut-over areas the snow began to disappear in patches, first from the lower elevation and then

extending back to the drainage lines. In the forest, however, the disappearance of the snow was uniform and, with the exception of small cut-over or exposed areas, the depth remained quite uniform. In a report of the examination, it is stated that it "establishes the general conclusion that a direct relation exists between forest cover and stream regulation. The results. . . are held to show that throughout the White mountains the removal of forest growth must be expected to decrease the natural steadiness of dependent streams during the spring months at least. . . Deforestation followed by fires. . . results in conditions unfavorable to natural spring storage because conducive to rapid snow melting and stream run-off."

The securing of conditions favorable to uniform stream flow is of the highest importance in Wisconsin because this state has so many rivers and so much water power. The state has no coal, and its water powers are the great source of energy for manufacturing, heating, lighting and transporting. The highest usefulness of the water powers is dependent on regularity of stream flow. Floods in the spring and low water in the summer and fall are injurious. Reforestation on the headwaters of the rivers and the storage of excess water in natural and artificial reservoirs will result in great benefits to the public.

It has been claimed by the opponents of forestry that, because the forest reserve in Wisconsin was in a comparatively level country, the effects of deforestation would not be as serious as in a mountainous country. This is unquestionably true as far as erosion is concerned, but the rapidity with which snow will melt on cut-over lands is the same, and this is the chief point to be considered in protecting the headwaters of our rivers in Wisconsin.

This is but another reason for the retention of the present State forest lands. They are located at the headwaters of our most important rivers. Wisconsin, in addition to the recognized reasons for main-



13. Plantation of New Haven Water Company. Planted 1904. Photo 1911. White Pine, Near New Haven, Conn.

taining a forest reserve, namely, to secure a future supply of timber and regulate the flow of streams, has a beautiful natural lake and park region, already patronized by thousands of people, to preserve for posterity.

We recommend the retention by the State of its holdings in the proposed forest reserve area; and further recommend the sale of all scattering holdings outside thereof. We consider it advisable that future purchases be limited to the said area and as nearly as possible to lands not now suited to agriculture. Upon the sale of the good agricultural lands the money should be reinvested in non-agricultural lands.

In acquiring lands in the future, which must be bought in large tracts in order to get them at a low price, the Forestry Board will obtain many acres of good farm lands. This cannot work harm in the settlement of the community if a proper method of disposing of them to actual settlers shall be found. In fact, one of the great hindrances to the settlement of all of Northern Wisconsin is the high price and hard conditions under which the actual settler purchases. Some plan must be devised by which these agricultural lands can be placed upon the market in such a way that the actual settler may be able to secure them at somewhere near the price now paid by the State. That settlers should be obliged to pay ten and fifteen dollars when lands equally as good can be purchased by the State in large tracts at as low an average as \$3.32 an acre is unreasonable. If farmers in some of our older communities could buy farm lands in Northern Wisconsin for \$4 an acre on long-time payments at a low rate of interest the increase in settlement would be manyfold. Some limitation, however, must be put upon the sales to be made by the State Board of Forestry and such conditions annexed that only the actual settler can buy these lands; otherwise, they will simply get back into the hands of speculators and the price will be the same as for which other lands are now held.

It is admitted that the development of Northern Wisconsin should be stimulated and every effort made to encourage settlement. It takes persistent advertising and a large amount of money and work to accomplish this. A feasible plan would be for the Forestry Board working in cooperation with the soil survey to release lands of agricultural value which are in sufficiently large tracts so that a community can be established and to place these upon the market for sale to actual settlers. Then the Forestry Board should list all such tracts with the State Board of Immigration or some like organization so that they could advise prospective settlers of these tracts of agricultural lands. The forestry policy to date has not hindered this development by taking lands from the market. Of 400 acres of the best lands held by the State in Oneida County and offered for sale since September, 1912, at from \$8.00 to \$10.00 per acre, none have been purchased. This price was fixed upon these lands for the reason that it was believed to be about their actual cash value. It could not be expected that the State should pick from all of its lands these few hundred acres classed as agricultural and offer them at as low a price as the average price paid in all of their purchases.

In order that the development of Northern Wisconsin be not interfered with we suggest and will later offer to the Legislature a bill which provides for the sale of all agricultural lands where located in sufficiently large tracts in the forest reserve; these lands to be sold to actual settlers in amounts not to exceed one hundred and sixty acres, upon practically the same terms as those now offered and available under the United States Homestead Law. Such a price as will attract settlers to purchase these lands should be fixed and every effort made to get them into the hands of farmers. This should not be done unless a settlement large enough to support a school district and carry on its own affairs may be expected. Where there are tracts of 1,000

acres or more of good farm lands which will accommodate twelve families and upwards, they might well be opened to settlement. Where communities already exist smaller areas within a reasonable distance of any of them should be offered for sale by the State. Then the danger of isolating settlers would be avoided and they would not be deprived of the advantages of community life, schools, roads, churches, accessible markets, etc. We believe, however, that such settlements should be directed so far as possible toward communities already established until the lands so available are disposed of.

We don't want to be understood as advising that the State make further purchases of agricultural lands with the idea of disposing of them upon such terms to the settler, other than those which may be unavoidably obtained in the purchase of large tracts. We feel that the competition which would be caused thereby might be injurious to private interests. This plan is recommended solely for the purpose of placing agricultural lands in the hands of actual settlers and encouraging the development of North-eastern Wisconsin—making provision so that the forestry policy will be a help and not a hindrance.

We feel that every effort should be made to retain for the use of the people of the State as much of the lake frontage as possible and that in no event should the State dispose of more than fifty per cent of such lake frontage, meaning thereby that the State should itself retain this percentage on the shore of each lake.

Where such lands adjoin the lakes, we advise the retention of 500 feet in depth of frontage upon said shores to be held by the State for forestry purposes and such other use as the Forestry Board may recommend. We don't believe, however, that any sales of lake frontage should be made except where the same is classified as good agricultural land and is within the districts which have been opened for settlement.

In the vicinity of the permanent forest reserve

area there are a good many public summer resorts, the main attraction of which has been the wildness of the surroundings, with the attendant supply of fish and game. This attraction has been growing steadily less because of the extensive lumbering operations and the accompanying forest fires.

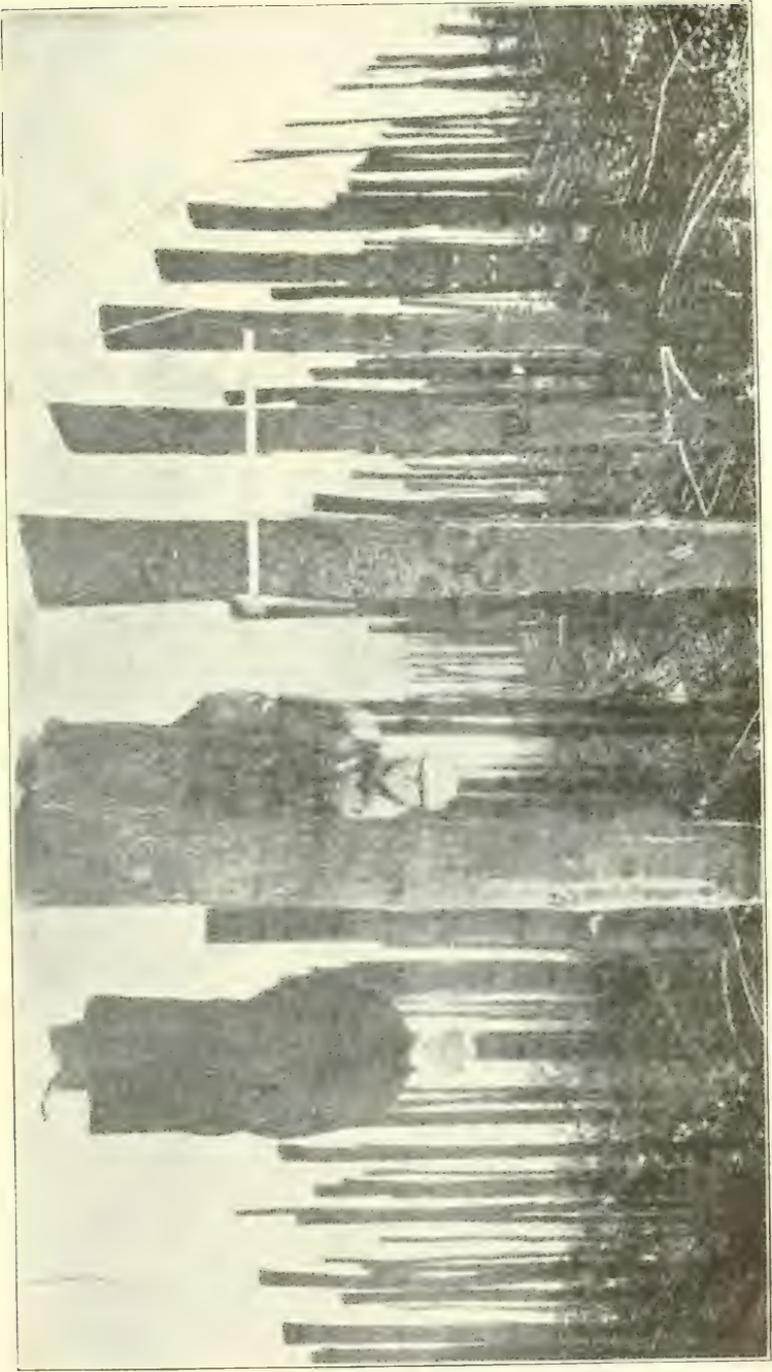
The establishment of the forest reserve has insured the permanent attractiveness of this region for public recreation purposes, and in time it will even increase the beauty and desirability of the region and result in a largely increased summer resort business. The money expended by tourists will go to resort owners, stage drivers, guides, boat liveries, dealers in food supplies, and to the railroads.

There are already 91 public resorts in the forest reserve region, with 639 buildings. These can accommodate 4,372 guests at one time, and an investigation has shown that the number of guests accommodated in a year is approximately 13,131 and the actual gross receipts in a year are \$356,025.

The hotels in the small towns within the forest reserve area, which get a large share of their business from the summer tourists, together with the livery stables and boat liveries, report a gross annual business of \$59,057. It is probably safe to estimate that 50% of this amount, or \$29,537, is paid by summer tourists.

There are hundreds of lakes within the forest reserve area, and when these and the forests are protected, with consequent improvement in the hunting and fishing, the resort business should increase to a very large figure.

The people living in and near the forest reserve should be most interested in this project, and if they were fully advised as to the great benefit which will inure therefrom both to themselves and the people of Wisconsin, they would not hesitate to aid in the furthering and advancement of the present forestry work. We venture to say that in years to come when this territory adapted to the growth of trees has been carefully protected from fire and replanted



14. White Pine Plantation, Chestertown, Warren County, N. Y. Twenty-eight years Old. 24,000 Feet Lumber per Acre.

to native white and norway pine it will become the resort of thousands of sportsmen, health and pleasure seekers; that the revenue from this source will equal, if not surpass, the benefits to be derived from farming; that it will not only prove of great commercial value to the people of that section from a forestry standpoint, but will assist and aid in its agricultural development. If thousands of people visit this place in a season, the farmers and people living there will be the ones to profit thereby. There is no class of people better able or more willing to pay high prices for good farm products than the tourist. Another source of profit is, that the growing and harvesting of a crop of trees and replanting when cut furnishes an opportunity for the employment of laboring men. Forestry will aid in making the whole area productive, something which cannot be if non-agricultural land is not planted to trees. A well-established and continually maintained forest will give employment through planting, care, harvesting and manufacture to a great number of people. The opportunity for a splendid forest reserve, for a State Park where the people from all parts of Wisconsin can journey and enjoy out-of-door life coupled with the farm development of the good agricultural lands and the natural beauties of this region, should make it the finest in Wisconsin and one of the best in the United States.

CHANGE IN THE FIRE LAW

In cases of emergency where forest fires are so bad that the local fire wardens are unable to control them without the assistance of residents, and where special fire wardens appointed on recommendation of the town chairman by the State Forester, have to take charge and call out helpers, it is important that the men who fight fire be paid more promptly than is possible under the present law which requires the approval of claims by county boards which do not meet at all frequently. Many of the men who are available to fight fires in forested regions are only temporarily in the vicinity, or, if there for longer time, are unwilling to fight fire unless they are paid promptly.

Therefore, it seems best to have such men paid in the first instance by the State, which will then collect one-half the expense from the county, instead of having the payment made first by the county, which then collects one-half from the State. The State can make prompt payment and the county cannot, if the approval of the county board is first to be obtained.

The following amendment does not make any change in the amount of payment allowed or in the ultimate source of such payment; it merely reverses the order of procedure, so as to secure prompt payment, and substitutes the joint approval of the fire warden under whom service was performed and of the state forester for the approval of the county board.

AMENDMENT TO SECTION 1494-48a.

2. The fire wardens appointed by the state fire warden shall prepare itemized accounts for their own services and the services of their assistants, and no account shall be paid until it has been approved by the state fire warden, or assistant state fire war-

den. The secretary of state shall then issue a warrant upon the general fund of the state treasury for the amount of such account, and the state treasurer shall pay the same. Under the provisions of this act the secretary of state shall not issue warrants for more than ten thousand dollars for fighting forest fires in any one county in any one year, and one half of the amount paid by the state shall be refunded to the state by the county in which the fires were fought. In case the work of fighting fires covers a portion of two or more counties, the amount to be paid by each county shall be decided by the state fire warden.

3. As soon as each account has been approved by the state fire warden and paid by the state treasurer, the state fire warden shall send to the county treasurer a bill for the county's share of the expense and a copy of the bill shall be filed with the secretary of state. The county shall have sixty days within which to pay any bill but if not paid within sixty days the county shall be liable for interest at the rate of six per centum per annum. However, if the sixty days shall have elapsed before the time provided by law for the secretary of state to certify to the counties the levy for state taxes, then the secretary of state shall include the bill or bills against the county for fighting fire which remain unpaid in the levy against the county for state taxes.

NOTE:—The above amendment is to replace subsections 2 and 3 of section 1494-48a.

TAXATION

A serious mistake was made when the present forestry work was begun in not making some provision for the relief of the taxing districts by reason of their being deprived of the tax revenue from the State lands.

During the time that the State has been acquiring 184,314 acres, it has disposed of 79,974 acres; still, in the effort of the forestry board to block up and consolidate the reserve the State's holdings have become confined to a much smaller territory. Hence, the loss of taxable property by some of the assessment districts has become very noticeable and in some instances a considerable hardship. The earlier Legislatures should have made some provision for this. In spite of the fact that the forestry department has recommended some relief, nothing was done, however, until the session of 1913.

At that time a bill was passed which provided for the payment by the State of a tax upon all lands within the forest reserve area for all except State purposes at a rate of taxation not to exceed $1\frac{1}{4}$ per centum of the assessed value. By reason of this having been limited to the forest reserve area the question of its constitutionality has been raised and the matter is now before the State Supreme Court.

That this act will, if constitutional, afford relief has not been questioned.

The total assessed value of all the State lands in the forest reserve amounts to \$1,249,521 for the year 1913, the tax upon which, as certified by the Wisconsin Tax Commission to the Secretary of State, amounted to \$15,619.05.

Pennsylvania has a system by which each township or assessment district is paid two cents per acre towards the maintenance of schools and an additional two cents per acre toward the up-keep of its roads—this making in all four cents per acre. Taking the



15. Same as Photo No. 14. Thirty Years After Planting. Photo 1914.

Griffin, Photo

State holdings at 400,000 acres at four cents per acre would make \$16,000, or approximately the same amount which would have been paid by the State under Chapter 740 of the Laws of 1913 had not the constitutional question been raised.

Should this law be found unconstitutional it will be necessary for the state to provide adequate relief.

TAXATION OF PRIVATE TIMBER LANDS

Many of the States of the Union have enacted various tax laws to encourage the planting and cultivation of trees. None of them have solved the problem of forest taxation. Practically no results have been obtained under them, although many have been in force for years. In most instances these laws apply strictly to plantations of timber or woodlots, making no provision for the exemption of natural growths of timber and, therefore, not encouraging protection of natural reproduction.

That taxation had much to do in hurrying the cutting of timber and in discouraging its growth and preservation are too well-known to be questioned. Some effort should be made along these lines in Wisconsin. The present laws exempting from taxation for thirty years are inadequate. Mature timber cannot be expected in that time, and if a full assessment is made after that period the result will be to practically confiscate the property before the timber is ready for the market.

In Pennsylvania the lands are classified and immature timber is placed in a class called an "Auxiliary Forest Reserve." The acceptance of these lands is left with the Forestry Commission. When placed in the above class they are not assessed for more than one dollar per acre until the trees are mature and cut, and when cut they are then taxed ten per centum upon the stumpage value of the timber.

This exemption from taxation if in any considerable amount works the same injury to the local assessment district as the exemption of state forest holdings. By reason of that the aforementioned State made a further provision that wherever such Auxiliary Forest Reserve lands are located that township or county should be paid out of the state treasury the sum of two cents an acre for roads and two cents an acre for schools. That has made it possible for individuals to engage in forestry in that State. The

members of the Pennsylvania Forestry Commission seem to feel that the law is working satisfactorily and encouraging private attempts at reforestation.

We herewith present the following bill for your consideration:

A Bill relating to the taxation of timberlands:

Section 1. In consideration of the public benefit to be derived from forestry management upon a considerable area of the timberlands within the state, the owner of any timberland may apply to the State Board of Forestry for an examination of his lands and timber. Such application shall be accompanied by a plat and description of such timberland and a guarantee to pay the reasonable expense of such examination and report.

Section 2. In case the state board of forestry finds upon examination that the management of such timberland under forestry regulations would be a public benefit, it shall submit a report for the management of such lands to the owner thereof, clearly stating the regulations in regard to the cutting of the timber, and in case the owner shall accept the same, a contract covering the regulations for the cutting of the timber shall be entered into between the owner and the state; but no such contract shall be entered into in case of matured timber held for speculative purposes.

Section 3. Upon the execution of the above contract, the state board of forestry shall file a plat and description of the lands with the local assessors, and after such plat and description have been filed with them, the assessors when making the annual assessment shall assess only the value of the land and no tax shall be paid upon the timber until it is cut. In no case shall the land be assessed at a higher rate than cut-over land in the same town.

Section 4. When the owner of such timberlands cuts therefrom any timber, cord wood, poles, posts, or any other forest products for any purposes whatsoever, he shall make, or cause to be made, an accu-

rate measure of all such products and file a sworn copy of such measurement with the assessors, and such sworn statement shall be the basis of the tax valuation.

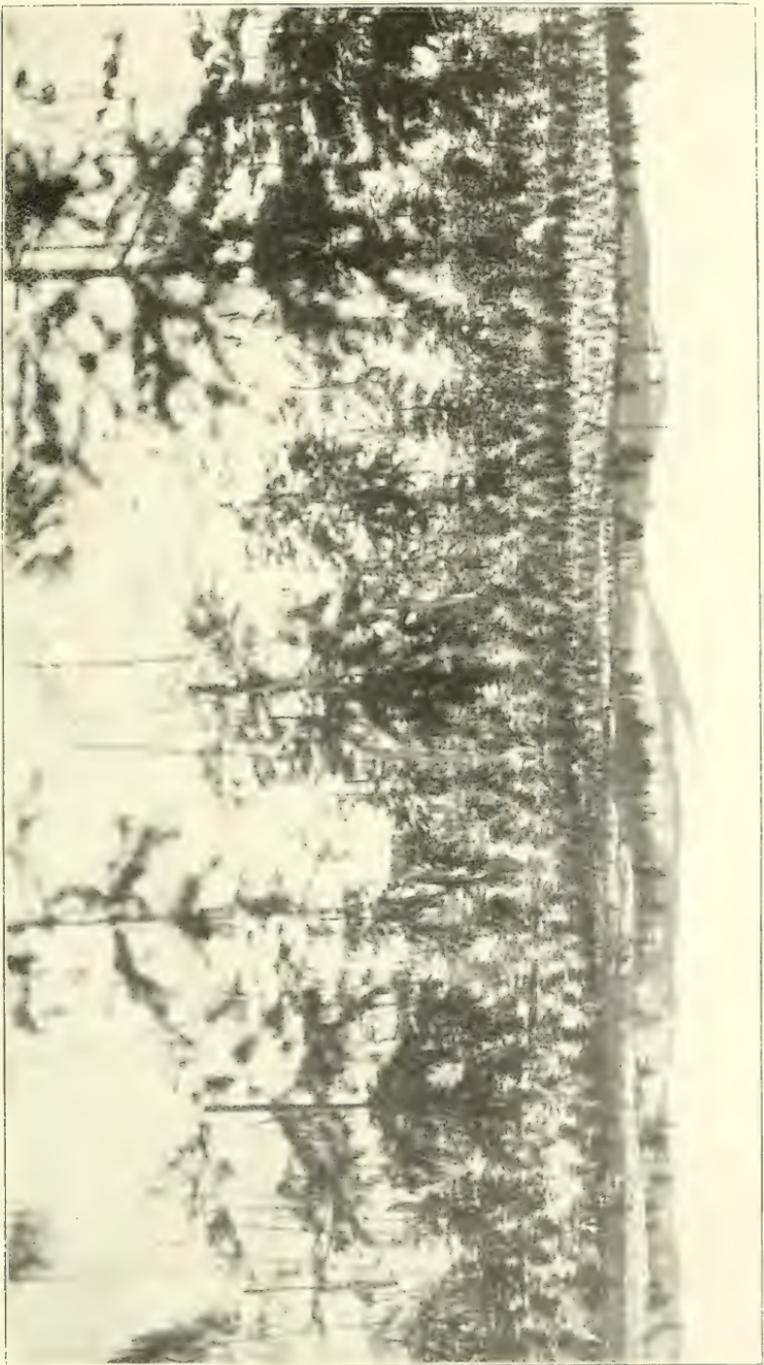
Section 5. Before any such products are sold or removed the owner of the timberland from which they have been cut, shall pay in lieu of the usual annual tax upon the timber the following percentages of the stumpage value of such products as determined by the assessors, according to the number of years the timberland has been managed according to the provisions of the above contract, viz.:

2 years	10 per cent of the stumpage value.
3 years	10 per cent of the stumpage value.
4 years	10 per cent of the stumpage value.
5 years	10 per cent of the stumpage value.
6 years	10 per cent of the stumpage value.
7 years	10 per cent of the stumpage value.
8 years	10 per cent of the stumpage value.
9 years	10 per cent of the stumpage value.
10 years	10 per cent of the stumpage value.

From ten to forty years the timber or forest products shall not be assessed over ten per cent of the stumpage value, as above provided, and the state shall not enter into any contract for a longer period than forty years.

Section 6. The state board of forestry or the local assessors shall have the right at any time to make, or cause to be made, a check scale or measurement of any products for which a sworn statement has been filed with the assessors under the provisions of section 4 of this act.

Section 7. All timberlands affected by any of the foregoing sections and assessed in the usual manner shall be subject to the same rules and regulations as to correction and review by local board of review as now provided by law. The same right of appeal shall apply as affects any other property in the same district.



16. Scotch Pine Plantation on State Land, Near Lake Clear Jet, N. Y. Four Years After Planting

Section 8. The owner of any timberland who shall have entered into a contract with the state to manage the forests under such regulations as the state may prescribe and who shall then fail to file a sworn statement as to the measurement of such products as he may cut, or who shall remove such products without notifying the local assessors, or who shall swear falsely as to the measurements of such products, shall pay ten per cent of the value of such products as determined by the assessors, and in addition thereto, shall be liable to a fine of not less than \$1.00 nor more than \$10.00 for each tree so cut and removed.

Section 9. All acts and parts of acts inconsistent or in conflict with the provisions of this act are hereby repealed.

Section 10. This act shall take effect and be in force from and after its passage and publication.

CONSOLIDATION OF THE STATE BOARD OF FORESTRY WITH OTHER DEPARTMENTS

We believe that the time is ripe for the consolidation of several of the boards which are working along the lines of conservation into one department to be known as the State Conservation Commission. In this way a great deal of the duplication and expense of maintenance and operation may be eliminated. More effective work could be done and at the same time be placed in the hands of competent, trained officials.

The work of many of the different departments is conducted, or at least, supervised, by ex-officio boards, acting without other compensation than their actual traveling expenses. By the consolidation of this work much better results can be accomplished and men employed who would devote all of their time and energy to the work.

We suggest that this commission be made to embrace the following now existing departments:

1. Fish and Game Department.
2. Fish Commission.
3. State Board of Forestry.
4. State Park Board.
5. State Conservation Commission.

This work could then be placed in the hands of three men and at a much less expense than is now necessary. We would recommend that one of the Commissioners be a man with a thorough knowledge of the propagation, protection and care of fish and game; the second be a technically trained forester, and the third a technically trained engineer, and that all these appointments be made by the Governor in the same manner as the members of the Railroad Commission.

A Bill

To create sections 1494t-7 and 1494t-8 of the statutes; to amend subsection 1 of section 1498, section 1494-42, and section 1498x, of the statutes, and to repeal subsections 2, 3 and 4 of section 1498, and sections 1494-46, 1495, 1496 and 1494t-1 of the statutes, abolishing the offices of state fish and game warden, state board of forestry, state conservation commission, commissioners of fisheries and the state park board, and providing for the appointment of a state conservation commission of Wisconsin.

The people of the state of Wisconsin, represented in senate and assembly, do enact as follows:

Section 1. There are added to the statutes two new sections to read: Section 1494t-7. 1. A state conservation commission is hereby created to be composed of three commissioners. Immediately after the passage of this act the Governor shall, by and with the advice and consent of the senate, appoint such commissioners, but no commissioner so appointed shall be qualified to act until so confirmed. One of the commissioners shall be a man with a thorough knowledge of the propagation, protection and care of fish and game; the second shall be a technically trained forester; and the third a technically trained engineer. The term of one such appointee shall terminate on the first Monday in February, 1919; the term of the second such appointee shall terminate on the first Monday in February, 1921; and the term of the third such appointee shall terminate on the first Monday in February, 1923. In January, 1919 and biennially thereafter there shall be appointed, and confirmed in the same manner, one commissioner for the term of six years from the first Monday in February of such year. Each such commissioner so appointed shall hold his office until his successor is appointed and qualified. Any vacancies shall be filled by appointment by the governor for the unexpired

term subject to confirmation by the senate, but no such appointment shall be in full force until acted upon by the senate. Each such commissioner shall receive an annual salary of three thousand five hundred dollars.

2. The governor may at any time remove any commissioner for inefficiency, neglect of duty, or malfeasance in office. Before such removal he shall give such commissioner a copy of the charges against him and shall fix a time when he can be heard in his own defense, which shall not be less than ten days thereafter, and such hearing shall be open to the public. If he shall be removed the governor shall file in the office of the secretary of state a complete statement of all charges made against such commissioner, and his findings thereon, with a record of all proceedings.

3. No commissioner, nor the secretary, shall hold any other office, or position of profit, or pursue any other business or vocation, or serve on or under any committee of any political party, but shall devote his entire time to the duties of his office.

4. Before entering upon the duties of his office, each of said commissioners shall take and subscribe a constitutional oath of office, and shall in addition thereto swear (or affirm) that he holds no other office of profit, nor any position under any political committee or party; such oath (or affirmation) shall be filed in the office of the secretary of state.

5. The commissioners appointed under this section shall within twenty days after their appointment and affirmation meet at the state capitol and organize by electing one of their number chairman, who shall serve until the second Monday of February 1917. On the second Monday of February in each odd numbered year the commissioners shall meet at the office of the commission and elect a chairman who shall serve for two years and until his successor is elected. A majority of said commissioners shall constitute a quorum to transact business, and any



17. Scotch Pine Plantation on State Land Near Lake Clear Jct., N. Y. Six Years After Planting.

vacancy shall not impair the right of the remaining commissioners to exorcise all the powess of the commission.

6. Said commission shall appoint a secretary who shall keep a full and correct account of all transactions and proceedings of said commission and shall perform such other duties as may be required by said commission and shall receive an annual salary not exceeding fifteen hundred dollars. Said commission may employ the necessary clerks and stenographers to perform the clerical work of the office, and appoint and employ such foresters, wardens, experts, agents, superintendents, assistants and employes as may be necessary to carry out the provisions of this section, and shall fix the compensation for such clerks, stenographers, foresters, wardens, experts, agents, superintendents, assistants and employes. The experts and temporary employes shall be exempt from the operation of chapter 44a of the statutes.

7. The commissioners shall be known collectively as the "state conservation commission of Wisconsin" and in that name may sue and be sued. It shall have a seal with the words "state conservation commission of Wisconsin," and such other design as the commission may prescribe engraved thereon, by which it shall authenticate its proceedings and of which the court shall take judicial notice.

8. Said commission shall keep its office at the state capitol and the superintendent of public property is directed to provide suitable rooms for that purpose, also the necessary office furniture, supplies, postage and stationery. Said commission is authorized to purchase the necessary supplies, equipment and instruments, to procure printed forms and notices and to issue special publications pertaining to its work, the cost of which shall be audited and paid the same as other expenses of the state are audited and paid. Said commission may hold meetings at other places than the capitol whenever in its judg-

ment the interests of the state can best be served by so doing.

Section 1494t-8. 1. All duties, liabilities, authority, powers, and privileges imposed or conferred by law upon the state fish and game warden, the state board of forestry, the state forester, the assistant state forester, the state fire warden, the assistant state fire warden, the state trespass agent and the assistant state trespass agent, the state conservation commission, the commissioners of fisheries, the superintendent of fisheries, the assistant superintendent of fisheries and the state park board are conferred and imposed upon the state conservation commission of Wisconsin.

2. All provisions of the statutes relating to the state fish and game warden, all deputies, special and county game wardens, to the state board of forestry to the state forester, to the assistant state forester, to the state, county and town fire wardens, to trespass agents, to the state conservation commission, to the commissioners of fisheries, to the superintendent of fisheries, to the assistant superintendent of fisheries and to the state park board shall apply to and be deemed to relate to the said state conservation commission of Wisconsin, and the officers provided for by this section, so far as the said laws are applicable.

3. All funds, appropriations and moneys made available by law for carrying out the purposes set forth in the laws creating, regulating, providing for and relating to such fish and game warden, such state board of forestry, such commissioners of fisheries, the state conservation commission, and such state park board, and any laws creating, regulating, providing for and relating to all clerks, employes, assistants, deputies, wardens, special and additional wardens, county wardens, county or town fire wardens, trespass agents and superintendents, and all funds, appropriations and moneys under the control of any state fish and game warden, such state board of forestry, of such commissioners of fisheries,

of the state conservation commission, and such state park board, and all clerks, employes, assistants, deputies, wardens, special and additional wardens, county wardens, county or town fire wardens, trespass agents, and superintendents, shall be available to and under the control of the state conservation commission of Wisconsin herein created.

4. All laws relating to the collection, carrying, transfer, custody and disbursement of said funds, appropriations and moneys, or relating to any clerical or ministerial act involved in such collection, carrying, transfer, custody and disbursement thereof shall apply to the collection, carrying, transfer, custody and disbursement of said funds when under the control of the said state conservation commission of Wisconsin.

5. Any amendment made to sections of the statutes relating to the duties, liabilities, authorities, powers and privileges of or relating to funds, appropriations and moneys available to or under the control of any of the commissioners or officers named in this section shall be deemed to relate to the duties, liabilities, authority, powers, and privileges imposed and conferred upon the said conservation commission and to the funds, appropriations and moneys available to or under the control of such commission.

Section 2. Subsection 1 of section 1498, subsections 3 and 4 of section 1494-42, and section 1498x of the statutes are amended to read: (Section 1498) 4. The governor shall appoint a state fish and game warden by and with the advice and consent of the senate, who shall hold his office for the term of two years from the date of his appointment and until his successor is appointed and qualified, unless removed by the governor for misconduct, inefficiency, or neglect of duty; and any vacancy occurring during said term shall be filled by the governor for the residue of the term. It shall be the duty of said warden *the state conservation commission of Wisconsin* to secure the

enforcement of the law for the preservation of fish and game and to bring or cause to be brought actions and proceedings in the name of the state to recover any and all fines and penalties provided for. He shall also perform the same duties as are in section 1636e prescribed for fire wardens, and shall further report to the land commissioners any information relating to the state lands as shall from time to time be required and concerning any trespasses thereon which may come to his knowledge.

Section 1494-42. 1. There shall be a state forester, who shall be a technically trained forester, appointed by the state board of forestry, and whether any candidate for this position is a technically trained forester shall be determined by certificates from the secretary of the United States department of agriculture.

2. He shall receive a salary of three thousand six hundred dollars per year, and the actual and necessary traveling and field expenses, incurred in the conduct of his official business, be empowered to appoint a clerk whose salary shall not exceed fifteen hundred dollars per annum) be supplied with suitable offices, be entitled from the superintendent of public property to such stationary, postage, and other office supplies and equipment as may be necessary, be authorized to purchase all necessary field supplies, equipment, and instruments, be furnished by the state all necessary printed forms and notices and the publications hereinafter provided, and shall act as secretary of the state board of forestry.

3. No. 1. *The state conservation commission of Wisconsin shall, under the supervision of the state board of forestry, execute all matters pertaining to forestry within the jurisdiction of the state, direct the management of the state forest reserve, depute one of his assistants to act during his absence or disability, collect data relative to forest destruction and conditions, take such action as is author-*



18. Same as Nos. 16 and 17. Photo 1014.

Crutkin, Photo.

ized by law to prevent and extinguish forest fires and to prevent forest trespass; cooperate in forestry as provided under Section 1494-45 of the statutes; and advance as he may deem wise by the issuing of publications and by lectures, the cause of forestry within the state; and may cooperate with the university of Wisconsin in the instruction and training of forest rangers. ~~He~~ *Such commission* shall ~~prepare biennially~~ *prepare biennially* a report ~~to the state board of forestry~~ *biennially* on the progress and condition of state forest work, and recommend therein plans for improving the state system of forest protection, management, replacement, and taxation. ~~The state board of forestry shall report biennially a summary of such facts to the governor.~~

4. 2—The care and protection of all lands that have been, or *may* hereafter be acquired by the state for public park purposes, shall be under the direction of the state ~~board of forestry~~ *conservation commission of Wisconsin*, and all moneys appropriated for the purposes of the protection and improvement of such parks shall be expended under the supervision of such ~~board of forestry~~ *commission*.

Section 1498x. There is hereby created a ~~commission to be known as the state conservation commission of the state of Wisconsin, the same to consist of seven members, to be appointed by the governor. The term of office of the commissioners shall be from July 1, 1911, as follows: Two for a period of two years, two for a period of four years, and three for a period of six years; as their terms expire all appointments shall be for six years and until their successors are appointed. The duties of the~~ *The state conservation commission of Wisconsin* shall ~~be to consider the natural resources of the state of Wisconsin with reference to their remaining unimpaired so far as this is practicable. The commission shall present a first report to the governor on or before June 30, 1913.~~

and biennially thereafter, such report to contain on or before June 30, of each odd numbered year, the results of investigations and recommendations as to measures to be taken to conserve the natural resources of the state, and, if such recommendations embody legislation, drafts of bills to accomplish the same. The governor is authorized to have such reports printed by the state printer.

Section 3. Subsections 2, 3 and 4 of section 1498, and sections 1494-46, 1495, 1496 and 1494t-1 of the statutes are repealed from and after September 1, 1915.

Section 4. This act shall take effect upon passage and publication.

Summary

The Committee Found:

1. That Wisconsin conditions are ideal for the growing of trees, particularly white and norway pine.

2. That artificial reforestation will ultimately become a source of profit to the State.

3. That such planting should be confined to principally white and norway pine.

4. That quicker and cheaper results can be had by the encouragement of natural second growth—that is, natural reproduction.

5. That it will only be a few years before owners of private estates will engage in the reforestation of their non-agricultural lands.

6. That the task given the committee to decide which of the lands in the proposed Forest Reserve are best adapted to agriculture is an impossible one; it would require a soil survey and cruising by experts. That all the committee could do was to make general observations.

7. That the question as to which of the lands are available for agriculture is a debatable one. That the demand in a few years may be such that some of the land now really considered non-profitable for farming may be cultivated.

8. That the State lands now owned do not compare favorably with other lands in the proposed reserve.

9. That the selection of the lands in the proposed reserve was well made and no better place could be found in the State.

10. That lands should be held in large areas in order to lessen the cost of fire protection and other expense of reforestation.

11. That there are large areas in other parts of the State only fit for forestry, which future commercial interests may demand the use of for this purpose.

12. That climatic conditions, while a hindrance in growing certain crops, do no more than limit the field of operation, yet with opportunity for fairly good returns.

13. That the committee found large areas which were very rough, covered with gravel, stone and huge boulders. That large areas—in fact, a major portion of the lands which the committee had an opportunity to investigate are better adapted to forestry than to farming.

14. That if these areas are used for forestry it will not interfere in any way with the agricultural development, neither should farming interfere with forestry. The one should assist the other.

15. With 13,000,000 acres undeveloped in Northern Wisconsin, and three and a quarter million non-agricultural—that is 25 per cent—there is sufficient land for forestry and yet no dearth of land left to farm.

16. That there are thousands of acres of lands in Northern Wisconsin which on account of the poor soil and rough nature will not be used for farming in this generation or several to come.

17. That there is no section of the State where an attempt at reforestation can produce a quicker illustration of its possibilities. That soil conditions are the very best for a natural reproduction of pine.

18. That by reason of the miles of old logging grades and the hundreds of lakes an excellent opportunity is afforded for the establishment of a cheap and good fire protection system.

19. That scattering state lands should be sold and money used to ward the purchase of lands in the proposed permanent reserve.

20. That the present work of the department be confined to the proposed permanent reserve.

21. That small forest reserves in several districts are not practical on account of expense of operation.

22. That the present state lands in the proposed reserve are ample upon which to demonstrate what can be expected in this work.

23. That much of the present opposition to forestry is occasioned by the demand for lake frontages.

24. That by reason of the increased demand the inferior species of timber now growing on the state lands will be of inestimable value.

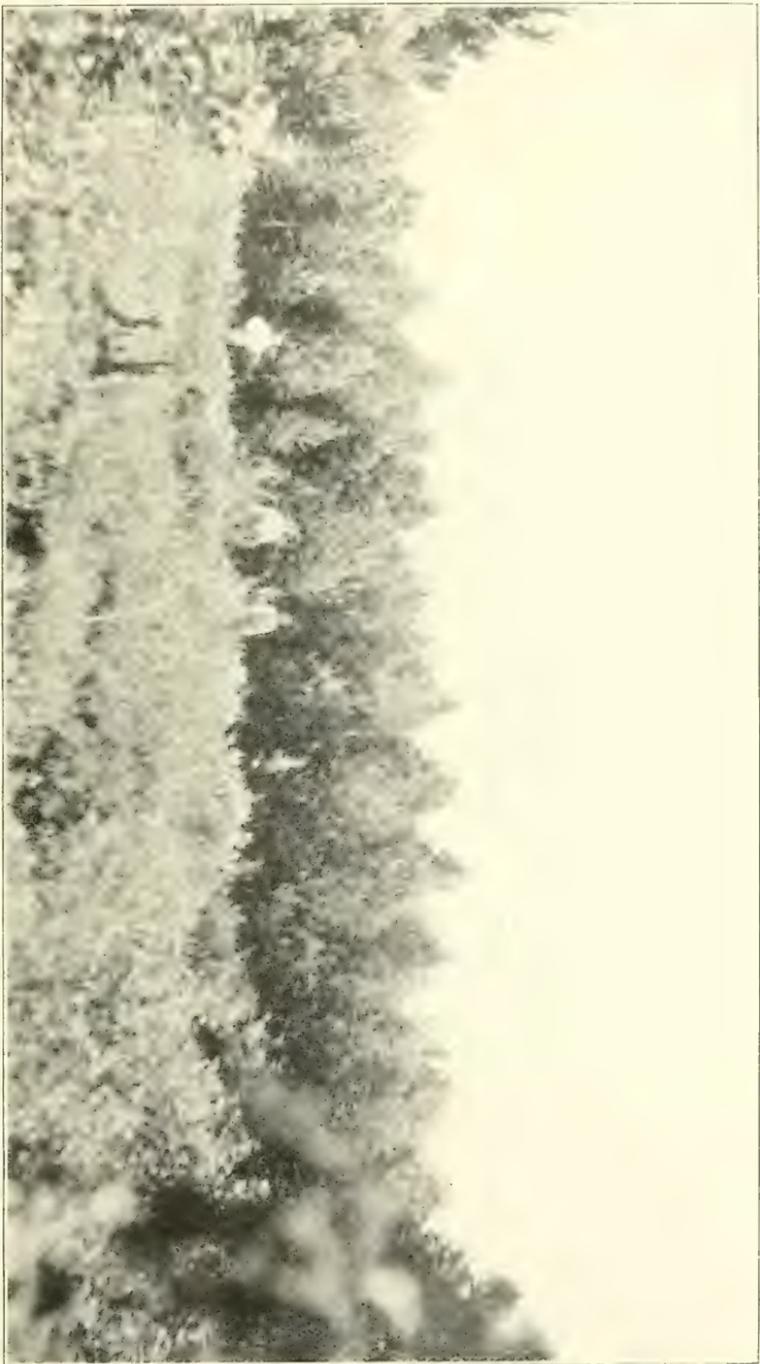
25. That none of the timber owned by the state be sold until mature or unless there be a real demand for the land for agriculture. That all timber lands should be conserved.

26. That more recent investigations tend to substantiate the claim that in order to secure a uniform stream flow, the head-waters of our rivers should be protected with a forest growth. That deforestation is conducive to rapid snow melting and stream run-off.

27. That the lands in the proposed reserve be retained and future purchases be limited to that area.

28. That agricultural lands, in areas of 1,000 acres or more, now owned by the state be classified and immediately offered for sale to actual settlers. That said lands be sold cheaply, on long terms, at a low rate of interest. Sold under some such provisions as to their occupancy and improvements as now required under the United States Homestead law. In tracts not to exceed 160 acres. In accordance with a bill to be presented.

29. That fifty per cent of all the frontage on each lake in the proposed reserve be held by the State; that no lake frontage be sold unless classified as of agricultural value and then only to actual settlers.



19. Same as Photos 16, 17 and 18. Twelve Years After Planting. Photo in 1914.

Grubin, Photo.

30. That the establishment of the forest reserve has insured the permanent attractiveness of this region for public recreation purposes.

31. That the present taxation law, if constitutional, provides adequate relief to the assessment districts for the loss of taxes on state lands.

32. That a new law for the taxation of private timber lands be enacted along the lines of a bill herewith presented.

33. That the following departments be consolidated under the head of a board of three members to be known as the State Conservation Commission: 1. Fish & Game Department; 2. Fish Commission; 3. State Board of Forestry; 4. State Park Board; 5. State Conservation Commission; for which a bill is herewith presented.

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