

MAINE STATE LEGISLATURE

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MAINE PUBLIC DOCUMENTS

July 1, 1934 - June 30, 1936

STATE OF MAINE

TWENTY-FIRST
BIENNIAL REPORT

OF THE

FOREST COMMISSIONER



1935-1936

STATE OF MAINE

April 1, 1937

To His Excellency, Lewis O. Barrows, Governor of Maine:

I have the honor to submit herewith the biennial report for the years 1935-1936.

WALDO N. SEAVEY,
Forest Commissioner.

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PERSONNEL

Forest Commissioner,

WALDO N. SEAVEY, Augusta

State Entomologist,

HENRY B. PEIRSON, Augusta

Assistant Entomologist,

ROBLEY W. NASH, Augusta

Field Entomologists,

AUBURN E. BROWER, Bar Harbor

ARTHUR M. GILLESPIE, Bar Harbor

Blister Rust Agent,

WALTER O. FROST, Augusta

District Blister Rust Agents,

HARRINGTON G. BRADBURY, Belfast

DANIEL S. CURTIS, North Bridgton

GUY H. KIMBALL, Auburn

JOHN M. WHITE, Waterville

District Supervisors,

GEORGE A. FAULKNER, Ellsworth

GEORGE H. GRUHN, Augusta

ROBERT G. STUBBS, Hallowell

HARRY G. TINGLEY, Island Falls

REX E. GILPATRICK, Houlton

Town Supervisor,

AUSTIN H. WILKINS, Augusta

Air Patrol Pilot,

LIEUT. EARL F. CRABB, Farmingdale

Draftsman,

THADDEUS L. MARTIN, Augusta

Bookkeeper,

LILLIAN J. COLEMAN, Augusta

Stenographers,

BLANCHE L. VIOLETTE, Augusta

MABEL C. ROWELL, Augusta

VIOLETTE C. THIBODEAU, Augusta

LILLIAN E. TSCHAMLER, Augusta

NEIL VIOLETTE

1882-1935



Neil L. Viola

NEIL L. VIOLETTE

Born in Van Buren March 16, 1882, on the veritable edge of the state's greatest forest area, Neil L. Violette had the free, whole-hearted spirit of the woods in his very soul. The trail he followed, swinging at times away from the forest, always led back to his real interest. Being one of a large family, money was not over-plentiful. This proved no unsurmountable barrier, for in his eagerness to obtain an education he worked his way through two colleges, earning an A. B. degree from St. Mary's College in 1899, and an LL. B. degree in commercial law from the University of Maine in 1903.

For four years he served as assistant manager of the Roix Lumber Company. He was married in 1907. During the period of 1908 to 1913 he passed considerable of that time working at all phases of lumbering. He taught school, and served as Principal of the Van Buren High School. Interest in civic affairs, which he kept up throughout his life, led him to serve as town selectman in Van Buren, and finally as representative to the 76th State Legislature, where he made a large number of life-long friends. In 1913 he was appointed Deputy Forest Commissioner which position he held until 1924, except for a two-year period during which time he surveyed lumber and also coached high school baseball. In 1924 he was appointed Forest Commissioner by Governor Baxter, serving in this capacity under four governors, until his death on September 16, 1935.

He was a true public servant, making "service" the key word of his department, to which he gave his ceaseless and untiring efforts. His cordiality and ready smile made him friends throughout the state, and his wise counsel was often sought. He knew the forests of the State as no other man. Narrow are the limits of a dedication, but to this leader, we his former associates, dedicate this report.

APPROPRIATIONS FOR DEPARTMENTAL ACTIVITIES BY THE EIGHTY-SEVENTH LEGISLATURE

For Departmental operations in 1935-36 and 1936-37 the Eighty-seventh Legislature appropriated \$29,440.00. This was budgeted in the Department as follows:

Administration of Public Lands	\$100.00
Control of White Pine Blister Rust	6,500.00
Entomology	11,000.00
General Forestry Purposes	5,695.00
State Forest Nursery	840.00
Salary and Clerk Hire	3,205.00
General Office Expenses	2,100.00
	<hr/>
	\$29,440.00

Coöperation in forest fire protection in the organized towns is carried on under the appropriation for General Forestry Purposes.

Maine Forestry District

Assessment 1935	\$137,138.75
Assessment 1936	\$137,542.35

Forest fire protection in the Maine Forestry District, which comprises about 10,000,000 acres of forest land, is supported by an annual tax of $2\frac{1}{4}$ mills on the dollar, which is assessed on all property in the District. On the basis of the State valuation of 1934, this amounted to \$137,138.75 for 1935.

In 1936 Wallagrass Plantation voted to enter the Forestry District. This resulted in a rise in the total assessment to \$137,542.35. The assessment for 1935, however, is the lowest in the past decade and represents a drop of nearly \$44,000.00 from the maximum of \$181,000.00 in 1931-32. This drop is the result of a general depreciation in the value of all real estate with the consequent lowering of the state valuation.

Under the Clarke-McNary Act, the State in 1935 received \$49,800.00 from the Federal Government for coöperation in forest fire prevention, of which \$13,000.00 was applied to fire prevention in the organized towns. For the year of 1936, \$49,710.00 was received, of which \$13,160.00 is applied to fire prevention in the organized towns.

**FOREST FIRE
PROTECTION**

MAINE FORESTRY DISTRICT

On April 1, 1909, the act creating the Maine Forestry District was approved. It was the outcome of earlier individual attempts to protect the forests of Maine from fires. This district with an area of approximately 10 million acres includes all of the unorganized towns and certain plantations and organized towns adjacent to it. The assessment on all property in this district is the only fund in the State raised specifically for the prevention and control of forest fires within a given area.

Under the Clarke-McNary Act and contingent upon this annual assessment, the state has received from the federal government an allotment for forest fire coöperation. This, available for use both inside and outside the Forestry District, makes it possible for the Forest Commissioner to coöperate with the organized towns.

The accepted objects of organized fire protection are:

1. Preservation of merchantable timber.
2. Preservation of young growth and reproduction.
3. Conservation of the water resources through maintenance of the forest cover.
4. Prevention of soil erosion.
5. Conservation of wild life in the woods and streams.
6. Protection of aesthetic features of the country.

The first two objectives were the primary consideration in the organization of the district. Notwithstanding the great improvement in accessibility and increase in travel, reasonable standards in protection have been maintained.

Consequent upon changes in the industrial and economic life of the country, the third and fourth objectives are assuming increasing importance. Large wood-using industries are dependent for a continuous flow of power upon the conservation of the snow and rainfall on the watersheds. Soil erosion and consequent silting up of storage basins and reservoirs have been recognized by the state and federal departments as a threat to future prosperity of the country. In this respect federal subsidies are being used to promote reforestation of threatened areas.

The last two objectives follow as the result of successful attainment of the others. The future of the growing summer industry in Maine is dependent on both. In appreciation of this, all fish and game wardens are fire wardens.

So the State of Maine now has a compact organization for forest protection covering half of its area, which is supported financially by all those parties who benefit most directly from it and who would be handicapped severely if it failed to function. It is fortunate that the work of the Forestry District is so sincerely appreciated and generously supported by its citizens.

Seasons 1935 and 1936

The fire season of 1935 was the most protracted and active season since 1924. From the standpoint of the state as a whole, it was quite favorable during the months of April and May which were normal months, and during June which was a cold, wet month. From the middle of July there was a decrease in precipitation, with increasing dry conditions prevailing. Rainfall in October averaged about one inch.

Throughout July and August fires were springing up continuously and at one time in August, 18 fires were burning, three of which were of major proportions. During this period, on August 19th, the Governor saw fit to proclaim a ban on fishing in small brooks and streams and on smoking and building fires in the woods of Maine. Following several days of heavy rain, this ban was lifted on September 4th.

The months of September and October, which ordinarily have low fire records, had about as many fires as would occur during the spring and summer months. Six fires were reported in November. The fire season closed on November 10th, with the last fire of record. On the 11th the last watchman was removed from his post in Aroostook.

By contrast to the previous one, the fire season of 1936 was short. It opened with four fires in the last of April. It was characterized by quite uniformly distributed rainfall throughout May, June, and July. During August there was a drop in precipitation, so that a brief serious condition developed. On August 8th, during this one day in the berry picking season in the vicinity of Katahdin 18 fires occurred, which were promptly subdued by the fire wardens.

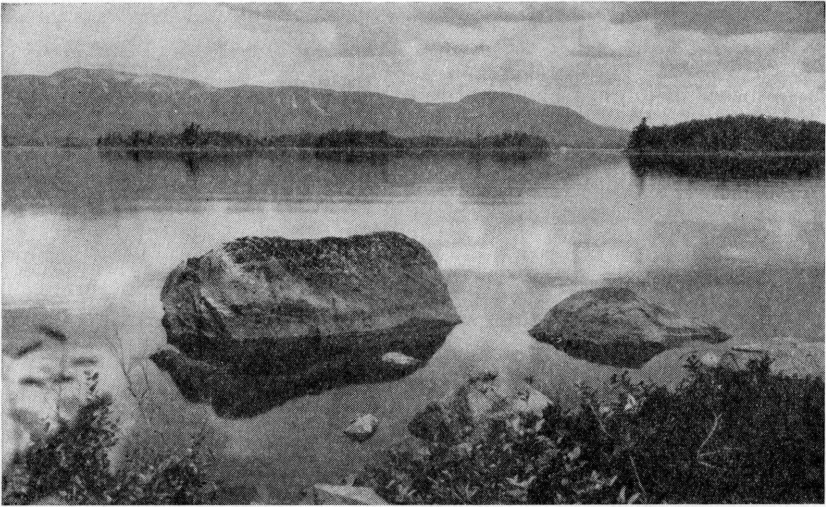
Subsequent rain made the country safe and the season closed in September with two small fires.

Comparison of Burned Area 1932 to 1936

1932	1933	1934	1935	1936
36,342 acres	5,299 acres	130,293 acres	14,473 acres	179 acres

This area burned during the past year is the smallest in the District since 1917.

Notwithstanding this low record, the travel in the Forestry District has been increasing steadily. The public now has greater and easier access to all sections of the District.



Sally Mt. on Lake Attean
Scene of the Great Fire of 1908

District Supervisors

In 1935, the Commissioner divided the Forestry District into five sections, each in charge of a Supervisor who reports regularly to the Commissioner.

I. The Northern Section, comprising Allagash, Madawaska, Fish River, Aroostook Waters, and No. 9 Districts under Rex E. Gilpatrick.

II. The Eastern Section, comprising Passadumkeag, Musquash-St. Croix, East Machias, Machias, and Union River Districts, under George A. Faulkner.

III. The Central Section, comprising Mattawamkeag, East Branch, Davidson, Katahdin, and Pleasant River Districts, under Harry G. Tingley.

IV. The Western Section, comprising Seven Islands, Upper St. John, Musquacook, Seboomook, Moosehead, Chesuncook, and Chamberlain Districts, under George H. Gruhn.

V. The Southern Section, comprising Carrabassett, Rangeley, Dead River, Moose River, and Parlin Pond Districts, under Robert G. Stubbs.

Chief Wardens

In the Forestry District, there are 27 sub-districts, at the head of each one of which is a chief warden who has full responsibility for the efficient administration of affairs in it. The successful management of the Forestry District in its objectives is dependent to a large degree on those experienced men who have returned each season to their old positions.

Our records show that among twenty-six of these chief wardens, ten have served in the capacity of chief or deputy for the period of ten years, and ten more have served in the same capacities for twenty or more years, while one has a record of twenty-five years as chief warden. Considering that the Maine Forestry District is now in its twenty-eighth year, it would seem doubtful if there is another department in the state which has a more experienced body of men serving it.



Lieut. Crabb takes Chief Warden Nichols for a survey of the Moose River District where he has been Chief for 25 years.

In 1935 the following changes were made among the chief wardens:

Everett Grant was promoted from patrolman in the East Machias District to chief warden in place of George Hathaway who died in 1934.

Emil Leavitt was appointed in the Seboomook District to take the place of William S. Hodgins who resigned.

John Gardner was promoted from patrolman to be chief warden in the Seven Islands District in place of Ervin L. McKenney.

Stanley Drake, who had been chief warden in the Fish River District, was transferred to the Allagash District to take the place of Grover Bradford who had been chief of this district since 1917.

To the Fish River District, Maurice Bartlett was transferred from the Musquacook District where he had been chief warden since 1928.

Annis F. Bridges was appointed as chief warden of the Musquacook District, thus placing in this position a woodsman who had long experience in this section.

In 1936, the only change in the department was brought about by the death of chief warden John R. Landers of Island Falls. Warden Landers was one of the old timers, a deputy since 1906 and a chief warden since 1930.

IN MEMORIAM

A. H. CHASE
Milo, Maine
1855-1935
Pleasant River District
Chief Warden 1919-1935

JOHN R. LANDERS
Island Falls, Maine
1862-1936
Mattawamkeag District
Deputy 1906-1930
Chief Warden 1930-1936

TALMAN S. GOLDING
Milo, Maine
1893-1935
Katahdin District
Ass't Chief Warden
1933-1935

The Maine Forest Service deeply appreciates the loyal and efficient service rendered by these wardens who have now passed on. They will always live in the memory of those who have been associated with them.

Waldo N. Secney

Forest Commissioner.

Deputy Wardens

There are now over 300 deputy wardens in the Forestry District. They are each assigned to certain sections of the district and under supervision of the chief warden for that district. They are not under pay, except when actually called in the line of duty. These deputies have complete authority to call or compel outside assistance in an emergency, and they are in complete charge until a superior arrives on the ground. The most use is made of these deputies in combating fires. They are one of the important links in the warden system.

Lookout Stations

There are now 77 forest fire lookouts in the Forestry District. Of these towers 67 are full time towers occupied throughout the fire season. The remaining ten are maintained as emergency towers to be occupied in dangerously dry times.

In 1935 a 20-foot wooden fire tower was built on Horseshoe Mountain, in T. 10, R. 11, Aroostook Waters District. This tower is at an elevation of 2052 feet, on the divide between the Big Machias and Musquacook Watersheds. It has an exceptional panorama, especially in the north west which has never before been covered satisfactorily.

In 1936, the old wooden tower on Spoon Mountain in the East Branch District was torn down and replaced with a new 50-foot steel tower. All this was done as Emergency Conservation Work, at no expense to the District.

In the fall of 1936, the Department acquired 2—170-foot steel towers from the Park Service at Bar Harbor. These were formerly in use at the Naval Radio Station now discontinued. These towers were given to the Department in return for dismantling and removing them.

This provided sufficient material for four ordinary heavy steel towers. Already two 24-foot tower sections have been moved up on the side of Boundary Bald Mountain in readiness to replace the old 12-foot wooden tower built there in 1911. Three more 24-foot sections have been transported on to Cooper Mountain in readiness for erection in the spring of 1937. This will replace the old 70-foot wooden tower built there in 1913.

Originally, half of the fire towers in the Forestry District were of wood. When these two replacements are made only three wooden structures will remain. It is hoped that in the future, it will be possible to replace these.

Patrol

While it is not likely that the patrolmen will ever detect the number of smokes that the forest fire lookouts do, it is felt that they have a definite value in some sections through the district contact which they have with the travelling public. Next to the watchmen, they are the most important assistance to the chief warden in his organization. Therefore, the Department has maintained 54 patrolmen in the Forestry District on its payrolls during the active fire season. The number assigned to each sub-district varies in accordance with the actual physical and economic conditions which prevail.

As the result of the construction of truck trails, many square miles of territory hitherto closed to automobile travel are now open. This travel promises to be heavy until the novelty wears off. Consequently, there has been a strong demand for patrol on these roads which it has not been possible to meet under the present annual assessment without reducing the protection, which is being provided in some other sections. Every effort is being made to keep our protection up to the same uniform standard throughout the district.

Pumps and Hose

Hand pumps are now a most important item of our fire fighting equipment. Since 1934, this has been increased from 1000 to 1300 with the latest improved types. This is an average of about 50 to each forestry district. These pumps are in the district storehouses or placed with other fire tools at strategic points.

For the past five years the department has owned and maintained 50 gasoline pumps in efficient working condition. The standard has been the 4-cylinder, 2-cycle, rotary pump. Since 1934, five new power pumps have been purchased to replace those worn or out of date. Two of these, however, have been air-cooled, one-cylinder, 4-cycle, rotary pumps. It is with interest that the success of this new type will be watched. They call for a smaller investment than the 4-cylinder type and they are more simple to operate and maintain.

The equipment of 1½ inch fire hose in the forestry district has now reached a point where it is inventoried at nearly 90,000 feet. About 65,000 feet is rubber lined hose, half of which is nearly 10 years old. This type of hose deteriorates with age whether it is used or not.

Therefore, during the past two years the department has kept its equipment up with purchases of over 20,000 feet of linen fire hose. This linen hose is half as cheap as the old rubber lined hose. A 100-foot roll of it does not weigh as much as 50 feet of rubber lined. If

it is properly dried and stored, it does not deteriorate with age. On the other hand, in actual use this wears out as quick as the heavier rubber lined, and calls for more attention in handling.

Telephone Lines

The telephone mileage maintained by the Department has remained about 2,000 miles of metallic and single circuit for the past few years. The policy is to improve and make more permanent the important main lines which we now have. The improvements consist of relocation, bushing out, placing the lines on poles, replacing with new wire, checking splices, putting on new insulators, and changing of the ground circuits to metallic.

In the Northern Section, about 20 miles of old line have been rebuilt and 30 miles of new ground line erected.

In the Western Section, on the road from Lac Frontiere to Um-saskis, 6 miles of pole line have been erected through the burnt land with the plan of carrying it further in another year. Otherwise, about 90 miles of woods line have been overhauled and cleaned out in this section.

In the Central Section, 33 miles of new line have been erected and 115 miles of improvement and replacements.

In the Eastern Section, 8 miles of pole line have been erected from Princeton to Vanceboro. In addition to this, 11 miles of new line were constructed from Cooper to Marion and 6 miles from Osborn to Schoodic.

In the Southern Section, 5 miles of ground line were changed to metallic circuit between Eustis and Little Jim Pond.

In the Rangeley District, 14 miles of metallic circuit have been erected on poles along the new Wilson's Mills-Oquossoc highway. This will serve as the main line in the district connecting the chief warden with Aziscoos and Old Spec fire lookouts.

In the Parlin Pond District, 30 miles of line between Moxie Bald lookout and Blanchard were rebuilt, thereby improving the connections in the eastern part of this district.

The Department lines are in the best condition that they have been for many years as the result of the amount of work that it has been possible to devote to them during the past year.

Roads and Trails

The major projects of the C.C.C. Camps in the Forestry District have been truck trails which have opened up inaccessible sections for efficient fire protection. This work is covered quite broadly in this

report under the heading of Work Done by the State Camps of the Civilian Conservation Corps in Maine.

Airplanes

During the fire season of 1935, the Department plane on pontoons was flown for more than 400 hours in line of duty. Flights were made practically every day in July and August. The work consisted in the survey and control of fires and in quick location of blind fires and smokes otherwise hard to find.

Since 1936 was not as bad a fire year as the previous one, the plane was not used as much in fire patrol. There was opportunity given to demonstrate one phase of the usefulness of the plane this season, when Chief Warden Perrow and Pilot Crabb transported a gasoline power pump and five hundred feet of hose from the Millinocket Station to the small fire which started on Debsconeag Lake in season to handle the entire situation themselves. As weather conditions permitted, full use was made of the plane to transport men and supplies to points of comparative inaccessibility, while they were engaged on jobs of maintenance and construction.

No estimate of the value of this work by the plane can be given, but it is now felt that it is as important an adjunct to fire protection as any other agency of the Department.

In view of three years of successful services which has been rendered to the Department with the present equipment, plans are being made for securing a new and more powerful plane fitted with pontoons similar to the old one.

Camp Sites

Since 1921, the Department has maintained camp sites and lunch grounds for the convenience of parties travelling in the forested areas of the state. The purpose of these camp sites is to provide attractive locations in places which are non-hazardous from the forest fire viewpoint where the individual may lawfully camp.

There is coming to Maine every year an increasingly large body of independent vacationists who carry all travel and camping equipment with them. They travel far from the more popular resorts and desire to camp by themselves in remote sections. It is a class which in other parts of the country makes use of public camp sites and facilities in other state and federal forests. In no way is the Department seeking to draw people away from the regular motor camping grounds maintained by private individuals.

Up to the present time, there are in the state a total of 184 sites of which 126 are for lunch and camping purposes, and 58 are for lunching only. Of this grand total, 93 camp sites and 33 lunch grounds are within the Forestry District. These have been built by our wardens. The C.C.C. also has constructed many since its establishment.

These camp grounds have been developed from comparatively simple places with a rock fireplace and a table to large grounds with three or four shelters and fireplaces, which call for regular attention and policing by our patrolmen.

Now summer travel in Maine is increasing. Parties are coming in to the woods not only with camping equipment, but automobiles with elaborate trailers are appearing on the highways. Therefore, it would seem to be necessary to try to provide better parking facilities at the old camp sites and to establish new camp sites in those sparsely settled sections which do not have any.

CAMP SITES AND LUNCH GROUNDS IN THE MAINE FORESTRY DISTRICT

Aroostook County

- T. 3, R. 2 (Forkstown), The Bell Field, Route 166. (2)
 T. A, R. 2, 10 Mile Brook, Route 166.
 Hammond Pl., "B" Road at "B" Stream. (2)
 Reed Pl., Pitlock Brook, Route 166.
 Macwahoc Pl., Molunkus Stream, Route 2.
 T. 1, R. 4, Henderson Brook, Halfway Camp, Route 2.
 T. 1, R. 4, Brandy Brook on Slewgundy Road.
 T. 1, R. 4, Little Molunkus on Slewgundy Road.
 T. 16, R. 4, Carlstrom Hill, on Caribou-Ft. Kent Road, Route 161.
 T. 16, R. 4, Carlstrom Brook on Caribou-Ft. Kent Road, Route 161.
 T. 16, R. 4, Center Line, on Caribou-Ft. Kent Road, Route 161.
 T. A, R. 5 (Molunkus), 3 Mile Brook, on Slewgundy Road.
 T. 1, R. 5, Gulliver Brook, Route 2.
 T. 7, R. 5, Cold Spring on Patten Road, Route 11. (2)
 T. 8, R. 5, Camp Violette on Patten Road, Route 11. (2)
 T. 1, R. 5, Road Side Springs on the Oxbow Road.
 T. 9, R. 5, field at junction of Oxbow Road, Route 11.
 Nashville Pl., near Portage Town line on Ft. Kent Road, Route 11.
 T. 15, R. 6, Hedgehog Mt., Fort Kent Road, Route 11. (2)

- T. 16, R. 6, at mouth of Fish River, on Eagle Lake.
 T. 9, R. 7, Aroostook River at La Pomkeag Stream.
 T. 14, R. 7, Fish River at Hewes Brook.
 T. 14, R. 8, Fish River Lake Dam.
 T. 16, R. 10 (Allagash Pl.), The Allagash River at East Twin Brook.
 T. 15, R. 11, Big Brook on the Allagash River.
 T. 15, R. 11, Allagash Falls.
 T. 17, R. 11 (Allagash Pl.), Hafford Brook on the St. John River.
 T. 13, R. 12, West Shore, Round Pond on Allagash River.
 T. 13, R. 12, In Pocket, Round Pond on Allagash River.
 T. 13, R. 12, Mouth of Musquacook Stream on the Allagash River.
 T. 14, R. 12, Mouth of Five Finger Brook on the Allagash River.
 T. 16, R. 12, Pocwoc Stream on the St. John River.
 T. 11, R. 13, the Thoroughfare between Umsaskis and Long Lakes.

Franklin County

- Dallas Pl., Stratton Road, Route 4. (4)
 Twp. D, Elephant Mt., Appalachian Trail.
 Twp. E, Sabbath Day Pond, Appalachian Trail.
 Sandy River Pl., Piazza Rock, Appalachian Trail.
 Jerusalem, The Spring Farm, between Kingfield and Bigelow, Route 27.

Jerusalem, Redington Stream between Kingfield and Bigelow, Route 27.
 Jerusalem, The Welch Opening, between North New Portland and Dead River, Route 16.
 Crockertown, The Campbell Field, between Kingfield and Bigelow, Route 27.
 Eustis, Cathedral Pines, Route 4. (3)
 Jim Pond Twp., Greenbush Pond, on the Arnold Trail, Route 4.
 Jim Pond Twp., Alder Stream, on the Arnold Trail, Route 4. (2)
 Alder Stream Twp., Seramphos Falls, on the Arnold Trail, Route 4. (2)
 *Four Lunch Grounds on Kennebago Lake.
 *Four Lunch Grounds on Kennebago River.
 *Four Lunch Grounds on Rangeley Lake.

Hancock County

Twp. 3, N. D., Grand Falls on Nicaous Road, Route 188.
 Twp. 10, S. D., Fish Hatchery on Tunk Lake, Route 182.
 Twp. 34, M. D., Bracey Pond on C.C.C. Road north from Beddington.

Oxford County

Adamstown, Big Birch Island in Cupsuptic Lake. (2)
 Richardstontown, Little Pine Island in Richardson Lake Narrows. (2)
 Richardstontown, Student's Island in Moose-lucmeguntic Lake. (2)
 Twp. C, Spirit Island in Richardson Lake, South Arm.
 Lincoln Pl., a small Island in Richardson Lake, West Arm.
 Magalloway Pl., Small Island in Umbagog Lake, near Hedgehog Landing. (2)
 Lynchtown, Aziscoos Lake at Twin Brook. (2)
 Grafton, Screw Auger Falls, Route 26. (2)
 Grafton, The Notch, Route 26, Appalachian Trail.
 Grafton, Cedar Brook, Route 26. (2)
 *12 Lunch Grounds on Mooselucmeguntic Lake.
 *13 Lunch Grounds on Richardson Lake.
 *8 Lunch Grounds on Aziscoos Lake.

Penobscot County

T. 2, R. 6, Nearly Brook on Medway Road, Route 11.
 Mt. Chase Pl., Shin Ponds on Shin Ponds Road. (2)
 T. 1, R. 7, Rossignol's, on the East Branch, Medway Road, Route 11.
 T. 1, R. 7, Grindstone Falls, on the East Branch, Medway Road, Route 11.
 T. 6, R. 7, Seboeis Bridge on the Seboeis Tote Road.

T. 7, R. 7, Camp Colby, Seboeis Farm on the Seboeis Tote Road.
 T. 6, R. 8, $\frac{1}{4}$ mile west of Hay Lake on Seboeis Tote Road.
 T. 7, R. 8, Sawtelle Bridge on the Seboeis Tote Road.

Piscataquis County

T. 1, R. 9, Millinocket Lake, Katahdin Road.
 T. 2, R. 9, The Narrows, Upper Togue Pond.
 T. 2, R. 9, Rum Brook, Togue Pond Road.
 T. 3, R. 9, Avalanche Brook, at the Depot.
 T. 3, R. 9, Chimney Pond.
 T. 8, R. 9, Aroostook River at foot of Munsungen Deadwater.
 T. 2, R. 10, South Bank Nesowadnehunk Deadwater, Appalachian Trail.
 T. 3, R. 10, Katahdin Stream, Katahdin Road, Appalachian Trail.
 T. 3, R. 10, The Abol Field, Katahdin Road.
 T. 4, R. 10, Sourdnahunk Stream on Katahdin Road.
 T. 1, R. 11, Outlet Nahmakanta Lake, Appalachian Trail.
 T. 2, R. 11, Outlet Rainbow Lake, Appalachian Trail.
 T. 3, R. 11, Frost Pond on the Great Northern Road. (8)
 T. 3, R. 11, two miles west of Ripogenus Dam on the Great Northern Road.
 T. 2, R. 12, Chesuncook Brook, on the Great Northern Road.
 T. 7, R. 15, the end of the Seboomook-Caucomgomuc Road.
 Elliottsville Pl., Wilson Stream off Bodfish Road, Appalachian Trail.

Somerset County

Dead River Pl., Mt. Bigelow Col. Unsurpassed and unobstructed view.
 Dead River Pl., Mt. Bigelow Trail. (2)
 Dead River Pl., Hurricane Brook, Route 16.
 Dead River Pl., The Ledge House, Route 16.
 Pierce Pond Twp., Cold Brook, off Long Falls Road, Appalachian Trail.
 Mayfield, Kingsbury Pond, Route 16.
 Caratunk, two miles south of Caratunk, Jackman Road, Route 201.
 The Forks, three miles south of the Forks, Jackman Road, Route 201.
 The Forks, the steel bridge, Moxie Road, Route 201.
 Johnson Mt. Tract, the spring on Johnson Mt., Route 201.
 Dennistown, Graftte Farm, on the Quebec Road, Route 201.
 T. 5, R. 16, Lost Pond on the Seboomook-Caucomgomuc Road.
 Plymouth, the Pittston-Seboomook Road.
 Pittston, Canada Falls Dam on Great Northern Road.

Washington County

Edmunds, Cobscook Bay, near Burnt Cove,
Route 1.

Twp. 18, E. D., Northern Stream, Route 191.
Cooper, Dead Stream, on Meddybemps
Road.

Indiantown, Lewey's Lake, Route 1.

Codyville, Tomah Stream, Vanceboro Road,
Route 16.

Forest City Spring Brook, Grand Lake.

Twp. 19, M. D., Montigail Pond, north of
Columbia on Barren Road.

Devereau, Lovejoy Hill on the Airline Road,
Route 9.

Twp. 30, M. D., The Race Grounds, on the
Airline Road, Route 9.

Twp. 27, E. D., The Chopping on Big Lake.
Twp. 27, E. D., The Falls on Grand Lake
Stream.

Grand Lake Stream Pl., Cold Spring on
Grand Lake Stream Road.

Topsfield, Musquash Lake, Route 16. (2)

Note: Unless otherwise indicated by fig-
ures in parenthesis, camp sites have only
one fireplace.

*Lunch ground only.

RAIN PRECIPITATION—1935-1936

NORTHERN SECTION

	Allagash District		Madawaska District		Fish River District		Aroostook Waters District		No. 9 District	
	1935	1936	1935	1936	1935	1936	1935	1936	1935	1936
May.....	1.44	.....	1.76	4.60	2.17	5.44	1.34	5.52	1.49	.....
June.....	5.24	4.44	4.20	4.40	6.21	3.50	7.32	3.67	5.60	3.59
July.....	4.49	4.21	2.60	3.20	4.05	4.34	2.48	4.06	3.53	2.92
August.....	3.62	2.20	2.88	3.90	2.06	2.74	2.70	3.49	1.80	4.11
September.....	2.91	2.46	2.73	2.90	3.59	4.37	3.09	3.76	2.13	.....
October.....	.....	.....	.....	.....	.82	4.60	.....	.....	.85	.....
Totals.....	17.70	13.31	14.17	19.00	18.90	24.99	16.93	20.50	15.40	10.62

CENTRAL SECTION

	Katahdin District		Davidson District		Mattawamkeag District		East Branch District		Pleasant River District	
	1935	1936	1935	1936	1935	1936	1935	1936	1935	1936
May.....	2.26	4.08	2.38	4.15	1.78	3.70	2.04	4.39	2.58	2.95
June.....	4.27	4.38	4.73	4.05	4.80	3.79	5.40	4.53	5.27	2.96
July.....	2.74	2.03	2.20	2.10	2.46	4.45	2.27	4.60	5.36	2.13
August.....	2.54	2.46	2.71	3.27	1.35	2.77	1.32	3.43	1.81	2.12
September.....	4.11	2.82	4.07	3.29	4.46	3.53	4.68	3.29	3.50	3.16
Totals.....	15.92	15.77	16.09	16.86	14.85	18.24	15.71	20.24	18.52	13.32

EASTERN SECTION

	Passadumkeag District		Musquash-St. Croix District		East Machias District		Machias District		Union River District	
	1935	1936	1935	1936	1935	1936	1935	1936	1935	1936
May.....	1.62	2.66	1.01	3.28	2.60	4.75	1.57	3.94	.54	2.29
June.....	3.96	4.98	3.40	3.87	3.81	3.91	2.88	4.50	3.11	3.85
July.....	1.55	2.02	1.32	1.05	1.90	1.63	1.38	1.55	1.62	1.93
August.....	1.65	1.01	1.55	1.55	1.20	2.14	1.12	1.72	1.74	2.93
September.....	2.35	2.01	2.18	3.18	3.40	3.16	3.46	2.73	2.94	4.13
October.....	1.84	.....	1.19	.....	1.16	2.03	1.00	.....	.95	.....
Totals.....	12.97	12.68	10.65	12.93	14.07	17.62	11.41	14.44	10.90	15.13

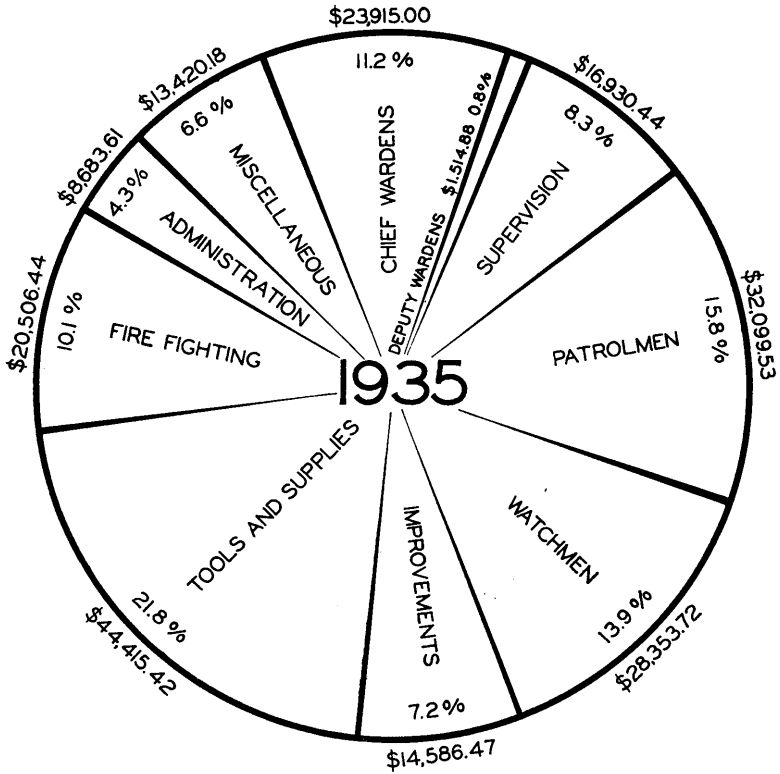
SOUTHERN SECTION

	Dead River District		Parlin Pond District		Moose River District		Carrabassett District		Rangeley District Cupsuptic		Rangeley District Upton	
	1935	1936	1935	1936	1935	1936	1935	1936	1935	1936	1935	1936
April.....	.....	3.01	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
May.....	2.36	3.29	2.34	.....	2.50	4.99	3.15	2.20	1.76	4.37	.....	4.02
June.....	4.48	2.33	6.04	2.29	5.26	3.81	7.20	1.50	6.06	2.40	.....	1.89
July.....	4.21	2.39	3.37	2.49	4.39	4.05	6.70	2.60	2.53	3.28	.....	.92
August.....	1.59	3.25	2.51	1.59	2.41	3.84	2.80	3.25	1.03	3.45	.....	2.14
September.....	2.66	2.57	3.13	1.08	3.51	3.94	4.95	2.40	4.76	2.43	.....	2.95
October.....	1.09	4.78	.85	.....	1.45	.....	.65	4.10	.77	5.25	.....	.....
Totals.....	16.39	21.62	18.24	7.45	19.52	20.63	25.45	16.05	16.91	21.18	.....	11.92

RAIN PRECIPITATION—1935-1936 (Concluded)

WESTERN SECTION

	Upper St. John District		Musquacook District		Seven Islands District		Chamberlain District		Seboomook District		Moosehead District		Chesuncook District	
	1935	1936	1935	1936	1935	1936	1935	1936	1935	1936	1935	1936	1935	1936
May	1.72	4.76	2.52	3.97	1.58	3.27	1.78	4.01	1.69	4.49	1.73	2.52	1.72	3.64
June	4.96	2.43	4.90	3.30	4.36	3.53	4.67	2.86	4.18	3.12	6.91	3.34	4.29	2.73
July	5.91	4.87	2.38	3.92	3.82	4.80	2.15	4.25	2.70	3.87	2.50	2.81	2.63	3.82
August	4.88	2.81	1.47	3.51	2.45	2.57	1.19	3.73	3.10	4.05	3.04	2.25	2.32	5.41
September	4.12	3.30	4.26	3.06	2.62	3.37	3.57	5.74	3.85	2.40	2.49	3.03	3.63	3.17
October	1.50	3.93	1.85	3.65	2.10	2.92	1.67	3.64	1.84	3.87	1.69	3.72	1.96	5.33
Totals	23.09	22.10	17.38	21.41	16.93	20.46	15.03	24.23	17.36	21.80	18.36	17.67	16.55	24.10



TOTAL DISBURSEMENTS \$204,425.69

Maine Forestry District

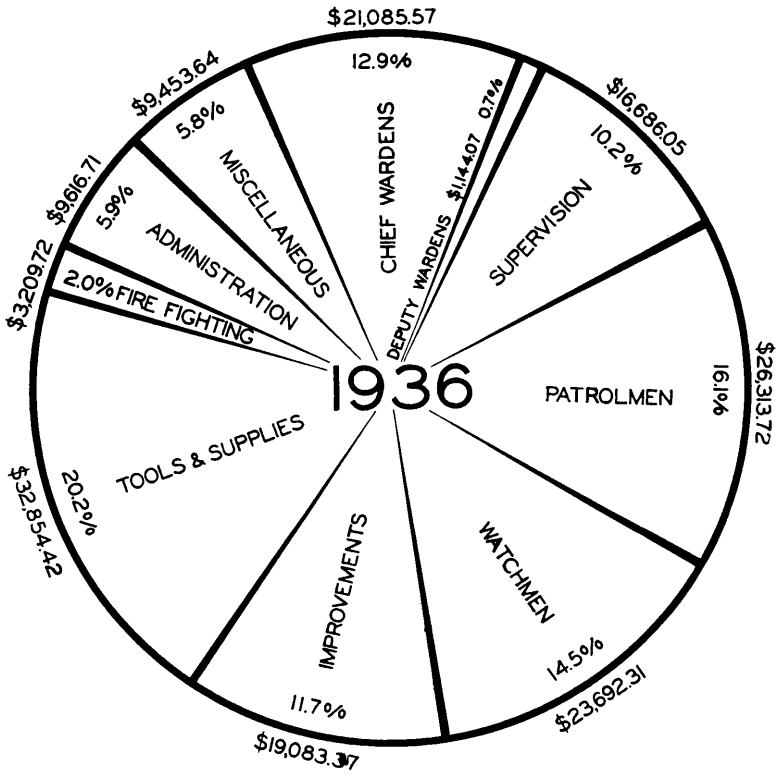
FINANCIAL STATEMENT

1935

Receipts	
Balance on hand January 1, 1935.....	\$92,066 30
1935 Assessment.....	137,138 75
Federal Cooperation.....	36,800 00
Miscellaneous.....	4,293 83
Total Receipts.....	\$270,298 88
Disbursements	
Chief Wardens.....	\$23,915 00
Deputy Wardens.....	1,514 88
Supervision.....	16,930 44
Patrolmen.....	32,099 53
Watchmen.....	28,353 72
Improvements.....	14,586 47
Tools and Supplies.....	44,415 42
Fire Fighting.....	20,506 44
Administration.....	8,683 61
Miscellaneous.....	13,420 18
Total Disbursements.....	\$204,425 69
Amount tied up in the closed State Trust Co.....	\$65,873 19
Balance on hand January 1, 1936.....	9,135 04
Balance on hand January 1, 1936.....	\$56,738 15

EXPENDITURES BY WATERSHEDS 1935

	St. John	Penobscot	Kennebec	Andros- coggin	Machias	Totals
Chief Wardens.....	\$7,398.98	\$9,046.41	\$4,075.77	\$1,266.85	\$2,126.99	\$23,915.00
Deputy Wardens.....	173.40	405.82	30.00	474.04	431.62	1,514.88
Supervision.....	4,554.15	5,174.41	1,798.28	1,712.55	3,691.05	16,930.44
Patrolmen.....	11,060.11	10,548.65	3,541.04	3,170.20	3,779.53	32,099.53
Watchmen.....	6,783.00	9,413.58	6,201.00	1,864.14	4,092.00	28,353.72
Improvements.....	3,459.81	4,587.11	2,777.08	1,988.51	1,773.96	14,586.47
Tools and Supplies.....	10,985.26	9,367.50	8,829.00	7,458.09	7,775.57	44,415.42
Fire Fighting.....	5,882.84	3,743.48	1,362.34	277.89	9,239.89	20,506.44
Administration.....	1,763.21	1,721.34	1,728.44	1,711.98	1,758.64	8,683.61
Miscellaneous.....	2,909.63	3,531.31	2,698.77	2,093.19	2,187.28	13,420.18
TOTALS.....	\$54,970.39	\$57,539.61	\$33,041.72	\$22,017.44	\$36,856.53	\$204,425.69



TOTAL DISBURSEMENTS \$163,139.58

Maine Forestry District

FINANCIAL STATEMENT

1936

Receipts		
Balance on hand January 1, 1936	\$65,873 19	
1936 Assessment	137,542 35	
Federal Cooperation	36,550 00	
Miscellaneous	2,104 03	
Total Receipts	\$242,069 57	
Forestry District tax charged off as uncollectible	889 22	
		\$241,180 35
Disbursements		
Chief Wardens	\$21,085 57	
Deputy Wardens	1,144 07	
Supervision	16,686 05	
Patrolmen	26,313 72	
Watchmen	23,692 31	
Improvements	19,083 37	
Tools and Supplies	32,854 42	
Fire Fighting	3,209 72	
Administration	9,616 71	
Miscellaneous	9,453 64	
		\$163,139 58
		\$78,040 77
Amount tied up in the closed State Trust Co.		7,917 05
		\$70,123 72

EXPENDITURES BY WATERSHED 1936

	St. John	Penobscot	Kennebec	Andros-coggin	Machias	Totals
Chief Wardens	\$6,604.66	\$7,692.51	\$3,846.98	\$991.28	\$1,950.14	\$21,085.57
Deputy Wardens	304.50	113.75	177.00	105.50	443.32	1,144.07
Supervision	4,501.25	5,477.48	1,659.48	1,593.25	3,454.59	16,686.05
Patrolmen	9,197.70	8,383.69	2,790.78	3,120.02	2,821.53	26,313.72
Watchmen	5,608.50	7,672.81	5,248.00	1,683.00	3,480.00	23,692.31
Improvements	4,698.64	5,702.34	4,222.63	1,729.00	2,730.76	19,083.37
Tools and Supplies	8,689.66	8,753.99	4,741.78	4,539.47	6,129.52	32,854.42
Fire Fighting	282.63	1,686.21	1,021.63	14.63	204.62	3,209.72
Administration	1,915.03	1,931.64	1,915.02	1,915.01	1,940.01	9,616.71
Miscellaneous	2,311.29	2,744.67	1,700.84	1,186.72	1,510.12	9,453.64
TOTALS	\$44,113.86	\$50,159.09	\$27,324.14	\$16,877.88	\$24,664.61	\$163,139.58

LOOKOUT STATIONS

Stations	Opened		Closed		No. Fires Reported	
	1935	1936	1935	1936	1935	1936
Allagash Mt.	May 26	May 31	Oct. 12	Sept. 26	.....	.....
Aziscoos Mt.	May 20	May 20	Sept. 14	Sept. 15	3	4
Beetle Mt.	May 19	May 25	Sept. 30	Sept. 28	17	1
Bigelow Mt.	May 17	May 17	Nov. 11	Oct. 29	4	3
Boarstone Mt.	May 5	May 26	Sept. 21	Sept. 19	8	3
Boundary Bald.	May 7	May 7	Sept. 29	Oct. 1	3	1
Burnt Mt.	May 21	May 13	Sept. 30	Sept. 29	6	1
Carr Pond Mt.	May 20	May 27	Sept. 5	Sept. 6	15	3
Clear Lake Mt.	May 20	June 14	Sept. 28	Aug. 29	27	3
Cooper Mt.	Apr. 25	May 1	Oct. 24	Oct. 10	34	8
DeBoulie Mt.	May 21	May 27	Sept. 25	Sept. 7	26	8
*Deer Mt.	May 27	June 27	Sept. 19	Sept. 2	15	11
Depot Mt.	May 22	June 7	Sept. 7	Sept. 5	3	1
Deasey Mt.	May 21	May 27	Sept. 16	Aug. 30	24	14
Dill Ridge.	May 10	May 11	Sept. 14	Sept. 20	2	5
**Doubletop Mt. ....	.....	.....	.....	.....	.....	.....
**Flagstaff Mt. ....	.....	.....	.....	.....	.....	.....
Green Mt.	May 30	June 4	Aug. 31	Sept. 5	1	3
Hardwood Mt.	May 17	May 22	Sept. 30	Sept. 26	7	4
Hedgehog Mt.	May 19	May 21	Oct. 22	Sept. 16	7	5
**Horse Mt. ....	.....	.....	.....	.....	.....	.....
Howe Brook.	May 20	May 26	Sept. 7	Sept. 22	18	2
**Indian Hill. ....	.....	.....	.....	.....	.....	.....
Kibbie Mt.	May 12	May 17	Sept. 17	Oct. 2	1	5
Kineo Mt.	May 16	May 10	Sept. 25	Oct. 2	11	6
Lawler Hill.	May 17	May 25	Nov. 4	Sept. 26	30	7
Lead Mt.	May 13	May 1	Sept. 28	Sept. 19	28	5
Little Russell Mt.	May 25	May 17	Nov. 7	Sept. 12	2	.....
Mattamiscontis Mt.	May 14	June 3	Oct. 12	Sept. 12	1	9
Mt. Abram.	May 26	June 8	Oct. 25	Sept. 25	2	6
Mt. Chase.	May 14	May 24	Nov. 6	Sept. 29	25	.....
Mt. Coburn.	May 26	May 23	Nov. 7	Oct. 22	4	2
**Millinocket Tower. ....	.....	.....	.....	.....	.....	.....
Mitchell Mt.	May 5	May 22	Nov. 12	Sept. 29	2	3
Moxie Bald.	May 22	May 17	Oct. 16	Oct. 23	5	12
Musquacook Mt.	May 17	May 21	Sept. 6	Sept. 26	6	.....
Musquash Mt.	May 17	May 15	Nov. 1	Sept. 21	17	3
No. 4 Mt.	May 26	May 10	Oct. 26	Sept. 19	5	4
No. 5 Mt.	May 27	May 17	Oct. 12	Sept. 25	13	6
No. 9 Mt.	May 16	May 12	Oct. 19	Sept. 26	17	4
Norway Bluff.	May 23	June 5	Sept. 16	Sept. 17	38	9
**Nulhedus Mt. ....	.....	.....	.....	.....	.....	.....
Oak Hill.	May 20	May 26	Sept. 15	Sept. 6	9	3
Old Spec Mt.	May 18	May 25	Oct. 21	Sept. 19	3	.....
*Otter Lake Mt.	Aug. 13	July 13	Sept. 3	Aug. 7	4	4
Passadumkeag Mt.	May 7	May 9	Nov. 4	Oct. 3	20	4
Peaked Mt.	May 6	May 1	Sept. 30	Sept. 26	14	3
Pirate Hill.	May 17	May 15	Oct. 24	Sept. 30	5	1
*Pleasant Pond Mt.	May 28	Aug. 9	Sept. 14	Oct. 12	15	9
Pocomoonshine Mt.	Apr. 29	May 8	Nov. 3	Oct. 7	56	10
Priestly Mt.	May 12	May 25	Sept. 14	Sept. 26	34	13
Ragged Mt.	May 18	May 25	Oct. 4	Sept. 29	24	34
Rocky Mt.	May 11	May 13	Oct. 24	Sept. 22	27	21
Rocky Brook Mt. ....	.....	June 12	.....	Sept. 5	.....	2
Round Mt.	May 19	May 31	Sept. 14	Sept. 12	63	36
Saddleback Mt.	June 22	May 31	Sept. 14	Sept. 19	2	11
Schoodic Mt.	May 11	May 9	Oct. 2	Sept. 26	21	9
Snow Mt.	May 22	May 24	Nov. 11	Oct. 12	6	3
Soper Mt.	June 9	June 11	Sept. 6	Sept. 5	3	.....
Soubunge Mt.	Apr. 27	May 30	Sept. 16	Sept. 10	9	7

Stations	Opened		Closed		No. Fires Reported	
	1935	1936	1935	1936	1935	1936
Spencer Mt.	May 16	May 10	Nov. 8	Oct. 10	19	14
Spoon Mt.	May 21	May 25	Sept. 30	Sept. 16	7	...
Squa Pan Mt.	May 14	May 17	Sept. 19	Sept. 16	33	16
Squaw Mt.	May 19	May 17	Nov. 8	Oct. 8	15	17
*Stockholm Mt.	May 27	....	Aug. 31	....	....	....
Three Brooks Mt.	May 16	May 22	Sept. 17	Sept. 19	18	8
Trout Mt.	May 19	May 24	Nov. 5	Sept. 21	14	42
*Tumbledown Mt. ....	....	....	....	....	....	....
Wadleigh Mt.	May 26	May 24	Sept. 13	Sept. 12	5	2
Washington Bald.	May 19	May 1	Oct. 31	Sept. 15	7	....
*Wesley Mt.	May 28	June 9	Sept. 5	Sept. 21	8	1
Whitney Hill.	May 17	May 24	Nov. 6	Sept. 21	28	3
West Kennebago Mt.	May 17	May 27	Sept. 17	Sept. 27	2	20
White Cap Mt.	May 26	June 9	Oct. 12	Sept. 11	9	13
Williams Mt.	May 16	May 23	Sept. 13	Sept. 17	6	4
Fires reported by watchmen					913	470
Fires reported by patrolmen					16	91
Total number fires reported					929	561

* Emergency stations opened for a few days.
 ** Emergency stations not opened.

FIRE RECORD 1935

Location	Date	Acreage	Cause	Damage
Aroostook County				
T. A. R. 2, WELS.	Apr. 28	2	Smoking	\$
T. 7, R. 3, WELS.	May 1	3	Brush burning	5.00
Reed Pl.	May 2	35	Grass burning	5.00
Garfield Pl.	May 5	5	Grass burning	5.00
Silver Ridge Pl.	May 5	2	Incendiary	5.00
Allagash Pl.	May 12	12	Lumbering	5.00
T. C. R. 2, WELS.	May 16	1	Campfire	5.00
Allagash Pl.	May 16	1	Fishermen	5.00
Reed Pl.	May 20	Building	Sparks on roof	5.00
Garfield Pl.	May 22	Building	Brush burning	5.00
Reed Pl.	May 24	Building	Incendiary	5.00
T. 14, R. 5, WELS.	May 26	Building	Fishermen	5.00
T. D. R. 2, WELS.	May 26	8	Brush burning	5.00
T. 15, R. 9, WELS.	May 26	8	Campfire	5.00
T. A. R. 5, WELS.	May 26	300	Incendiary	100.00
Macwahoc Pl.	June 4	1	Campfire	1.00
T. 10, R. 3, WELS.	June 5	1	Campfire	1.00
Winterville Pl.	July 1	3	Smoking	1,401.00
T. 1, R. 4, WELS.	July 17	300	Truck burning	75.00
T. 9, R. 5, WELS.	July 22	300	Lightning	75.00
T. 9, R. 7, WELS.	July 28	300	Fishermen	75.00
T. 2, R. 4, WELS.	Aug. 1	Building	Lightning	75.00
T. 10, R. 6, WELS.	Aug. 4	5	Campfire	75.00
T. 11, R. 12, WELS.	Aug. 4	5	Lightning	75.00
T. 16, R. 6, WELS.	Aug. 8	1	Smoking	75.00
T. 20, R. 11, & 12, WELS.	Aug. 8	1	Berry Pickers	75.00
T. 18, R. 10, WELS.	Aug. 8	1	Campfire	75.00
T. 7, R. 4, WELS.	Aug. 9	1	Campfire	75.00
Garfield Pl.	Aug. 9	11	Lumbering	75.00
T. 17, R. 4, WELS.	Aug. 9	11	Brush burning	75.00
T. 11, R. 8, WELS.	Aug. 12	1	Campfire	75.00
T. 12, R. 8, WELS.	Aug. 12	1	Smoking	75.00
T. E. R. 2, WELS.	Aug. 15	1	Campfire	75.00
Silver Ridge Pl.	Aug. 15	1	Smoking	75.00
T. 15, R. 9, WELS.	Aug. 17	6	Campfire	75.00
T. 16, R. 6, WELS.	Aug. 17	6	Smoking	75.00
Oxbow Pl.	Aug. 17	3	Smoking	75.00
T. 18, R. 10, WELS.	Aug. 18	3	Campfire	75.00
T. 12, R. 11, WELS.	Aug. 18	3	Campfire	75.00
T. 15, R. 7 & 8, WELS.	Aug. 19	140	Campfire	75.00
T. 13, R. 5, WELS.	Aug. 19	140	Smoking	75.00
T. C. R. 2, WELS.	Aug. 20	250	Brush burning	75.00
T. 17, R. 5, WELS.	Aug. 20	250	Hunters	75.00
T. 17, R. 4, WELS.	Aug. 20	250	Incendiary	75.00
T. 9, R. 5, WELS.	Aug. 24	150	Incendiary	75.00
T. 9, R. 5, WELS.	Aug. 28	150	Smoking	75.00
T. 11, R. 14, WELS.	Sept. 1	1	Lightning	75.00
T. 13, R. 8, WELS.	Sept. 8	1	Smoking	75.00
T. 13, R. 7, WELS.	Sept. 13	1	Lumbering	75.00
T. 10, R. 6, WELS.	Sept. 13	1	Smoking	75.00
T. C. R. 2, WELS.	Oct. 16	1	Smoking	75.00
Oxbow Pl.	Oct. 17	1	Smoking	75.00
T. 1, R. 4, WELS.	Oct. 19	2	Brush burning	75.00
T. 3, R. 3, WELS.	Oct. 26	2	Campfire	75.00
Reed Pl.	Oct. 28	1	Campfire	75.00
Hammond Pl.	Oct. 28	1	Smoking	75.00
T. 13, R. 7, WELS.	Oct. 29	1	Smoking	75.00
T. 1, R. 5, WELS.	Nov. 3	Camp Yard	Brush burning	75.00
Franklin County				
T. 1, R. 5, WBKP	July 14	1	Smoking	35.00
T. 1, R. 8, WBKP	Aug. 9	1	Campfire	35.00
T. 1, R. 5, WBKP	Oct. 17	1	Smoking	35.00
Hancock County				
Twp. 28, MD.	May 26	10	Smoking	16.00
Twp. 8, SD.	June 7	1	Lumbering	9.00
No. 33 Pl. & Twp. 39, MD.	July 29	1	Fishermen	10.00
Twp. 34, MD.	July 31	1	Fishermen	5.00
No. 21 Pl.	Aug. 1	6	Fishermen	70.00
Twp. 34, MD.	Aug. 3	1	Lightning	5.00
Twp. 34, MD.	Aug. 4	3	Lightning	42.00

Location	Date	Acreage	Cause	Damage
Hancock County Cont.				
No. 21 Pl.	Aug. 4	$\frac{1}{8}$	Berry pickers	
Twp. 4, ND	Aug. 9	75	Lightning	100.00
Twp. 35 & 41, MD	Aug. 9	2,960	Lightning	7,600.00
Twp. 3, ND	Aug. 14	480	Smoking	3,000.00
Twp. 4, ND & Lakeville Pl.	Aug. 20	2,880	Smoking	7,500.00
No. 33 Pl.	Aug. 21	$\frac{1}{4}$	Smoking	4.00
Twp. 8, SD	Oct. 15	5	Hunters	
Twp. 32, MD	Oct. 26	$\frac{1}{8}$	Hunters	21.00
Penobscot County				
Summit Pl.	May 19	5	Fishermen	5.00
Indian No. 4	May 25	$1\frac{1}{2}$	Smoking	8.00
T. A. R. 7, WELS	May 26		Incendiary	
T. A. R. 7, WELS	May 26		Smoking	
T. 2, R. 7, WELS	May 26	500	Campfire	1,525.00
Indian No. 3	May 27		Smoking	
T. A. R. 7, WELS	May 27		Miscellaneous	
T. A. R. 7, WELS	May 27		Incendiary	
Indian No. 3	May 27	8	Smoking	60.00
Indian No. 4	June 3		Incendiary	
T. 1, R. 8, WELS	June 30	$1\frac{1}{2}$	Smoking	
Drew Pl.	July 7		Brush burning	
T. 6, R. 8, WELS	July 13		Brush burning	
Summit Pl.	July 15	1	Fishermen	
Indian No. 3	July 16	Lumber Camp	Smoking	
Stacyville Pl.	July 17		Unknown	1.00
T. 3, R. 1, NBPP	July 18	50	Fishermen	50.00
T. 1, R. 6, WELS	July 20	2	Campfire	4.00
Webster Pl.	July 20	150	Fishermen	100.00
T. 7, R. 8, WELS	July 23	$1/16$	Lightning	200.00
Drew Pl.	July 23		Burning hay	
T. 1, R. 7, WELS	Aug. 3		Lumbering	
T. 6, R. 7, WELS	Aug. 9	$\frac{1}{2}$	Smoking	2.00
T. 2, R. 6, WELS	Aug. 15	$\frac{1}{2}$	Smoking	1.00
T. 2, R. 8, WELS	Aug. 15	$1/16$	Smoking	
T. 6, R. 8, WELS	Aug. 16		Campfire	
T. 2, R. 8, WELS	Aug. 17		Smoking	
Webster Pl.	Aug. 17	15	Smoking	100.00
T. 2, R. 8, WELS	Aug. 18	1	Smoking	
Stacyville Pl.	Aug. 18		Brush burning	
T. 2, R. 8, WELS	Aug. 18		Smoking	
T. 2, R. 8, WELS	Aug. 19	$1/16$	Smoking	
T. 2, R. 8, WELS	Aug. 21	$\frac{1}{2}$	Smoking	
T. 1, R. 7, WELS	Aug. 29	$1/16$	Smoking	
Stacyville Pl.	Sept. 1		Campfire	1.00
T. 2, R. 6, WELS	Sept. 1		Campfire	5.00
Lakeville Pl.	Oct. 18		Hunters	
T. A. R. 7, WELS	Oct. 26	$1/16$	Smoking	
Stacyville Pl.	Oct. 31		Campfire	
T. 4, R. 7, WELS	Nov. 10	2	Incendiary	
Piscataquis County				
T. 10, R. 12, WELS	May 5	20	Miscellaneous	
Elliottsville Pl.	May 5	5	Railroad	5.00
T. 2, R. 11, WELS	May 25	$\frac{1}{2}$	Campfire	
Spencer Bay	May 25	4	Campfire	50.00
Barnard Pl.	May 25	5	Smoking	
T. A. R. 12, WELS	May 26		Smoking	5.00
T. 2, R. 12, WELS	May 27	2	Lumberman	
T. 3, R. 11, WELS	June 2		Campfire	
T. 1, R. 13, WELS	June 8		Brush burning	
T. 5, R. 10, WELS	June 13		Lightning	
T. 1, R. 9, WELS	July 20	$1/16$	Smoking	
T. 2, R. 11, WELS	July 22		Lightning	
T. 5, R. 10, WELS	July 22		Lightning	
T. 5, R. 10, WELS	July 22		Lightning	
T. 8, R. 12, WELS	July 22		Lightning	
T. 6, R. 10, WELS	July 22		Lightning	
T. 1, R. 12, WELS	July 23		Lightning	
T. A. R. 11, WELS	July 23		Lightning	
T. 1, R. 11, WELS	July 23		Lightning	
T. A. R. 11, WELS	July 23	20	Lightning	200.00
T. A. R. 11, WELS	July 23		Lightning	
T. 4, R. 11, WELS	July 27	$\frac{1}{4}$	Fishermen	
T. 5, R. 9, WELS	July 30		Campfire	200.00
T. 6, R. 10, WELS	Aug. 1	Sporting Camp	Lightning	
T. 9, R. 12, WELS	Aug. 3		Lightning	
T. 10, R. 13, WELS	Aug. 3		Lightning	
T. 10, R. 13, WELS	Aug. 8		Lightning	

Location	Date	Acreage	Cause	Damage
Piscataquis County Cont.				
T. 5, R. 14, WELS.	Aug. 11	.....	Campfire	.....
T. 7, R. 10, WELS.	Aug. 12	.....	Miscellaneous	.....
T. 2, R. 6, BKP, EKR	Aug. 16	.....	Campfire	5.00
T. 3, R. 5, BKP, EKR	Aug. 17	.....	Campfire	3.00
T. 5, R. 9, NWP	Aug. 18	.....	Campfire	.....
T. 2, R. 9, WELS	Aug. 18	.....	Smoking	.....
T. 6, R. 15, WELS	Aug. 20	Hunter's Camp	Campfire	.....
T. 10, R. 11, WELS	Aug. 22	.....	Brush burning	.....
T. 2, R. 10, WELS	Aug. 22	.....	Unknown	.....
T. 10, R. 11, WELS	Sept. 2	.....	Brush burning	.....
T. 6, R. 10, WELS	Sept. 19	.....	Lightning	.....
T. 10, R. 11, WELS	Sept. 25	.....	Brush burning	.....
T. B. R. 11, WELS	Oct. 17	.....	Smoking	20.00
Gore A 2, WELS	Oct. 21	3	Smoking	60.00
T. 2, R. 12, WELS	Oct. 24	.....	Hunters	.....
T. A, R. 12, WELS	Oct. 28	.....	Smoking	.....
T. 7, R. 14, WELS	Nov. 1	3	Unknown	.....
Somerset County				
Indian Pond Town	May 17	Old Station	Smoking	100.00
T. 2, R. 3, NBKP	May 26	4	Campfire	8.00
T. 6, R. 19, WELS	July 5	15	Smoking	30.00
Dennistown Pl.	Aug. 17	.....	Campfire	.....
T. 2, R. 4, BKP, EKR	Aug. 18	.....	Campfire	2.00
T. 1, R. 6, BKP, WKR	Aug. 19	15	Smoking	30.00
T. 6, R. 17, WELS	Aug. 31	.....	Campfire	.....
Flagstaff Pl.	Sept. 8	.....	Smoking	.....
T. 1, R. 7, BKP, WKR	Oct. 11	2	Smoking	50.00
T. 3, R. 1, NBKP	Oct. 18	6	Brush burning	10.00
T. 2, R. 5, BKP, WKR	Oct. 21	12	Smoking	60.00
T. 2, R. 5, BKP, WKR	Nov. 2	.....	Smoking	15.00
Moose River Pl.	Nov. 3	.....	Smoking	.....
Attean Town	Nov. 4	8	Smoking	50.00
Washington County				
Codyville Pl.	May 2	325	Campfire	1,555.00
Whiting	May 4	3	Incendiary	.....
Whiting	May 21	3	Incendiary	6.00
Twp. 25, MD	May 23	.....	Incendiary	1,000.00
Twp. 24, MD	May 26	150	Fishermen	75.00
Edmunds	May 26	.....	Smoking	.....
Northfield	May 27	2	Campfire	.....
Whiting	May 27	25	Incendiary	100.00
Beddington	May 27	10	Hunters	20.00
T. 8, R. 4, NBPP	May 30	.....	Slash burning	.....
Topsfield	June 4	5	Fishermen	.....
Twp. 30, MD	June 8	.....	Incendiary	2.00
T. 1, R. 2, TS	July 2	3	Lumbering	15.00
Topsfield	July 13	.....	Fishermen	.....
Lambert Lake Pl.	July 19	.....	Fishermen	5.00
Whiting	July 21	.....	Incendiary	.....
T. 1, R. 1, TS	July 28	6	Lumbermen	30.00
Beddington	July 31	.....	Lightning	.....
Twp. 27, ED	July 31	.....	Campfire	.....
Indian Twp.	July 31	2	Lightning	40.00
Codyville Pl.	Aug. 2	.....	Lightning	.....
Whiting	Aug. 2	2	Incendiary	75.00
Edmunds	Aug. 7	.....	Berry pickers	.....
Twp. 19, ED	Aug. 8	7	Fishermen	8.00
Twp. 24, MD	Aug. 10	20	Smoking	100.00
No. 21 Pl.	Aug. 12	.....	Campfire	.....
T. 7, R. 2, NBPP	Aug. 15	.....	Lightning	.....
Lambert Lake Pl.	Aug. 15	.....	Smoking	.....
Twp. 37, MD	Aug. 16	2	Lightning	10.00
Twp. 42, MD	Aug. 16	20	Lightning	50.00
Whiting	Aug. 16	2	Fishermen	.....
Twp. 18, ED	Aug. 18	425	Smoking	100.00
Twp. 18, ED	Aug. 18	2,050	Smoking	200.00
Whiting	Aug. 19	2	Incendiary	50.00
Twp. 30, MD	Aug. 19	2	Smoking	.....
Cooper	Aug. 19	8	Incendiary	100.00
Edmunds	Aug. 20	30	Berry pickers	150.00
Twp. 6, ND	Aug. 21	225	Campfire	325.00
Twp. 24, MD	Aug. 21	2,700	Smoking	400.00
Twp. 27, ED	Sept. 25	.....	Campfire	.....
Brookton	Oct. 13	.....	Smoking	.....
Whiting	Oct. 15	8	Unknown	.....
Edmunds	Oct. 19	1	Road builders	5.00
Whiting	Oct. 20	1	Incendiary	12.00
Whiting	Oct. 20	10	Incendiary	15.00
Northfield	Oct. 29	3	Hunters	4.00

FIRE RECORD 1936

Location	Date	Acreage	Cause	Damage
Aroostook County				
T. 14, R. 6, WELS.	May 17	5	Smoking	.....
T. 13, R. 5, WELS.	May 20	1	Incendiary	.....
T. 7, R. 4, WELS.	May 21	.....	Smoking	.....
T. 14, R. 7, WELS.	June 10	.....	Campfire	.....
Hammond Pl.	June 11	1	Incendiary	\$300.00
T. 15, R. 15, WELS.	June 25	1	Smoking	10.00
T. 15, R. 8, WELS.	July 10	.....	Campfire	.....
T. 15, R. 5, WELS.	July 11	.....	Campfire	.....
Glenwood Pl.	Aug. 3	.....	Miscellaneous	.....
T. 10, R. 4, WELS.	Aug. 5	.....	Miscellaneous	.....
Glenwood Pl.	Aug. 8	.....	Miscellaneous	.....
T. 12, R. 7, WELS.	Aug. 9	.....	Smoking	5.00
T. 11, R. 12, WELS.	Aug. 10	.....	Lightning	.....
T. 14, R. 7, WELS.	Aug. 10	.....	Lightning	.....
T. 13, R. 8, WELS.	Aug. 10	.....	Lightning	.....
T. 13, R. 7, WELS.	Aug. 10	.....	Lightning	.....
T. 16, R. 6, WELS.	Aug. 13	.....	Campfire	.....
Franklin County				
Jerusalem	May 17	.....	Lightning	.....
No. 6 N. of Weld.	May 25	.....	Smoking	.....
Jim Pond	July 15	.....	Campfire	.....
Alder Stream	Aug. 13	50	Smoking	2,250.00
Hancock County				
Twp. 10, SD.	May 22	1	Smoking	5.00
Twp. 10, SD.	Aug. 11	.....	Campfire	.....
Penobscot County				
Lakeville, T. 4, R. 1, NBKP	May 24	.....	Debris burning	.....
Indian, No. 3	May 25	1	Incendiary	5.00
T. 6, R. 7, WELS.	June 6	.....	Smoking	.....
T. 2, R. 6, WELS.	June 7	1	Incendiary	5.00
Webster Pl.	June 7	30	Lightning	20.00
Stacyville Pl.	June 10	.....	Miscellaneous	.....
T. 5, R. 8, WELS.	June 11	.....	Smoking	.....
T. 1, R. 7, WELS.	June 26	.....	Lightning	.....
T. 3, R. 1, NBPP	July 3	.....	Campfire	.....
T. A, R. 7, WELS.	July 21	.....	Debris burning	.....
T. A, R. 7, WELS.	July 21	.....	Campfire	.....
T. 6, R. 8	Aug. 6	.....	Miscellaneous	.....
Indian No. 3	Aug. 7	.....	Smoking	.....
T. A, R. 7, WELS.	Aug. 8	3	Smoking	15.00
Indian No. 3	Aug. 8	1	Smoking	5.00
Indian No. 3	Aug. 8	1	Smoking	.....
Indian No. 3	Aug. 9	.....	Smoking	.....
T. 2, R. 8, WELS.	Aug. 9	1	Smoking	.....
T. 1, R. 8, WELS.	Aug. 9	1	Smoking	25.00
T. 2, R. 9, NWP	Aug. 11	4	Campfire	70.00
Indian No. 4	Aug. 14	.....	Campfire	300.00
Indian No. 4	Aug. 20	2	Smoking	10,000.00
Piscataquis County				
Lily Bay	June 10	1	Campfire	20.00
T. 2, R. 3, WELS.	July 3	.....	Campfire	.....
T. 1, R. 9, WELS.	July 17	.....	Smoking	5.00
T. 2, R. 9, WELS.	July 18	.....	Smoking	.....
T. 2, R. 9, WELS.	July 19	.....	Smoking	.....
T. 2, R. 9, WELS.	July 21	.....	Smoking	.....
T. 2, R. 9, WELS.	Aug. 8	1	Smoking (15 fires)	5.00
T. 1, R. 9, WELS.	Aug. 8	5	Campfire	25.00
T. 6, R. 10, WELS.	Aug. 10	.....	Lightning	.....
T. 2, R. 12, WELS.	Aug. 11	.....	Lightning	.....
T. 8, R. 10, WELS.	Sept. 10	.....	Lightning	.....
Somerset County				
Parlin Pond—Upper	.....	.....	.....	.....
Enchanted	June 11	9	Smoking	45.00
Dennistown	June 22	.....	Lightning	.....
Hammond	Aug. 29	.....	Lightning	.....
T. 4, R. 18, WELS.	Aug. 29	.....	Lightning	.....
East Moxie	July 16	.....	Smoking	.....
Indian Pond	Aug. 9	1	Lightning	15.00
Moscow	Sept. 22	2	Smoking	15.00
Washington County				
Wesley	May 10	50	Campfire	100.00
Whiting	May 26	1	Debris burning	5.00
Twp. 37, MD.	July 10	1	Campfire	5.00
Twp. 37, MD.	July 19	1	Campfire	5.00
Plantation 21	July 23	.....	Campfire	.....
Whiting	Aug. 13	1	Unknown	5.00
T. 8, R. 4, NBPP	Aug. 23	1	Campfire	5.00

**SUMMARY OF FOREST FIRES FOR 1935-1936
BY MONTHS, COUNTIES AND CAUSES**

	No. of Fires		Acreage		Damage	
	1935	1936	1935	1936	1935	1936
By Months:						
April	1	..	2	..	..	..
May	43	10	1,451 $\frac{1}{2}$	59	\$4,658.00	\$ 115.00
June	10	12	7 $\frac{1}{2}$	43	12.00	400.00
July	39	15	555 $\frac{1}{2}$	3	2,326.00	15.00
August	84	45	12,494 $\frac{1}{6}$	72	20,527.00	12,725.00
September	10	2	..	2	66.00	15.00
October	27	..	57 $\frac{7}{16}$	..	347.00	..
November	6	..	13 $\frac{1}{4}$	..	65.00	..
	220	84	14,582 $\frac{23}{48}$	179	\$28,001.00	\$13,270.00
By Counties:						
Aroostook	58	17	1,236 $\frac{7}{8}$	8	2,167.00	315.00
Franklin	3	4	..	50	35.00	2,250.00
Hancock	15	2	6,420 $\frac{1}{2}$	1	18,382.00	5.00
Penobscot	40	22	740 $\frac{1}{6}$	45	2,062.00	10,445.00
Piscataquis	44	25	64 $\frac{3}{16}$	8	548.00	55.00
Somerset	14	7	63 $\frac{1}{2}$	12	355.00	75.00
Washington	46	7	6,055 $\frac{1}{2}$	55	4,452.00	125.00
	220	84	14,582 $\frac{23}{48}$	179	\$28,001.00	\$13,270.00
By Causes:						
Berry Pickers	5	..	31 $\frac{1}{2}$	..	155.00	..
Brush Burning	20	3	46 $\frac{1}{2}$	1	15.00	5.00
Campfire	40	18	1,230 $\frac{1}{2}$	63	3,799.00	530.00
Fishermen	17	..	678 $\frac{1}{2}$	..	1,734.00	..
Hunters	7	..	268 $\frac{1}{2}$	..	85.00	..
Incendiary	20	4	363 $\frac{1}{2}$	4	1,470.00	310.00
Lightning	31	14	3,088 $\frac{7}{16}$	31	8,322.00	35.00
Lumbering	8	..	13 $\frac{1}{2}$	..	119.00	..
Miscellaneous	5	5	20 $\frac{1}{2}$	..	..	..
Railroad	1	..	5	..	5.00	..
Smoking	62	39	8,827 $\frac{19}{24}$	79	12,296.00	12,385.00
Unknown	4	1	11	1	1.00	5.00
	220	84	14,582 $\frac{23}{48}$	179	\$28,001.00	\$13,270.00

MAINE FORESTRY DISTRICT 1936

DISTRICT	SUBDIVISIONS OF DISTRICTS				PERSONNEL				PROPERTY INVENTORY								
	Unorganized Townships	Plantations	Towns	Total Acreage	Chief Wardens	Deputies	Patrolmen Linemen	Watchmen	Forest Fire Lookouts	Camps	Storehouses	Garages	Boathouses	Mileage Tel. Lines	Telephones	Camp Sites	Lunch Grounds
Northern	Allagash	26½	1	-	718,025		9	5	2	2	5	2	-	121	15	9	-
	Madawaska	7½	1	-	206,820		3	2	2	2	2	-	-	44	8	3	-
	Fish River	13	2	-	358,199		9	1	3	3	4	1	1	102	10	5	-
	Aroostook Waters	26½	2	-	676,306		20	4	3	5	1	-	-	144	19	7	-
	Number Nine	8	2	-	222,575		13	2	2	2	2	-	-	32	7	3	-
Total	81½	8	-	2,181,925	5	59	14	14	14	20	5	2	443	59	27	-	
Central	Mattawamkeag	12	3	-	345,600		13	2	3	4	4	1	1	90	15	3	6
	East Branch	18½	-	-	426,494		14	4	4	5	10	-	-	98	19	3	-
	Davidson	3	1	-	92,160		7	1	2	2	2	1	1	51	9	3	-
	Katahdin	13	-	-	299,502		13	3	2	3	4	1	2	83	16	3	-
	Pleasant River	12¼	4	-	373,519		7	2	3	3	4	1	-	69	18	1	-
Total	58¾	8	-	1,537,275	5	54	12	14	17	24	9	4	391	77	13	11	
Eastern	Passadumkeag	8	4	-	291,093		19	1	2	2	4	1	1	93	13	4	-
	Musquash-St. Croix	10	3½	2	391,927		27	2	3	4	4	2	1	162	29	8	-
	East Machias	3½	1½	4	208,946		20	1	1	2	1	-	-	23	3	5	-
	Machias	11½	-	4	357,817		15	3	4	5	8	2	1	124	27	3	-
	Narraguagus-Union River	6½	2	-	194,916		14	1	1	1	3	1	-	70	16	3	-
Total	39½	11	10	1,444,699	5	95	8	11	14	20	5	5	472	88	23	-	
Southern	Carrabassett	4	-	-	89,986		2	-	1	1	1	-	-	28	4	4	-
	Rangeley	21½	5	-	604,199		16	6	5	5	6	2	-	146	18	10	37
	Dead River	11½	6	-	358,842		28	1	2	3	2	-	-	75	10	5	-
	Moose River	22½	2	-	415,496		16	1	4	5	6	1	-	112	21	3	-
	Parlin Pond	17	5	1	494,170		21	1	2	3	6	-	-	145	40	5	-
Total	16½	18	1	1,962,693	5	83	9	14	17	21	3	1	506	93	27	37	
Western	Seven Islands	14	-	-	326,661		3	2	1	1	4	-	-	83	8	-	-
	Upper St. John	14½	-	-	339,472		1	3	1	1	6	1	1	80	16	-	-
	Musquacook	14½	-	-	338,058		2	2	2	2	4	1	1	59	5	1	-
	Moosehead	19	-	-	383,979		18	-	4	4	4	-	-	45	10	2	1
	Seboomook	32	-	-	736,944		4	1	2	3	4	1	1	30	5	4	-
	Chesuncook	14½	-	-	326,118		2	3	2	2	3	1	1	34	6	3	-
	Chamberlain	15	-	-	356,881		-	-	2	2	4	1	-	50	8	-	-
Total	123¾	-	-	2,818,113	7	30	11	14	15	29	5	4	381	58	10	1	
GRAND TOTAL	319¾	45	11	9,944,705	27	321	54	67	77	114	27	15	12	2193	375	100	49

MAINE FORESTRY DISTRICT—Inventory Equipment for Fire Patrol and Control—Season 1936

DISTRICT		Trucks	Trailers	Motor Boats	Boats	Canoes	Outboard Motors	Power Pumps	Fire Hose	Hand Pumps	Pails	Axes	Mattocks	Shovels	Wagon No. Men
Northern	Allagash	2	—	—	—	2	3	2	2800	69	156	66	6	89	20
	Madawaska	2	1	—	2	1	—	1	1400	34	62	46	5	54	25
	Fish River	1	—	1	—	4	—	2	3150	42	72	54	31	72	25
	Aroostook Waters	2	—	—	1	4	3	2	4000	46	113	73	68	103	25
	Number Nine	1	—	—	1	1	—	1	1000	41	58	68	43	90	—
	Total	8	1	1	5	12	10	8	12,350	232	461	307	153	408	95
Central	Division Headquarters	1	—	—	1	—	—	—	1900	23	47	52	—	36	—
	Mattawamkeag	2	—	—	—	1	1	1	1500	39	139	130	16	125	40
	East Branch	1	—	—	3	8	4	1	1400	56	302	232	241	243	12
	Davidson	1	—	—	—	3	1	1	1650	37	55	41	2	31	16
	Katahdin	3	1	2	2	2	1	2	3450	92	106	99	8	90	45
	Pleasant River	2	—	—	—	1	—	2	2800	35	76	44	4	37	4
Total	10	1	2	6	15	7	7	12,700	282	725	598	271	562	117	
Eastern	Passadumkeag	1	—	—	1	2	2	2	3700	38	35	80	148	75	30
	Musquash-St. Croix	3	—	3	—	4	2	3	7000	63	88	89	36	91	30
	East Machias	1	—	—	—	2	—	2	5500	42	99	36	91	236	15
	Machias	1	—	1	—	4	1	1	2500	46	22	18	38	54	25
	Narraguagus-Union River	1	—	—	—	1	—	3	6500	55	51	93	60	127	15
	Total	7	—	4	1	13	5	11	25,200	244	295	316	373	583	115
Southern	Carrabassett	1	—	—	—	—	—	1	1300	33	143	46	65	97	—
	Rangeley	2	2	1	5	—	4	4	5000	64	588	148	52	171	10
	Dead River	1	—	—	—	—	—	3	5200	33	222	27	78	168	—
	Moose River	2	1	—	—	1	1	3	3650	30	263	68	187	247	40
	Parlin Pond	1	—	—	1	1	—	3	4550	53	162	56	78	176	—
	Total	7	3	1	6	2	5	14	19,700	213	1378	345	460	859	50
Western	Seven Islands	1	—	—	—	4	1	2	2650	67	86	12	27	70	20
	Upper St. John	2	—	—	—	4	4	2	3650	85	119	21	19	226	30
	Musquacook	1	—	—	1	3	4	1	1500	34	39	8	6	34	25
	Seboomook	2	—	—	—	1	—	1	3150	46	30	30	6	37	—
	Moosehead	1	—	—	—	—	—	2	4000	36	94	129	53	72	10
	Chesuncook	2	—	—	1	1	1	1	800	45	69	12	10	46	10
	Chamberlain	—	—	—	2	4	5	1	1700	43	87	31	31	83	10
Total	9	—	—	4	17	15	10	17,450	356	524	243	152	568	105	
GRAND TOTAL		41	5	8	22	59	42	50	87,400	1327	3383	1809	1409	2980	482

FOREST FIRE
PROTECTION
ORGANIZED TOWNS



Frye Mt. Lookout, Montville
Erected in 1931

ORGANIZED TOWNS

Paramount to all forest fire prevention and suppression work in the organized towns is the plan of cooperation between state and town officials. This plan was inaugurated in 1930 and its success in the following years is striking when it is realized that the state has no jurisdiction over organized towns in forest fire work, except subject to the approval of town authorities.

Thus, the forest fire seasons of 1935-36 presented many interesting problems and final accomplishments. A review of these two seasons is the purpose of this report, with an effort to relate the various conditions and situations, and to make recommendations which will be beneficial for coming fire seasons.

Forest Area

There never has been compiled an accurate figure of the forested areas in the organized towns, but from what information is available it is estimated to be about 5,000,000 acres. This is made up of small farm woodlots, woodlands pastured and unpastured, and tracts of land containing lumber of saw timber size, and trees of commercial importance for other forest products. Approximately 90% of these areas receive some form of forest fire protection.

One essential need for better protection of these timbered areas is a prepared map which would show the different types of forest growth. It is unfortunate that town records do not show this information. The value of such a classification is shown by the fact that a warden's or watchman's knowledge of the type of forest growth in which a fire might be burning would to a great extent govern the course of action to be taken to extinguish the running fire. This is particularly true where extensive cut-over areas border on good stands of forest growth.

One encouraging step to improve this situation is the recent forest type mapping work of twenty-five towns by the C.C.C. At the end of two years it is expected that nearly one third of the southern towns of the state will be mapped. This would make available forest type maps for areas which present a particular forest fire problem.

County Warden Districts

In 1930, as a measure to bring about better fire protection, there were created several county fire districts. To date there are ten of these districts comprising an aggregate of three hundred towns. The success of this plan for the past six years has more than justified all the time and money expended on it.

The formation of these districts was determined by grouping a number of towns which could be effectively over-looked by fire towers. The extent of each was not limited to just the lines of one county. In some instances, towns from three counties comprise a district. There are now nine out of fourteen lookout towers in the organized towns which form the hub of these protective areas. As funds permit, new districts will be formed from year to year.

County Fire Wardens

Prior to 1930, there was a situation which handicapped towns in promoting good forest fire suppression work. On fires there was a tendency to arrive too late and leave too soon; a tendency to put on small crews wholly inadequate for good patrol work; and a tendency for men to collect in idle groups, due to lack of leadership. It was realized that men who responded to forest fire calls were volunteer workers. The problem then was to find a way to handle men on a fire and to have leaders who could exercise proper authority, and be competent to direct forest fire fighting.

This situation was overcome in 1930 by the inauguration of county fire districts under the supervision of trained state fire wardens. In no way did the work of these men add to, or take away from any authority of the local municipal officials. This action on the part of the state was to help the towns, and the results have been very gratifying. Today many boards of selectmen and assessors voluntarily appoint state wardens as deputy wardens for their respective towns, invested with proper authority to handle and supervise all fires. Such confidence placed in these state fire wardens to handle local fires and related problems is one of the high lights of the plan of cooperation between state and town officials.

This county warden system has done much to ease the cost burden of the towns. Of particular interest is the free services of the fire wardens and the use of their equipment. Each warden is outfitted by the state to equip a crew of twenty to thirty-five fighters. In addition, such expenditures as the salaries of the wardens and watchmen, maintenance of telephone lines, trucks, and equipment are all borne by appropriations from state and federal sources.

All other costs of fire fighting are taken care of by the towns. Such costs would be the payment of volunteer fighters, summons of outside help, subsistence for the fighters, and hourly rates for loaned equipment. Under Chapter 11, Section 34, R.S. 1930 it is provided

“that no town shall be holden to pay for extinguishing forest fires in any year an amount greater than two percent upon its valuation for purposes of taxation.”

Another greatly misunderstood position is the difference between the duties of a fire ward and fire warden. These are two distinct and separate jobs. The fire ward confines his work to building and dwelling fires, and the fire warden to forest fires. Appointment and duties of a fire ward are clearly defined in a little pamphlet prepared by the State Insurance Department, and similarly defined are appointment and duties of a deputy fire warden in a little manual issued by the Maine Forest Service.

The work of the county fire wardens is not wholly confined to fire fighting. There is the essential work of posting fire warnings on roads which run through stretches of forest growth, investigating slash areas, assisting in brush and slash disposal, checking up on portable sawmill operators, visiting boys' and girls' summer camps, and helping in other general forestry problems.

Lookout Towers

Today there are fourteen lookouts which are the means by which forest fires are quickly detected and reported to proper authorities in the organized towns. The number of fires first detected by the lookouts before any other agency is not known, but the promptness with which they are sighted by the watchmen and their position noted would indicate that the percentage runs high. These lookouts are located on different peaks so as to form a net work system whereby in many instances two and sometimes three watchmen can sight on the same fire. By plotting the bearings of each, it is possible to triangulate the location of the fire with a good degree of accuracy.

There remain a few blind areas or groups of towns which do not receive protection by lookouts. As funds permit, additional ones will be erected to cover these sections. One area already under consideration is the region surrounding the Charleston Hills. It is expected that a preliminary survey will be made within a short time.

To a great extent, the efficiency with which lookouts detect fires and report their location is dependent upon the compilation each spring of an accurate list of towns which give the names of selectmen, fire chiefs, and fire wardens, together with their telephone numbers and addresses. This is important as these lists are the only authority and means for watchmen to notify officials in the event of fires in the respective towns. These lists are prepared from questionnaires sent to

all towns soon after town meetings. Returns from them are very good and indicates a willingness on the part of the towns to coöperate with the state on forest fires.

It is readily recognized that lookouts in the organized towns serve a two-fold purpose; (1) forest fire detection; and (2) forest fire education. Thousands of people visit these lookouts each year. Here is presented an opportunity for the Department to do good forest fire educational work. Forestry literature is freely distributed, and the watchmen make a special effort to explain the procedure in lining up fires and reporting the necessary information to the fire wardens. Each year many fine letters are received from people thanking the Department for the courtesy shown them on their visit to the lookouts.

Fire District and Lookout Stations in Organized Towns

County Warden Districts	Town	Lookout Stations
(1) York	York	Agamenticus Mt.
	Waterboro	Ossipee Mt.
(2) Cumberland	Falmouth	Blackstrap Hill
(3) Sagadahoc	Topsham	Mt. Ararat
(4) Knox and Lincoln	Jefferson	Mountain Hill
(5) Waldo	Montville	Frye Mt.
(6) Hancock	Dedham	Dedham Bald Mt.
(7) So. Washington*		
(8) E. Washington*		
(9) Somerset	Brighton Pl.	Kelley Mt. †
(10) So. Oxford	Denmark	Pleasant Mt.
(11) No. Oxford	Milton Pl.	Zircon Mt.
	Avon	Mt. Blue
	Canaan	Chase Hill
	Island Falls	May Mt.
	Hartford	Bear Mt.
	Effingham, N. H.	Green Mt. †

*These districts have lookouts which are located in the Maine Forestry District, but are not included in the organized town list of towers.

†Privately owned station.

‡Cooperating lookout station between Maine and New Hampshire.

Telephone Lines

Essential to all lookout tower work is the necessity for maintaining good telephone service. The state maintains in the organized towns a total of twenty miles of metallic circuit lines which originate from several towers and tie in with different company lines. This question of telephone service varies considerably because of the many small independent companies. Many of them have lines running through long stretches of rural country where the subscribers are few and there is little money for upkeep. This is mentioned here not in the light of criticism, but as an existing condition. However, all companies are cooperating by giving what service they can with what funds will allow.

Roads and Trails

During the season of 1935-36 there were no changes made with the lookouts. However, through the C.C.C., approaches to them have been made more accessible by the construction and improvement of roads and foot trails. In several instances, cars can now be driven to the summit of the mountains, while in other cases there remains only a short distance of foot trails from where cars are parked.

The Department does not own any roads or trails leading to the lookouts in the organized towns, but through the public spirit of private land owners, a right-of-way is granted over their holdings which is one of the manifestations of the many acts of cooperation with the state on forest fire work. Recent surveys show that the Department has a right-of-way of four miles of road and twenty-two miles of foot trails.

Property and Fire Fighting Equipment

Since the inauguration of the county warden system in 1930, the state has built up quite an investment in the organized towns. This investment of property, tools, and supplies amounts to \$75,000.

Organized Towns Inventory

Property		Tools and Equipment	
Towers	14	Trucks	8
Mileage Tel. Lines	20	Power Pump	1
Watchman's Cabins	5	Fire Hose 1½"	1600 ft.
Shelters	2	Pack Pumps	126
Camp Sites	33	Pails	67
Lunch Grounds	25	Axes	45
		Mattocks	40
		Shovels	99

As the county fire wardens become more and more responsible for supervising forest fires in the towns, it will be necessary to increase their equipment. Without proper fire tools and equipment one can do little on a fire. On most all organized town fires, there is a good response of volunteer men. The problem, therefore, is to have available fire fighting tools and equipment to distribute among them. It is the aim and purpose of the State Department, as funds permit, to equip each of the county fire wardens with a power pump and sufficient hose to supplement their equipment of lighter fire tools. One very favorable factor in fire fighting in the organized towns is the

accessibility by roads of practically all of the forested areas. This decided advantage often enables heavy city fire apparatus to go through the woods direct to the fire lines. Town officials, realizing the seriousness of forest fires in their respective areas, have in many cases built special light forest fire trucks and outfitted them with adequate tools.

In addition to power equipment, the towns are taking advantage of the states' offer to purchase light forest fire tools at a discount. This buying has been carried on for several years with the result that there now has accumulated in the various towns a fair supply of essential tools. The general interest shown by the towns in forest fire problems is very encouraging to the Department.

Seasons 1935-1936

In reviewing the fire seasons in the organized towns, the significant fact stood out that forest conditions never became critical or hazardous. There were no large fires nor was any dwelling property destroyed. What few fires did occur were located in sections not seriously affecting the aesthetic value of forest growth along the sea coast or on main highways.

There was nothing significant about the number of fires which occurred by months. The figures compare about the same as with former years. The number of fires by counties also compare similarly with statistics of previous years.

In 1935, there were 81 fires with an average area burned of 52 acres per fire, and for 1936, there were 52 fires with an average figure of 28 acres per fire. These figures indicate a rather high average burned per fire for better than normal years. However, this is not a true picture, because only forest fires of one acre or more are reported to the Department. There are, of course, many small fires under an acre, reports for which are not made out. Yet, each of these fires are potential fires. If all these smokes were reported, the acreage per fire would be reduced.

In analyzing some of the fires, one situation stood out, and that was the number of underground fires. This type of fire is slow and deep burning, and is difficult to extinguish. To successfully combat such fires calls for considerable labor in trenching, and thousands of gallons of water. Such fires in 1936 proved to be very stubborn and some towns were involved in considerable expense before they were finally put out.

Smokers still continue to be the chief problem of causes of forest fires, with camp fires, brush burning, and incendiary following in order.

The annual consumption of cigars, cigarettes, and smoking tobacco, much of which is carelessly discarded by smokers when in the woods, presents a particular forest fire problem to the Department. The Department has annually placed special emphasis on this cause of forest fires. Through the various efforts of proclamations or endorsements by the Governor of the State, press notices, posters, literature, and lectures it is believed that the general public is becoming more forest fire concious.

The lookout watchmen and county fire wardens in the organized towns are not all equipped with instruments for measuring and recording rain precipitation, wind velocity, duff moisture, and temperature readings. It has, therefore, not been possible to make a correlation between fire weather data and forest fire conditions for these two seasons, except from facts relating to actual fires. In conclusion, it can be simply stated that the Department has had two very favorable forest fire seasons.

Camp Sites and Lunch Grounds

In years past the location and construction of safe and designated camp sites and lunch grounds along the principal highways of Maine for tourists was not given much attention as a fire protection measure. However, within recent years this measure as a forest fire problem was brought sharply to the attention of the Department by the heavy increased sales of oil and gasoline and car licenses, all indicating a large volume of highway traffic. Some provision had to be made to accomodate the many travelers, tourists, picnic and trailer parties who stopped at inviting wooded places for a lunch or picnic. Invariably these parties would kindle small camp fires. Many of these fires were carelessly left burning or smoldering and from them forest fires often started. The opportunity to reduce the number of fires resulting from this cause presented itself with the establishment of the C.C.C. in Maine. Since then many camp sites and lunch grounds have been constructed at catch points along the main highways of the state. Practically all of these sites are on privately owned land, and the Department appreciates the willingness and public spirit with which the owners have granted permission and given leases for their construction on their land.

CAMP SITES AND LUNCH GROUNDS IN ORGANIZED TOWNS OUTSIDE
THE MAINE FORESTRY DISTRICT

Androscoggin County

- *Mechanic Falls, Route 121. (2)
- *Livermore, Route 4. (2)

Aroostook County

- Castle Hill, near Haystack Mt., Route 163.
- Hersey, Hale Brook, Route 11.
- New Limerick, Drew's Lake, on county road, off Route 2, 4 miles west of Houlton
- Island Falls, Mattawamkeag Lake, on gravel road, off Route 2.
- Dyer Brook, Forks, Route 2, Junction of Pleasant Pond Road.
- Dyer Brook, Walker Camp Site, 1 mile on Pleasant Pond Road, off Route 2.

Cumberland County

- Bridgton, Moose Pond, Route 18. (2)
- *Bridgton, Wood Pond, Route 117. (2)
- *Bridgton, Willis Brook, Route 18. (2)
- *Windham, N. Windham, Route 18. (2)

Franklin County

- *Avon, Polar Spring, on Mt. Blue Trail.

Hancock County

- Aurora, Bog Dam, Route 9.
- Castine, near north town line, Route 175.
- Mariaville, Jones Bridge, Union River, Route 179.

Kennebec County

- *Readfield, one mile east of Readfield Depot, Route 17. (2)
- *Readfield, Dead Stream Bridge, Route 134.
- *Vassalboro, Oak Grove, Route 201. (2)

Knox County

- *Friendship, on road to Martin, Muscongus Bay, off Route 220. (2)

Lincoln County

- *Jefferson, Mountain Hill. (3)
- *Somerville, Allard Brook, Route 17. (2)
- *Damariscotta, north on Route 1. (2)
- Waldoboro, Route 1. (2)
- *Bristol, $\frac{1}{2}$ mile north of Bristol.

Oxford County

- Brownfield, west of village, on back road.
- *Brownfield, Shepards River, east of town, Route 160.
- Denmark, Pleasant Mt., on lookout trail, off Route 18.
- *Fryeburg, Little Saco, Route 113.
- *Milton Pl., Mt. Zircon, on lookout trail, off Route 120.

Penobscot County

- Burlington, at Saponac Lake, Route 188.
- Lincoln, on Lee road, Route 16.
- Lowell, on Nicatous road, Route 188.
- Millinocket, on Route 157 within village limits.

Piscataquis County

- *Greenville, on Great Northern Paper Co. road, just out of Greenville.
- Monson, Spectacle Pond, Route 15.
- Monson, Doughty Pond, Route 15.
- Shirley, on the Blanchard Road.

Sagadahoc County

- Topsham, Mt. Ararat lookout trail. (2)

Somerset County

- Harmony, Route 150.
- Jackman Pl., Pierce Farm, Route 201.
- Jackman Pl., Owl's Head, Route 201.
- *Ganaan, Chase Hill lookout trail.

Waldo County

- Palermo, Sheepscoot Lake, Route 3. (3)

Washington County

- Baileyville, Route 9, west of Calais.
- Calais, at Big Spring, Route 1, south of Calais.
- Crawford, at East Machias River, Route 191.
- Perry, near Frost Cove, on East Shore road, near Perry.
- *Robbinston on Mill Cove, Route 1.
- Trescott, at East Stream, on road to Lubec, Route 11.

York County

- *Alfred, Alfred River, Biddeford Road, Route 111. (2)
- *Dayton, Salmon Falls, on side road from Bar Mills. (2)
- *East Sebago, Route 114. (2)
- *Waterboro, Ossipee Hill lookout trail. (3)
- Old Orchard, on Middle Road. (3)
- York, Agamenticus Hill lookout trail. (2)
- *North Waterboro, Route 5, $\frac{1}{2}$ mile north of post office. (3)

*Indicate sites primarily suited for lunch grounds only.

Note—Figures in parenthesis indicate the number of fireplaces.

Cooperation with New Hampshire and Canada

Of particular interest to many, in addition to the forest fire prevention and suppression work done within the confines of the State of Maine, are the cooperative agreements made with forestry departments of territories bordering on this State.

It is believed that the first cooperative agreement was made in 1910 with New Hampshire. In that year Aziscoos Mountain Lookout, located in Lincoln Plantation, reported all fires in New Hampshire. In return Maine towns received fire calls from Kearsage Mountain Lookout located in Chatham, New Hampshire.

At present there are two agreements in effect with our neighboring state:

(1) In 1923 the New Hampshire Forestry Department erected a tower on Green Mountain, Effingham Falls. New Hampshire pays this watchman's salary during the first half of each season and the State of Maine during the last half. Each spring he is furnished with a list of authorities to call in the event of fires occurring in the Maine towns which are overlooked by him. This arrangement has proved to be very satisfactory.

(2) Further up the state line there is another agreement. During each fire season the Maine Forestry District maintains a patrolman on Umbagog Lake. The salary of this man is borne equally by New Hampshire and Maine. This particular patrol gives the man an excellent view of long stretches of forest growth in the two states.

There also is an agreement with the forestry office in Quebec with reference to the joint control and supervision of the burning of those slash areas adjacent to the international boundary. It seems that the homesteaders are required to clear for cultivation a certain amount of land each year. Consequently, regardless of the weather conditions, it has been a common thing to have extensive slash fires burning along the border, many of which have spread uncontrolled into Maine.

In 1916, the first attempt was made to control this situation through agreements with the fire wardens in Quebec. Forest fire lookouts on the boundary were connected across the line by telephone.

In the spring of 1931 and each year subsequent, further conferences were held between the fire wardens in Quebec and the Maine Forest Commissioner and his deputies. It has now been arranged for Maine fire wardens to help supervise these slash burnings. During the season of 1936 the Department cooperated in the supervision of the burning of 325 acres of slash on 144 different tracts adjacent to the border.

On other occasions Canadian wardens have cooperated with our state wardens on the Maine side of the line.

Since this plan has been in operation no fires have crossed the border, where previously one to a score or more have crossed or threatened to do so.

Accomplishments and Recommendations

As has been previously stated, the spirit of cooperation between state and town officials on forest fire work has been very harmonious. In addition, other agencies not directly associated with this type of work have contributed much towards forest fire control measures. This includes the good services rendered by the National Guard, Coast Guard, Fish and Game Department, Boys' and Girls' Camps, State Highway Police, and the many private individuals.

Special mention should be made in this report on the work done by the C.C.C. The crews of men with their foremen, from the several camps have done much to bring fires under control; to eliminate and reduce fire hazards; to improve travel conditions on wood's roads; and to construct safe places for the kindling of small camp and lunch fires by tourists. It is encouraging to know that the services of the C.C.C. will be still available for the coming season of 1937 and possibly following years.

Another agency deserving of special mention is the Maine Fire Chief's Association. This association has never failed to provide speaking time and open forum discussion on forest fire problems at their annual meetings. Throughout the state there is a very close relationship between the State Forestry Department and the various fire chiefs in the work involving forest fire protection and suppression. Plans are under way to conduct schools of instruction for fire chiefs and other town officials to promote better organization and supervision on forest fires.

The organization of many volunteer fire departments and their genuine interest in forest fire problems is of particular importance to the Department. Whenever possible speakers from this office address these groups with the primary purpose of forest fire information and instruction. Such training has proved beneficial on many fires handled by these volunteer units in their respective towns.

It has been the policy of the Department to give special attention each year to one cause of forest fires. Such an educational drive would be a proclamation or endorsement by the Governor of the State, press articles, lectures, moving pictures, radio broadcasts, posters, and literature. These campaigns have been very helpful, and this policy is expected to be continued.

Within the last four years there has been a decided improvement in the regulation of brush and slash burning. It is safe to state that most all citizens are now familiar with this law. Permits for such burnings are applied for through the regular channels. Selectmen and fire wardens have been more careful in issuing these permits and have limited the time to a day only. If the work continues for more than a day, a permit renewal should be made for each day.

Watchmen are now notified by the wardens and town officials when such slash burnings are to take place. This brings forest fire prevention and protection work to a higher degree of efficiency than ever before. In addition, towns have been more careful in roadside clearing and greater precaution taken by town and state road constructions in the proper and safe disposal of inflammable debris.

To further augment the forest fire system in the organized towns is the need for more water holes located near strategic points on slash areas or good timbered lots. In the future more attention will be paid to this question. Systematic programs will be taken up with each town with a provision for a network of protective water holes.

Included with this work is the essential need to establish protective fire lanes through big cut-over areas. By cutting up these areas, crews of fire fighters can effectively stop many fires. These lanes are not in any way in violation of the state law which requires work to be done by the land owner.

There is also the need of establishing more camp sites and lunch grounds. The problem is to have some provision whereby maintenance will be taken care of by the owner or the town in cooperation with the Department. Many towns and private owners have signified a willingness to lease such areas for public use, but some form of upkeep will have to be worked out.

Another effective piece of forest fire work which should be worked out is the use of exhibits. To some extent the Department puts up displays at one or two fairs. It is believed that the small towns would agree to local window displays of miniature forest fire educational work. The opportunity presents itself to develop this plan.

For some time there has been a question as to authority of men on a fire. In many instances it was mistaken identity of proper officials. All those in authority should have some kind of a distinguishing mark. Many wear badges, but these are not quickly seen. In the case of state fire wardens, it is recommended that they wear some kind of a uniform. Plans are under way to develop this idea.

ORGANIZED TOWNS
Financial Statement 1935

Receipts		
Balance on hand January 1, 1935.....	\$ 10,662 15	
1935-36 Appropriation.....	5,695 00	
Federal Cooperation.....	13,000 00	
Total Receipts.....		\$ 29,357 15
Disbursements		
County Wardens.....	\$ 6,931 96	
Supervision.....	3,803 55	
Watchmen.....	5,867 57	
Equipment.....	1,718 89	
Improvements.....	590 33	
Miscellaneous.....	209 62	
		\$ 19,121 92
Balance January 1936		\$ 10,235 23
(Expense of Fire Fighting by the Towns—\$10,555.72)		

ORGANIZED TOWNS
Financial Statement 1936

Receipts			
Balance on hand January 1, 1936.....		\$ 10,235	23
1936-37 Appropriation.....		5,695	00
Federal Cooperation.....		13,160	00
Total Receipts.....			\$ 29,090 23
Disbursements			
County Wardens.....		\$ 5,887	04
Supervision.....		3,313	65
Watchmen.....		5,652	45
Equipment.....		1,336	59
Improvements.....		657	26
Miscellaneous.....		200	65
			\$ 17,047 64
Balance January 1937.....			\$ 12,042 59

(Expense of Fire Fighting by the Towns—\$1,858.56)

LOOKOUT STATIONS IN THE ORGANIZED TOWNS

Stations	Opened		Closed		No. Fires	
	1935	1936	1935	1936	1935	1936
Agamenticus Mt.....	April 29	April 27	Oct. 24	Sept. 30	40	45
Blackstrap Mt.....	April 28	May 6	Oct. 24	Sept. 30	32	24
Chase Hill.....	May 5	April 28	Oct. 31	Sept. 30	22	9
Dedham Bald Mt.....	May 5	May 24	Sept. 30	Sept. 30	34	13
Frye Mt.....	May 9	May 8	Sept. 19	Sept. 30	48	23
*Green Mt.....	April 23	April 15	Oct. 15	Oct. 13	10	19
†Kelly Mt.....	May 26	May 15	Nov. 4	Sept. 30	6	1
May Mt.....	May 21	June 5	Nov. 4	Sept. 30	14	5
Mt. Ararat.....	April 26	May 3	Oct. 23	Sept. 30	48	66
Mt. Blue.....	May 20	May 26	Sept. 19	Sept. 30	7	10
Mountain Hill.....	May 4	May 1	Oct. 24	Sept. 30	73	80
Ossipee Mt.....	April 29	April 28	Oct. 24	Sept. 30	20	23
Pleasant Mt.....	May 1	May 2	Sept. 22	Sept. 30	12	14
Zircon Mt.....	May 21	June 5	Sept. 18	Sept. 30	5	12
					371	344

*In New Hampshire.
†Privately owned.

FIRE RECORD—1935

Location	Date	Acreage	Cause	Damage
Androscoggin County				
Durham	Oct. 15	1	Brush burning . . . . .	.....
Wales	Oct. 20	8	Boys burning can pitch	\$5.00
Cumberland County				
Brunswick	May 19	10	Sparks from stump	50.00
Brunswick	May 27	1½	Smokers	5.00
Franklin County				
Madrid	Oct. 13	1½	Smokers	10.00
Hancock County				
Tremont	Apr. 25	8	Smokers	40.00
Tremont	May 5	1/16	Smokers . . . . .	.....
Penobscot	May 25	6½	Smokers . . . . .	.....
Sedgwick	July 28	1	Berry pickers . . . . .	.....
Bar Harbor	Aug. 16	60	Berry pickers	300.00
Lamoine	Aug. 16	30	Unknown	100.00
Amherst	Aug. 20	5	Lumbermen	25.00
Tremont	Aug. 21	1	Miscellaneous . . . . .	.....
Kennebec County				
Vassalboro	May 15	20	Smokers	300.00
Augusta	May 27	200	Smokers	175.00
Knox County				
Washington	July 30	5	Incendiary	12.00
Rockland	Aug. 4	5	Campers	172.00
Warren	Aug. 10	10	Berry pickers . . . . .	.....
Lincoln County				
Newcastle	May 5	5	Smokers	8.00
Whitefield	May 27	30	Smokers	105.00
Waldoboro	Aug. 4	25	Smokers . . . . .	.....
Oxford County				
Porter	May 24	4	Lumbermen . . . . .	.....
Brownfield	May 26	1	Burning grass	20.00
Upton	Aug. 19	¾	Berry pickers . . . . .	.....
Oxford	Oct. 20	30	Brush burning	50.00
Penobscot County				
Medway	May 4	40	Grass burning	10.00
Edinburg	June 3	100	Smokers	750.00
Eddington	Aug. 3	2	Incendiary . . . . .	.....
Eddington	Aug. 19	8	Smokers . . . . .	.....
Medway	Aug. 19	50 sq. ft.	Smokers . . . . .	.....
Bradley	Aug. 19	¾	Berry pickers	50.00
Medway	Aug. 21	250	Smokers	1,250.00
Millinocket	Sept. 4	¼	Campfire . . . . .	.....
Piscataquis County				
Barnard Pl.	May 25	5	Lumbering . . . . .	.....
Bowerbank	May 26	1	Campfire . . . . .	.....

Location	Date	Acreage	Cause	Damage
Sagadahoc County				
Topsham	May 27	150	Incendiary	\$120.00
Arrowsic	Aug. 21	1	Smokers	
Topsham	Oct. 21	2	Hunters	26.00
Waldo County				
Prospect	Apr. 27	13	Brush burning	
Prospect	Apr. 27	50	Blueberry burning	
Prospect	Apr. 29	5	Blueberry burning	
Frankfort	May 5	15	Campers	
Stockton Springs	May 27	5	Campers	
Prospect	Aug. 19	$\frac{1}{4}$	Smokers	
Washington County				
Baring	May 22	60	Miscellaneous	50.00
Calais	May 23	9	Miscellaneous	10.00
Baileyville	May 25	3	Fishermen	
Crawford	June 2	5/16	Incendiary	6.00
Crawford	July 12	1/16	Fishermen	6.00
Baileyville	July 26	1/16	Smokers	
Baring	July 26	1/8	Berry pickers	
Princeton	July 29	1/3	Campers	8.00
East Machias	July 29	3	Berry pickers	
Calais	July 30	$1\frac{3}{4}$	Berry pickers	
Baileyville	July 30	$\frac{1}{2}$	Berry pickers	12.00
East Machias	July 31	2	Berry pickers	
Baring	Aug. 12	$1\frac{1}{2}$	Incendiary	21.00
Calais	Aug. 12	380	Incendiary	2,144.00
Jonesport	Aug. 15	4	Berry pickers	
East Machias	Aug. 15	200	Berry pickers	1,400.00
Trescott	Aug. 16	60	Incendiary	240.00
Baileyville	Aug. 17	$\frac{1}{2}$	Unknown	4.00
East Machias	Aug. 17	304	Woodsmen	500.00
Crawford	Aug. 19	$\frac{1}{2}$	Unknown	4.00
Cutler	Aug. 20	$\frac{1}{2}$	Incendiary	15.00
Alexander	Oct. 17	$\frac{3}{4}$	Campers	4.00
Cherryfield	Oct. 17	9	Hunters	16.00
Cherryfield	Oct. 21	7	Hunters	
York County				
Shapleigh	Apr. 26	1,100	Smokers	
Kennebunk	Apr. 27	850	Incendiary	1,500.00
Berwick	Apr. 28	5	Railroad	30.00
Sanford	Apr. 29	40	Smokers	4.00
Sanford	Apr. 29	16	Smokers	
Biddeford	May 15	25	Smokers	
Shapleigh	May 16	$1\frac{3}{4}$	Fishermen	
Biddeford	May 17	$1\frac{1}{4}$	Live carbon from exhaust	
Sanford	May 19	1	Smokers	
Waterboro	May 21	35	Fishermen	
Wells	May 23	$1\frac{1}{2}$	Campers	
York	May 29	2	Smokers	
Lyman	June 3	2	Lumbering	

FIRE RECORD 1936

Location	Date	Acreage	Cause	Damage
Androscoggin County				
Livermore	Aug. 13	10	Smoking	\$1,250.00
Cumberland County				
Yarmouth	Apr. 27	10	Smoking	1,050.00
Windham	May 10	5	Smoking	225.00
Brunswick	May 21	25	Smoking	10.00
Windham	May 22	3	Debris burning	15.00
Harpwell	May 26	3	Smoking	15.00
Standish	July 31	2	Campfire	25.00
Hancock County				
Ellsworth	May 25	50	Debris burning	160.00
Mt. Desert	June 22	20	Campfire	2,800.00
Brooksville	June 23	4	Unknown	20.00
Kennebec County				
Augusta	Apr. 23	5	Miscellaneous	5.00
Monmouth	May 23	6	Smoking	15.00
Pittston	Aug. 20	5	Smoking	15.00
Knox County				
Hope	July 23	2	Smoking	10.00
Lincoln County				
Jefferson	July 15	5	Smoking	65.00
Oxford County				
Brownfield	May 1	10	Debris burning	5.00
Ganton	May 2	5	Debris burning	15.00
Norway	May 9	4	Smoking	20.00
Hiram	Aug. 5	8	Railroad	40.00
Fryeburg	Aug. 12	2	Unknown	10.00
Penobscot County				
Millinocket	July 17	..	Smoking .....	..
Medway	July 22	..	Campfire	10.00
Orrington	July 22	2	Campfire	10.00
Lee	Aug. 18	2	Incendiary	10.00
Piscataquis County				
Blanchard	Aug. 26	..	Campfire	100.00
Sagadahoc County				
Georgetown	Apr. 23	3	Debris burning	15.00
Topsham	May 15	50	Railroad	50.00
Phippsburg	July 23	10	Smoking	50.00
Waldo County				
Stockton	July 24	1	Smoking	55.00
Belfast	Aug. 20	5	Smoking	40.00

Location	Date	Acreage	Cause	Damage
Washington County				
Calais	July 9	4	Lightning	20.00
East Machias	July 27	..	Smoking .....	.....
Jonesboro	Aug. 5	..	Smoking .....	.....
Columbia Falls	Aug. 14	1	Debris Burning	55.00
Baileyville	Aug. 20	1	Smoking	10.00
Columbia Falls	Aug. 20	1	Smoking	65.00
York County				
Limington	Apr. 30	3	Smoking	15.00
Sanford	May 2	3	Smoking	15.00
Newfield	May 6	7	Incendiary	15.00
Biddeford	May 8	2	Miscellaneous .....	.....
Waterboro	May 11	1	Smoking	5.00
Waterboro	May 11	1	Smoking	5.00
No. Kennebunkport	May 15	45	Campfire	50.00
Old Orchard	May 16	3	Railroad	15.00
Sanford	May 16	1	Smoking	5.00
Springvale	May 19	1	Smoking	5.00
Limington	May 22	1	Smoking	5.00
Parsonsfield	May 23	1100	Miscellaneous	500.00
Alfred	June 1	1	Campfire	5.00
Waterboro	June 2	2	Smoking	10.00
Hollis	June 21	1	Smoking	5.00
Waterboro	June 29	25	Smoking	110.00

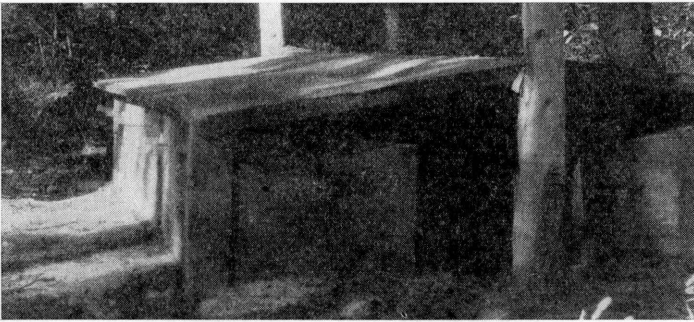
SUMMARY OF FOREST FIRES FOR 1935-1936 BY MONTHS, COUNTIES AND CAUSES

	No. of Fires		Acreage		Damage	
	1935	1936	1935	1936	1935	1936
By Months:						
April.....	9	4	2,087	21	\$1,574.00	\$1,085.00
May.....	26	21	634 1/16	1,326	853.00	1,150.00
June.....	3	6	102 5/16	53	756.00	2,950.00
July.....	10	10	13 5/6	26	38.00	245.00
August.....	24	11	1,349 3/4	35	6,225.00	1,595.00
September.....	1	..	1/4	..	.....	.....
October.....	8	..	59 1/4	..	111.00	.....
	81	52	4,246 11/24	1,461	\$9,557.00	\$7,025.00
By Counties:						
Androscoggin.....	2	1	9	10	\$ 5.00	\$1,250.00
Cumberland.....	2	6	11 1/2	48	55.00	1,340.00
Franklin.....	1	..	1 1/2	..	10.00	.....
Hancock.....	8	3	111 9/16	74	465.00	2,980.00
Kennebec.....	2	3	220	16	475.00	35.00
Knox.....	3	1	20	2	184.00	10.00
Lincoln.....	3	1	60	5	113.00	65.00
Oxford.....	4	5	35 3/4	29	70.00	90.00
Penobscot.....	8	4	401	4	2,060.00	30.00
Piscataquis.....	2	1	6	..	.....	100.00
Sagadahoc.....	3	3	153	63	146.00	115.00
Waldo.....	6	2	88 1/4	6	.....	95.00
Washington.....	24	6	1,047 43/48	7	4,440.00	150.00
York.....	13	16	2,081	1,197	1,534.00	765.00
	81	52	4,246 11/24	1,461	\$9,557.00	\$7,025.00
By Causes:						
Berry Pickers.....	12	..	283 7/8	..	\$1,762.00	.....
Brush Burning.....	7	6	140	72	80.00	\$265.00
Campfire.....	8	7	28 5/6	70	184.00	3,000.00
Fishermen.....	4	..	39 13/16	..	6.00	.....
Hunters.....	3	..	18	..	42.00	.....
Incendiary.....	9	2	1,449 5/16	9	4,058.00	25.00
Lightning.....	..	1	.....	4	.....	20.00
Lumbering.....	5	..	320	..	525.00	.....
Miscellaneous.....	6	3	89 3/4	1,107	115.00	505.00
Railroad.....	1	3	5	61	30.00	105.00
Smokers.....	23	28	1,840 7/8	132	2,647.00	3,075.00
Unknown.....	3	2	31	6	108.00	30.00
	81	52	4,246 11/24	1,461	\$9,557.00	\$7,025.00

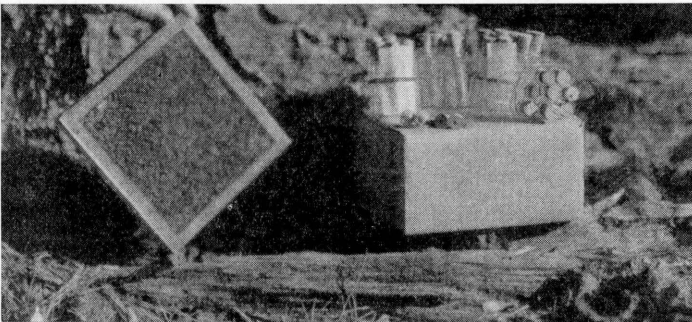
INSECT CONTROL



Distributing Parasites



Parasite Cages



Parasite Liberation

INSECT CONTROL

For four years climatic conditions have been unusually favorable to the increase of insects. Relatively complete snow coverage, late springs, and dry summers have prevented any significant climatic mortality. The spread of several forest insect pests into Maine from New Brunswick, of other insect pests working into the state from the south, and the appearance of new insects within the state have marked the present period as one of unusual importance. There are now over forty foreign insect pests working in the state in addition to our native species. The number of inquiries and requests for assistance increases each year.

Cooperation from timberland owners has been excellent whenever outbreaks are reported on their lands. Several of the larger owners are watching their own lands carefully and reporting results of inspections to this office. Dependence on the Fire Protective Force to report on insect outbreaks or the dying of trees works out satisfactorily only when the wardens are visited rather frequently, except in the case of a few who watch their territory with exceptional care. It is felt that this phase of the work could be made of great value to the state if reports were as consistently sent in as are fire reports. There have been several times when large quantities of timber could have been saved if reports had been received in time. This is particularly true of bark beetle outbreaks in spruce.

The work of the Bar Harbor field laboratory is proving of utmost importance. It is the state's only opportunity for working out methods of combatting new forest pests, and those for which no control is known, many of which are reported each year. New sprays are thoroughly tested out under Maine conditions so that those interested may be kept informed of the most satisfactory sprays to use. Large numbers of parasites are collected and reared for distribution in those parts of the state where they are most needed. Results have been very effective to date, and it is believed that many outbreaks can be controlled in this way. Such insects as the forest tent caterpillar are particularly susceptible to this type of control. The interchange of parasites from one portion of the state into another in connection with the birch leaf miner outbreak has been followed up for several years with promising results.

Surveys to collect data on some of the more important forest insects have been made. These have covered the spruce and fir regions of the state for presence of the European spruce sawfly and balsam woolly aphid; the white birch region, including reexamination of the permanent sample plots, for information on intensity of birch

leaf miner outbreak and data on work of parasites; beech regions for presence of beech scale; and cedar regions for presence of three species of arbor vitae leaf miners.

In southern Maine the C.C.C. Camps located at Alfred, Bridgton, Lewiston, and Jefferson have been of great help in combatting forest insects. Very intensive control work has been done against the gypsy moth, brown tail moth, and white pine weevil. Entomologists located in the camps have carried on some original research work on a new insect attacking apple and the pales weevil attacking pine.

The tree surgery law has continued to prove of benefit in protecting the public from unscrupulous workers. At the present time there are ninety men licensed to do tree surgery work in Maine. The primary weakness has been the impossibility of checking up on the type of work being done by most of the licensed men. Due to poor work it has been necessary to revoke the license of two and a third was put on probation.

FOREST INSECTS

There have been heavy infestations by various insects these two years. In addition to those foreign pests which were here previously another—the European spruce sawfly—has now appeared in such numbers as to command serious attention.

(1) **Balsam Woolly Aphid (*Adelges piceae*)**. Groups of dead or dying fir show up in scattered areas as reddish foliated trees or grayish sparsely foliated specimens. The reddish ones are usually due to heavy attacks by the insects on the trunks or stems which causes rather quick death after real injury begins to take place, the latter being due to attack on the buds and twigs which causes a more gradual death and slow scatteringly loss of foliage which by exposing the bark gives the trees the grayish appearance. The twig attack also gives a conspicuous "gouty" or swollen condition. These insects appear as small white flocculent masses on buds and bark. In places this insect is very abundant. There was better survival of these insects during the past two winters than during the winter of 1933-1934. The spread from central points of infection to surrounding trees has so far been rather slow. The insect has been present in this country for some time. From facts known about its habits so far it may fluctuate greatly in numbers, killing scattered groups of trees from time to time. Climatic conditions undoubtedly have a great deal to do with the increase and consequent spread of this pest. Groups of infected fir were cut in the fall of 1934 to see if the overwintering larvae could survive on felled trees and mature the following season. The severe winter killed many of the insects on trees uncut so that satisfactory

data was hard to obtain, except on three trees on which a kill of practically 100% on cut trees was recorded by the last of May 1935. The results were convincing enough to warrant more of such work to get significant results. Infested trees should be cut and salvaged preferably in the winter.

(2) **Beech Scale (*Cryptococcus fagi*)** one of our more recent European introductions has been found in several new localities such as on Mt. Desert Island, T. 1, R. 5 W.E.L.S., T. 29 and 36 M.D. Heavy infestations occur in Washington County while surveys of the past two years show a general increase in the state. A very high mortality of the insect at Liberty was noted as occurring above the snow line during the winter of 1934-1935. The accompanying *Nectria* fungus has also appeared over wider areas. Death of trees has occurred extensively in areas, especially in Washington County. No satisfactory parasites or predators of this insect have as yet been found either here or in Europe.

(3) **Birch Case Bearer (*Coleophora salmani*)** has been severe in many places on Mt. Desert Island. On the mainland in the vicinity of the island the infestation has been especially heavy at Sorrento and Winter Harbor. In places it has spread over to red oak on which it has caused considerable injury. Work has been continued on finding, rearing, and distributing the most effective parasites.

(4) **Birch Leaf Mining Sawfly (*Phyllotoma nemorata*)** which has been the object of considerable work due to its damage to white birch is showing itself to be one which will warrant continued control measures against it. The retardation of growth is bringing about a large amount of heartwood which spoils the wood for many purposes. While parasites have been effective against this pest generally over the state in bringing the infestation down, the area near the western boundary has seen a rather prolonged infestation of considerable degree, which in the past two years has increased. Releasings of parasites have been made especially in the heavily infested areas. Work with native parasites has been continued in order to gain more knowledge of our most effective ones. Additional foreign parasites have also been released. Information has been kept of local conditions by continuing the detailed inspections of our permanent sample plots in the white birch belt. A detailed bulletin was published in 1936 describing the life history and control of the insect.

(5) **Birch Leaf Skeletonizer (*Bucculatrix canadensisella*)** has continued to decrease, showing that its parasites have reduced it since 1933 to negligible numbers. Surveys in 1935 showed evidence of this pest only at Jim Pond and Grafton Notch while 1936 surveys showed no appreciable evidence of the insect.

(6) **Forest Tent Caterpillar (*Malacosoma disstria*)**. Heavy outbreaks occurred quite generally over the state especially in areas around Hiram, and Brownfield, Kingman, Lincoln, Jonesport, and northeast of Katahdin. Poplar and birch are favored host plants. In areas where the insect had been very severe previously, the last two years have seen a great decrease in numbers due mainly to the work of its parasites, e. g., at the Waltham and Codyville-Waite outbreaks. The work has been continued of collecting parasitic insects of this pest in areas where they have been abundant and releasing them in outbreak locations where parasites have been present in but small numbers.

(7) **Hemlock Looper (*Ellopia fiscellaria*)** was found feeding considerably on fir and spruce on Mt. Desert Island during the past two years. Noticeable flights of moths took place during September of each year with an increase in numbers this past year. As this insect is at times a serious defoliator the outbreaks will warrant considerable attention.

(8) **Larch Case Bearer (*Coleophora laricella*)** infestations were heavy in 1935 but lighter than usual which presaged the subsiding in 1936 of the previously general heavy outbreaks through the state. The 1936 infestation was very light. No new parasites were released in either year.

(9) **Measuring Worms—Fall Canker Worm (*Alsophila pommetria*), Spring Canker Worm (*Paleacrita vernata*)** although not noticeable over most of the state appeared somewhat in 1935, and in 1936 were abundant about Kennebunk, Falmouth, Strong, Lincoln, and Bar Harbor. The lime tree looper (*Erannis tiliaria*) along with the fall canker worm defoliated extensive areas of hardwoods in Bristol. Efforts are being made to collect parasites for liberation in these areas. Bruce's span-worm (*Rachela bruceata*) was abundant about Patten. This insect defoliates maple and beech.

(10) **Pine Leaf Miner (*Paralechia pinifoliella*)** was very common this year in southern Maine and along the coast causing extensive browning of pitch pine.

(11) **Poplar Leaf Roller** (*Tortrix conflictana*) is present about Mt. Desert Island, the moths flying in considerable numbers. This species which was so abundant in the Jackman area in 1931 is now scarce there. This is another case where parasitic insects controlled injurious ones.

(12) **Spruce Webworm** (*Epinotia nanana*) after subsiding for a few years has increased enough in the past two years to cause noticeable damage in coastal areas.

(13) **Eastern Spruce Bark Beetle** (*Dendroctonus piceaperda*). Areas infested by this serious pest have been cut or are in the process of being salvaged. No new outbreaks have been reported. Infested trees drop many green needles, have small pitch tubes protruding from the trunk with galleries just beneath the bark, and finally attain a reddish-brown color. Blow-down and fire-scorched trees are favorite places for these beetles to become established. After increasing in small areas they gradually spread to surrounding spruce over larger tracts to kill trees extensively. Trees 9" D. B. H. and over are susceptible to attack, hence stands of large or mature spruce should be particularly watched. The dying of trees warrants immediate report so that owners may take remedial steps which are practical when outbreaks are small. In outbreaks of the past few years one area was reported in time for control operations to be put into effect. In another area dying of trees, even though prominent to lookout men and other woodsmen, was not reported until the outbreak had been spreading for several years. The result in the latter case was a severe outbreak completely over that particular section of mature spruce covering nearly 20,000 acres, whole areas of trees dead, many infested with borers and beginning to have staining of the wood. As a result only hurried salvage operations remained. Recently methods have been worked out whereby the beetles can be killed by chemicals injected into the trees. This method preserves the wood, prevents attack from borers, and allows for more time in salvaging. Treated trees may be left standing for several years.

(14) **Spruce Sawfly** (*Pachynematus piceae*) has appeared abundantly in scattered areas through the state. It feeds mostly on young spruce in the open such as in plantations or open reproduction. Larger woodland spruce close to heavily infested young stands has been noted to be relatively free from attack. New growth foliage is preferred. From experience in one plantation where parasitism was very

high, infestations may be expected to subside within a few years after starting. The larvae are green with darker green stripes running along the body; the head is of an orange color.

(15) **European Spruce Sawfly (*Diprion polytomum*)** was found feeding throughout the spruce regions of the state, increasing in 1936. Work carried on showed that the infestations were heaviest in the northern sections. This was to be expected from the fact that the heaviest Canadian infestations and those first noted are north and east of Maine. The most feasible way of comparing the severity of infestation in different areas is by counting the number of cocoons, which are located in the duff beneath the trees, in an area of 2 x 2 feet. This has been done and will be continued to give us a good record of the points of heaviest infection. Pure stands of spruce are most heavily fed on. All ages of our native spruce are attacked, the old foliage being preferred. Even with the sawfly not abundant enough to kill, old mature stands of spruce will still need watching for bark beetle epidemics are likely to start in stands weakened by moderate feeding of the sawfly. European parasites of this pest were obtained through cooperation with the U. S. Bureau of Entomology, and the Canadian Department of Entomology. These were liberated in the more heavily infested regions in 1935 and 1936. A circular giving the habits of this insect was published in 1936. The green, caterpillar-like worms are about the color of the foliage. Under shade tree conditions, arsenical sprays will give control.

(16) **Chestnut Blight (*Endothia parasitica*)**. Two species of Japanese chestnut planted in May 1932 to test out their resistance to this disease are still alive and uninfected.

(17) **Continuing Projects:** (a) The spruce bud worm control project at the Forks has been continued. The object of this is to note, on trees killed by girdling, the succession of insects and fungi which attack dead trees and to find the length of time trees girdled at different seasons of the year will remain worth salvaging. (b) Artificial defoliation experiments started in 1927 to determine what season of the year is most serious for defoliation are being continued in which sets of trees are defoliated a certain percentage at the same time each year; some in the spring, some in the summer, and some in the fall. The following years of complete (100%) successive defoliation have been found to result in the death of the trees given below:—

Tree	No. of Years 100% Defoliation to Kill		
	Spring June 20	Summer July 28	Fall August 27
White Birch	2-3	3	A
Trembling Aspen	4-5	3-4	L
Red Maple	4-6	5-7	6
Arborvitae	L	8	L
Balsam Fir		5	4
White Pine	5-7	3	2-3
Red Spruce	L	6	A

A—Living after 7 years complete successive defoliations.

L—Living after 9 years complete successive defoliations.

SHADE TREE PESTS AND CARE

Insect pests of shade and ornamental trees have continued to be the subject of many calls for assistance in controlling them, the insects involved having been numerous and of various kinds. There also have been many requests for information on tree diseases and tree care which emphasises the growing interest in shade trees. Calls are so frequent that as many as possible are answered by letter, personal visits being made only when the questions are involved or many trees need looking over. With such an arrangement, however, many requests which should have a personal visit have to be answered as well as possible by letter due to lack of time.

(a) **Insects:** The maple and oak twig pruner (**Hypermallus villosus**) was very abundant in central and southern Maine, causing the chewing off and dropping to the ground of large twigs in which the grub stage of the insect passes the winter. Fallen twigs should be collected and burned before spring. The rose chafer (**Macrodactylus subspinus**) was injurious especially to the foliage of elms, maples, apple and its fruit, corn, beans, and phlox. The grubs of these long-

legged, fawn-colored beetles feed in the soil on roots. Lead arsenate 5 pounds to 100 gallons of water plus 2 gallons of molasses sprayed on the foliage at weekly intervals gives effective control. Usually two or three applications are enough. Sprays of rotenone solutions are also very effective. Also abundant on maples were the green maple worm (**Graptolitha antennata**) which is controlled by a lead arsenate spray, and the small mites (**Phyllocoptes quadripes**) causing the maple bladder galls—small, upright, reddish galls on the upper side of maple foliage. The latter are controllable by spraying the trees and especially the twigs, where these mites over-winter, with a dormant lime-sulphur spray in the early spring. The arborvitae leaf miners commonly caused browning of the ends of arborvitae foliage. These insects are controlled by a nicotine sulphate spray, 1 part to 400 parts of water plus soap, applied in early August; or by cutting and burning infested foliage the first of June or in mid-August. The birch leaf miner (**Fenusa pumila**) was of usual abundance injuring birches by causing brown mines in and wrinkling of the foliage. This insect has two generations yearly, the tiny mines first showing up in early June and again about mid-July. At each of these times two sprays a week apart of nicotine sulphate, 1 part to 800 parts of water plus soap, should be applied. The white, brown spotted caterpillars of the leopard moth (**Zeuzera pyrina**) were found in Portland in 1936. These bore in and kill branches of various trees, especially elms. Infested branches should be removed and burned or carbon bisulphide should be injected into the burrows after which the openings should be closed to confine the gas given off. The elm leaf miner (**Kaliofenusa ulmi**) which mines leaves of elms, especially Camperdown, English and Scotch elms, was common. This insect is controlled by spraying with nicotine sulphate plus soap in early June when the mines first appear. Other leaf feeders common on elm were the small bluish elm flea beetles (**Haltica ulmi**) controllable with lead arsenate sprays, and the fall webworm (**Hyphantria textor**) which also attacks willow and birch and which is also controllable by lead arsenate sprays, or by clipping and burning in August the large webs or tents made on the ends of branches by the hairy caterpillars. The mountain ash sawfly (**Pristiphora geniculata**) a foreign invader was generally abundant in central and southern Maine. The yellow, black-spotted larvae, which strip the foliage, are controlled with lead arsenate sprays. On poplars and willows the satin moth (**Stilpnotia salicis**) was common in some areas. This insect has been at a low ebb the past few years, but all indications are for heavy infestations within the next year or two. The brown, hairy caterpillars have a row of

white spots along the back. These are effectively controlled for two seasons by applying lead arsenate plus a good sticker the first of June. Various species of pine were injured by the pine leaf scale (**Chionaspis pinifoliae**) which appears as small, white scales on the foliage. These are controlled by spraying with a miscible oil spray in the spring before the buds break. Numerous lateral tips of white pine were browned in one area by the pine tip beetle (**Myeloborus ramiperda**). These tiny insects work inside the injured tip and hence cannot be reached with a spray. The remedial measures are to clip and burn browned tips as soon as they appear so as to kill the insects within and prevent their spreading. Evergreens such as spruce were as usual commonly brought to a rusty, splotchy color by the work of minute, red spider-mites which can be controlled by spraying with a miscible oil 1 part to 30 parts of water in the spring before the buds open. Various, smooth, greenish spruce sawflies occasionally defoliated ornamental spruces during 1936. A lead arsenate spray will easily control these defoliators. Several complaints were received of injury by field mice chewing the outer parts of the bases of shrubs and other plants. Trapping of these pests in frequented areas gives good control.

(b) **Diseases:** Considerable attention was given to the Dutch elm disease (**Graphium ulmi**) the past two years. Efforts were made to get all tree owners and arborists in the state to send us specimens the size of a lead pencil of wilted, browned, or dying elm foliage and branches. Many specimens were received. C.C.C. Camps at Alfred, Bridgton, Jefferson, and Lewiston made surveys in 68 towns and sent in all suspicious specimens. Infected branches show brownish streaks in the sapwood. Due to the nature of the disease, it is necessary to have cultures made at laboratories fitted for the work such as are maintained by the Federal Government. It was gratifying to know that no trees infected with this serious disease were found. However, it is important that specimens from suspicious trees should still be sent in. Elms should be kept in good condition to guard against this disease, the seriousness of which warrants cutting and burning of the whole tree when one is found to be infected.

In connection with the above work a considerable number of specimens sent in for culture were found to be infected with the so-called **Cephalosporium** wilt of elm, the symptoms of which are very similar. This disease is not so serious. It works inside the wood, hence no spray will act upon it. Control measures are to prune and burn infected branches and to keep the tree in good condition by feeding and watering. The maple wilt (**Verticillium sp.**) was oc-

asionally reported. This rather serious disease of maples causes the wilting and death of foliage, limbs, and finally the whole tree. The disease works internally in the sapwood and shows as green areas in cross-sections of diseased branches. Diseased branches should be pruned out as soon as noticed to prevent death of the whole tree, disinfecting pruning apparatus after removing each branch. Entire trees dying or dead should be removed and burned. One of the most common leaf diseases reported was the horse-chestnut leaf blotch (**Phyllosticta Paviae**) which causes outstanding red-brown areas of varying extent on the foliage. The small, black fruiting bodies can be seen on these brown areas. With favorable conditions trees will have a distinct brownish color. Protection of trees for the next season can be had by raking and burning the leaves in the fall, and by spraying with Bordeaux Mixture early in the season as the young leaves develop, repeating at two ten-day intervals. The spruce needle rust (**Melampsoropsis ledicola**) was prevalent in 1935 causing the young foliage to become yellow with several whitish blisters in a row on the underside of each needle. This fungus has an alternate host—the Labrador tea—on which it develops. The relatively new blight (**Rehmiellopsis bohémica**) of white or concolor fir appeared in several places. This affects the new growth; shriveling, blackening, and curling the foliage and young shoots. Sprays of Bordeaux Mixture have worked well against the disease. Another preventive measure is to clip and burn the infected parts.

(c) **Shade Tree Care:** Requests were received for recommendations on selecting trees for planting, as well as on transplanting, and on general care of trees in poor condition. The last showed the most common ailment was due to lack of sufficient soil nourishment. Many recommendations were made for pruning, bracing, or for treatment of wounds, decayed areas, or cavities in trees. Others involved injury to varying extent from the following agencies: Leaking gas mains, contact of electrical currents with trees or limbs, refuse and leakage from automobile service stations, smoke and fumes from brick plants, calcium chloride applied to tennis courts and driveways, change of soil level in grading work, scorching of bark by nearby fires, winter injury and drying, late frosts, and feeding by porcupines and field mice. There were a few cases in which recommendations were made in arguments about proper financial settlement for trees claimed to be injured by automobiles or public utility services.

FLOWER GARDEN AND GREENHOUSE INSECTS

Various pests were commonly injurious to plants of this class of which the following were the subject of the most inquiries. The minute, jumping garden springtail (***Sminthurus hortensis***) was very abundant on perennial phlox and other plants on Mt. Desert Island eating small holes in the foliage. Sprays or dusts of nicotine compounds successfully control this insect. The lilac leaf miner (***Gracilaria syringella***) considerably injured the foliage of privet and lilac. The young larvae start their feeding by mining out the foliage. When partly grown they leave the mine, roll the leaf and feed on the surface of the leaf within the roll. Sprays of nicotine sulphate alone, or with lead arsenate, control this pest if put on both sides of the leaves when the mines are starting and before the leaves are rolled. The scurfy scale (***Chionaspis furfura***) was unusually heavy on dogwood, causing death of parts of the shrubs. Sprays of lime-sulphur, miscible oil, and of a proprietary mixture were tried in Augusta without successfully bringing the heavy infestation down. Infested parts of plants were cut back to the ground and burned. New, uninfested sproutings came up. Delphinium, in one large commercial garden, was injured by the minute cyclamen mite (***Tarsonemus pallidus***) which distorts and curls the leaves and prevents the development of blossoms. Naphthalene flakes applied on the soil at the base of plants is recommended for control. The hemispherical scale (***Saissetia hemisphaerica***) was often reported on house plants such as ferns and ivy. This brown, convex scale is controllable by applying nicotine sulphate. The variegated cutworm (***Lycophotia margaritosa***) became serious on greenhouse carnations in the winter of 1935-1936. These light brown, mottled caterpillars climb the stems of the plants and eat holes into the carnation buds. Necessary control is by hand picking, applying poison baits, or trapping under boards where the caterpillars stay during the day.

ORCHARD AND MARKET GARDEN INSECTS

The tent caterpillar (***Malacosoma americana***) was generally abundant in southern Maine in 1935, the large tents being particularly noticeable. However, it was generally less abundant in 1936. The rose chafer (mentioned under Shade Tree Insects) was injurious to apple foliage and fruit in some orchards as well as to various field crops such as corn and beans. Reports were received of an abundance of the round-headed apple-tree borer (***Saperda candida***) in orchards in 1935. On field crops there was an unusually heavy infestation of

grasshoppers in East Baldwin where corn and hay fields were severely fed upon. Poison baits were made up and distributed in the infested areas to kill these pests. The large green tomato horn worms (**Phlegthontius sexta**) remained abundant on tomato during the past two years, being the subject of many calls. Army worm moths (**Cirphis unipuncta**) were far more abundant than during recent years up to 1935. Moths of the greasy cutworm (**Agrotis ypsilon**) were unusually abundant while those of other cutworms were present in lesser numbers. Injury to asparagus fields was caused by feeding of the spotted asparagus beetle (**Crioceris duodecimpunctata**) and its grubs. This insect requires rather detailed control measures.

HOUSEHOLD INSECTS

Each year gave a large number of requests for advice about controlling common household pests such as ants, carpet beetles, clothes moths, cockroaches, the common bean weevil, the European brown cricket, and the larder beetle as well as powder-post beetles which tunnel in wood products, and cat and dog fleas. Rather unusual cases came to hand in which houses became overrun by a small weevil (**Chaetechus setiger**) and a large long-horned beetle (**Phymatodes testaceus var. variabilis**). The former undoubtedly feed on grasses and like plants and probably swarmed inside simply to hibernate. They are known to have done this before. The latter came from beech, yellow and white birch firewood which had been stored in a cellar and large adjoining shed for two years, the eggs being laid in the wood soon after it was cut, and the grubs developing after the wood was stored to emerge as adult beetles and swarm about indoors. An unusually large number of complaints were received concerning injury by large, dark, carpenter or wood ants to roof and base timbers in houses, summer-churches, and camps. The use of sodium fluoride sprinkled about places frequented by the ants, or of carbon bisulphide inserted into the area tunneled out followed by the closing of openings from the nests was successful against these ants. A few calls came to hand in 1936 concerning so-called spider-beetles (**Ptinus sp.**) which with their long slender legs have a similarity to small spiders. These insects feed on various animal and vegetable products. Control measures consist of destroying infested material, fumigating, or spraying with household contact sprays. An unusual number of calls came in concerning rats, mice, bats, and squirrels. For rats the best control was found to consist of poison baits having as a base barium carbonate, red squill, or phosphorous. The usual method against bats is to drive them out of buildings by scattering naphthalene

flakes about and then to bat-proof the building by closing all openings to the interior. Squirrels may be driven out by burning sulphur candles, or by scattering naphthalene flakes about the frequented place. This should be followed by closing all entrance places.

TREE SURGERY

The tree surgery law, which went into effect July 1, 1933, provides for examination and certification of any party which advertises, solicits, or contracts to improve or protect trees by pruning, treatment of cavities, or spraying. The examinations are held at least once a year, the initial fee being \$5; the yearly renewal fee \$2. The board consists of the Forest Commissioner, State Entomologist, and Botanist at the University of Maine appointed by the Forest Commissioner. This board prepares forms and prescribes all rules and regulations governing examinations. It may revoke any certificate issued upon proof that improper methods have been used, or for other sufficient cause. The regulations require that a properly licensed man be responsible for treatments recommended and applied for each job.

Applicants for certificates must fill out an application blank on which they are given portional credit for their final grade, and are credited here on their training, experience, general equipment for the work, and coverage by insurance. In addition examinations are given for the rest of the final grade which must be 60% or better for the applicant to pass. These examinations are divided into three individual parts (1) Spraying; (2) Pruning, bracing, and general care of trees; (3) Cavity work. An applicant may take any or all parts as he chooses. If all parts are passed, a standard certificate is issued, whereas if only one or two parts are passed a limited certificate is issued on which is printed the word "Limited" along with the types of work for which the holder is certified.

Each examination consists of practical questions covering things commonly met with in the work. Spraying questions take up the control of common insects and diseases affecting trees including chemicals and dilutions used and time of application; precautions necessary in spraying; and spray mixtures. The second part covers principles and methods of pruning plus treatment afterward of wounds, transplanting, bracing, feeding, and general care for trees injured by any agency. The examination on cavity work takes up in detail decay within a tree and symptoms of such, agencies bringing about abnormal conditions in wood, excavation of decayed areas, treatment and filling of cavities, and feeding of trees.

This law was put into effect to stop the large number of unscrupulous and incompetent men from working on trees which for their ills require trained, capable men. The value of the law has shown up considerably in the gradual elimination of incapable men, and in building up the general ethics of arborists. Men who have continued to do poor work or to misuse the public have had their license revoked. Others have been dealt with in a probationary manner, while court action has been evoked for some who continued to practice without certificates. Fair and ample warning is given in every case. Such measures must be continued to uphold the articles and purposes of the law. Although this law does not apply to state, county, or municipal work, it would be well to have all such work under the direct supervision of competent men.

Present holders of certificates are listed below.

LICENSED TREE SURGEONS

Name	Address	License No.	Licensed to Do			License Expires
			Spraying	Pruning	Cavity Work	
Abbott, William F.	Wells	95	x			Apr. 1, 1938
Aborn, Willard G.	Upland Way, Barrington, R. I.	77	x	x	x	Apr. 1, 1938
Amalia, Karl	4 School St., Manchester, Mass.	75	x	x	x	Apr. 1, 1938
Aycock, Thomas W.	105 Lowell St., Peabody, Mass.	96	x	x	x	Apr. 1, 1938
Barnes, Carl S.	14 Reed St., Lexington, Mass.	97	x	x	x	Apr. 1, 1938
*Bartlett, F. A. Tree Expert Co.	64 Pine St., Ellsworth					
Benner, Alfred L.	Mountain Road, Rockland	98	x		x	Apr. 1, 1938
Benson, Orrin	26 College St., Brunswick	1		x	x	July 1, 1937
Bettinger, Lawrence R.	330 Forest Ave., Portland	99	x	x	x	Apr. 1, 1938
Billings, Ralph E.	Falmouth Foreside, R. F. D. 4, Portland	2	x	x	x	July 1, 1937
Bissler, C. H.	330 Forest Ave., Portland	91	x	x	x	Apr. 1, 1938
Bixler, J. E.	44 Danforth St., Jamaica Plain, Mass.	79	x	x	x	Apr. 1, 1938
Boothby, Earl C.	Limerick	100		x	x	Apr. 1, 1938
Burnham, Ernest J.	505 Pleasant St., Malden, Mass.	72	x	x	x	Apr. 1, 1938
Butland, Blair	108 Front St., Portland	84		x	x	Apr. 1, 1938
Capen, Burton M.	18 Atlantic St., Portland	65		x	x	Apr. 1, 1938
Churchill, Murray	Crouseville	3	x	x	x	July 1, 1937
*Davey Tree Expert Co.	330 Forest Ave., Portland					
Deering, George	Brooks	94		x	x	Apr. 1, 1938
Dodge, A. W.	795 Memorial Drive, Cambridge, Mass.	5	x	x	x	July 1, 1937
Edney, Louis C.	Main St., Searsport	7		x	x	July 1, 1937
Ekholm, Conrad	Summer St., Hampden Highlands	64		x	x	Oct. 18, 1937
Franke, Wm. A.	30 Cameron St., Brookline, Mass.	66	x		x	Apr. 1, 1938
Frost, George	23 Linden Ave., Malden, Mass.	101		x		Apr. 1, 1938
*Frost, H. L. and Higgins Co.	20 Mill St., Arlington, Mass.					
Goodall, George W.	47 Bradley St., Portland	32	x	x	x	July 1, 1937

*Companies having licensed representatives.

LICENSED TREE SURGEONS (Continued)

Name	Address	License No.	Licensed to Do			License Expires
			Spraying	Pruning	Cavity Work	
*Goodall Tree Expert Co.	32 Exchange St., Portland					
Goodwin, John B.	9 Pleasant St., Waldoboro	8		x		July 1, 1937
Grant, Arnold G.	18 Hill St., Portland	87		x	x	Apr. 1, 1938
Griffiths, Stephen L.	16 Columbia St., Augusta	67	x	x	x	Apr. 1, 1938
Hamel, Lewis	13 Church St., Westbrook	33	x	x	x	July 1, 1937
Harmon, Walter	Winn	49	x	x	x	July 18, 1937
Harriman, Stephen E.	Wilder District, Kennebunkport	102	x	x	x	Apr. 1, 1938
Hicks, Robert M.	3 Highland Ave., South Paris	41	x	x	x	July 18, 1937
Irons, Maynard A.	432 St. John St., Portland	43		x	x	July 18, 1937
Jackson, Robert D.	121 Westbrook St., Portland	11	x	x	x	July 1, 1937
Jameson, John H.	125 Norway Road, Bangor	12	x	x	x	July 1, 1937
Jose, Thomas H.	Johnson Road, Gorham	34	x	x	x	July 1, 1937
Keene, Roy D.	20 Mill St., Arlington, Mass.	56	x	x	x	Apr. 17, 1938
Kezar, Thomas F.	255 Main St., Sanford	13	x	x	x	July 1, 1937
King, Roland L.	32 Factory St., Skowhegan	14		x	x	July 1, 1937
Leighton, Nathaniel	Falmouth, R. F. D. 4, Portland	103		x	x	Apr. 1, 1938
Leighton, Phillip	Falmouth, R. F. D. 4, Portland	16	x	x	x	July 1, 1937
*Lucas, John Tree Expert Co.	Turner St., Auburn					
Lyden, James	Main St., Westbrook	80		x	x	Apr. 1, 1938
Lyden, William A.	125 Sherman St., Portland	104		x	x	Apr. 1, 1938
Maddocks, Royden K.	49 Moody St., Portland	46	x	x	x	July 18, 1937
Maddox, Elmer L.	East Monmouth, Route 1, Winthrop	19		x	x	July 1, 1937
McCarthy, Charles	15 Market Lane, Brunswick	20		x	x	July 1, 1937
McClaine, E. L.	4 Maple St., Camden	105	x	x	x	Apr. 1, 1938
McInnis, James V.	R. F. D., No. 8, South Brewer	71		x	x	Apr. 1, 1938
McIsaac, Hugh	Bar Harbor	54	x	x		Oct. 28, 1937

McSherry, Thomas F.	Fryeburg.	52	x	x	x	Oct. 2, 1937
Messer, Albert R.	126 Parker St., Brewer	47		x	x	July 18, 1937
Miller, Harry J.	330 Forest Ave., Portland	93	x	x	x	Apr. 1, 1938
Miller, William	Ocean Drive, Bar Harbor	55	x	x		Apr. 17, 1938
Mores, Carl D.	852 Ocean Avenue, Portland	48	x	x		July 18, 1937
*Munson-Whitaker Co.	9 Fellsway East, Malden, Mass.					
Nealley, Charles	64 Pine St., Ellsworth	70	x	x	x	June 3, 1937
*New England Forest Service Inc.	70 State St., Boston, Mass.					
*New England Tree Expert Co. Inc.	545 Smithfield Ave., Pawtucket, R. I.					
Ogilvie, Elmer E.	17 Ripley St., Malden, Mass.	106	x	x	x	Apr. 1, 1938
O'Neill, Olo W.	Woodland	68		x	x	Apr. 1, 1938
O'Shea, Robert S.	9 Fellsway East, Malden, Mass.	24	x	x	x	July 1, 1937
Peeke, Leslie A.	28 Spofford St., Newburyport, Mass.	82		x	x	Apr. 1, 1938
Peterson, Earle W.	Care Mr. Ellis, R. F. D. 7, Veazie	59	x	x	x	May 15, 1937
Pimpare, Leo	263 Pleasant St., Marblehead, Mass.	86		x	x	Apr. 1, 1938
Post, Charles L.	330 Forest Ave., Portland	107	x	x	x	Apr. 1, 1938
Quinn, Albert	249 Rankin St., Rockland	74	x	x	x	Apr. 1, 1938
Ralston, Frederick R.	9 Pond St., Hyde Park, Mass.	108		x	x	Apr. 1, 1938
Riff, J. Lyman	260 Brackett St., Portland	109		x	x	Apr. 1, 1938
Riley, John E.	120 Sheridan Ave., Medford, Mass.	110		x	x	Apr. 1, 1938
Robarts, Myron F.	60 Mechanic St., Camden	50	x	x	x	Aug. 10, 1937
Robbins, Lester	215 Oak St., Bath	25	x	x	x	July 1, 1937
Robinson, Carl D.	R. F. D. 1, Palermo	111	x	x	x	Apr. 1, 1938
Robinson, Charles L.	Liberty	36	x	x	x	Apr. 17, 1938
Rodick, Kenneth	35 Grant St., Ellsworth	26	x	x	x	July 1, 1937
Roy, Edward	330 Forest Ave., Portland	90	x	x	x	Apr. 1, 1938
Ryerson, Erlon M.	36 Gilman St., Portland	78	x	x	x	Apr. 1, 1938
Safstrom, Alfred J.	11 Grove St., Augusta	44		x	x	Apr. 30, 1938
Shand, Charles L.	4 Ash St., Bar Harbor	58		x	x	Apr. 17, 1938
Sherman, Robert C.	48 Harpswell St., Brunswick	27		x	x	July 1, 1937
Skillin, Alexander	Falmouth Foreside, R. F. D. 4, Portland	28	x	x	x	July 1, 1937
Smith, Clarence L.	225 Capisic St., Portland	81		x	x	Apr. 1, 1938
Stackhouse, Arthur	Scarboro	88		x	x	Apr. 1, 1938
Stevens, John H.	Alfred	114			x	April 1, 1938
Stuart, Edward B.	44 Winter St., Dover-Foxcroft	85		x	x	Apr. 1, 1938
Tamke, H. J.	545 Smithfield Ave., Pawtucket, R. I.	73	x	x	x	Apr. 1, 1938

*Companies having licensed representatives.

LICENSED TREE SURGEONS (Concluded)

Name	Address	License No.	Licensed to Do			License Expires
			Spray- ing	Pruning	Cavity Work	
Taylor, Curtis.....	R. F. D. 1, Farmington.....	89	x	x	x	Apr. 1, 1938
Waltman, George C., Jr.....	207 Hobart St., Portland.....	112		x	x	Apr. 1, 1938
Warren, Robert.....	78 Terrace Ave., Portland.....	113		x	x	Apr. 1, 1938
Watson, John J.....	330 Forest Ave., Portland.....	92		x	x	Apr. 1, 1938
Watson, Myles S.....	Newington, N. H.....	69	x	x	x	Apr. 1, 1938
West, Harry V.....	27 Pine St., Gorham.....	76	x	x	x	Apr. 1, 1937
*White and Franke Inc.....	30 Cameron St., Brookline, Mass.....					
White, Howard M.....	10 Noyes Place, Augusta.....	29	x	x	x	July 1, 1937
White, J. Cooke.....	20 Mill St., Arlington, Mass.....	53	x	x	x	Oct. 10, 1937
Woodrow, Gerald F.....	146 Neal St., Portland.....	63	x	x	x	Oct. 9, 1937
Wright, Byron M.....	48A Bramhall St., Portland.....	83		x	x	Apr. 1, 1937

*Companies having licensed representatives.

C.C.C. CAMPS

Four Civilian Conservation Camps—those located at Alfred, Bridgton, Jefferson, and Lewiston—have been under our supervision. The main projects have been extensive control work on White Pine Blister Rust from May to September, and on Gypsy Moth from September to May, seasons for the best control work of these two pests fitting in admirably for the camp work programs. A summary of the work done by all the camps in the past two years is shown in another section of the report.

Two unsightly ravines in the far end of the State Park opposite the Capitol have been made into a very attractive wooded park through labor from the Jefferson camp. The main idea in mind was to develop an arboretum of all trees and shrubs native to Maine insofar as possible. A total of 5391 man days have been expended. Over 5300 trees, shrubs, and roses were planted of which 1200 were bought from nurseries, the rest being dug in their native habitat. The park now has 72 species of native trees, 23 of exotic trees, 63 species of native shrubs, 45 of exotic shrubs, besides 31 species of native ferns and a few species of water and swamp plants. Trees and shrubs have been labelled with small metal signs. Over a mile of foot trails has been made and gravelled throughout the ravines. Much stone work has been done in stoning the trails at steep places and in cribbing up loose banks. Rustic foot bridges and hand railings have been built. A rock picnic table with seats has been constructed with an incinerator nearby. Entrances to trails and vistas have been landscaped. Twenty-three round seats and benches made from hewing logs, and 8 stone benches have been placed along the trails. An artificial pond has been made by damming a small stream. This dam and pond has been made to look natural by sodding about the dam and along the shores. The large amount of work put in on this project is only realizable by knowing the former condition of these two ravines. Their present attractiveness and real value to the public will increase with time.

PUBLICATIONS, LECTURES, AND EXHIBITS

A large number of news items on the care of shrubs and shade trees, and on the control of insects and plant diseases have been published in newspapers. The purpose of these items has been to keep the public informed on the latest and best means of meeting problems along these lines. A portable exhibit consisting of eight large panels of Riker mounts has been constructed. The first four of

these each have four life history exhibits of important forest insects showing them in their different stages. The last four panels are general collections of insects attacking market garden crops, orchard crops, flower and greenhouse crops, forest and shade trees, stored products, household goods, man and animals, and one mount of beneficial insects. A large number of separate Riker mounts showing life history and work of insects, protective coloration, and mimicry have been prepared. Over forty lectures and talks have been given on entomological subjects, before clubs, societies, and schools.

As has been the custom in the past, one member of the entomology staff has spent about two weeks at the University of Maine winter forestry camp instructing the students in forest entomology. Dr. Brower has handled this assignment very efficiently during the past two years with about twenty-two students present each year.

The following publications have been prepared and printed.

(1) **"The Planting and Care of Shade Trees"**, H. B. Peirson and R. W. Nash. Maine Forest Service Bulletin No. 10, 28 pp., 1936. This bulletin was prepared for those interested in the care of their shade trees, and as a reference book for those studying for the tree surgery examination.

(2) **"Biology and Control of the Birch Leaf Mining Sawfly"**, H. B. Peirson and A. E. Brower. Maine Forest Service Bulletin No. 11, 37 pages, 1936, in cooperation with Maine Hardwood Association. This paper is the result of eight years study of the life history and control of this forest insect in Maine.

(3) **"The European Spruce Sawfly in Maine"**, H. B. Peirson. Maine Forest Service Circular No. 3, 4 pages, 1 colored plate, 1936. A popular account of a new insect pest that threatens to be extremely serious in Maine.

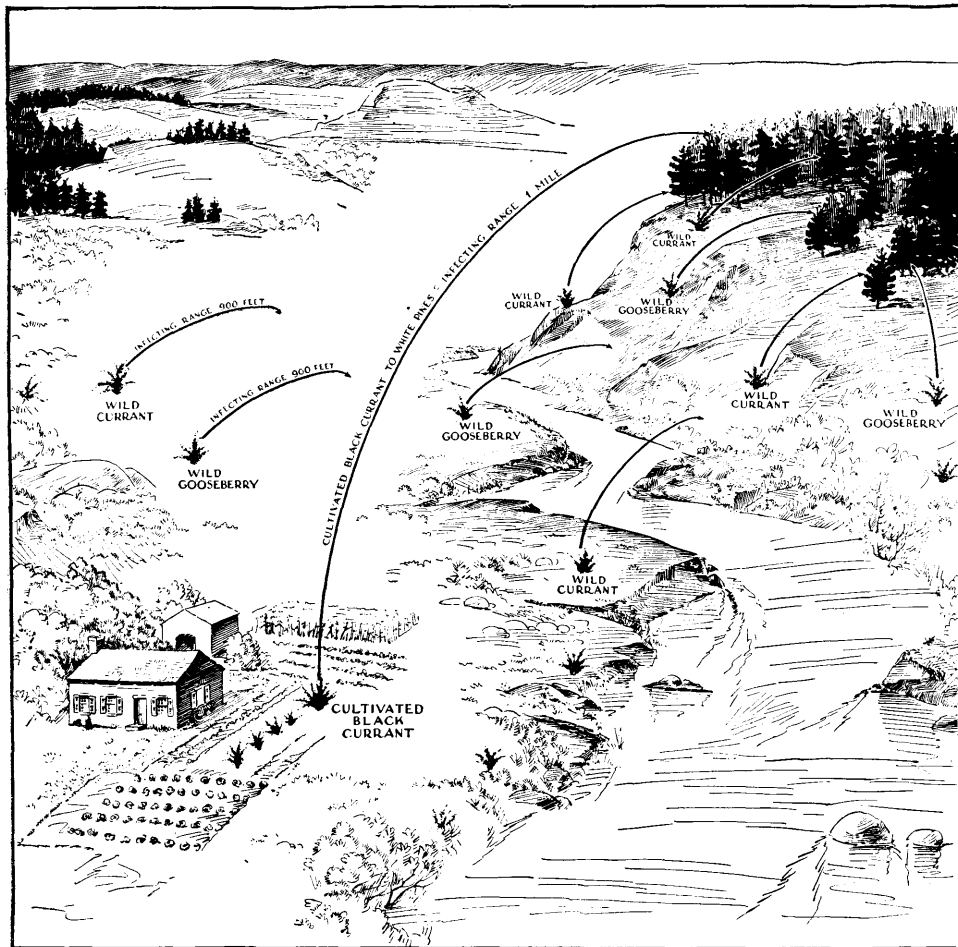
(4) **"Field Book of Destructive Forest Insects"**, H. B. Peirson, Fourth Edition, 28 pages, 1936. Kennebec Valley Protective Association and Maine Forest Service. This is a pocket size booklet containing cuts and descriptions of some of the most serious forest insect pests with methods of control, spray charts, and general key to types of forest insects. Previous editions were published in 1929, 1932, and 1934.

(5) **"Control Measures for the Arbor Vitae Leaf Miners"**, especially (*Recurvaria thujaella*). A. E. Brower, Journal Economic Entomology; Vol. 26, No. 2, pp. 397-8; April 1935.

(6) **"White Pine Weevil"**, H. B. Peirson. Maine Forest Service and Maine State Planning Board, cooperative Circular No. 1, May 1936. (one page mimeograph).

(7) **"Forest Insects in New England"**, H. B. Peirson. Proceedings Twelfth National Shade Tree Conference, pp. 4-8, 1936.

**WHITE PINE
BLISTER RUST**



Showing the manner in which the spores may infect the surrounding white pines. While the spores from the pines themselves travel varying distances to infect the different species of Ribes, the spores from the Ribes travel short distances, those from the wild species being carried not more than 900 feet and those from the cultivated black currant a maximum of one mile. The key to control, therefore, lies in the eradication of the currants and gooseberries in proximity to white pine.

WHITE PINE BLISTER RUST

Importance of White Pine and Control of the Blister Rust

The forest resource has dominated the industry of Maine throughout her history. Maine is unique among the United States in that the importance of the forest has been paramount continuously, or nearly so, from the time of the earliest white occupation to the present. In other states the forest may have been for a time the dominant resource, but it has yielded supremacy to other resources. In Maine, however, neither has the forest been exhausted, nor have other resources become of greater importance to the people of the State. After three hundred years of continuous utilization, Maine's forests still play a conspicuous part in her existence.

White pine was the first timber to be cut in quantities from the forests of Maine. Not only was the wood especially valuable for masts and ship timbers, but it was soft and easily workable and the best wood available for general construction. Even today, white pine is our best and most valuable timber. After three centuries of continuous cutting, it constitutes over fifty per cent of the lumber produced in the State. Its range includes the entire coastal region and extending well into the center of the State, with an estimated acreage of three million, and valued at around one hundred million dollars. The old growth is practically gone, but is being replaced by thousands of acres of reproduction, which if protected from fire, insects, and diseases, will continue to be of vast commercial and scenic importance to generations to come. It is the young growth that the farmer, laborer, mill-owner, and manufacturer must look to in the near future. White pine is not only of great value in the commercial field, but also from the aesthetic viewpoint. Its scenic value is incalculable; in fact it may be of greater value to the State than its timber, especially in the lake, mountain, and seashore resort sections. The future value of this great natural asset depends largely upon the control of the blister rust, a disease of comparatively recent introduction into the United States, but now prevalent throughout the entire range of five-leaved pines.

The White Pine Blister Rust—What It Is—How It Lives—How It Kills White Pine

White pine blister rust is a fungus disease. It is transmitted by means of spores. Like the black stem rust of wheat and the cedar apple rust, it makes use of an intermediary host in achieving its life cycle. This intermediary is one or another species of currant or

gooseberry, these having the generic Latin name of *Ribes*, and being so known in control work. Since the rust can continue to spread only through this host plant, its elimination holds the secret of control.

The blister rust spreads by wind-blown spores which are produced during the spring, summer, and fall. It enters white pines through their needles and grows into the bark, forming cankers. After the pines are infected, about three years elapse before the cankers become large enough to be recognized. The diseased bark is often swollen. Usually the cankered areas are surrounded by a yellowish discoloration of the bark. When the cankers are fully developed, orange colored blisters break through the diseased bark. These blisters are full of orange-yellow spores, called spring spores, and are most abundant in May. These spores are scattered over large areas by the wind—100 miles or more. The broken bark dies, but the fungus continues its growth in the live bark and produces new blisters each spring, until the tree is completely girdled and dies. The spring spores cannot spread the disease directly from one pine to another. They carry it only from infected white pines to the leaves of the *Ribes*.

About three weeks after the infection of *Ribes* by the spring spores, small orange-yellow pustules appear on the under surface of their leaves. These pustules break open and liberate the summer spores which spread the disease on *Ribes* from leaf to leaf and plant to plant. From late June until the leaves drop, brownish hairlike outgrowths of the rust appear on the under surface of the leaves. These outgrowths produce the fall spores which infect white pines. The fall spores are very delicate, and consequently short-lived, so that their infecting range is limited to short distances from diseased *Ribes*. This makes it possible to control the disease locally by destroying all *Ribes* in the vicinity of white pine.

Early Stages of the Disease

The early stages of the disease are so inconspicuous that recently infected trees appear healthy. The presence of partially developed cankers can be determined only by careful inspection. The cankers mature and begin to produce spores in from three to four years, after which the affected parts of the trees gradually die. Each year the damage becomes more evident until the pines die. The occurrence of new pine infections can be prevented by the removal of the *Ribes*, but this will not stop the development of damage on pines that are infected at the time the control work was performed. Therefore, the appearance of damage in protected stands does not necessarily mean that the control work has failed. An examination of the diseased

trees will probably show that they were infected before the *Ribes* were destroyed and that the damage is just becoming noticeable.

Small pines, attacked by the rust, are often stunted and bushy. Such trees usually have short, yellowish needles, and a generally unhealthy appearance. Lightly infected pines, of medium or large size, may appear normal for several years except for an occasional dead or dying branch. Such branches are called "flags", because they stand out conspicuously against the background of healthy green foliage. Cankers located far out on the branches may die before reaching the stem, but those nearer the bole usually grow into the trunk and girdle it, thus killing the tree. The death of pines weakened by blister rust is often hastened by the secondary attacks of rodents, insects, and other fungi.

Blister rust kills white pines of all sizes. The smaller the trees, the more quickly they die. In unprotected areas within infected regions, the disease is preventing natural restocking by killing the small trees. In areas where the disease has been present for several years, many of the larger pines are either dead or in a dying condition. When severely infected, the larger trees are characterized by dead and dying branches, broken-off tops, and trunk cankers covered with white pitch. Trunk cankers girdle the trees, retard their growth, and so weaken the stems that the tops often break off at the point of girdling. In unprotected areas, new infections may take place each year and cause a corresponding increase in the amount of the disease on the pines. On the other hand, very little or no increase in the amount of new pine infections occurs in areas which are kept under protection.

Methods of Control

Control of blister rust is accomplished by destroying the wild and cultivated *Ribes* within infection distance of the pines. This distance seldom exceeds nine hundred feet. Field conditions are sometimes encountered, however, which make it necessary to remove cultivated *Ribes* growing at greater distances from pines. Forest conditions are generally favorable for the spread of the disease, because the wild *Ribes* and white pines usually occur on the same areas. *Ribes* species vary in size and habit of growth, but workmen are able to effectively distinguish them from other plants after a few days of intensive training. In white pine areas *Ribes* are dangerous weeds, and unless destroyed, severe damage to the pines may result before the presence of the disease is discovered. Since the rust strikes without warning, pine owners should promptly destroy the *Ribes* on their land, even though the disease has not been found in their locality.

The planting of cultivated Ribes in blister rust control areas is regulated by the State, and shipments of Ribes into the State must be accompanied by special permits. The interstate shipment of white pines and Ribes is regulated by a Federal quarantine to prevent the spread of the disease through the movement of infected plants.

Ornamental pines infected with blister rust can be saved by cutting out the diseased bark. This method of control is too costly to be practicable on forest areas and is of little value for ornamental pines unless they are first protected from further infection by destroying all near-by Ribes.

Blister rust control work has developed over a period of years to meet the needs of the problem as this destructive disease spread into the several important white pine regions of the country. The disease cannot be exterminated, but it can be controlled at relatively low costs as compared to the value of the timber.

Federal and State Cooperative Control Agreement

Pine owners cannot do the work without leadership and technical supervision, because they do not know the different Ribes species, cannot recognize the rust in its early stages, have difficulty in applying control methods systematically, and will not follow up the work periodically without leadership. The highly trained personnel required for the proper supervision of this work has been developed jointly by the states concerned and the Federal Government.

Blister rust control in Maine is conducted under a Cooperative agreement with the Bureau of Entomology and Plant Quarantine of the United States Department of Agriculture, in which they would cooperate with towns and pine owners, the Federal Government furnishing the educational, scouting, and supervisory work, and the State, towns, and pine owners the eradication labor. In the operation of this plan the State adds fifty per cent to town appropriations, the combined funds being expended for eradication crews of four to six local men, and for advance scouting for Ribes and supervision. The Federal Government furnishes the Federal Agent in Charge, four permanent district agents, and several trained temporary appointees for scouting and supervision during the control season.

During the past several years the Federal Government has allotted large sums of relief funds to the several States for blister rust control, thereby providing employment for thousands on relief rolls. As blister rust control work does not require costly equipment, this project ranks high among relief projects.

Progress of Control Work in 1935

Blister rust control work was conducted under four separate units (1) National Industrial Recovery Act (N.I.R.A.) (2) Civilian Conservation Corps (C.C.C.) (3) Regular Cooperative Work With Towns and Pine Owners (Regular) (4) Works Progress Administration (W.P.A.)

I—N.I.R.A. Control Work

Control work under this program began early in May and ended the latter part of June. A total of 130 unemployed men requisitioned through National Reemployment Offices were used as crew men. A crew consisted of 12 men and a foreman, the State furnishing the latter.

N.I.R.A. work was conducted in 15 towns in 9 counties (initial work in 10 towns and reeradication work in 5 towns), summarized as follows:

No. men employed	130
No. towns worked in	15
No. acres worked	9,386
No. wild ribes destroyed	300,985
No. cultivated ribes destroyed	75
No. man hours	12,154
N.I.R.A. cost	\$5,706.07
State cost	\$910.57
Total cost	\$6,616.64
Man hours per acre	1.3
Per acre cost	\$0.70

These figures include 5,540 acres and 148,605 ribes initial control work, and 3,846 acres and 152,455 ribes of reeradication work. Towns worked were Eliot, Wilton, Jay, Rumford, Gorham, Cumberland, Scarboro, Falmouth, Livermore, Monmouth, Montville, Rockport, Union, Solon, and Madison.

II—C.C.C. Control Work

Blister rust control is the major work project at the Jefferson, Lewiston, Bridgton, and Alfred C.C.C. camps during the summer months. Control work began May 20, ending September 21, employing a daily average of 452 enlisted men, supervised by 40 foremen.

No. towns worked in	10
No. acres worked	71,684

No. ribes destroyed	2,038,968
No. man hours enlisted men	224,279
Average number man hours per acre	3.1

These figures include 49,484 acres and 1,845,408 ribes of initial work and 22,200 acres and 193,560 ribes of reeradication work. Towns worked in were Durham, Alna, Whitefield, Nobleboro, Windsor, Acton, Newfield, Wells, Sanford, and Bridgton.

C.C.C. SUMMARY BY CAMPS

	Jefferson	Lewiston	Alfred	Bridgton	Totals
Acres worked	13,434	12,553	36,489	9,208	71,684
Man hrs. enlisted men	63,221	66,017	76,081	18,960	224,279
Wages at \$1.00 per day	\$7,902.62	\$8,252.00	\$9,510.15	\$2,370.00	\$28,034.77
Subsistence at 40c per day	3,161.05	3,300.80	3,804.06	948.00	11,213.91
Transportation	1,511.85	1,492.83	1,687.45	328.56	5,020.69
Equipment	44.77	32.00	88.00	58.00	222.77
Foremen salaries	4,888.66	4,779.91	4,881.74	1,549.48	16,099.79
Total cost	\$17,508.95	\$17,857.54	\$19,971.40	\$5,254.04	\$60,591.93
Man hrs. per acre	5.3	5.26	2.1	2.0	Av. 3.1

III—Regular Control Work

The following twenty-six towns raised \$5,300.00 for blister rust control work in 1935. (12 towns for reeradication, and 14 for initial work):

Androscoggin County	Town of Livermore	\$300.00
“ “	“ Livermore Falls	200.00
Cumberland	“ Yarmouth	200.00
“ “	“ Cumberland	200.00
“ “	“ Falmouth	200.00
“ “	“ Gorham	200.00
“ “	“ Standish	150.00
“ “	“ Scarboro	250.00
Franklin	“ New Sharon	200.00
“ “	“ Farmington	300.00
“ “	“ Jay	200.00
“ “	“ Wilton	200.00
“ “	“ Carthage	200.00
Kennebec	“ Monmouth	200.00
Knox	“ Union	200.00
“ “	“ Rockport	200.00
Lincoln	“ So. Bristol	200.00

Oxford	“	“	Rumford	250.00
“	“	“	Dixfield	200.00
Sagadahoc	“	“	Topsham	100.00
Somerset	“	“	Harmony	50.00
“	“	“	Madison	200.00
“	“	“	Solon	200.00
Waldo	“	“	Montville	200.00
“	“	“	Lincolntonville	200.00
York	“	“	Eliot	300.00

Upon completion of the N.R.A. work in cooperating towns, Regular Control Work began, and was rushed through to completion in order to be ready for the Federal program under the Works Progress Administration (W.P.A.), having been advised that Maine's allotment would be around a quarter million dollars. Towns not having had the benefit of N.I.R.A. funds were worked with State and town funds, the State adding fifty percent to town costs. Later, the work was conducted with W.P.A. funds.

There was only one private eradication job in 1935—reeradication by the Portland Water District in the town of Standish to protect white pine plantations, costing the State \$52.80, and the Water District \$155.40.

The Regular Control Work in 1935 is summarized as follows:

Number towns worked in	26
Number men employed	236
Number acres worked	12,862
Number wild ribes destroyed	349,371
Number cult. ribes destroyed	241
Private costs	\$155.40
Town costs	\$5,185.40
State costs	\$2,141.01
Total costs	\$7,481.81
Per acre cost	\$0.58
Man hours per acre	1.4

These figures include 6,115 acres and 224,524 ribes of initial, and 6,747 acres and 125,088 ribes of reeradication control work.

IV—W.P.A. Control Work

On July 17 we were advised that Maine had been allotted \$255,262.00 of W.P.A. funds for blister rust control work during 1935-36. These funds were to furnish employment to men on relief rolls, 90% of the entire personnel to consist of relievers, and 10%, or non-relievers, would be used for supervisors and foremen. All laborers were to be obtained through local National Reemployment Service Offices. The set-up called for a personnel of 34 skilled relief, 37 skilled non-relief, and 497 unskilled relief. The supervisory personnel was to consist of the State Leader, 4 District Leaders, and 10 Temporary Agents. Of this supervisory personnel, all but the State Leader was to be paid from W.P.A. funds, and classed as 10 percenters.

Eradication work began July 29 and ended October 31, summarized as follows:

Number men employed	688
Number towns worked in	45
Number acres worked	101,757
Number wild ribes destroyed	3,281,929
Number cult. ribes destroyed	1,960
Town labor costs	\$329.07
State labor costs	\$125.75
Gov't. (W.P.A.) labor costs	\$80,524.70
Per acre cost (sup. not inc.)	\$0.80
Man hours per acre (sup. not inc.)	1.9
State cost for supervision	\$314.00
W.P.A. cost for supervision	\$5,089.75
Total cost, inc. supervision	\$86,383.27

These figures include 73,173 acres and 2,701,060 ribes of initial, and 28,584 acres and 582,829 ribes of reeradication work.

GRAND SUMMARY OF RIBES ERADICATION UNDER ALL PROGRAMS DURING 1935

	No. Towns	Acres	Wild Ribes	Cult. Ribes	*Cost	Per Acre Cost	Ribes per Acre	Man Hrs. per Acre
N.I.R.A.	15	9,386	300,985	75	\$6,616.64	\$0.70	32	1.3
C.C.C.	10	71,684	2,037,905	1,063	44,492.14	0.62	29	3.1
Regular	26	12,862	349,371	241	7,481.81	0.58	27	1.4
W.P.A.	45	101,757	3,281,929	1,960	80,979.52	0.79	32	1.9
Total	†59	195,689	5,970,190	3,339	\$139,570.11	\$0.71	31	2.3

†Actual number of towns worked in.

*Supervision not included.

White Pine Type Mapping

During the past several years white pine type mapping has been a major project with the C.C.C., State, and Federal Relief agencies during the fall, winter and early spring months.

Black and white prints of 2X enlargements of U. S. Geological Survey maps were used, a scale of approximately two inches to a mile. All white pine lands having 50 or more trees to the acre were mapped. Compass bearings were taken and distances paced, each mapper using a protractor and scale rule for plotting the areas.

During the winter of 1934-35 this work was conducted by six blister rust checkers at the Alfred, Lewiston, and Jefferson C.C.C. camps, and by a State-paid man. The C.C.C. men mapped in 16 towns, of which 11 were completed and 5 partially mapped. The State mapped approximately 8,000 acres in the town of York.

Upon completion of the 1935 ribes eradication season October 31, we were advised that the W.P.A. project would be continued throughout the winter by employing a large force of relievers on a pine type mapping project. Each of the 4 District Leaders was to supervise 20 relievers, divided into 6 three-men units, and a seventh unit consisting of 2 relievers and a State or Federal-paid Agent. As these 80 men were inexperienced, training schools lasting at least a week were held, at which the men were drilled in reading maps, especially the U.S.G.S. maps and 2X enlargements, the use of a compass, protractor, scale rule, pacing under various conditions, plotting their work onto a finished map, determining the width of the ribes protective strip, etc.

During November and December type mapping was conducted in 22 towns in 13 counties—9 towns completed and 13 towns partially mapped. Over 34,000 acres of pine were mapped, and 329 miles of protective strip line painted. As these maps are a great help for future blister rust control work, and their preparation gave employment to many relievers, the project was continued into 1936.

During 1935, pine type mapping by all parties was conducted in 40 towns—88,323 acres of white pine and 228,875 acres of pine plus protective strip being mapped.

Exhibits

One outdoor blister rust exhibit was staged at the Annual Flower Show at the Art Building, Bar Harbor, on July 18-19, sponsored by The Garden Club of Mount Desert. This exhibit, 50 x 70 feet, consisted of infected white pine trees ranging from four to forty feet in height, cultivated and wild ribes, etc. Attendants explained the disease and its control to the many hundreds of visitors.

Progress of Control Work in 1936

In 1936, Maine's allotment of W.P.A. relief funds provided for the continuation of the blister rust control program on a far larger scale than ever before. In addition, great interest was manifested in this work by the towns, 51 towns raising \$9,350.00, as follows:

Androscoggin County		Town of Turner	\$300.00
"	"	" Leeds	200.00
"	"	" Poland	150.00
Cumberland	"	" No. Yarmouth	200.00
"	"	" Cumberland	200.00
"	"	" Falmouth	200.00
"	"	" Westbrook	300.00
"	"	" Naples	200.00
"	"	" Gorham	200.00
"	"	" Standish	150.00
"	"	" Scarborough	200.00
"	"	" Windham	300.00
Franklin	"	" Phillips	100.00
"	"	" Avon	100.00
"	"	" Farmington	300.00
"	"	" Carthage	100.00
"	"	" New Sharon	200.00
"	"	" Jay	200.00
Hancock	"	" Ellsworth	300.00
Kennebec	"	" Belgrade	200.00
"	"	" Rome	200.00
"	"	" Monmouth	200.00
Knox	"	" Rockport	200.00
"	"	" Hope	100.00
Lincoln	"	" So. Bristol	200.00
"	"	" Bremen	100.00
Oxford	"	" Norway	200.00
"	"	" Bethel	200.00
"	"	" Dixfield	200.00
"	"	" Gilead	100.00
"	"	" Canton	100.00
Penobscot	"	" Orrington	100.00
Piscataquis	"	" Wellington	200.00
Sagadahoc	"	" Topsham	100.00
"	"	" Woolwich	100.00
Somerset	"	" Anson	100.00

“	“	“	Cornville	200.00
“	“	“	Athens	200.00
“	“	“	Fairfield	200.00
“	“	“	Bingham	100.00
“	“	“	Skowhegan	200.00
“	“	“	Brighton	200.00
“	“	“	Harmony	50.00
“	“	“	Madison	200.00
“	“	“	Moscow	200.00
“	“	“	Solon	200.00
Waldo	“	“	Lincolntonville	100.00
“	“	“	Searsmont	200.00
York	“	“	Eliot	300.00
“	“	“	So. Berwick	200.00
“	“	“	York	300.00

The white pine type mapping project was conducted from January to April 30, with a personnel of 80 W.P.A. relief workers and 4 supervisors. Two of these supervisors were paid from W.P.A. funds, and two from State funds. The type mapping project was resumed October first and continued to the end of the calendar year, employing 56 W.P.A. workers.

The ribes eradication season, May 1 to September 30, was conducted under three programs: (1) Regular Cooperative Work with Towns (Regular), (2) Civilian Conservation Corps (C.C.C.), (3) Works Progress Administration (W.P.A.).

I—Regular Control Work

Although 51 towns appropriated funds, very little blister rust control work was performed under the Regular program, since the W.P.A. relief project was of such scope as to include these cooperating towns, and it was only when the allotted relief funds for eradication in these towns were exhausted in September that Regular Control Work was conducted in three towns. In addition, one town furnished transportation for W.P.A. laborers, and one town furnished labor for a W.P.A. foreman.

The Regular Control Work in 1936 is summarized as follows:

Number towns worked in	3
Number men employed	18
Number acres worked	1,116
Number wild ribes destroyed	38,337

Number cult. ribes destroyed	299
Town costs	\$599.15
W.P.A. cost of supervision	\$20.25
W.P.A. cost of equipment	\$10.50
Total cost	\$629.90
Per acre cost for labor	\$0.54
Man hours per acre	1.6

These figures include 756 acres and 27,288 ribes of initial, and 360 acres and 11,348 ribes of reeradication control work.

II—C.C.C. Control Work

Blister rust control work was the largest project during the summer months at the Jefferson, Lewiston, Bridgton, and Alfred C.C.C. Camps, employing a daily average of 335 enlisted men, supervised by 27 foremen.

Number towns worked in	13
Number acres worked	117,843
Number ribes destroyed	2,951,552
Number man hours enlisted men	254,341
Average number man hours per acre	2.2

These figures include 42,398 acres and 1,859,353 ribes of initial, and 75,445 acres and 1,092,199 ribes of reeradication work. Towns worked in were Durham, Oxford, Bridgton, Harrison, Sweden, Fryeburg, Waterboro, Alfred, Sanford, Parsonsfield, Washington, Whitefield, and Waldoboro.

C.C.C. Summary by Camps

	Jefferson	Lewiston	Alfred	Bridgton	Totals
Acres worked	13,076	16,026	46,215	42,526	117,843
Man hrs. enlisted men	62,521	42,336	82,500	66,984	254,341
Wages at \$1.00 per day	\$7,815.50	\$5,292.00	\$10,312.50	\$8,373.00	\$31,793.00
Subsistence at 50c per day	3,907.75	2,646.00	5,156.25	4,186.50	15,896.50
Transportation	1,585.74	1,295.09	640.32	444.36	3,965.51
Equipment	45.90	22.50	47.50	40.50	156.40
Foremen salaries	3,006.20	3,089.62	4,412.89	3,989.14	14,497.85
Total cost	\$16,361.09	\$12,345.21	\$20,569.46	\$17,033.50	\$66,309.26
Man hours per acre	4.8	2.6	2.0	1.5	Ave 2.2

III—W.P.A. Control Work

Blister rust control with Works Progress Administration funds was of great assistance in relieving the unemployment situation in many Maine towns in 1936. The set-up was similar to that of 1935,

but on a larger scale, and for the period May 1 to September 30. The supervisory personnel consisted of the State Leader, 4 District Agents, and 15 Temporary Appointed Federal Agents. All but the State Leader were paid from W.P.A. funds, and classed as non-relievers.

Control work under this project is summarized as follows:

Number men employed	872
Number towns worked in	73
Number acres worked	235,280
Number wild ribes destroyed	10,533,658
Number cult. ribes destroyed	9,559
Town costs (labor and transportation)	\$265.32
Government (W.P.A.) labor costs	\$170,851.60
Government (W.P.A.) equipment costs	\$257.23
Government (W.P.A.) transportation costs	\$7,465.67
State cost for supervision	\$128.00
W.P.A. cost for supervision	\$13,939.88
Total cost (Inc. supervision)	\$192,907.70
Per acre cost (Sup. not inc.)	\$0.76
Man hours per acre (Sup. not inc.)	1.6

These figures include 109,504 acres and 7,267,323 ribes of initial, and 125,776 acres and 3,275,894 ribes of reeradication work.

Grand Summary of Ribes Eradication under All Programs during 1936

	No. Towns	Acres	Wild Ribes	Cult. Ribes	*Cost	Per Acre Cost	Ribes per Acre	Man Hrs. per Acre
Regular	3	1,116	38,337	299	\$ 609.65	\$0.54	34	1.6
C.C.C.	13	117,843	2,948,189	3,363	51,811.41	0.44	25	2.2
W.P.A.	73	235,280	10,533,658	9,559	178,839.82	0.76	45	1.6
Total	†86	354,239	13,520,184	13,221	\$231,260.88	\$0.65	38	1.8

†Actual number of towns worked in.

*Supervision not included.

Summary of White Pine Blister Rust Control Work during Eradication Seasons 1935-1936

	No. Towns	Acres	Wild Ribes	Cult. Ribes	*Cost	Per Acre Cost	Ribes per Acre	Man Hrs. per Acre
N.I.R.A.	15	9,386	300,985	75	\$6,616.64	\$0.70	32	1.3
C.C.C.	19	189,527	4,986,094	4,426	96,303.55	0.51	26	2.5
Regular	29	13,978	387,708	540	8,091.46	0.58	28	1.4
W.P.A.	86	337,037	13,815,587	11,519	259,819.34	0.77	41	1.7
Total	†106	549,928	19,490,374	16,560	\$370,830.99	\$0.67	35	Av.2.0

†Actual number towns worked in.

*Supervision not included.

Exhibits

There were two blister rust control exhibits displayed in 1936; one at the Skowhegan Fair, in cooperation with the Maine Forest Service, and a natural growing outdoor exhibit on Route 137 in the City of Belfast, with an area of 2.2 acres, and containing 365 living trees of an average diameter of over 8 inches. 95 per cent of these trees are infected with the blister rust. All infected trees are tagged and banded. Appropriate signs and posters are being used for educational purposes. As this area is 700 x 150 feet in size, and borders the roadside, hundreds of pine owners have visited it and are greatly impressed with the seriousness of the blister rust. This exhibit is permanent, arrangements having been made with the owner for the Department to lease the area for an indefinite period.

White Pine Type Mapping

White pine type mapping was conducted from January to May with an average of 2 State and 2 Federal-paid supervisors, and 64 W.P.A. laborers, and from October to December with 56 W.P.A. laborers. Mapping was performed in 103 towns, in which 190,250 acres of white pine and 522,343 acres of pine plus protective strip were mapped for future control work.

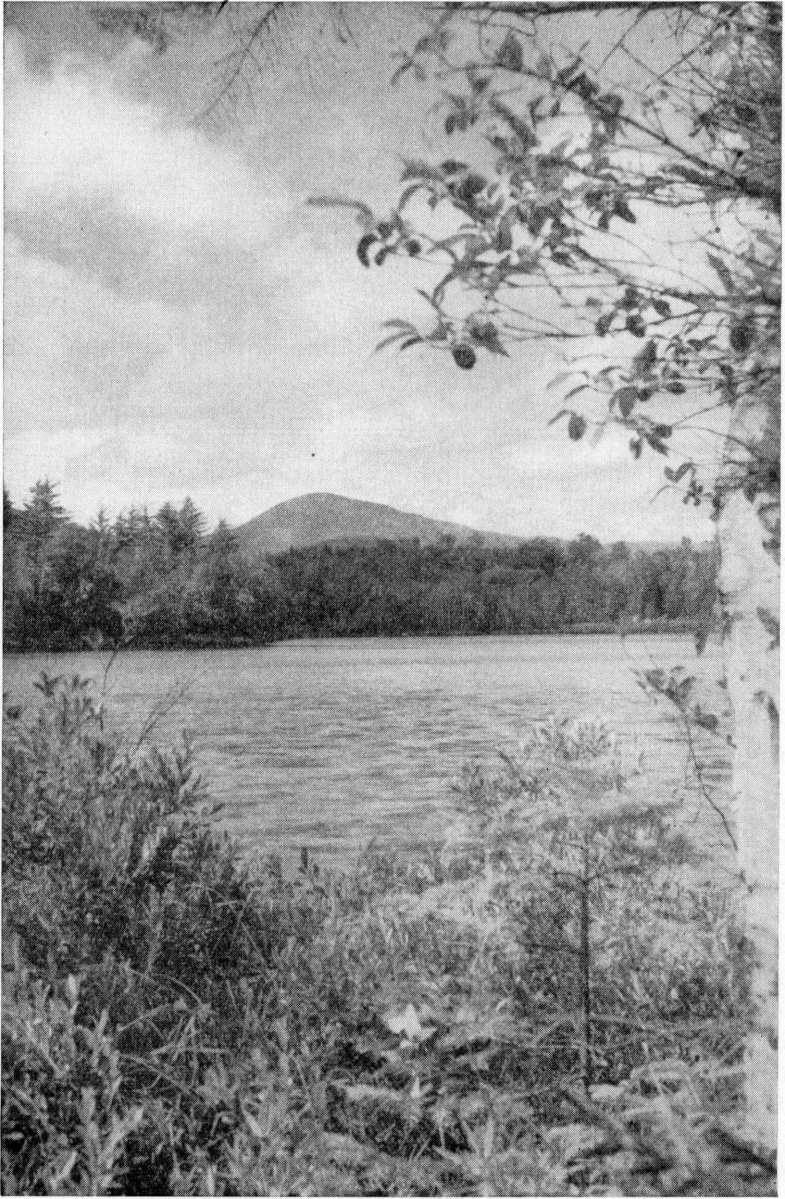
Summary of White Pine Type Mapping 1935-1936

During the two-year period mapping was conducted in 130 towns, in which 278,573 acres of white pine and 751,218 acres of pine plus protective strip were mapped for future control work.

Federal, State, Town, and Private Expenditures during Calendar Years 1935-1936 (Including Supervision)

	Federal All Agencies	From State Appropriation	Towns	Private	Total
1935.....	\$182,173.56	\$5,968.11	\$5,514.47	\$155.40	\$193,811.54
1936.....	308,687.48	3,926.50	864.47	0	313,478.45
Total.....	\$490,861.04	\$9,894.61	\$6,378.94	\$155.40	\$507,289.99

GENERAL FORESTRY



Mt. Blue in Avon

GENERAL FORESTRY

Publicity

One of the most effective means of promoting interest in forest fire prevention is a well organized educational program. The general public can be approached on this subject in several ways.

The oldest method of approach is the posting of cautionary signs and notices requesting all to be careful with fire in the woods. These signs and notices must have some simple direct appeal. It has been found that a metal sign with black letters on a yellow background is easy and quick to see, and has been adopted as the Department's colors. For years this Department has posted and distributed about 10,000 warnings. Agencies assisting in this work include District wardens, town wardens, service clubs, women's organizations, and many private individuals.

In addition there were distributed through the fire wardens and from the Augusta office 20,000 celluloid rulers and calendar cards during the seasons of 1935-36. Upon these were printed suitable warnings about fire. These were found to be very popular and served a useful purpose in forest fire publicity.

Another approach to public cooperation in fire protection work were inserted advertisements and editorial comment in the newspapers. The press has done much to help the Department with this problem. It has loyally supported the Department by reporting its activities and giving wide circulation to the warnings and appeals made by the Forest Commissioner.

Public lectures and pictures always make a strong appeal before any assembled group. During 1935 the Department had a man who devoted his entire time to this work. He was equipped with a specially painted truck, moving picture camera, screen and projector, and other material. Many people throughout the state heard interesting talks on forestry and were shown moving pictures of the various activities of the Department. In 1936 it was found necessary to discontinue this phase of publicity work, as a curtailment of expenditures had to be made. The other more important activities of the Department required all the money possible and it was, therefore, decided that this work should be temporarily dropped.

Still another appeal the Department has to offer the public in a forest fire educational program is the distribution of literature. In addition, there are publications which deal with other phases of forestry work, such as white pine blister rust, entomology, state forest nursery, land office, and general forestry.

It is regretted that the supply of the publications of "The Forests of Maine," "Forest Trees of Maine," and "Forest Fires" is exhausted. A curtailment of appropriations makes it necessary to temporarily halt any reprints or revisions. However, as soon as funds become available the Department will again have these publications for free distribution.

A not too much engaged in piece of publicity is the use of exhibits. The Department in 1935-36 put up forestry exhibits at two of the principal state fairs. The purpose was to display the major activities of the forest service. Again, if funds are available, this phase of work has big possibilities.

With the material that is available, it is felt that the Department is reaching the general public in bringing to their attention the principal problems of forestry with particular reference to fires, insects, and diseases.

State Forest Nursery

In 1913, by an act of Legislature, there was established at the University of Maine a two-acre State Forest Nursery. This has proved to be the first and only state nursery up to this present writing. It was established primarily as a field laboratory in which students study seeding, transplanting, weeding, packing, and shipping. As most of the work is done by the students as part of their training in forestry, there is little overhead expense and the grown nursery stock is therefore sold at practically cost price. The net receipts from the sale of nursery stock are returned to the State Treasurer.

In 1924, the National Congress passed the Clarke-McNary law which, in part, provides for a cooperative agreement in the distribution of forest planting stock. In 1926, the state received its first federal appropriation under the terms of this law.

Forest planting stock from the State Nursery is sold at cost to the people of the state for the purpose of establishing wind breaks, shelter belts, and farm wood lots upon denuded or non-forested lands, and to water companies establishing plantations for watershed protection.

Trees Sold by State Nursery

	1935	1936		1935	1936
White Pine	4,300	19,600	Norway Spruce	2,500	19,100
Red Pine	27,600	50,800	White Cedar	2,100	2,000
Scotch Pine	4,300	.....	Hemlock	.....	200
White Spruce	1,400	14,200	Balsam Fir	.....	1,400
Red Spruce	.....	4,600			
				<hr/>	<hr/>
				42,200	111,900

The amount of nursery stock sold in 1936 was more than double that sold in 1935. This increase is attributed to the quantities of stock planted by federal agencies.

As increased plantings by federal, state, and private agencies are contemplated, the State Nursery has enlarged its estimated output for 1937-38.

Commercial Forest Nurseries in the State

Name	Location	Acreage	Estimated Output in Trees	
			1935	1936
S. D. Warren Co.	Bingham	2	Discontinued	Discontinued
J. L. Dean	Winslow	3	Discontinued	Discontinued
Central Maine Nursery	Skowhegan	2	13,000	Discontinued
Brown Company	Oquossoc	15	409,978	1,016,579
Oxford Paper Co.	Rumford	10	30,000	30,650
Western Maine Forest Nursery	Fryeburg	22	1,500,000	1,500,000
Total		54	1,952,978	2,547,229

Three of the commercial nurseries have discontinued, leaving three actively engaged in raising forest nursery stock. These remaining three nurseries plan to increase their output for the 1937-38 season.

Trees Planted in the State of Maine

	1935	1936
White Pine	18,600	57,600
Red Pine	32,100	132,800
Scotch Pine	8,600	8,000
Austrian Pine	1,700	.....
White Spruce	27,200	41,200
Norway Spruce	4,800	36,100
Red Spruce	.....	4,600
White Cedar	2,100	2,000
Balsam Fir	.....	8,600
Hemlock	.....	200
Hybrid Poplar	30,000	30,000
	<hr/>	<hr/>
	125,100	321,100

It is estimated that 16,000 acres have been set out to Maine grown forest nursery stock, including trees from both state and commercial nurseries. This is not the total area planted in Maine as nursery stock has been planted from nurseries outside of the state.

Arbor Day, Forest Protection and Conservation Week

Arbor Day originated in Nebraska on April 22, 1872, by J. Sterling Morton. Since that time, this day is now observed in most every state. The date depends upon the climate, and in the northern states it is set aside by proclamation the last week in April or the first week in May.

In Maine, Arbor Day was first established in 1887 by an Act of Legislature.

"AN ACT TO ESTABLISH ARBOR DAY

Be it enacted by the Senate and House of Representatives in Legislature assembled, as follows:

Sec. 1. That the governor shall annually set apart a day in the spring as Arbor Day, and shall issue a proclamation recommending that it be observed by the people of this state in the planting of trees, shrubs and vines, in the adornment of public and private grounds, places and ways, and in such other efforts and undertakings as shall be in harmony with the general character of a day so established.

Sec. 2. This act shall take effect when approved."

Approved March 10, 1887.

Arbor Day has been proclaimed annually from 1887 to 1933 inclusive by the governor.

In 1921, Forest Protection Week was first proclaimed and observed and again in 1923.

As the part of a national movement in 1934, Conservation Week was proclaimed and Arbor Day was designated as one of the days in it. This practice has since been followed.

Chambers of Commerce, Women's Clubs, Service Clubs and other organizations throughout the state are cooperating with the Maine Forest Service in protecting our great natural assets.

" P R O C L A M A T I O N

Conservation Week, May 4-8, 1936

Maine, the vacationland of the Nation, is amply endowed with gorgeous scenery and abounding natural resources. It is an inescapable law that riches bring responsibility, and I conceive it to be the duty of every citizen of Maine, from those persons of highest authority to the smallest school child, to learn to appreciate the beauty that lies on every hand and to know its value, not only aesthetically but also from an economic point of view.

President Roosevelt in a recent address stated that "We must think of our land and water and natural resources, not as static possession, but as life-giving assets to be directed by wise provision for future days. We must seek to use our natural resources, not as a thing apart, but as something that is interwoven with industry, labor, finance, taxation, agriculture, homes, recreation and good citizenship."

The planting of trees, protection of wild life, keeping the highways beautiful, and avoidance of wasteful forest fires have become the duty of all thoughtful people who are awake to the challenge of the time.

THEREFORE, I, LOUIS J. BRANN, Governor of Maine, do hereby proclaim the WEEK OF MAY 4-8 as CONSERVATION WEEK, one day of which, Wednesday, May 6, I particularly designate as Bird Day; and one day, Friday, May 8, as Arbor Day.

Given at the office of the Governor at Augusta, and sealed with the Great Seal of the State of Maine, this twenty-first day of April, in the year of our Lord, One Thousand Nine Hundred and Thirty-six and of the Independence of the United States of America, the One Hundred and Sixtieth.

(Signed) Louis J. Brann
Governor

By the Governor:
(Signed) Lewis O. Barrows
Secretary of State"

Forest Guides

In 1921 a former Forest Commissioner conceived the idea of developing a plan whereby Boy Scout troops in different towns would become "Forest Guides" and thus strengthen the forest fire protective system in the organized towns. Since that time nothing definite has been done. However, it is recognized that many Boy Scout groups have turned out to fight forest fires. The age of most of these boys is just ripe for stimulating interest in forest fire prevention and suppression work. Such educational work is of great importance. This plan of Forest Guides could well be expanded to also include boys' summer camps.

To qualify for a Forest Guide the following standards have been set up: "A boy must have qualified as a first class scout; must have a thorough knowledge of the correct use of the knife, hatchet, and compass, and of map reading; must know where and how to build fires, and how to extinguish and fight fires; and must be familiar with the forest fire laws of the state. In addition he must have signified his willingness, with the consent of his parents, to assist in putting out forest fires in his immediate locality when called upon to do so by proper authorities."

It is believed that this plan will add a new, wholesome, and useful interest to the present Boy Scout activities, and will contribute in a very real way to the effectiveness of our fire protection and other forest work.

Benjamin C. Jordan Fund

In 1909 the late Benjamin C. Jordan of Alfred gave the State of Maine, to be its property forever, one thousand dollars, on condition that in consideration of said gift, the State shall once in eighteen years offer five prizes to be called the Jordan Forestry Prizes.

In accepting the offer the Legislature passed the following resolve:

"Resolved, That the offer of Benjamin C. Jordan, of Alfred, Maine, giving to the State of Maine, one thousand dollars, to be known as the Jordan fund, conditions of which are herewith annexed, be hereby accepted, and the conditions of which shall be carried out by the State Forest Commissioner."

By Chap. 157, P. L. 1929, the rules and conditions of the gift were changed.

"The time of the contest shall be made to read, once in five years and the prizes shall be one hundred and twenty-five dollars, first prize; seventy-five dollars, second prize; fifty dollars, third prize.

Rule 1. Each lot shall consist of one parcel of not less than ten acres in somewhat regular shape and shall be accurately surveyed and plotted.

Rule 2. The majority of said trees shall not be less than five feet nor more than thirty feet high and not less than five nor more than thirty years old when the prize is awarded.

Rule 3. Said forest may consist of any of the following kinds of trees, but other circumstances and conditions being equal, preference shall be given in the following order: White Pine, White Oak, Hickory, Chestnut, Hackmatack, White Ash, Yellow Oak, Red Oak, Bass, Hemlock, Spruce, Norway Pine, Pitch Pine, Cedar, Fir, Poplar, Birch, Maple, Beech, and Elm.

Rule 4. All competitors for the prizes shall file in the office of the State Forest Commissioner, their intention to compete, together with a correct and definite survey and plan of the lot and when such notice has been filed, said lot shall be eligible although the ownership may have been changed. During the period from January first, nineteen hundred and twenty-seven to December thirty-first, nineteen hundred and thirty-one, all entries shall be made on or before June thirtieth, nineteen hundred and twenty-nine. Entries in contest periods on and after January first, nineteen hundred and thirty-two shall be made during the first year of the period.

Rule 5. Myself and heirs shall have the same right as others to compete for the prizes. The same lot cannot be entered in more than one contest.

Rule 6. In awarding prizes, other circumstances being equal, the following conditions shall be considered in the order named: (a) Right number of trees per acre. (b) Even distribution over whole lot. (c) Health and thriftiness of trees. (d) Adaptation of the varieties of trees to the soil in which they stand. (e) Uniformity of size of trees. (f) Size of trees. (g) Size of lot."

The first award of cash prizes under the terms of this gift was in 1927. This followed the original provision of prizes to be made 18 years after the deposit of \$1000 with the State Treasurer in 1909. There were only three contestants and the money for fourth and fifth prizes was left to enlarge the present fund.

First Prize, Samuel C. Manley, Augusta	\$500
Second Prize, Howard Gilpatrick, Biddeford	\$250
Third Prize, Gardiner Forestry Co., Gardiner	\$125

In 1929 it was found necessary to modify the provisions of this gift the terms of which were kindly approved by the heirs of the said donor. The next award of prizes under the new modification was in 1932.

First Prize, H. R. Ober, Sebec Station	\$125
Second Prize, Alfred K. Wilson, Alfred	\$75
Third Prize, Miss Nellie B. Jordan, Alfred	\$50

In 1937, the next award of prizes will be made. There are seven properly filed applications. This competition was closed December 31, 1932. Some time in the spring of 1937 a committee will be appointed by the Forest Commissioner to make an inspection of the plantations.

A statement from the State Treasury Department would seem to indicate that another modification of the amounts of the prizes may be necessary because of the low rate on the investment of the original \$1000.

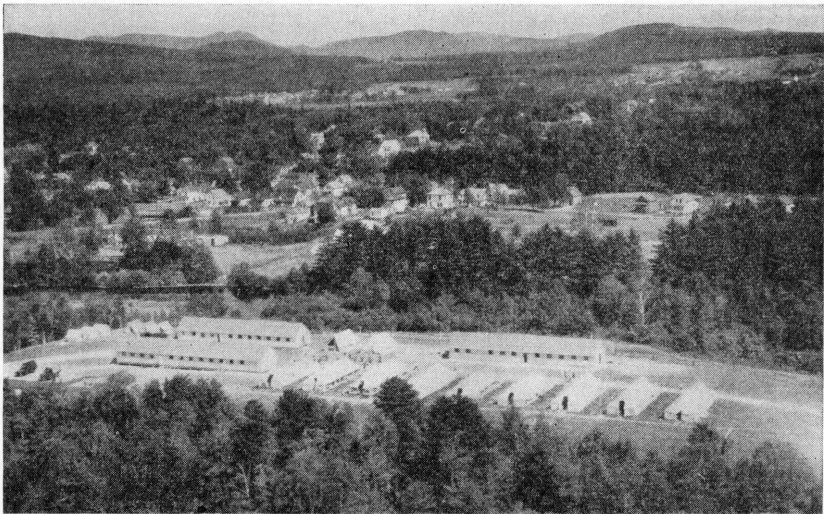
It is well to mention here that all applications for the 1942 competition must be filed with the Forest Commissioner on or before December 31, 1937. Information concerning this forestry prize is available in circular form at the Forestry Department, State House, Augusta, Maine.

**EMERGENCY
CONSERVATION
WORK**

STATE CAMPS OF THE CIVILIAN CONSERVATION CORPS IN MAINE

The C.C.C. was established for Emergency Conservation Work by Act of Congress (Public, No. 5, 73rd Congress, S. 598) approved by President Roosevelt March 31, 1933. Rather wide latitude is allowed for work which may be done on public lands. On private lands, as is the case of nearly all areas under treatment in Maine, the scope of allowable work is limited by the Act to activities which will prevent and control forest fires, insect attacks, tree diseases and floods. The Act is extended to March 31, 1937.

Mr. Robert Fechner has been Director of Emergency Conservation Work since its inception, with an advisory council from the War,



Greenville C.C.C. Camp: before all permanent buildings were erected

Agriculture, Interior and Labor Departments. The Labor Department selects enrollees; the War Department enrolls, feeds, clothes and houses them, also provides educational, recreational and religious facilities; the Departments of Agriculture, Interior and War handle work projects.

The enrollees in the camps now allotted to Maine and under the supervision of the Forest Commissioner consist primarily of young men, having dependents to whom \$25.00 of their monthly \$30.00 pay is assigned, with a small quota of local experienced men at each camp. The total individual camp quota, originally set at 200-men companies, is now 157 men. Concentration is at Fort Williams, whence the men are sent at stated intervals to the various camps.

Forest Service Camps now under the supervision of the Forest Commissioner, and all on private lands except Princeton, are at Rangeley, Greenville, Patten (Twp. 6, Range 8, W.E.L.S.), Beddington (Twp. 34 M.D.), Princeton, Alfred, Lewiston, Jefferson and Bridgton.

Since the inception of the work, camps have been abandoned at Seboomook, the Grant Farm, Flagstaff and Millinocket. The buildings at the two former places have been taken down, but those at Flagstaff, Millinocket, Patten and Beddington still remain. Custodians are kept in abandoned camps, until buildings are removed. The Patten camp was originally set up at Patten village and then moved to Hay Lake on Twp. 6, Range 8, W.E.L.S.; the Beddington camp was set up at Beddington, and then moved to Deer Lake on Twp. 34 M.D.

Work projects at each camp are under the direct supervision of a camp superintendent, under whom are various foremen both technical and non-technical. This work set-up is entirely separate from that of the Army, although the supervisory forces occupy the same quarters, and board with the Army personnel.

Set-up of Camp Supervisory and Facilitating Personnel is at present:

Alfred:	Supt. D. L. Moody:	2 foresters, 5 foremen, 1 blister rust checker 1 mechanic
Bridgton:	Supt. L. P. Brooks:	1 forester, 7 foremen, 1 mechanic
Lewiston:	Supt. H. R. Lovely:	3 foresters, 5 foremen, 1 mechanic
Jefferson:	Supt. R. E. Billings:	1 entomologist, 7 foremen
Rangeley:	Supt. Ray Viles:	1 forester, 4 foremen, 1 mechanic, 1 blacksmith
Greenville:	Supt. E. W. Stacy:	1 forester, 5 foremen, 1 mechanic, 1 shovel operator, 1 blacksmith
Patten:	Supt. H. C. Tedford:	3 foremen, 1 civil engineer, 1 bridge engineer, 1 shovel operator, 1 mechanic, 1 blacksmith
Beddington:	Supt. B. C. Marsh:	4 foremen, 1 mechanic, 1 machine operator, 1 blacksmith
Princeton:	Supt. V. L. Armstrong:	3 foresters, 2 foremen, 1 mechanic, 1 blacksmith

Enrolled men work a 5-day week, making up lost time if necessary on Saturdays. Supervisory and facilitating personnel are on a 5½-day week, with 26 days vacation annually.

Work concentration at the 5 northern camps in the Forestry District is primarily on road construction, together with telephone line, foot trail and tourist camp site accentuation. The

4 southern camps, situated in the more densely settled part of Maine, and in or near the pine belt, concentrate on forest insect and disease control, together with camp site and some road construction. Silvicultural work on Indian Township, owned by the State, is carried out from Princeton. All camps fight forest fires, which assume major priority over all work.

In order to place some of the working crews in reasonably close proximity to work, tent camps at varying distances from the base camps are established as necessary, during the mild seasons of the year. More substantial side camps are also used where crews are put out from the base during all seasons of the year. At present these consist of a log camp for 50 men at Toothaker Brook, Twp. 4, R. 3,



Toothaker Brook Side Camp on the Cupsuptic Truck Trail

W.B.K.P. from Rangeley base, and a frame building for 40 men at Shirley, from Greenville base.

It has been a government policy, since camps were established, to allow the use of C.C.C. boys and equipment during a state or local emergency.

On several occasions, during the hunting seasons, organized groups from these camps have assisted state and local authorities in the search for hunters lost in the woods.

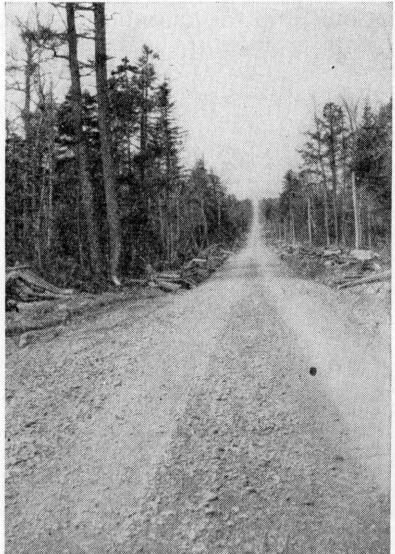
The boys from these camps gave material assistance during the spring flood of 1936. All equipment and men were made available to neighboring towns for transportation of food and water; also to

assist removal of families and household goods from dwellings within the flooded area. Some clean-up work was done after the flood in areas where unsanitary conditions jeopardized the public health.

Particular mention should be made of the cooperation which these camps give in fighting forest fires. Each camp is really an organized fire suppression unit with trucks, foremen, men, and equipment that can be dispatched to a fire with a minimum amount of delay. The 25,419 man days spent fighting forest fires since 1933 represents a saving to the state of approximately \$50,838.



**Grubbed right of way on Truck Trail
from Rangeley to Wilson's Mills**



**Finished Truck Trail from
Patten to Grand Lake**

The roads constructed are primarily to open inaccessible sections for fire control, and are designated as truck trails by the Federal Agencies. They are built to reasonable alignment and grade, 10 feet wide from shoulder to shoulder, with intervisible turnouts, and with gravel surface 1 foot deep.

Camp sites act as concentration points for parties travelling the roads, fishing, hunting or simply trying to get out of doors. The Forest Commissioner believes that such concentration avoids the possibility of indiscriminate camping and fire building in hazardous places. These developments vary from a single fireplace near some spring to ones equipped with sleeping and lunching shelters, offering chance to really stay the night.



Luncheon shelter built of local materials, with split roof and fireplace: at Seboeis Stream



Adirondack Shelter on Mt. Bigelow, Appalachian Trail

Sleeping shelters are particularly needed along the Appalachian Trail, which extends from Mt. Katahdin to Mt. Oglethorpe, in Georgia. The C.C.C. has improved about 200 miles across Maine. In most portions of the trail foot passengers can go from sporting camp to sporting camp in a days tramp, but there are sections in the mountains where the distances are too long without intermediate sleeping places. The C.C.C. has constructed for this purpose Adirondack Shelters, built of logs, and with cedar split roofs, substantial and lasting many years.



Fireplace at Little Wilson Stream

The construction of fireplaces varies from loose rock ones, at places where it is difficult to get to with cement and fire brick, to simple but substantial fireplaces, set on reinforced cement slabs and lined with fire brick, in more approachable camp grounds.

Bridges vary from untrussed log construction single spans over narrow streams to the 100-foot steel and cement bridge over the East Branch of Penobscot River, just below Grand Lake. A unique piece of bridge work has been the construction of a cable suspension 200-foot span foot bridge on the Appalachian Trail, across the West Branch of Penobscot River at Sourdnahunk Falls.



Sourdnhunk Suspension Foot Bridge



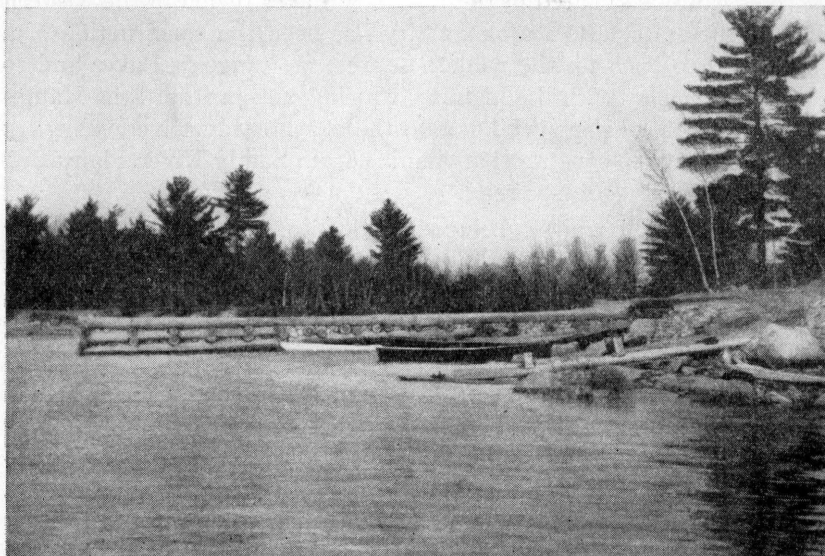
Log culvert under construction from Greenville Camp

It has not been possible to obtain many iron culverts, so the C.C.C. has built either wooden or stone ones on its various roads. Substantial and lasting construction has been emphasized.



**Grand Lake Truck Trail, Seboeis Bridge:
Wooden abutments, steel girders**

Of course the majority of bridges are of wooden construction, using logs, and often with hewn timber flooring and truss work. Stumpage on lumber and gravel is given free by the various land owners.



Ambajejus Lake Wharf

Some wharves have been built, primarily to allow quick loading of the Forestry District fire patrol boats. These are usually log crib construction, loaded with rock.



Patrolman's Camp and Garage: Beddington Camp

Various fire patrolmen's camps have been built for the Maine Forestry District, as well as lookout towers, and subsidiary structures.

CAMPS IN THE FORESTRY DISTRICT

Rangeley

This camp is situated in the Rangeley Lakes region in the western part of the state. Its major activity has been the construction of a truck trail to open up the wilderness west of Rangeley Lakes and to connect Rangeley with the highway which comes in from New Hampshire to the foot of Sawyer Lake on the Magalloway River. A truck trail is also under construction running from Sandy River Plantation to the Rumford-Oquossoc road.

A third truck trail is being extended up the Cupsuptic Valley from the head of Cupsuptic Lake toward the Canadian line, through several townships which are at present inaccessible except on foot. There is several years work yet to do on these truck trails and minor roads which should be developed.

The Rangeley camp had an important section of the Appalachian Trail between Maine and Georgia to construct. It was about forty miles long lying south of the Rangeley Lakes, and it had to be explored and located. It was the only link which had not been located. This has been done and the trail (except about two miles) built. It gives a continuous foot path from Mt. Katahdin to Mt. Ogelthorpe.

Flagstaff

This camp was located in the midst of the Dead River country at Flagstaff, and was abandoned in 1935. Its major project consisted of various truck trails to open up inaccessible country, and in particular it had started construction of a truck trail to go down the valley of the Dead River so as to connect the road from Eustis to Megantic with the road to Quebec via Jackman. With the abandonment of this camp this project is of course uncompleted.

Greenville

This camp is situated at Greenville, at the foot of Moosehead Lake. Three major truck trail projects are under process of construction, all of which open up wild lands accessible on foot only. The first is the construction of a truck trail from the town of Shirley to the foot of Lake Moxie on the west side of East Moxie township, making a short cut from the Kennebec River across into the Moosehead Lake country.

A second truck trail has been constructed along the south side of Kokadjo Lake toward the valley of Pleasant River and it is proposed

to extend it down that valley to Katahdin Iron Works. This will form a connecting link between the road which leads from Greenville to Ripogenus dam and the Sourdnhunk country, with the lower Piscataquis country.

A third truck trail is in process of construction from Greenville across the Bowdoin College Grants to connect with the above described Katahdin Iron Works truck trail.

None of these truck trails have been completed although the Shirley-East Moxie one is nearly done. Work has also been done on the Appalachian Trail, as well as on various camp sites, telephone lines and minor roads.

Seboomook and Grant Farm Camps

The Seboomook camp in 1933 was at the northern end of Moosehead Lake, but was moved to the Grant Farm, thirty miles from Greenville on the east side of Moosehead Lake in the fall of that year. The Grant Farm camp was abandoned in the spring of 1934. The major project from both these camps was a road from Northeast Carry, at the northerly end of Moosehead Lake, to the Ripogenus road at the Grant Farm. This project was not completed.

Millinocket

This camp was situated in the town of Millinocket and was abandoned in 1935. Its important projects were truck trails to improve the approach to Baxter State Park, the major one being a truck trail from Ambajejus Lake around the east side of Mt. Katahdin. This was completed as far as Windey Pitch, when the camp was discontinued. Several years' more work was planned from this camp, including the reconstruction of the old Sourdnhunk tote road on the west side of the mountain. Sundry camp grounds, much telephone line and various minor roads were also built as well as planned.

Patten

The original Patten camp was located in the town of Patten, but as work has progressed, it has been moved to Hay Lake in Township 6, Range 8, W.E.L.S. The major project is a truck trail which opens up almost entirely inaccessible country. It extends from the Crummett Farm, in the southeast part of Township 6, Range 7, W.E.L.S., where the highway from Patten has its terminus, westward across the East Branch of Penobscot River just below Grand Lake. It has been

completed to that river. Now it is proposed to continue it up the valley of Trout Brook and down around Sourdnahunk Lake to a junction with the Ripogenus-Greenville road.

Another truck trail branches off this Grand Lake road at a point near Seboeis Stream and runs northeastward to the Maine Forestry District's Camp Colby.

Possibly this Patten camp can again be moved and eventually used to rebuild the old Sourdnahunk tote road on the west side of Mt. Katahdin, but this is several years ahead.

Beddington

This camp was originally established on the Airline Road at the Narraguagus River in Washington County. It has since been moved northward to Deer Lake in Twp. 34, M.D., in order to keep it closer to work projects. The major project is the construction of a truck trail northward through inaccessible country from the Airline road to Deer Lake, where the truck trail forks; one branch running westward to the town of Greenfield and the other northward, around the east side of Nicatous Lake to join the road coming in from the Penobscot towns of Enfield and Burlington. Work is being concentrated on the branch which runs to Greenfield in order to shorten the distance from the main camp to railroad. At the same time work is being done on the branch around Nicatous Lake as fast as possible. Another truck trail is being considered to run eastward toward the St. Croix country.

Princeton

This camp is situated in Indian Township, which is a state forest, subject to treaty rights with the Passamaquoddy Indians, who have one of their reservations there. Silvicultural work to a considerable scale has been carried out on this township and a truck trail system both for fire protection and for utilization is being built on the state land. This camp is also building a truck trail from Princeton southwestward by Clifford Lake, toward the Machias River.

Another truck trail has been built northwestward from Waite to West Musquash Lake, and it is proposed to extend this still further northwestward to Carroll. The proposed Grand Lake National Forest will probably take in some of this latter country.

CAMPS IN THE ORGANIZED TOWNS

Control of insects and diseases constitutes the principal work of the four southern camps, covering towns within 25 miles from the camps. White pine blister rust work is done from May to September, and consists of eradicating currant and gooseberry plants in white pine areas. Mapping of white pine areas has also been done in the winter months in preparation for control work. From September to May, control work is done on gypsy moth in which egg masses are destroyed by painting with creosote. Work is stressed on town and village shade trees, about wooded summer colonies to protect such places which are of high economic value to the towns, and about public lands and reservations. Work is also done toward moving a present gypsy moth quarantine line, adjacent to the Lewiston, Bridgton, and Jefferson Camps, south so that certain forest products may with inspection be shipped out of the areas involved into uninfested areas such as to points about New York, south, and west. Control work has been done on the brown tail moth by destroying winter nests. Dead and abandoned apple orchards have been cut to remove worthless trees which were an insect menace to nearby producing orchards. In mid-summer white pine tops infested with white pine weevil are destroyed in plantations. A survey of elms in 68 towns was made to locate presence of the Dutch elm disease. European corn borer infested corn stalks buried in the fall to destroy the insects, but later washed out by the 1936 floods were taken care of to protect corn producing areas.

Foot and horse trails are built to inaccessible areas to facilitate travel of fire-fighters, and to lookout towers for benefit of the public.

General forest improvement, and protection on state and town lands consists of thinning and pruning stands, release cuttings to favor the valuable tree species, clean-up of slash areas to reduce the fire hazard, and to make fire breaks about timber stands, and the digging of water holes in strategic places to provide a water supply in time of fire.

The type mapping and timber survey project is being done to give us definite information on the area of forest types with estimates of timber resources in the southern part of the state. This map will be of great value in fire, insect, and disease control.

The serious floods of 1936 made necessary much emergency work by the camps on sand bagging dams and bridges, making roads passable, distributing water and food, and general sanitation work along river banks, and in cleaning and disinfecting flooded buildings.

Alfred

This camp, located in York County, was established June 26, 1933. The principal projects have been control of the gypsy moth, brown tail moth, and white pine blister rust. The work along these lines has been very effective and of lasting benefit. A side camp was maintained at East Sebago from November, 1933, to April, 1934, and again from February, 1935, to May, 1935, carrying on gypsy moth work. Several attractive lunch grounds, and a truck trail up Ossipee Mt. have been constructed. During the period June, 1934, to October, 1934, the camp was moved to Mt. Katahdin for the purpose of building trails on the State Park.

The recent acquisition by the U. S. Forest Service of the Massabesic Experimental Forest is calling for considerable road work, mapping, and stand improvement. The camp is also carrying on an extensive forest type mapping project.

Bridgton

The Bridgton camp is one of the newest in the state, being established in July, 1935. This camp has twice won first place in the district. Its location is ideal to carry on effective gypsy moth and white pine blister rust control work. It is the center of a vacation region with large numbers of summer camps around the lakes. Heavy gypsy moth infestations have made living conditions almost intolerable in some of the camps and most of the towns are heavily infested. The Bridgton camp has constructed some of the most attractive lunch grounds in the state. A foot trail up Pleasant Mt. in Denmark, considerable stand improvement on town forests, type mapping, white pine weevil control, and Dutch elm disease survey have made up the major projects.

Lewiston

Field work at the Lewiston camp started in June, 1933. The major projects have been forest insect and disease control. The camp is ideally located to carry on effective gypsy moth work, as it is within working distance of the quarantine line, and is also in a heavily infested territory. This work has met with strong public approval. During August and September of 1934, a side camp was maintained at Avon to construct a watchman's cabin on Mt. Blue. In Hartford a two-mile truck trail has been nearly completed to the summit of Bear Mt. where the state maintains a lookout.

Other projects consist of forest type mapping, stand improvement and planting on public forest, construction of Forest Service lunch grounds, water holes for fire protection, white pine weevil control, and Dutch elm disease survey.

Jefferson

This camp was occupied from July, 1933, to July, 1935, by World War veterans. They were good workers and took a real interest in their work. It was, however, impossible to use them in climbing trees for gypsy moth work. In 1935, the camp was changed to a junior camp and now has Maine boys. The major projects have been gypsy moth and white pine blister rust control work. The camp is located where it can do effective work for a long period, being close to the quarantine line, and to the heavily infested territory between the Kennebec River and coast. Side camps have been maintained at Appleton from November, 1933, to April, 1934, and at Knox from August to November, 1935. The first for gypsy moth work, and the latter to construct a truck trail to Frye Mt. Work in establishing and building up the state arboretum in Augusta has brought much favorable comment. A number of very attractive and original lunch grounds have been built.

Other projects include forest type mapping, stand improvement, white pine weevil control, and a truck trail to the summit of Mountain Hill in Jefferson.

Summary of Work Accomplished by All Forest Camps to December 31, 1936

Woods telephone lines constructed, both Pole and Tree lines	332 Miles
Reduction of Fire Hazard by cleaning up bad slash areas	1,167 Acres
Reduction of Fire by cleaning up debris along road and trail sides	402.7 Miles
Lookout Towers	6
Actual fighting forest fires	25,419 Man Days
Patrols and other measures guarding against forest fires.	4,046 Man Days
General Clean-up	10 Acres
Forest stand improvement, by thinnings, weedings, and girdling on State and Town lands	1,830 Acres
Truck Trails, gravel base and surface, 1 ft. in depth	160.5 Miles
Tote roads and horse trails, both new and old ones put in shape	175 Miles
Foot Trails	361 Miles
Buildings, cabins, offices, etc., at permanent locations	28

Buildings at temporary locations, side-camps, dynamite houses, etc.	57
Public camp ground cleaning to concentrate tourist travel and reduce fire risk	135 Acres
Public camp ground improvements, fireplaces, latrines, shelters, tables, etc.	364
Planted to forest trees, on state and town land	66 Acres
Extermination and Control of Insect Pests	612,250 Acres
Gypsy moth egg masses destroyed	14,185,706
Diseased and infected apple trees cut	65,310
Brown tail moth webs cut and burned	258,479
Roadsides cleaned of tent caterpillar	10 Miles
European corn borer	250 Man Days
White pine weevil tops destroyed	369,987
Dutch Elm disease survey—68 towns	12,788 Acres
White pine blister rust control	279,127 Acres
Ribes destroyed	8,161,603
Area mapped for control work	425,958 Acres
Landscape work on State Arboretum	20 Acres
Artificial pond	1
Native shrubs and trees planted and labelled	5,300
Bridges to carry motor vehicles	227
Bridges for horse drawn vehicles only	99
Foot bridges	47
Airplane landing fields	1
Searching for missing persons	1,267 Man Days
Water holes for fire fighting reservoirs	34
Wharves	2
Emergency work, 1936 flood	6,740 Man Days
Wild life census	157 Man Days
Survey lines run	40 Miles
Pipe lines	630 Feet
Fire Breaks	2 Miles
Auto parking area	1,460 Sq. Yds.
Forest type mapping and timber survey, 17 towns	2,828 Man Days
Maintenance work on trails and lunch ground	610 Man Days

OUTLINE OF PARK DEVELOPMENT AND REPORT OF WORK DONE BY 1130th CCC AT CAMDEN HILLS, ME.-SP-4

This camp now under the jurisdiction of the National Park Service, with procurement office at Bar Harbor, was formerly under the supervision of the Forest Commissioner.

Maine State Park No. 4, or Camden Hills State Park as it is otherwise known, is located in Knox and Waldo counties in the towns of Camden and Lincolnville. The purchase of land for this park was started by the Resettlement Administration in 1935 and transferred to the National Park Service in November, 1936. While the purchase is not yet complete a tract of 8000 acres is under consideration. Of this area, 5316 acres have been optioned by the Government of which 1557.24 acres have been purchased.

The development of the park is being carried out by the National Park Service in cooperation with the Maine State Park Commission. This development is intended to satisfy the public demand for outdoor recreation and incorporated in the designs are the various projects which are prerequisite to satisfaction of this demand.

Three basic types of summer recreation needs have been recognized. These are found in three types of park uses. Namely, these groups consist of day visitors who wish to hike, picnic, swim, or indulge in various games; secondly, campers who wish to erect their tent or park their trailer in an attractive natural setting and spend a few days at their ease, and thirdly, the children and youths who are aided in spending a short vacation in healthy natural surroundings by the various public organizations.

Parking areas, foot trails, trail shelters, swimming facilities, picnic sites are facilities for which there is a common need. Present development plans provide recreational facilities to accommodate 1000 people. And the development of these is a major part of the program. For campers attractive camp-sites are planned as well as the foregoing. The third class requirements are more complicated in that housing must be prepared. This need is served by the development of the Organized Camp.

Ski trails and skating facilities will be furnished for winter sports. However, this is a future program and the details are not yet worked out.

Construction was started at Camden Hills on June 19, 1935, when the 1130 Co. CCC established CCC Camp 11002. The first major undertaking after completion of the camp was road known as "Park

Road Section A" which goes from U. S. Route No. 1 through the camp. This road will form a portion of the Park Road system and is $\frac{1}{4}$ mile in length.

The largest job of the year was the partial development of the area between Route 1 and the ocean known as "Sagamore Lower Area" which is to be a day outing area. The first step here was to clear a tangled growth in preparation for other jobs. This work was followed by the creation of roads and parking areas. The former are one half mile in length while the latter are three in number and will accommodate from 75 to 100 cars. Two miles of foot trails furnish access to the ocean and some thirty-five picnic tables of a rustic type which have been located in desirable spots will accommodate 200 people. A sewerage system with about 3000 feet pipe and a 6000 gallon septic tank have been constructed to furnish sanitation. A water supply system is in the process of construction as well as latrines. Landscape work in the area has produced two foot bridges as well as the planting of more than 7000 native trees and shrubs, and several groups of natural appearing rock steps on the foot trails, and rock and wood guard rails about the parking areas.

1.2 miles of truck trail were built to serve the interior of the park.

The clearing of slash as part of a fire hazard reduction program has greatly decreased the chances of fire on more than 500 acres of park land. This work made a large portion of the year's activities.

On August 24, 1936, fifty men moved to Baxter State Park where they stayed in temporary encampment until October 15, when they returned to Camden. At Baxter Park one half mile of road was constructed with a parking space for automobiles at the end of the road.

PUBLIC LANDS

PUBLIC LANDS

Public Lots

There are one thousand acres of timberland reserved in every unorganized township and plantation in the state, and at the same rate for all tracts less than a township, for the exclusive benefit of the schools of each township or tract until such time as it may become organized as a plantation or incorporated as a town. The Reserved Lands in these townships are known as Public Lots, and are administered by the Forest Commissioner until the township is incorporated as a town.

The management of these lots by the Commissioner requires an annual expenditure far in excess of the appropriation for this purpose. Previous to 1933, there had been an annual appropriation of \$500.00 to carry on this work, but at that session of the Legislature the appropriation was cut down to \$100.00 annually, due to the necessity of curtailing expenditures in all departments.

The Reserved Lots have not as yet been located and surveyed in several of the townships. This work is being done from time to time by the Commissioner as seems expedient in cooperation with the land owners. These lots may be located in one block of 1,000 acres, or may be divided into two or more blocks with a total acreage of 1,000 acres. It is necessary, however, to select a block of land that will be fairly representative of the growth and soil on the township where located.

During the past year the Commissioner has cooperated with the land owners in surveying the Public Lot on Township 17, Range 11, W.E.L.S., at an expense to the Department of approximately \$260.00. Also the remaining 500 acres of the Public Lot on Township 1, Range 6, W.B.K.P., known as Kibbie. This year the work will be done on one or two other townships. The lines of the Public Lots have also been reestablished on the west half and northeast quarter of Township 18, Range 12, W.E.L.S.

Aside from the management of the Public Lots in unorganized townships, it is the duty of the Commissioner to administer the sale of grass and timber on the Public Lots in fifty-five plantations, which lots amount to 50,000 acres.

The trespasses on the Public Lots handled by the Commissioner occasionally are due to poorly defined lines, and are what may be termed an "honest mistake." However, quite frequently there are cases of wilful trespass.

The revenues from the plantation Public Lots from all sources during the years 1935 and 1936 are as follows:

Township	County	1935	1936
Glenwood Plantation.....	Aroostook	\$1,604.88	\$ 15.00
Molunkus Plantation.....	"	12.50	37.50
Nashville Plantation.....	"	709.88	173.57
New Canada Plantation.....	"	.....	210.00
Oxbow Plantation.....	"	.....	130.91
Winterville Plantation.....	"	338.30	852.72
T. 3, R. 2, WELS (Forkstown).....	"	.....	1,218.80
T. 10, R. 4, WELS.....	"	.....	15.00
T. 16, R. 10, WELS.....	"	19.72	47.22
T. 16, R. 11, WELS.....	"	769.78	.....
T. 17, R. 10, WELS.....	"	62.38	2.29
T. 17, R. 11, WELS.....	"	185.65	182.09
Coplin Plantation.....	Franklin	1,566.01	340.03
Lang Plantation.....	"	106.25	.....
T. 3, R. 3, WBKP.....	"	300.00	.....
T. 3, R. 4, WBKP.....	"	450.00	.....
No. 33 Plantation, MD.....	Hancock	.....	46.00
T. No. 8, SD.....	"	39.00	.....
Andover North Surplus.....	Oxford	4,079.46	.....
T. 4, R. 2, WBKP.....	"	110.00	.....
T. 5, R. 4, WBKP.....	"	100.00	.....
Lakeville Plantation.....	Penobscot	655.02	150.00
Stacyville Plantation.....	"	284.75	205.50
T. 5, R. 8, WELS.....	"	10.00	.....
Elliottsville Plantation.....	Piscataquis	50.00	50.00
T. 2, R. 11, WELS.....	"	100.09	.....
T. 10, R. 9, WELS.....	"	12.50	.....
Caratunk Plantation.....	Somerset	111.35	.....
Dennistown Plantation.....	"	12.00	.....
Highland Plantation.....	"	.....	30.00
T. 5, R. 20, WELS.....	"	.....	7,168.04
		\$11,689.43	\$10,874.67

INDIAN TOWNSHIP

After a preliminary survey of the township in the fall of 1930 by R. E. Rendall of the Bates Forest, the Forest Commissioner appointed a committee of experts to serve in an advisory capacity and make definite recommendations for its management. This committee has visited the tract periodically, inspected the work done and recommended measures to guide management in the future.

In its report submitted to the Forest Commissioner in the fall of 1934, the committee recommended a curtailment of the cut of saw timber so that it will more nearly equal the growth. This recommendation was considered necessary because of a large over-cut made one winter to supply a local industry employing local labor. The annual cut of pulpwood is undoubtedly well within the limits of the yearly growth.

It is felt by the committee, by the Maine Forest Service, and by members of the faculty of the University of Maine, that the township

should be managed on a sustained yield basis, not only because of the practical value of a large state demonstration area in Maine, but also because a greater financial value to the state and to the Passamaquoddy tribe will result from a smaller income over a longer period of time than from a larger income over a shorter period.

Since the establishment of the University of Maine camp on the township in 1931, the Senior Forestry classes, during the eight weeks spent there each winter, have mapped the township, made an inventory of the timber, blocked the tract up into sections, and otherwise assisted in its management as part of their regular course.

The Civilian Conservation Corps camp, established on the township in June, 1933, has done a great deal of good work in road construction and stand improvement.

New revenues from stumpage sold on Indian Township for the past two years are as follows:

1935	1936
\$5,965.15	\$2,368.14

State Park Commission

The State Park Commission is in the preliminary stages of its development and functioning. Because of its close coordination with the forestry department, it seems proper that some reference be made to it in this report. On April 5, 1935, the Legislature approved an Act creating the State Park Commission.

“CHAPTER 144

AN ACT Creating a State Park Commission

Be it enacted by the People of the State of Maine, as follows:

Sec. 1. **Definitions.** As used in this act, the term “park” shall mean:

(a) Any area of considerable extent but not exceeding 10,000 acres in which are combined either superlative or distinctive scenic characteristics and either a reasonably varied or extensive or exceptional opportunity for active recreation.

(b) Any area not exceeding 1,000 acres, with or without distinctive characteristics but containing such natural features as afford ample opportunity for development and use as an active recreational area.

(c) Any area included above within easy access of any road or highway, except extensions to road or highway rights-of-way, turn-outs, loops, or other additions to roads or highways the primary purpose of which is to preserve the natural beauty of lands bordering such roads or highways or to afford temporary stopping points along such roads or highways.

(d) Any strip or strips of land, with or without roads, highways and/or improvements required for ingress and egress to or from any of the areas above described and not exceeding in length the distance required to connect such areas with the nearest arterial or trunk-line highway, railroad line or terminal, or other public transportation facility or way.

The term "memorial" shall mean any area of land, with or without buildings, improvements, or other structures established as hereinafter provided, for public use wholly or primarily because of its historic, archeological or scientific interest or value.

Sec. 2. Park commission; creation and powers. The Maine state park commission is hereby created and established, consisting of 5 members, namely, the commissioner of inland fisheries and game, the forest commissioner and 3 citizen members, not more than 2 of whom shall be of the same political party, to be appointed by the governor and approved by the council, 1 for 3 years, 1 for 2 years and 1 for 1 year and thereafter the appointment of citizen members shall be for 3 years, which commission shall have jurisdiction, custody and control in, over and upon all state parks and memorials and national parks which are under control and management of the state, excepting however, Baxter State Park. It is not the intention of this act to include any national parks now existing or which may be hereafter created under national management and/or control. Vacancies or removals shall be filled by appointment for the unexpired term of the retiring member. For cause the governor and council may, upon notice and hearing, remove any member of the board for misconduct, incompetency, neglect of duty or for any other sufficient cause. The headquarters of the commission shall be at Augusta, but the commission may meet and transact its business at any other place within the State of Maine. Each member shall be paid the sum of \$5 per diem for the time actually spent by each in transacting official business of the commission, payment to be made as hereinafter provided for. Said commission shall have and exercise the following powers and authority:

(a) With the consent of the governor and council, to acquire in behalf of the state, land or any interests therein, within this state, with or without improvements, by purchase or gift, and by eminent domain subject to proviso hereinafter set forth, and with like consent to sell and convey such lands or interests therein, or lease the same, or by revocable license or agreement, or grant to any person, firm or corporation exclusive rights and privileges to the use and enjoyment of portions of such lands, provided, however, that no lease hereunder shall be for a term longer than 1 year, and any such license, lease or agreement granted or entered into hereunder shall be cancelled or revoked after due notice of intention to cancel or revoke the same by action of the commission, when the use for which said license was given shall have been abandoned, materially modified, or whenever the conditions imposed in any license, lease or agreement shall have been broken; provided, however, that the right of eminent domain shall not be exercised to take any area or areas in any one park which singly or collectively exceed 200 acres, nor shall it be exercised to take any developed or undeveloped mill site or water power privilege in whole or in part or any land used or useful in connection therewith, or any land being utilized for any industrial enterprise.

(b) To study and ascertain as nearly as possible and report to the governor and council from time to time, (1) the state's actual and potential outdoor recreational park resources and facilities, (2) the needs of the people of this state and out-of-state visitors for such park resources and facilities, (3) the kinds of resources and facilities best suited to and required for such park needs, (4) the extent to which such park needs are being currently met whether by publicly owned or privately owned facilities, (5) the location and probable cost of acquisition, development and operation of parks, which if acquired, developed and operated under this act could satisfy such needs, and (6) the several public purposes to which such parks or portions thereof might be put. Such studies and reports shall be accompanied by other information, statistics, and charts as will adequately inform the governor and council of the character, condition and needs of this state of park recreational resources and facilities, and may be accompanied by specific recommendations for new legislation or other action to be taken with respect to the same.

(c) With the consent of the governor and council, to set apart, and publicly proclaim areas of land in this state including improvements, or other structures thereon, title to which has been acquired hereunder, as parks and/or memorials within the meaning of this act, and the commission may from time to time, establish such rules and regulations as it deems necessary (1) for the protection and preservation of state parks and parks under state control; and (2) for the protection and safety of the public, and (3) for observances of the conditions and restrictions expressed in deeds of trust, or otherwise, of the parks of the state, and of monuments thereon; and before promulgating the same; they shall be submitted to the attorney-general, and if he shall certify that in his opinion they are in conformity with the law, they shall thereupon, together with paragraph "d" of this section, be published once a week for 2 successive weeks in a newspaper published in the towns or counties of this state wherein parks are located and posted in at least 3 conspicuous places in or about said park or parks whereupon they shall take effect, and a certificate of such publication and posting shall be executed by one of the members of said commission and filed with the secretary of state, who shall record the same.

(d) Whoever violates any of the rules and regulations, or any notices posted in conformity with the provisions of this act by said commission, or wilfully mutilates, defaces or destroys any monument or marker lawfully erected within the borders of said parks shall be punished by a fine of not more than \$50 and cost, or by imprisonment for not more than 30 days, or by both such fine and imprisonment.

(e) Trial justices and municipal courts within their county shall have concurrent jurisdiction with the superior court in all prosecutions under any provision of this act and, (1) any person arrested as a violator of this act, may be taken before any trial justice, or any municipal court in the county where the offense was committed, or in any adjoining county, and (2) jurisdiction in such cases is hereby granted to all trial justices and all other courts to be exercised in the same manner as if the offense had been committed in that county.

(f) The powers and duties of the Maine State Park Commission as set forth in this act, shall not be construed so as to interfere or conflict in any way with the powers and duties of the United States and its national park areas

under national control, Baxter State Park, Inland Fisheries and Game Department or the Forestry Department and their duly appointed wardens, and the enforcement of the inland fisheries and game and forestry laws in respect to state parks or to the state generally.

(g) Limitations or interpretations as set forth in chapter 2 of the revised statutes, which are inconsistent with or repugnant to the powers and duties of the said commissioners as set forth in this act, shall not be construed so as to apply to state parks.

(h) The commission shall, with approval of the governor and council, establish and maintain adequate provisions for the prevention, suppression and control of fires within said park areas.

(i) With the consent of the governor and council, to negotiate and execute any lease or other agreement for the administration, maintenance, supervision, use and development of state parks, within the meaning of this act, acquired and owned by the government of the United States, upon such terms and conditions as may be deemed advantageous to the people of the State of Maine and consistent with the provisions of this act; and with like consent, to accept on behalf of the state, deeds of gift or other conveyances to lands or interests therein suitable for administration, maintenance, supervision, use and development as state parks or memorials under this act. Such lands or interest therein, when so acquired whether title thereto be in the United States or otherwise, shall be and remain subject to administration, maintenance, supervision, use and development by said commission under this act during the terms of any such lease or agreement, provided, however, that with respect to lands or interest therein, included in any park or parks acquired and owned by the government of the United States, and administered under this act, the state of Maine shall retain concurrent jurisdiction with the United States in and over all such lands. Any civil and criminal process issuing under the authority of this state may be executed on said lands in the same manner and to the same effect as if the same were privately owned, and exclusive jurisdiction in and to said lands shall revert to the State of Maine when said lands shall cease to be owned by the United States, and provided further, that such lands owned by the United States shall be exempt from all taxes and assessments so long as the same shall be the property of the United States.

(j) To fix the qualifications and duties of, and to employ permanently or part time, such employees and other personnel as the commission may from time to time deem necessary in the discharge of its duties under this act; salaries, fees and other compensations to be fixed by the governor and council.

(k) All monies received by the commission shall be deposited with the treasurer of state, who shall maintain a separate fund which shall be used for the continued maintenance and development of said park areas.

(l) To have and use an official seal which shall be in custody of the secretary of said commission.

(m) There is hereby appropriated the sum of \$1500 to be used in carrying out the purposes of this act.

(n) Immediately upon appointment the commission shall meet, elect a chairman, arrange for suitable headquarters and otherwise act to perfect its organization.

Sec. 3. Real estate subject to flowage. All real estate acquired under the provisions of this act, shall be and remain subject to flowage under the provisions of chapter 106 of the revised statutes, known as the Mill Act, and any amendment now or hereafter made thereto, or under any special charter heretofore or hereafter granted by the State of Maine, notwithstanding title thereto may be in the State of Maine.

Sec. 4. Repealing clause. All other acts or parts of acts inconsistent with the provisions of this act, are hereby repealed."

The U. S. Resettlement Administration, through its division of land utilization, and the National Park Service are acquiring or have optioned several areas which they plan to offer to the State, when purchased, for state park areas. On December 15, 1936, there were over 16,000 acres already accepted and optioned by the Division of Land Utilization and over 4,000 acres accepted and optioned under the State Park Division of the National Park Service. All work of development in connection with these areas has been carried on and will continue under the present plans up to June 30, 1937.

The first meeting of the Commission was called by the Governor on August 14, 1935, since which time the Commission has averaged one monthly meeting and visited each of the proposed park areas at least once. Although at the present time there is no land under the jurisdiction of the Park Commission, there is no question but that with the receipt of the lands being acquired by the Government the State will enjoy a valuable asset in the ownership of the proposed park areas.

National Forests

The White Mountain National Forest is situated in New Hampshire and Maine. That part situated in Maine lies in Oxford county and comprises areas situated as follows:

Albany	3,917.7 Acres
Batchelder's Grant	15,305.1 "
Gilead	1,181.7 "
Mason	7,274.6 "
Stoneham	5,714.3 "
Stow	743.3 "

Total.....34,136.7 Acres

Under Act of Congress May 23, 1908, the State receives 25% of the net receipts realized from the Forest in Maine and 10% of the net receipts is set aside each year to be used for forest roads.

The receipts of the State for the past four years and the apportionment of it are as follows:

Towns	1933	1934	1935	1936
Albany	\$15.57	\$73.79	\$90.46	\$111.80
Gilead	5.28	25.01	30.66	37.91
Mason	28.27	134.02	164.31
Stoneham	37.92	186.51	228.65	282.66
Stow	3.97	18.85	23.12	28.71
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	\$91.01	\$438.18	\$537.20	\$461.08

AUSTIN CARY



AUSTIN CARY

1865—1936

Austin Cary

During the past year, Maine suffered the loss of its oldest pioneer forester, Austin Cary. Coming from down east, his parents were descendants of early settlers. Born on July 31, 1865, in East Machias, he spent his early boyhood there. Graduating from Bowdoin College with honors in 1887 with the degree of A. B., he showed a leaning towards the natural sciences. After tutoring at Bowdoin in 1887-88, he studied biology at John Hopkins and Princeton. In 1890 he was awarded the degree of A. M. from Bowdoin.

In 1891 he was a member of the Bowdoin Scientific Expedition to Labrador, among the objectives of which was exploration on the Hamilton River. Limited as to time and under great difficulties, Cary and one other member of the party made the trip up the river from the Hamilton Inlet for 300 miles to Grand Falls and return in 37 days. It was a trip of great hardship, bringing the first accurate description of this natural wonder of the east and the country about it. His report on this trip is to be found in a Bulletin of the American Geographical Society for this period and it has also been published in pamphlet form.

It was while on a fishing trip in Washington county in 1892, that he met Prof. Cleveland Abbott of the U. S. Weather Bureau and B. E. Fernow of the Division of Forestry. Through the influence of these leaders he became interested in this new field of forestry. In those days there were no schools or centers of instruction in forestry in America. Except for Mr. Fernow only two other leaders were ahead of him in forestry. These were Gifford Pinchot and Solon S. Graves.

Mr. Cary accepted an appointment in the Federal Division of Forestry from 1893-96. Some of his work for the Division was in the northeast and he qualified very quickly as an expert.

In 1895, he was called by Mr. Oakes, then Forest Commissioner of Maine, to make a study and report on Forest Resources of the Androscoggin and Kennebec watersheds. This was a time when there was a rise in public consciousness in the State concerning the future of its timber industry. Cary's report was the first comprehensive, practical survey of this kind ever made. For its statement of conditions, its analysis and the conclusions, it is worthy of study today. The author's own comments and review, made 40 years later, are in the Forest Commissioner's Report for 1933-34.

In 1896, Mr. Cary made a trip to Germany for observation and study. It was in Europe that the only examples of practical forestry were to be found. This served to round out his early study in this country.

During the period from 1898 to 1904, Mr. Cary was engaged as forester for the Berlin Mills Co., which had large holdings in northern New Hampshire and western Maine. Here, as the first consulting forester in the country, he introduced the following economies:

I. Increased economy in handling and utilizing the stand of timber on the tract.

II. A system of cutting adapted to the land, the timber, and the business organization and at the same time directed towards the promotion of future growth.

III. The heading off of a big insect depredation, a bark beetle, that infested the inner bark of the spruce.

IV. A map system devised and in a large measure carried out, which rendered it possible to handle a large land property with far more economy and effectiveness than could otherwise be done.

Since this day, all of these original innovations have become established principles with large land holders and operating companies.

After a second trip to Europe in 1903, Mr. Cary taught surveying in the Yale Forest School during the summers of 1904-05. Recognizing his practical experience in the woods, coupled with his knowledge of the theory, he was offered professorship in the University of Maine which he declined. Later he accepted the position of assistant professor in the Harvard School of Forestry, which he held from 1905 to 1909. Here he wrote and published his "Manual for Northern Woodsmen" which is now in its fourth edition.

In 1908, he was appointed by Governor Cobb to represent Maine at the Great Natural Resources Conference in Washington.

In 1909-10, he was Superintendent of Forests in the State of New York.

After this he entered the U. S. Forest Service as Senior Logging Engineer, engaged in special investigation and promotion of forestry. He was a practical field man and his method of approach was direct and simple with few tools and theories.

Mr. Cary's work with the Forest Service took him into practically all of the forested regions of the country. During the first few years, he was in the northwest. Later he devoted much of his time to the pine forests of the south. He displayed much interest in the establishment of the Forestry Department at the University of Florida. Here he made particular studies of the management of pine in relation to the Naval Stores.

In 1924, he accompanied the American Naval Stores Commission on its trip to France and Spain.

It is not possible in this brief article to appraise his work or appreciate the extent to which he spread his teachings. His bibliography gives an idea of this, running through a period of 40 years and extending from New England into the northwest, thence into southern pine regions where he became regarded as their own leader in conservation.

In his work he kept a very complete system of notes on his observations and studies. He was constantly revising them. These field note books, and his professional library were bequeathed to Edward S. Bryant of Boston and Ernest F. Jones of Bangor. His property rights in his "Manual for Northern Woodsmen" were bequeathed to Philip T. Harris of the U. S. Forest Service.

In recent years, he took up his studies in the northeast with the intention of correlating them with his early investigations at the beginning of his career. Maintaining his summer headquarters in Harpswell, Maine, he gathered here his extensive forestry library and all his notes. It was his hope and plan, when he retired from the Forest Service in 1935, to devote his time to this review of his past studies and to assemble it all for the benefit of the future of forestry. No forester was in a better position to do this than Mr. Cary, who had grown up with his profession since its dawn in the early nineties.

Honored with the degree of Sc.D. in 1922 from his Alma Mater, where he was college forester, he was equally distinguished among his contemporaries in the Society of American Foresters in which he had been elevated to the highest rank within his profession—that of Fellow.

A simple and convincing writer, his outstanding contribution was his "Manual for Northern Woodsmen." He was a regular contributor to trade magazines and the forestry publications. Consequently, his profession will go forward stronger and with more assurance as the result of his work.

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