MAINE PUBLIC DOCUMENTS
1948-50

(In three volumes)

VOLUME I

STATE OF MAINE

TWENTY-EIGHTH

BIENNIAL REPORT

OF THE

FOREST COMMISSIONER

A. D. NUTTING

WINDSOR HILL RADIO RELAY STATION

1949 - 1950

STATE OF MAINE

TWENTY-EIGHTH BIENNIAL REPORT OF THE FOREST COMMISSIONER

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1949 - 1950

IN MEMORIAM

RAYMOND E. RENDALL, *Forest Commissioner* (1939-1948)

Born September 29, 1892 and died December 24, 1949

He received his Bachelor of Science degree in forestry at the University of Maine in 1916 and his Master's degree at the Yale School of Forestry in 1920.

Mr. Rendall was Forester and Manager of the Bates College Forest, at Alfred, Maine, for many years.

During his term of office, he was active in the Association of State Foresters and served as secretary. He was a Senior Member of the Society of American Foresters.

He was the guiding force in establishing the Massabesic Experimental Forest, at Alfred, by the U. S. Forest Service, largely from lands formerly part of the Bates College Forest.

In 1939 he was appointed Forest Commissioner by Governor Lewis O. Barrows and reappointed in 1943 by Governor Sumner Sewall for a second four-year term.

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ERLAND C. TORREY

Watchman on West Kennebago Mt. - Rangeley District

Born April 4, 1882 and died February 14, 1950

25 years state employed; 9 years with Fish and Game Department (1919-28); and 15 years with Forestry Department (1934-1949).

He was particularly noted for his accuracy in detecting forest fires and establishing a vegetable garden near the mountain. The garden soil was carried to the garden site over a period of time and held by a log terrace.

State of Maine

FOREST SERVICE

Augusta

June 30, 1951

Honorable Frederick G. Payne

Governor of Maine

Dear Governor Payne:

In accordance with Section 14, Chapter 32, of the Revised Statutes of 1944, I have the honor to transmit herewith the Twenty-eighth Biennial Report for the years 1949-1950.

Respectfully yours,

A. D. NUTTING,

Forest Commissioner

MAINE FOREST SERVICE PERSONNEL

Forest Commissioner
A. D. Nutting, Augusta
Deputy Forest Commissioner
Austin H. Wilkins, Augusta
Supervisors
Maine Forestry District
George A. Faulkner, Ellsworth
Rex E. Gilpatrick, Clayton Lake
Robert G. Hutton, Greenville
Robert E. Pendleton, Island Falls
Assistant Supervisor
Glen H. Tingley, Island Falls
Supervisor
Organized Towns
Fred E. Holt, Augusta
Radio Technician
E. Arthur Evans, Windsor Neck Hill
Assistant Radio Technician
Russell Cram, Windsor Neck Hill
Farm Foresters
W. Robert Dinneen, Bridgton
Sumner Burgess, Dixfield
Pilots
Earl F. Crabb, Augusta
Charles S. Coe, Tramway
Dispatcher-Draftsmen
Joseph R. Strickland, Augusta
William Adams, Augusta
Entomologists
State Entomologist
Henry B. Peirson, Augusta
Senior Entomologists
Dr. Auburn E. Brower, Augusta
Joel W. Marsh, Augusta
Robley W. Nash, Augusta
Junior Entomologist
Edward J. Duda, Augusta
Forest Insect Rangers
Harold Bullock, Greenville
Harry Dyer, Stratton
James Holmes, Portage
Frank Manning, Augusta
George H. McGinley, E. Orland
Henry Willette, St. Francis
Blister Rust Control
Area Leader
Paul H. Simmonds, Augusta
District Leaders
Harrington G. Bradbury, Belfast
Martin G. Calderara, Auburn
Joseph B. Pike, Bridgton
Office Staff
Departmental Business Manager
William Whitman, Augusta
Secretary to Commissioner
Lillian Tschamler, Augusta
Chief Clerk
Blanche L. Violette, Augusta
Account Clerk
Kathryn F. Larkin, Augusta
Clerks
Mabel C. Rowell, Augusta
Marion Blair, Augusta
Madelyn Bullock, Augusta
Radio Operator
Katherine Emery, Augusta

INTRODUCTION

There were two major developments in this department during the years of 1949 and 1950: a state-wide forest fire program and aid to small woodland owners in forest management and marketing. Of much importance was the increase in Maine Forestry District funds, through an adjusted tax rate.

Due to greatly increased demands for forest products, such as lumber, pulpwood, and turnery wood, aggressive forest protection programs are needed.

As a result of the fires of 1947 and a very active program in 1948, the 1949 legislature passed a law which made the forestry department responsible for forest fire control over the entire state. It has had the responsibility in the Maine Forestry District since 1909. The main feature of the organized town program is cooperation with the towns, yet final authority and responsibility rests with the state.

Management aid to small woodland owners was started in 1948 by the state, through the acceptance of funds from operators and landowners in southwestern Maine to pay the state's share of funds necessary to hire a forester. The 1949 legislature provided sufficient funds to make it possible to have two such foresters. This was a very significant change in state forestry activities. Although Maine is a major forest land state, as a state agency it had never previously sponsored management work.

As part of the over-all state forest fire program, training of wardens was started with state personnel and town forest fire wardens. The first combined warden school, including Maine Forestry District and organized town personnel, was held in March 1950. Practically every town forest fire warden attended training schools in late 1949 and 1950. The 1949 legislature made it necessary for the town forest fire wardens to attend training schools and prepare forest fire plans for their towns in order to obtain a $50.00 fee given by the state. Voluntary town training schools, without fee, brought in about 75% of the men in 1948 and early 1949. This was good but not good enough for a warden training program.

Civil defense preparations have been of much concern during the biennium. A number of conferences were held with General Spaulding Bisbee, Director of Civil Defense, in order to coordinate forest fire control preparation with civil defense.

The U. S. Forest Service held a training school for key state personnel in the New England States and New York, at Bear Brook, N. H. The department supervisors attended. This training program was tied in closely with civil defense problems.

In 1949 Maine passed a law making this state a member of the Northeastern Forest Fire Protection Compact. The Compact states were formed into an organization in July 1950. All the New England States and New York became members at that time.

Communication is one of the more important features of a forest fire program. This is true in prevention and preparation as well as suppression. Funds were provided in 1949 to equip state wardens in the organized towns with radio and to establish land stations. During the season of 1950 each state warden in the organized towns had a two-way radio in his truck. A start was made in the Maine Forestry District with FM radio in 1950. A few land stations were established and three supervisors were provided with two-way radio in their cars.

The Keep Maine Green program, after its start in 1948, continued to be active during 1949 and 1950. A paid executive secretary was hired for the spring of 1949 and the fall of 1950 for about two months each.

Legislation in 1949 provided that the department obtain figures on the forest products cut in the state each year. The results and interest in this were very satisfactory. The summaries are included in this report.

1949 was a dry year and 1950 continued the same. In fact, the ground water line decreased each of these years, causing woods fires to burn deeply. The longest fire ban in the state's history ran from July 29 to August 30, 1949. Fortunately, in the fall of 1950, rains came and the ground water situation was improved.

During 1950 a large expansion of forest fire weather danger measurement was started. Since 1944 weather danger stations had been established in the organized town area, usually in conjunction with lookout towers. This pattern did not fit in the Maine Forestry District. However, other means and types of stations have been worked out so that plans were nearly complete for state-wide coverage in 1950 with the provision they would be completed in 1951.

The forest pest problem is always present. The threat of the spruce budworm continued in 1949 and 1950. An active, coopera-

tive program between the U. S. Department of Agriculture, Bureau of Entomology & Plant Quarantine, and this office was carried on in northern Aroostook County. Active work was continued to determine the cause for birch dying and some possible means of control. A limited amount of work was done on methods of cutting and the regeneration of birch in connection with the problem. Some work was also done on beech. The arbor-vitae leaf miner infestation, on cedar, was heavy during 1950. Experimental spraying and other work was started to determine how best to control this pest.

Walter O. Frost, who was State Blister Rust Agent for over 30 years, for the U. S. Department of Agriculture, Bureau of Entomology & Plant Quarantine, retired in October 1950. Because of a change in administrative set-up in blister rust control work, Paul H. Simmonds, was appointed Area Leader for Maine and New Hampshire. He maintains his headquarters in this office, as did Mr. Frost.

The Eastern and Western Maine Forest Forums continued to be active during 1949 and 1950. Attendance was excellent with the one in eastern Maine being somewhat larger than the one in western Maine. Both of these groups have contributed much in the way of discussion and education among people interested in forest problems.

Keeping the public informed about the department's work and problems was emphasized during the biennium. Wardens held hundreds of fire prevention and information meetings. The press and radio were interested in forest fire news. Their support and interest were major forest fire prevention factors. All prevention work was tied in closely with the Keep Maine Green program.

SUMMARY FOREST FIRE STATISTICS—1949

Causes	Organized Towns		Maine Forestry District		Total	
	No.	Area	No.	Area	No.	Area
Smokers	193	835.8	48	752.6	241	1,588.4
Debris Burning	102	1,596.1	51	9,109.3	153	10,705.4
Miscellaneous	74	120.1	13	32.1	87	152.2
Unknown	70	211.1	9	29.1	79	240.2
Campers	19	217.5	53	6,374.3	72	6,591.8
Lightning	25	29.1	35	296.8	60	325.9
Lumbering	27	816.1	4	6.3	31	822.4
Incendiary	23	244.6	6	337.0	29	581.6
Railroad	11	43.7	—	—	11	43.7
	544	4,114.1	219	16,937.5	763	21,051.6

SUMMARY FOREST FIRE STATISTICS—1950

Causes	Organized Towns		Maine Forestry District		Total	
	No.	Area	No.	Area	No.	Area
Smokers	290	1,939.9	50	2,094.1	340	4,034.0
Debris Burning	203	2,595.1	9	39.6	212	2,634.7
Miscellaneous	158	2,097.15	11	2.3	169	2,099.45
Campers	33	1,193.4	34	312.9	67	1,506.3
Lightning	35	20.0	39	13.1	74	33.1
Lumbering	30	3,615.75	15	3,847.2	45	7,462.95
Incendiary	16	23.5	10	110.9	26	134.4
Railroad	14	50.7	4	95.9	18	146.6
	779	11,535.5	172	6,516.0	951	18,051.5

MAINE FORESTRY DISTRICT

10,262,455 A.

The administrative set-up of the Maine Forestry District remained approximately the same during 1949 and 1950, as previously. Supervisor Harry G. Tingley retired January 1, 1949, having reached the age limit for state employees. In March 1949, Robert E. Pendleton, who was with the department in the Augusta office, was appointed supervisor of the Central Division. The 26 warden districts were reduced to 25 in 1950, Davidson being absorbed by the Mattawamkeag and Katahdin Districts. Approximately the same number of watchmen and patrolmen were hired during the biennium as in previous years. The Haynesville, or Mitchell Mt., tower was closed after the fall season of 1950 because of the construction of a tower on Peekaboo Mt., in Weston, in the organized towns.

An active program of replacing dilapidated camps and storehouses was started. Several replacements and a few new constructions were made during the biennium. These are covered in the supervisor's reports. An attempt has been made to arrange construction in such a way that nearly all is done by regularly employed wardens.

The AM radio which was on the old frequency, 35.94 mc., was discontinued the latter part of 1950 due to the loss of our frequency. As the organized town radio program was on FM, it seemed advisable to make our additions and develop our Maine Forestry District radio program in conjunction with the organized town network. District personnel, who formerly questioned the value of radio, became very much sold on it as a result of the excellent communications afforded by the organized town network.

The Maine Forestry District continued to operate on a two plane basis, hiring additional planes for other work needed. The 4-place Seabee, which is based at Augusta, did much of its work in the Eastern and Central Divisions. The 2-place Luscombe, on floats, based at the Tramway, served the Northern Division primarily, with some assistance being given the Central and Western Divisions.

A very active training program was started for Maine Forestry District personnel on a state basis in conjunction with the personnel of the organized towns. The Western Division followed up the training on a state level with a number of training schools for its own personnel and for school groups. Chief wardens and patrolmen for the most part have been very receptive to the training and have been asking for more. Plans were made in late 1950 for a more active training program in 1951.

Through legislation passed in 1949, the Maine Forestry District tax was increased from 2¼ mills to 8 mills, 3 mills for paying off loans and 5 mills for operating costs, which made it possible to pay off its complete debt on July 1, 1950 and have sufficient money on hand to operate for the fiscal year 1950-1951. This provided the department with an opportunity to budget and plan its financial program in advance. It also made it possible to carry out the statement made to the Governor and Council that all money borrowed from surplus would be returned and the District would be placed on a sound financial basis.

At a landowner meeting in December 1950, necessary legislation to keep the Maine Forestry District on a continuing sound financial basis was discussed. The decision was made that the landowners would go to the legislature and ask for a 5½ mill tax for 1951 and 1952. This was further discussed at a general landowner meeting and approved. It was anticipated at these meetings that warden salaries would be increased and that the cost of equipment would continue to rise.

During the years of 1949 and 1950, the Maine Forestry District was able to purchase replacements for much of its worn out and long used equipment. Rather than follow a policy of trying to replace all old equipment, we operated on the basis of some new equipment each year in order that we would not be faced at some time with almost completely worn out equipment, as was the situation in 1948.

Camp sites and lunch grounds are important forest fire prevention tools. They are also important to Maine recreation. Fire wardens have not been able to properly take care of these facilities because of greatly increased recreation travel and use. Recreation funds should supplement forest fire funds to take care of the increasing need for camp sites and lunch grounds.

The landowners, and the Advisory Committee of the landowners, have all been very cooperative. Their interest and suggestions have been appreciated. The morale of the personnel has been helped by the interest shown by them. This was especially evident when a large percentage of the landowners attended the banquet part of our training schools in March 1950, and expressed their interest in the forest fire problems. Naturally, the personnel was very much pleased with the support given the District through increased revenue provided by the new tax, together with increased pay for themselves and the new equipment provided.

The following inventory summary of major items in the Maine Forestry District illustrates the responsibility of maintenance alone:

Linen Hose—Ft.	129,900
Rubber Lined Hose—Ft.	29,250
Power Pumps	94
Hand Pumps	1,992
Forestry Axes	1,460
Other Axes	618
Shovels	2,321
Trucks	66
Cars	4
Planes	2
Boats and Canoes	111.
Outboard Motors	76
Radio-Mobile Sets	12
Radio—Portable Sets	16
Telephone Lines—State-owned—Miles	2,057
Telephone Lines—Privately-owned used—Miles	1,424

Each supervisor has written a report of the activities of his Division during the past two years. These reports will bring out facts concerning activities, construction, equipment, and the over-all fire problems.

Northern Division—2,241,348 Acres

Rex Gilpatrick, Supervisor

Allagash District. Stanley Drake, Chief Warden—6 Patrolmen —2 Watchmen

1949

Last year we started work changing our ground circuit to a metallic circuit on the telephone line from the Fort Kent Telephone Co. telephone office at St. Francis to their Dickey central at Allagash. This change was made necessary because of high tension electric power lines paralleling our ground circuit which created a noise that rendered the phone service useless. The job was not completed in 1948 due, in part, to a late start. However, we have it completed this year with a marked improvement in telephone service between the Town of Fort Kent and the central office at Dickey.

After completing this job we proceeded to improve the branch line from DeBoulie Mt. to its junction with the metallic circuit above St. Francis. We used a repeating coil and connected the ground circuit with the metallic and found that this gave us good service from DeBoulie to Dickey central.

We replaced one of our old pick-up trucks this year with a new Jeep pick-up in this district. It is possible with the four-wheel drive on the Jeep to get back into some of the more isolated places. This is a time-saver in transporting men and supplies to places where it would be necessary to walk and pack supplies to fires.

1950

This season opened with conditions quite dry in the cut-over pulp lands due, in part, to the lack of rain during the fall months for the past three years. We had several man-caused fires that got their start during high winds in well selected spots on cut-over land where the fuel was in good condition to burn. With one exception, these fires were confined to a relatively small area considering the inaccessible places where they originated. The greatest job after the fires were under control was cutting down the old stubs by the old-fashioned method with a crosscut saw. A two-man power saw would have saved many hours on each fire. This experience on a few fires has proven the advantage of more modern equipment in fire suppression. Another much needed

item in this district is a small, lightweight, portable pumper which will handle one inch hose. One of these pumps and several hundred feet of hose can be carried by two men to isolated spots where we may have lightning fires.

Seven Islands District. John Sinclair, Chief Warden—1 Watchman—3 Patrolmen

1949

We had planned to build a storehouse this year to replace the old one which is inadequate for our needs in the future. We had some of the lumber sawed and piled on the lot but had to abandon our plans for the year. It will be located near the headquarters camp at St. Pamphile.

The regular telephone line and improvement work required a great deal of time in many sections of the district. It was necessary to replace wire and poles in many places where our lines traverse cut-over forest land. High winds and winter storms raised havoc in many localities.

At the patrol camp near the mouth of the Big Black River we have made use of an old camp near by for several years to store fire tools in one part and the other part was used as a woodshed. Old age and heavy winter snow rendered this useless for such purposes, so we replaced it with a new combination shed and storehouse near our camp.

1950

After the regular telephone repair work and other minor jobs were completed this year, we turned our attention to building a new combination storehouse and garage. We had part of the lumber cut, sawed, and stuck up to season since 1948. The building is 24 x 40 feet with a two-door garage, office, and small bedroom on the ground floor. The second floor is reached by an inside stairway and is used as a storehouse for much of our fire fighting equipment. There is also a large door in the end of the building on this floor where heavy or bulky equipment can be raised by block and tackle. A brick chimney near the foot of the stairs makes it possible to set up a stove either in the garage, office, or on the second floor for heat in the early spring or fall. The roof and outside walls are shingled. It is a well-built building and should serve in this district for many years to come.

During the past two or three years the pulp operators have bulldozed several roads in the western part of this district. Some of these roads reach back to the fishing waters which are frequented by many fishermen during the summer months and hunters in the fall. Next year we plan to transfer the pick-up truck we are using here to another district where a truck is needed and get a new Jeep in its place. In making this change we will be able to drive back to these fishing grounds by truck.

Upper St. John District. Luther Savage, Chief Warden—3 Patrolmen—1 Watchman

1949

We have rebuilt much of the telephone line along the Canadian border this year. The pulp operations and winter storms made it necessary to do a major job in many sections. As it was quite imperative that we repair parts of two camps, we were unable to complete all of the telephone line projects. However, in another year we expect to change the location of some lines to avoid crossing bogs, swamps, and other hazards.

The old, log camp at the chief warden headquarters is in such a state of decay that we will have to replace it next year. We have cut some of the logs for this purpose and had them sawed.

We drilled a well near the site of the new camp this summer. At 45 feet the water came in from a large vein and rose to within 11 feet of the surface. The old water supply for drinking purposes got too low in hot weather the past two years. This new supply is a welcome sight to our two families who have to use it.

1950

After the usual telephone line repair work this spring, we proceeded from where we left off last year to relocate some of the lines to eliminate travel across a bog and other undesirable locations. The Carter Brook line was changed from tripods across a bog to higher land and put on trees for a distance of more than 3 miles. This gives us a much better line which is easier and more economical to maintain. As the moose are on the increase in this part of the state, they occasionally become entangled in the low hanging lines and walk off with a quarter or half mile of wire which we cannot find or use again.

After the telephone line work was completed the regular crew went to work cutting logs to be sawed into lumber for the new

camp. These logs were floated down the southwest branch of the St. John to where they could be reached and hauled out by Jeep. then loaded on our 1½-ton truck to be hauled to the mill. The bulk of the lumber was obtained this way but we had to buy some dry spruce for the floor.

The landowners contributed the stumpage and our regular patrolmen did the work. In this way we got the necessary lumber for about half the cash outlay than if we had purchased it from the mill.

The camp is located alongside the old site. Work began about the first of August and it was completed before fall. It is 24 x 28 feet, with a living room, kitchen, and two bedrooms. There is a porch 8 x 24 feet across the front which can be enclosed and screened at some future date.

Musquacook District. A. F. Bridges, Chief Warden—3 Patrolmen—2 Watchmen

1949

Ever since the fall drought of 1947, our drinking water supply at the headquarters camp has been a failure. However, we were fortunate in having a spring with an unlimited flow about one-quarter of a mile from the camp on high ground. We piped this spring down to the camp and now have a water supply with a pressure that will force a stream of water over the roof of all the buildings from a garden hose. This is greatly appreciated by all concerned.

We have needed some kind of power here to run a grindstone, emery wheel, and air compressor for the jobs necessary in an isolated place like this. In the past it has been a great handicap to have to take all work of this nature to Lac Frontiere, 35 miles away, over a rough road. Late in the year we purchased a power unit at a bargain price. It had been used for one season in Aroostook County during the power shortage of 1948. This is 110-220 volt, 3,000 watt, A.C. generator with a 5 H.P. International engine. It furnishes lights for the buildings as well as power for the machines we need.

1950

This season started in the same as many others in the past; namely, more telephone line repair work than we had anticipated. Fallen white and yellow birch stubs, along with damage by moose,

made it impossible to get along with an ordinary repair job. We had a major job to do on the Clear Lake line as well as the line to Cliff Lake which is our through line to Tramway.

During the month of June we installed a short wave radio relay station on Priestly Mt. We expect this will be the start of something new and better in communication between personnel in the field as well as contact with the Commissioner's office at Augusta.

In many instances this served its purpose well this summer in transmitting important messages between the office at Augusta and the supervisor in the field. In no other way could some messages be put through with such promptness. It would seem that there are great possibilities for the radio in this as well as other isolated places in the state.

Our spring water supply failed at Nine Mile camp this year so we had to drill a well there. We got good water at 35 feet and now have a pump on the veranda.

Chamberlain District. Jos. Willette, Chief Warden—3 Patrolmen—1 Watchman

1949

After the usual spring repair work on our several telephone lines in this district, we devoted much time to improving the one we started last year from the arm of Chamberlain lake to Telos Dam. In the early summer we built a new patrol camp at Round Pond, which is located between Chamberlain Lake and Telos Lake, on this new line. This gives us better protection in this part of the district, with a patrolman, camp, and fire fighting equipment located at a strategic point in the center of a popular fishing and hunting area.

1950

When we built the camp two years ago at Allagash Lake for the towerman, lumber was scarce and hard to get in there. It had to be flown in by plane, so we built the camp only, with intentions of erecting a shed later. This year we built a shed in which we can store wood as well as fire fighting equipment. We now have a good outfit here. We piped a spring 400 feet away down into the camp.

We had to do a major job on our telephone line from Tramway to Cliff Lake this year. The moose had tangled up in it where the wire was low so we had to shift and get it higher on trees.

This district is right in the path of what is called a lightning zone in the summer. We usually have more fires from lightning in this area than in all other districts combined in the northern area. Due to this, if for no other reason, we should reopen Soper Mt. tower which has been closed several years. We will need to build a new watchman camp to replace the old one which is in need of too much repair. The new one should be located at the head of navigation on Soper Brook rather than half way up the mountain.

We kept a two-place Luscombe plane on pontoons based at Tramway in the Chamberlain District, with Charlie Coe as pilot. This seems to be a logical base for a plane for several reasons. There are no roads over which we can transport men or supplies for any purpose in this district. There are many lakes and ponds frequented by fishermen and hunters who either fly into the area or come by canoe. When the plane is not at work in this district, it is available for patrol work in all other surrounding districts, as well as up and down the Canadian boundary. It is indispensable in our work in the most isolated part of the state.

Madawaska District. Paul Chamberlain, Chief Warden—2 Patrolmen—2 Watchmen

1949

At the headquarters camp this spring the lake shore had washed away so close to the headquarters yard that it was necessary to cut logs and crib it up near the high water mark to prevent further erosion. The men did a good, neat job which adds to the whole appearance of the yard. They filled the cribbing with rocks, then covered it all with loam and gravel.

We had to put a new roof on the headquarters camp veranda as it was leaking badly and the boards were rotted.

1950

This year we had to replace several poles on our telephone line from Cross Lake to the railroad bridge at Stockholm. 3 miles of this line had been shifted from the easterly to the westerly side of the road two years ago, and many old poles were replaced, but there were many we did not get done at that time. Now we have

this line in good condition from headquarters to the tower at Stockholm.

General

The camp site and lunch ground situation has become a real problem in some districts. There are several agencies in our state that are putting forth their best efforts to advertise our forest area as a vacationland. They have been most successful in getting the people into the forest lands and up and down our rivers, but no provision has been made to take care of this influx of canoe tourists.

There are no sporting camps in some areas travelled, making it necessary for the travelling public to pitch their tents or build bough lean-to shacks. There are not enough camp sites of safety maintained by the Maine Forestry District along our rivers to tent and build fires for cooking or warmth. No other agency is making any attempt to relieve the situation. There is no fund appropriated by the legislature for this purpose or any money set aside by any state department for camp sites or lunch grounds in the Maine Forestry District.

In a small way the Forestry Department, for better forest protection, has attempted to build and maintain camp sites or lunch grounds on land leased from the landowners. As there is no money set aside for this purpose in the department, it is impossible to maintain enough of these spots to accommodate all parties travelling by canoe during the months of June to September.

A bill was introduced in the legislature of 1949 prohibiting anyone from pitching a tent or occupying one of these camp sites for longer than a week at a time. This bill in its original form would have made these camp sites available for a greater number of canoe parties. However, before it was passed to become a law it had been stripped of all its teeth which rendered it useless for its intended purpose. As there is no specific penalty for violating it, it cannot be enforced.

Some of the local guides on the Allagash River make it a practice to pitch tents at some of the most popular camp sites and hold them for fishing parties they have booked for the future. These tents remain pitched for the summer and defeat the purpose of the law which was intended to keep these places available for the public.

The advent of the short wave radio and relay stations in the Maine Forestry District is one of the greatest modern improvements of all time for quick contact with the personnel in the field. If and when we get a number of the walkie-talkie sets distributed among some of our patrolmen in all districts, mobile sets in our pick-up trucks, and relay stations at strategic points, we will be nearer the acme of perfection in organization in our line of work than ever before.

During the past two years we have replaced some of our old fire equipment with new, and with the addition of a few more items we will feel that we are making real progress.

Our greatest need in the northern area at present is small portable power pumps weighing 37 pounds which will handle either one inch or one and one-half inch linen hose. These are really portable and two men could carry a pump with several hundred feet of hose to some of the more isolated lightning fires. We also need a two-man power saw in each of four districts to saw down large, dead trees or stubs after a fire. These will pay for themselves in one season when there is need of one on this kind of work. We have been using one of these this past season and now feel that it is an indispensable piece of equipment.

A lookout tower on McLean Mt. (1,954 feet) in the southern part of St. Francis would be a great addition to our organization. The view from this peak is unobstructed for miles in all directions and its location in northern Aroostook is most desirable. It would seem an ideal location for a radio relay station as well as fire lookout station.

There is a growing need each succeeding year for better fire protection for the area around the Musquacook Lakes region. This chain of five lakes is in the eastern part of the Musquacook District. We do not have any patrolman, telephone line, or road in this section of the district. The only way to get there from the chief warden headquarters, ten miles away, is by plane. Fishermen and hunters fly in to these lakes by plane and camp around the shores. We should have a patrol camp on Third Lake with emergency fire fighting equipment, canoe with outboard, and a telephone line from the camp to Clear Lake Mt. In case of a fire, men will have to be moved in by planes, but a patrolman on the lakes may be able to suppress a camp fire before it becomes a forest fire. This should be one of the first areas to be improved in the immediate future.

In the 6 districts of the northern area we had 10 fires of all sizes during 1949, with 3 of them burning from 160 to 1,000 acres. During 1950 we had 20 fires in the same area with 4 of them burning from 1½ to 212 acres each. The other fires were all less than 1 acre in size. 8 fires were attributed to campers, 3 to smokers, 11 to lightning, 5 to lumbering, 2 to incendiary, and 1 to a power line.

In the spring of 1950 we held a 3-day session fire school for the supervisors and chief wardens of the Maine Forestry District and district wardens in organized towns. This was held in Augusta and was well attended, with great interest shown by all present. The results obtained seem to warrant an annual get-together of this nature.

It is reasonable to suppose that if and when our present plans and recommended suggestions for improvement are realized, we can reduce the area per fire to a much smaller size than at any time in the past. There should be a marked improvement in the suppression of both man-made and lightning fires all over the state.

Central Division—2,532,467 Acres

Robert E. Pendleton, Supervisor

The fire season broke early in April of 1949 and it was not until after the spring run-off in the streams and rivers that we got rains to hold down the fire hazard. Another protracted dry spell in mid-summer made conditions bad for a time.

In 1950 the fire season did not break as early by a month as it had in 1949. During most of the spring, summer, and up to early fall the weather was fairly favorable as rains or showers would ease the situation each time we seemed headed for a prolonged hazardous condition. However, in the fall it did dry out fast as high winds prevailed and bad fire conditions existed until the real fall rains set in about the middle of October.

The break-down on fires occurring in the Central Division, by causes, follows and it is interesting to note the similarity which gives an indication of what to expect each year, for although

weather conditions varied, causes of fires remained nearly alike for each year:

1949

Causes	Number	%	Acres Burned
Camp Fires	13	28	148.60
Smoking	10	21	210.10
Lightning	8	18	2.25
Miscellaneous	7	15	17.00
Debris Burning	6	12	88.50
Incendiary	2	4	84.00
Unknown	1	2	0.00
Totals	47	100	550.45

1950

Causes	Number	%	Acres Burned
Camp Fires	17	29	13.45
Smoking	14	24	252.20
Lightning	14	24	.43
Miscellaneous	5	8	.43
Debris Burning	6	10	21.60
Incendiary	1	2	0.00
Railroads	2	3	46.25
Totals	59	100	334.36

Several of these fires, although small, gave plenty of trouble. Only 1, in 1950, on T. 2, R. 9, W.E.L.S., near the Debsconeag Falls, got to a major size. On this fire we were fortunate in having a favorable wind direction which was not too strong. It is noteworthy that the weather prediction received each day was good and we felt fairly safe in relying on it, as past predictions had been good. With this as a basis, we concentrated on one flank of the fire, the head going toward a pond and the river. This flank was brought under control by the concentrated efforts of nearly the whole crew and held until rains came.

During the 1949 season the Central Division had 7 chief warden districts. After the death of chief warden Tracy of the Davidson District, no replacement was made and the territory of this district was added to the Mattawamkeag District so that in 1950 we operated with 6 chief warden districts.

In the Central Division, which comprises 109 townships, each year during the past biennium, besides the chief wardens, 14 patrolmen, 22 watchmen, and 5 telephone operators were employed. The telephone operators are wives of the chief wardens in most cases. This is the same number of personnel as has been employed the past few years. However, there were some changes

made, for as is always the case, some men found other employment in the off season and failed to return. Also, death took the veteran patrolman, Milo Ambrose, from the Aroostook Waters District shortly after the close of the 1949 season.

During the past two seasons there was considerable work done on the buildings, all of which was by our own personnel during the regular season as time permitted and is listed below by districts:

Fish River District

Built 2 overnight log cabins, one on the telephone line between DeBoulie Mt. and the Fish River Falls camp, and the other between Fish River Falls and Carr Pond Mt. This enabled the patrolmen to put more of his working day on line work and less into travel.

Painted the steel and cabs on 3 towers and made some minor repairs to the DeBoulie Mt. cab.

Made some minor repairs to the Fish River Falls camp and added on a storehouse-woodshed. This enabled the patrolman to get his wood under cover as well as making the camp long enough to store the canoe under cover.

Aroostook Waters District

2 new camps were built to replace 2 log camps so far gone as to be beyond repair. 1 was of log construction for the patrolman at the mouth of Mooseleuk Stream on the Aroostook River. The other was a frame building on the highway in T. 8, R. 5, W.E.L.S. for the watchman on Oak Hill.

A new roof was put on, and a floor in, the small storehouse on Munsungan Lake used by the Norway Mt. watchman.

The storehouse at Ashland was entirely painted on the outside.

Some small repairs were made to the patrolman's camp at the mouth of the Oxbow Road, which improved its appearance greatly and will keep it in service a few more years. This camp will have to be replaced some time in the near future as the logs are badly rotted.

A new wharf was built in front of the boathouse at Squa Pan Lake making it easier to handle the boat and to dock the planes.

Number Nine District

Made repairs to the patrolman's camp on T. 7, R. 3, W.E.L.S. and some to the Hovey camp on T. 8, R. 3, W.E.L.S.

Painted the tower at Howe Brook Mt. and the watchman's camp at the same place as well as some painting on the watchman's camp at Number Nine Mt.

East Branch District

The chief warden camp at the Seboeis Farm on T. 6, R. 7, W.E.L.S. had some new posts and stringers put under it and the roof was completely reshingled with asbestos shingles.

Resilled and made extensive repairs on the 3-stall garage at Hay Lake.

Put a new floor in the camp used by the Burnt Mt. watchman at McCarty Field. This is a fairly new log camp turned over to the department by the Eastern Corporation for use of the watchman.

The same company also gave the department the use of a frame building on Grand Lake Mattagamon, to which we added a porch and partly recovered the roof. This is used by the Horse Mt. watchman.

The watchman's camp at Spoon Mt. was repainted and the tower cab at the same mountain was painted.

Painted the tower at Burnt Mt. and put new flooring on the porch of one of the camps at Millimegasset Lake.

Mattawamkeag District

The storehouse and camp at Macwahoc were moved north on the Houlton road about one mile from their former location. This move was made necessary when we could neither effect a reduction of the high rental of the land in our former location nor make a purchase of it. The land we are now on is a very good location for our buildings and is rented from the Penobscot Development Co. at a very nominal fee. Based on the rental we were paying, the cost of moving will be saved in about 4 years. Both buildings were put on cement piers and a 12' x 14' room was added to the camp, and all buildings were painted.

Both the Lawler Hill and Whitney Hill watchmen's camps were painted.

Some alterations and repairs were made to the patrolman's camp on Mattawamkeag Lake and the trim painted.

The men from this district also put new asbestos shingles on one side of the storehouse and one side of the office building at the division headquarters at Island Falls.

Katahdin District

The storehouse at Millinocket had to have all new sills and floor stringers, and at the same time these were put in, it was moved back about 50 feet from the road and put on a cement block cellar foundation.

2 camps were built, 1 for the chief warden at Millinocket, and 1 for the patrolman at Togue Pond. The camp at Millinocket was a new building as for the past several years the chief warden had tented on the lot. The camp at Togue Pond replaced a log and frame building that had deteriorated beyond repair.

Owing to sanitary regulations at Millinocket, it was necessary to put in sewer piping from both our buildings there to the river.

All materials are ready on the top of Ragged Mt. to build a new log camp there in the spring of 1951. This will replace a log camp which has nearly rotted away.

The buildings painted in the Central Division are listed below and although they are classified as to type, they are not similar as to size and design:

8	Storehouses
17	Patrolman camps
23	Watchman camps
3	Chief warden camps
7	Boathouses
10	Garages
1	Office building
20	Steel towers
4	Wood or log towers
2	Tower cabs set on rocks

During the past 2 years, 4 pick-up trucks and a 1-ton rack body truck were turned in for 4 new pick-ups, 1 Jeep pick-up, and

1¾-ton 4-wheel drive Army surplus truck. Also, 1 old Model A Ford pick-up was converted into a light 4-wheel trailer.

2 new Model Y Pacific pumpers were received to replace a worn out Model N and a Northern. We also received a new type Pacific, Model A, weighing only 38 pounds which was used on 2 fires in 1950 and did a very creditable job. The size and weight of this pumper makes it ideal to carry in a plane or for use in mountainous areas where packing is a problem. I also received 9,000 feet of linen hose, about half of which was for replacement, with the balance going into the various districts to build up their supply of hose to match what their pumps are capable of handling.

4 canoes, 1 old metal boat, and 1 skiff were replaced by 3 new canoes, 2 boats, and 1 new skiff. 5 dozen hand tools and various parts for Indian tanks were bought for replacement in the division.

A considerable amount of telephone line work in nearly all the districts, beyond the usual maintenance, was made necessary as the Highway Department expanded their work in this area and widened roads and erased curves. This meant a lot of work for us as we had to take down our lines, string temporary lines through the woods, and then go back later and reset poles and hang the lines. One of the larger jobs of this nature was brought about when the New England Tel. & Tel. Co. replaced their open wire pole line from Ashland to Masardis. As we had a pair of wires on their poles, we had to go outside of their cable and restring the whole line with high tension steel to stand up under the long spans.

As a whole, telephone lines were in good condition in the fall of 1950 for practically all lines were bushed and mowed during the past two seasons. This mowing and bushing is one of our biggest problems, particularly under pole lines. We are planning to experiment with weed killers next summer and hope to find them more economical for our use.

During the 1949 season one of the AM radios was installed in the Lawler tower, and by using a wind charger we found it operated very efficiently. After considerable experimenting with use of this station to cars and portable radio sets, and once to a fire where it made a good tie-in with our telephone system, we were more than satisfied as to their value and potential use on a mountain. Early in the spring of 1950 we installed another on Mt. Chase, and a little later one on Hedgehog Mt. The one on Chase,

having the advantage because of altitude and more central location, outdid the one on Lawler so we discontinued it. From Chase or Hedgehog it was possible to reach a car anywhere in the division. However, as good as they were, we were unable to get the full benefit of them for lack of enough sets to go around to all warden districts. The license for these sets expired in July, and when it appeared that no extension would be granted, one of the new type FM sets was installed on Mt. Chase. This set was just installed when extension of the license on the AM sets was extended to October. With the two sets, by relaying messages, we were able to be in contact with the rest of the state using FM sets. Later in the summer an FM set was installed on Hedgehog Mt., in the supervisor's car, and in one district truck, as well as in the trucks of the state seasonal wardens working along the border of this division. This communication system gave us a more closely knit organization and made it possible for men having units in their vehicles to have more freedom of movement in bad fire weather than had been possible before.

The use of planes continues to be more of a necessity to our work, and both the state plane based at the Tramway and the larger plane were used in this division. These planes were used on all planned flights and at all other times possible. However, neither are too close to district headquarters and on fires, particularly in the early stages, we have found it advisable to hire local planes. So far we have been fortunate in having good private planes and pilots near 5 out of 6 of our chief warden headquarters. There has, however, been a noticeable decline in the amount of private planes available in this division in the past two years. What effect the war situation will have on these planes another year is problematical, but hope for nothing drastic as we rely upon them.

During the summer of 1949 three fire danger stations were set up and run for the remainder of the season. In 1950, Mr. John Keetch, of the U. S. Forest Service, made an inspection of these stations and at his suggestion one of the sites was abandoned and another changed from the woods type to an open type. At this same time one more of each type was set up in the division and plans were made for one more of each type another year. This will give us much better coverage, making it possible to do fire danger predicting which will give us a better guide in planning activities.

Two new camp site and lunch ground areas were made on the shore of DeBoulie Lake to take care of the people who have been coming there in ever-increasing numbers since the road has been opened from Winterville. Also, it was found necessary to make a lunch ground on the shore of South Twin Lake near Norcross to take care of the people who were picnicking there. Several of the older sites had a small amount of repair work done on them and all were maintained and policed as well as time would allow.

Favorable market conditions on pulp and long lumber have pushed the operators back farther into the woods, and in a great many cases over new gravelled roads. These roads will stand up for a long time and will carry an ever-increasing amount of traffic of fishermen, hunters, picnic parties, and tourists. This presents a problem as it is an established fact that the number of fires will be largest where the traffic of people is the heaviest. These roads increase the amount of patrol work advisable, and with the same amount of personnel it means spreading out thinner than ever. We have been getting some help in this situation from many of the landowners and operators who have been very cooperative in hazardous times by closing roads to traffic, putting on extra patrols at their expense, and by putting on men to check all cars and warn them of the existing fire hazard. It will be a further aid to this problem when we are able to equip each patrolman's truck with a radio so he can keep in close contact with the towers and his chief warden while patrolling.

Prior to 1948, due to an inadequate budget, many of the installations were in a run-down condition and much of the equipment was no better. Since that time we have made good progress toward putting the installations into good shape again and replacing some of the worn out equipment. There is still work to do along this line before everything will be in good shape again. However, after another year of catching up on repairing and replacing, we will be ready for a maintenance program and a regular schedule of replacements that will prevent us from getting into the position we were during 1947.

The present district lines of the division and the location of personnel seem to work well as they now exist. Changes will be needed to comply with moving woods operations and new roads. In fact, in 1950 we deemed it advisable, in the interest of better protection in two areas, to change the location of one chief war-

den and to put one patrolman on permanent tower duty where he had been doing part time duty previously.

Western Division—3,525,714 Acres

Robert G. Hutton, Supervisor

Weather

The 1946 drought conditions carried through the intervening years into the late fall of 1949, making it one of the bad fire periods of the last few years. Lake and reservoir levels and stream flows showed a decided downward trend until the late summer of 1950. Regardless of any individual rain, subsurface conditions were so dry that moisture penetration was very slight. Fires burned deeply in the ground and were stubborn to put out, which made it necessary to maintain patrols for longer periods than usual. Strong, hot winds prevailed throughout most of the summer of 1949, thereby accounting for some of the larger fires which occurred in the Western Division. Aside from a dry May and October, 1950 was generally a good fire year.

Fires

FIRES BY DISTRICTS

	1949	1950
Chesuncook	8	2
Moosehead	13	8
Seboomook	7	2
Moose River	4	2
Parlin Pond	13	9
Dead River	7	8
Rangeley	21	6
Totals	73	37

The months of May and October of 1950 were especially dry periods. Throughout the state the largest fires of the season occurred during these months. In view of the fact that 90% of our forest fires are caused by careless people, we thought it might be well to try closing some of the private roads which lead into the back country. The matter was first taken up with the landowners who agreed it was the thing to do, if by doing so, fire occurrence could be kept down to a minimum. As a result of this, fires which we would ordinarily have had in those sections just did not occur.

The fire which probably gave us the most trouble was the one which broke out May 16, 1949 on the 10,000 Acre Tract, T. 1, R. 6, B.K.P., W.K.R., Dead River flowage fires excepted. During the

first two days heavy winds drove it 3 miles from its point of origin. Two fire camps were set up, one on either end of the area. Supplies and equipment were tractored in 8 miles for the upper camp. The lower camp was serviced by plane. Radio communication was badly needed on such a fire as this as messages had to be sent by runner to the various points around the fire line. Fire got into the old yellow birch trees which were numerous in the area. Cutting these down and junking them up to get to the fire required the services of a large patrol crew which was kept on for a month after mopping-up started. On July 9, or 55 days after this fire started, it showed up again in one of the dead yellow birch stubs. The area burned over was 880 acres, two-thirds of which was in hardwoods, which came back green the following spring.

Early in the spring of 1949, a meeting was held in Skowhegan with Central Maine Power Company and Maine Forestry District representatives for the purpose of working out plans for the disposal of the slash from the cutting on the Dead River flowage area. The Central Maine Power Company agreed to burn under legal permits and stand costs of fires. The Maine Forestry District agreed to furnish two extra men to handle the permits and regulate the burning. For all the precautions taken, three major conflagrations resulted during the summer; in May, July, and August with a resultant loss of 8,067.85 acres burned outside the flowage. These fires required the time and attention of our entire Dead River District crew for most of the summer. The Central Maine Power Company was very cooperative in placing at the disposal of our wardens equipment, men, and bulldozers. Crews of from 200 to 400 men, 7 bulldozers, 25 power pumps, and thousands of feet of fire hose were used to suppress the 41 individual fires.

Education

It seemed important during 1949 to conduct an educational program while the effects of the 1947 fire disaster were fresh in the minds of the public. We had a definite message to give the people on fire prevention. It was for this reason that I was asked by the Commissioner to work up a schedule of meetings and to contact as many people as possible. A program of this nature tied in very well with the "Keep Maine Green" campaign which was just getting started throughout the state. During the winter I spoke

and showed educational fire films to 23 groups, having a total attendance of 1,827 people. These gatherings included service clubs, schools, Boy Scout troops, farm groups, Fish and Game Clubs, Firemen's Associations, and others.

Training

It is the policy of the Western Division to carry on training each year for the benefit of the new men as well as for the people who have been in the organization for some time. New types of equipment and new methods of fire prevention and suppression are being tried out and adopted annually and it is for this reason that training schools have considerable value. As well as the school for chief wardens at Augusta in 1950, schools were held in Rangeley by chief warden Hinkley, and two, on a divisional level, one at Caratunk and one at Greenville.

Personnel

This division is divided into 7 chief warden districts which require the services of the following personnel to operate it within a certain degree of proficiency: 7 chief wardens, 20 patrolmen, 23 watchmen, and 7 telephone operators, a total of 57, all of whom are employed seasonally. In addition to our regular force, there are 126 deputy wardens who receive pay only when they serve on fires or other work.

During the last two years, which this report covers, some changes in personnel within the division took place. Chief warden Willard Wight, Dead River District, was transferred to the organized towns as state district warden, and his successor, Helon Taylor, was appointed Superintendent of Baxter State Park. Homer Silsby, patrolman on Moosehead Lake, and Leonard Smith, patrolman in the Chesuncook District retired. Aubrey Bishop, watchman on Mt. Bigelow died of a heart attack in his cabin on July 7, 1949. In 1950, Brighton Plantation elected to come into the Maine Forestry District and the Plantation of Elliottsville was transferred from the Eastern Division to the Western Division, which gave us two additional watchmen.

Facilities

This division maintains 23 lookout towers which give fairly adequate coverage of the area extending from Katahdin Mt. to

the New Hampshire line. 52 buildings are used for living quarters and for equipment storage. They consist of the following:

9	Storehouses
2	Headquarter camps
2	Garages
1	Boathouse
2	Telephone camps
7	Patrolman camps
6	Misc. camps
23	Watchman camps

This year four much needed 14′ x 18′ watchman camps were built and also a 25′ x 36′ storehouse was constructed at Caratunk. Another year it will be necessary to build a storehouse at Jackman and a headquarters camp and storehouse at Seboomook. All facilities of the division are in good repair and have been painted within the last three years.

Equipment

Considerable equipment, which was so badly needed four years ago, has been purchased. The fleet of 18 pick-up trucks and 3 Jeeps is in good condition and we are now on a sounder replacement basis than ever before. Last year 2 service Jeeps, with winches, were purchased to replace 2 of the older trucks. These have proven so valuable in getting to fires in the back country over old tote roads that it will be advisable to have one in each chief warden district. The fire fighting equipment inventory, as of 1950, follows:

33	Pacific fire pumps
52,800	Feet of 1½″ fire hose
299	Back pumps
509	Forestry axes
151	Pole axes
707	Shovels

At strategic locations we have placed 33 fire tool boxes to equip crews of from 6 to 50 men per box. These are at isolated places and provide tools for people in the vicinity to start suppression work, in case of fire, before our regular men are able to get there.

Fire Plans

This year a divisional fire plan was worked up listing all available man power and fire fighting equipment, together with the location of such. When a large fire breaks out, it is of utmost importance to know where bulldozers, tank trucks, heavy fire pumps, etc. are located and if available. We are very fortunate in the western part of the state to have made available to us equipment of this nature. I wish to thank the pulp and lumber companies,

operators, landowners, and others who have made the procurement of these facilities possible.

Planes

Planes used in the Western Division the past two years were hired from local operators.

Good fire control depends on time. If there is too much lapsed time between discovery and the initial attack of a forest fire, suppression costs and acreage losses increase proportionally. Many improvements in the different types of transportation equipment have been tried out and if proven good, have been adopted in order to cut down this lapsed time to a minimum. The most important of these is the airplane and it is essentially valuable in providing fast transportation of men and equipment to the fire areas, besides the other uses to which it is placed.

Radios

10-watt Motorola 2-way radios, with battery charges, were installed on Big Squaw Mt. and Mt. Bigelow to cover the western part of the state and tie in with the other mountain stations which were set up by the Maine Forest Service in 1950. With the addition of these two stations, state-wide coverage was attained. To the division were also added a 10-watt portable set and 2 handie-talkie sets. The heavy portable set is mounted on carrying racks to facilitate transportation to fires by Jeep or plane and is set up at fire headquarters to tie in with the 2 handie-talkies which are used on the fire line. By their use it is now possible to report the progress of the suppression work from the fire headquarters direct to the Augusta office. Radio was used to an advantage on the Harrington Lake fire in directing the attack, locating water, procuring men and equipment, and reporting spot fires, thus saving time and travel. A radio was also installed in the supervisor's car.

Weather Danger Stations

Fire depends upon three factors: heat, fuel, and air. The greatest contributing factors to fire behavior are weather and air action. Weather regulates the moisture content of forest fuel and determines the inflammability of those fuels. A system of recording the effects of weather and air action on fuel and its relationship to fire behavior has been devised and stations set up throughout the state, of which the Western Division now oper-

ates four, which are located at Chesuncook Dam, Caratunk, Eustis, and Cupsuptic. This forms the basis of fire expectancy and anticipated action. The data from these readings are telegraphed to the Weather Bureau in Boston daily where they are compiled and forecasts are made for the following day. This information is then returned by wire to the divisional supervisor who in turn reports it to each chief warden. From these reports dangerous build-ups of critical fire conditions are readily recognized and necessary action taken.

Public Lunch and Camp Sites

In order to regulate the building of lunch and camp fires in unsafe places and have some control of the travelling public in the woods, a start was made in 1921 to set up a system of authorized lunch and camping places. As time went on and people turned to our waterways and woods for recreation, the demand for these facilities has increased until we now have 118 in the division. The care and maintenance of these is becoming quite a burden and expense which should be shared with other state departments until some sort of recreational organization is set up.

Improvements

Chesuncook District

16 miles of telephone line were brushed.
A 14′ x 16′ log camp was constructed to be used as a half way camp on the Cuxabexis line.
A grease rack for trucks was built at headquarters.
Reroofed the headquarters camp with asphalt shingles.
Built 11 concrete fireplaces for lunch grounds.
Made extensive repairs to and painted the Soubunge Mt. camp.
Reroofed the wood shed at Chesuncook Dam.
Replaced the old wire on a part of the Spencer Mt. telephone line.

Rangeley District

25 miles of telephone line were brushed.
Replaced some of the crossarms on the Upton-Newry telephone line.
Built Kennebago patrolman's camp, which replaces the old one.
Built a two-car garage at Kennebago.
Built a boathouse at Cupsuptic.
Reroofed three lunch shelters.
Dismantled the steel tower on Deer Mt.
Built a small storehouse at West Kennebago Mt.

Parlin Pond District

38½ miles of telephone line were brushed.
Started a 25′ x 36′ two-story storehouse in 1949 and completed it in 1950, at Caratunk.
Wired the new Caratunk storehouse for lights and power.
Graded the Caratunk storehouse lot.
Built a gasoline and oil storehouse at Caratunk.
Brushed 16 miles of the Appalachian Trail on Moxie Bald Mt. The District was reimbursed for this work.
Repaired the patrolman's camp on the 10,000 Acre Tract.

Built a 14' x 18' camp for the Kelly Mt. watchman in Brighton Plantation.
Built combination garage and storehouse at Coburn Mt.
Reroofed the towers on Moxie Bald and Coburn Mts.
Dismantled the steel lookout tower on Pleasant Mt. and moved it to Elliottsville Plantation for use on Barren Mt.
Built two camp sites on the Appalachian Trail at Moxie Lake.
Established an open fire danger station at Caratunk.

Moosehead District

28 miles of telephone line were brushed.
Built a frame camp for the watchman on Kineo Mt.
Built a watchman's log camp on top of Barren Mt.
Built a watchman's frame camp on White Cap Mt. for Eastern Division.
Constructed the cement foundation for the steel tower on Barren Mt.
Repaired No. 4 Mt. watchman's camp.
Cleaned up 53 lunch and camp sites around Moosehead Lake; also built many fireplaces at these sites.
Replaced the steel guy lines of the Kineo Mt. tower. The old guys were rusted and unsafe.
Installed 2-way radio on Big Squaw Mt.

Seboomook District

Built a patrolman camp on the Canada Falls road.
Built three new camp site facilities.
Replaced the telephone line on Green Mt.
Painted Green Mt. tower.
Made repairs to Little Russell Mt. camp.
Rebuilt 4 miles of telephone line from Caucomgomoc Lake to Round Pond.

Moose River District

Brushed 31 miles of trail and telephone line.
Built a half-way camp on the Kibby Mt. telephone line.
Levelled off building site for a new storehouse.

Dead River District

Brushed and cleaned 22 miles of telephone line.
Painted Eustis storehouse two coats.
Built a patrol boat for the Dead River flowage.
Built a 5 mile metallic telephone line from Route 16 to Mt. Bigelow tower. The cost of this job was paid by the Central Maine Power Co. as the line replaces one flowed out on the north side of the mountain.
Brushed out a new trail from Stratton Brook Pond to Bigelow Mt.
A 2-way radio was installed atop Mt. Bigelow.
17½ miles of trail were brushed for the Appalachian Trail Conference, the labor for which they paid.
Reroofed three lunch shelters.
Built an office for the chief warden in the Eustis storehouse.
Tore down the Mill Schoolhouse at Lexington and used the lumber to construct a storehouse at Kingfield.
Established a fire danger station at Eustis.

Eastern Division—1,962,926 Acres

George A. Faulkner, Supervisor

The drought which began in 1946 and followed through 1947-48 continued through 1949 and 1950, finally ending in the fall of 1950 with heavy rains. The past two fire seasons were more or less of the same nature. After the ice and snow left the lakes, ponds, and forest, very little rain came until June when light rains, together with the green foliage showing, eased the danger

from fire for a short time. During each season dry conditions prevailed throughout the summer and early fall.

The Eastern Division has been very fortunate in having practically the same personnel for several years. Only three replacements were needed the past two years.

Because of the nature of the fire seasons, the personnel could not accomplish as many improvements as were needed. However, a new watchman's camp was constructed at Lead Mt. A new tower cab was placed on both Lead Mt. and Mattamiscontis Mt. A telephone line was built connecting Passadumkeag Mt. with Chick Hill, and a telephone line from Lambert Lake to Vanceboro was rebuilt and put in operation. Minor repairs, as well as painting, were made at a number of the camps and an addition was made to the Marion storehouse. At the present time the division maintains 15 lookout towers, 29 camps, and 14 storehouses, garages, and boathouses.

During the past two years, five 4-wheel drive Jeep pick-up trucks and three new half-ton pick-ups replaced eight worn out pick-ups, out of a total of 19 trucks for the division. The use of Jeeps has already proven their value by going places formerly inaccessible by car. At the present time one Jeep pick-up is located in each of the sub-districts except Union River, and plans have been made to have a Jeep in this district in 1951.

Also added to the fire fighting inventory as replacements or necessities were 14,000 feet of 1½" linen hose, 265 back pumps, 3 canoes, 3 skiff boats, 4 new outboard motors, and a considerable amount of small fire fighting tools.

1950 will be the year remembered by a state-wide coverage of radio as an auxiliary to our present telephone system. The Eastern Division operated a relay station at Cooper Mt. which tied in with Medford and Bluehill of the organized town set-up. These three stations were a great help to the supervisor who was able to reach one or the other and messages could be transferred by telephone. Plans have been made to have each chief warden's car equipped with radio this coming season. Also, a small portable unit is to be tried out at White Cap Mt. and Musquash Mt. This should give the chief warden more freedom in travelling his district. At present, chief wardens have been pretty close to a telephone, especially in dry periods.

As in previous years, the use of the airplane has become more and more important. Now that the use of radio has been estab-

lished, the airplane will play a greater part in locating and controlling forest fires. In several cases the past season, fires were correctly located by plane and ground crews directed to them by use of the radio.

For a number of years one fire danger station has been maintained at Main River Camp, T. 30, M.D., on the Airline Road. This past season three additional stations were installed; namely, K. I. Works, Topsfield, and Cooper. All four stations will be operating in 1951 and in cooperation with those established in the organized towns the eastern part of the state should have a good coverage. Fire conditions vary in different locations, and with the use of these stations we will be able to know the danger areas.

One new camp site was erected at Pine Hill Spring, in T. 22, M.D., on the Airline Road, during 1950. While there are a great many places where camp sites could be established, they cannot be maintained and kept clean and the present field force cannot find time to properly take care of those we already have.

During the season of 1949, 73 forest fires were reported with approximately 5,000 acres of land burned over. One fire alone burned a little over 4,000 acres of the total. This one was the so-called Ebeeme fire that occurred during the spring season. It started in the forenoon in a heavy slash area and before nightfall, with a strong northwest wind, it covered practically the total area burned. All available men and equipment were at the scene of the fire and did the best that could be done.

In 1950, 61 fires were reported with approximately the same acreage burned over as in 1949. Again, one major spring fire, T. 32 and T. 33, accounted for one-half the total area burned. This fire started in the afternoon in a heavy slash area with a strong southwest wind blowing. The following days were very dry with shifting winds. Fortunately, strong northwest winds did not come and the fire was confined to mostly cut-over lands being bounded by the CCC road on the south and by Scotch Brook on the east. All kinds of fire fighting equipment and large crews of fire fighters brought this fire under control before light rains came.

Because of the fact that demands for forest products are increasing and the location of same is becoming farther and farther away from markets, bulldozed roads are on the increase to bring out the raw material. If the present rate of expansion continues,

it will not be too far in the future before all parts of eastern Maine will be accessible to light cars or Jeeps (4-wheel drive). This development will work both ways. It will enable the public to go to places easily and will also give the personnel of the department a faster method of reaching forest fires.

With the growing demand for service from the public, I feel that the personnel of the Eastern Division should be increased to cover what is required.

Airplanes

Earl F. Crabb, Pilot

No one knows when the first conventional airplane was used for forest patrol work. Some estimates place it back to a date shortly after World War I. Maine has always claimed to be one of the first states to use them, in the Maine Forestry District, perhaps the first. Be that as it may, planes have been so extensively used for this work in recent years that airborne forest fire patrol is fast becoming the most important forest protection weapon in America in the eyes of the forest industries of the nation. The Maine Forest Service has long recognized the advantages of aircraft patrol of its vast timberlands and is constantly on the alert to improve its aerial patrol by closer coordination with the ground patrols and the men actually engaged in fighting forest fires.

This closer coordination was brought about in 1950 by the use of two-way radio in the department's aircraft which keeps it in constant contact with the ground patrols and its headquarters at all times.

The first large fire in Maine on which the radio was used extensively and with good results, occurred in the spring of 1950 and is referred to as the Greenfield fire. The Seabee was used daily on this fire from its beginning until it was pronounced out, and the plane with two-way communication with the fire bosses on the ground was of inestimable value. Equipped with radio it was able to relay instructions and up to the minute data faster and more efficiently than had been possible before. Without the use of the airplane and its radio, this fire could easily have burned over twice the acreage it did. The combination of quick spotting and reporting of fires, and the use of high speed airborne fire fighting tactics possible now with the extensive radio coverage the Maine Forest Service now has, will greatly reduce the fire damage.

In the Northern Division of the Maine Forestry District, which is supervised by Rex Gilpatrick, much of the area is inaccessible except by airplane. The Maine Forestry District has stationed its other plane, a Luscombe seaplane, in this area, based at the Tramway on Eagle Lake. Due to the inaccessibility of this area, the plane has had to serve as both fire engine and as timber taxi for the supervisor to enable him to get about his district. This plane has been in the hands of Pilot Charles Coe who came to work for the department in March of 1949.

The Luscombe plane had compiled a total of 1,250 hours by the end of 1950, and plans were made to trade this in during the spring of 1951 for a new Aeronca, two-place, 90 H.P. plane. This should give excellent performance and be adaptable to forest fire protection work.

The department Seabee plane has been retained because of its ability to transport heavy or bulky loads such as men and fire fighting equipment to fires and for general servicing of remote areas. A new engine was installed in this plane during the winter of 1950 which should make it serviceable for the next two years.

Too much cannot be said in favor of the radio. It has increased the value of the planes tremendously.

BUDGET AND OPERATING STATEMENT MAINE FORESTRY DISTRICT
January 1, 1949 to December 31, 1949

Acreage	Budget	Total Expenditures 10,262,455 A.	Augusta Office and Planes	Northern (Gilpatrick) 2,241,348 A.	Central (Pendleton) 2,532,467 A.	Eastern (Faulkner) 1,962,926 A.	Western (Hutton) 3,525,714 A.
Office Salaries	—	$10,413.44	$10,413.44	—	—	—	—
Supervisors	—	16,679.61	—	$4,118.80	$3,822.97	$4,619.04	$4,118.80
Chief Wardens	—	41,076.06	—	8,632.25	11,915.11	9,186.32	11,342.38
Deputy Wardens	—	489.77	—	32.65	45.71	411.41	—
Watchmen	—	64,261.73	—	8,005.78	21,261.68	13,014.29	21,979.98
Patrolmen	—	75,329.05	—	20,673.98	16,533.96	14,013.38	24,107.73
Telephone Operators	—	3,858.50	—	1,113.00	1,162.50	380.00	1,203.00
Telephone Work	—	18,633.67	—	4,917.15	5,184.83	2,225.30	6,306.39
Pilots	—	4,923.00	4,923.00	—	—	—	—
Total Personal Services	$234,577.00	235,664.83	15,336.44	47,493.61	59,926.76	43,849.74	69,058.28
Plane Rental	3,500.00	3,021.90	—	213.13	231.54	68.27	2,508.96
Plane Operation	5,000.00	4,723.13	4,723.13	—	—	—	—
Fire Suppression	49,000.00	73,835.88*	—	5,941.89	7,288.75	22,551.47	38,053.77
Traveling Expenses	9,625.00	3,881.47	603.13	849.77	674.60	685.55	1,068.42
Car and Truck Operation	27,135.00	25,420.64	641.75	5,447.50	4,261.09	6,700.62	8,369.68
Utility Service	4,579.00	4,359.96	30.00	237.38	1,233.22	863.31	1,996.05
Rents	700.00	666.65	—	21.50	195.00	2.00	448.15
Repairs	12,325.00	10,541.80	16.68	2,670.11	2,840.44	2,031.29	2,983.28
Insurance	2,950.00	2,318.01	—	384.34	789.29	740.42	403.96
General Operating Expenses	3,910.00	1,081.75	752.64	26.48	152.22	61.79	88.62
Food (Telephone Work)	1,304.00	928.86	—	—	620.11	10.44	298.31
Fuel	140.00	181.03	—	28.35	128.43	1.90	22.35
Office Supplies	800.00	1,016.44	877.31	19.25	34.67	58.81	26.40
Other Supplies	6,600.00	6,706.62	240.66	1,249.35	1,101.14	1,511.19	2,604.28
Disability Awards	1,183.00	3,222.55	2,772.00	33.25	57.50	9.00	350.80
Buildings and Improvements	6,950.00	4,145.85	21.40	1,333.52	1,159.87	121.27	1,509.79
Equipment	54,200.00	42,000.81	697.62	10,468.20	5,128.89	14,310.47	11,395.63
"Keep Maine Green" Wages and Expenses	—	1,303.26	1,303.26	—	—	—	—
Appalachian Trail	—	**471.25	471.25	—	—	—	—
Signs and Land	—	163.59	63.59	—	—	—	100.00
	$424,478.00	$425,656.28	$28,550.86	$76,417.63	$85,823.52	$93,577.54	$141,286.73

*$9,179.20 included, for bills incurred in 1949 to be paid in 1950. **Reimbursed by Appalachian Trail Club.

Comparison of the total budget with total expenditures show expenditures exceeded the budget by $1,178.28. The item of suppression costs exceeded budget by nearly $25,000. The 1949 budget was based largely on past years' expenditures taking into consideration salary increases. Changes in account classification caused some items to vary between budget and expenditures.

BUDGET AND OPERATING STATEMENT MAINE FORESTRY DISTRICT

January 1, 1950 to December 31, 1950

Acreage	Budget	Total Expenditures 10,262,455 A.	Augusta Office and Planes	Northern (Gilpatrick) 2,241,348 A.	Central (Pendleton) 2,532,467 A.	Eastern (Faulkner) 1,962,926 A.	Western (Hutton) 3,525,714 A.
Office Salaries	—	$11,348.08	$11,348.08	—	—	—	—
Supervisors	—	16,994.64	—	$4,123.60	$4,123.60	$4,623.84	$4,123.60
Chief Wardens	—	45,801.15	—	10,655.81	12,456.57	10,535.36	12,153.41
Watchmen	—	68,903.50	—	7,561.74	23,214.15	14,333.35	23,794.26
Patrolmen	—	81,197.69	—	22,941.09	17,404.45	14,901.46	25,950.69
Telephone Operators	—	4,167.00	—	1,278.00	1,328.00	376.00	1,185.00
Pilots	—	5,524.00	5,524.00	—	—	—	—
Total Personal Services	$238,000.00	233,936.06	—	—	—	—	—
Plane Rentals	2,000.00	1,282.93	—	19.99	248.31	124.57	890.06
Plane Operation	—	3,560.04	3,560.04	—	—	—	—
Fire Suppression	49,000.00	49,877.78	—	3,652.42	8,849.85	30,718.74	6,656.77
Traveling Expenses	5,500.00	5,832.31	2,026.07	1,158.44	1,061.41	769.55	816.84
Car and Truck Operation	29,750.00	(1) 24,637.19	549.46	5,885.56	5,187.14	5,926.28	7,088.75
Utility Services	4,550.00	4,987.22	8.32	281.87	1,527.90	968.01	2,201.12
Rents	800.00	562.82	50.00	19.84	172.00	2.00	318.98
Repairs	10,000.00	(2) 12,221.34	11.37	2,816.88	2,578.73	2,227.64	4,586.72
Insurance	2,000.00	2,938.83	—	383.38	947.17	862.89	745.39
General Operating Expense	1,425.00	1,732.22	1,194.76	29.36	119.50	192.58	196.02
Food, Telephone and Repairs	700.00	1,114.58	—	—	458.41	19.90	636.27
Fuel	200.00	229.40	—	84.52	57.60	—	87.28
Office Supplies	950.00	323.38	271.26	—	25.43	16.86	9.83
Other Supplies	4,000.00	(3) 8,532.90	146.46	2,020.20	2,277.40	1,526.09	2,562.75
Disability Awards	2,548.00	1,574.18	1,134.00	20.50	33.00	14.00	372.68
Buildings and Improvements	7,750.00	7,514.55	—	3,132.48	2,432.68	483.66	1,465.73
Equipment	48,240.00	(4) 39,440.70	857.74	6,165.74	10,741.75	8,594.52	13,080.95
Radio Equipment	—	4,508.09	4,508.09	—	—	—	—
Equipment 1951	—	(5) 15,086.61	15,086.61	—	—	—	—
Exhibits	—	62.50	62.50	—	—	—	—
	$407,413.00	$419,955.63	$46,338.76	$72,231.42	$95,245.05	(6) $97,217.30	(7) $108,923.10

Purchased for 1951 season, normally purchased after January 1

(1) $1,720.00 Tires and tubes
(2) 330.00 Nails
(3) 1,219.00 Axes and Shovels
(4) $3,822.00 Hand pumps, Outboards and Canoes
(5) 15,086.61 Wire, Hose, Pumps
$22,177.61

(6) Includes $790.13—Watchmen
(7) Includes $1,819.55 for telephone lines, $1,768.57 for watchmen and patrolmen for which M.F.D. has been reimbursed.

MAINE FORESTRY DISTRICT FIRE RECORD 1949

Location	Date	Acreage	Cause	Damage
Aroostook County				
Macwahoc Pl.	April 13	5	Brush or Debris Burning	.....
Macwahoc Pl.	April 13	4	Smokers	.....
Silver Ridge Twp.	April 29	2	Miscellaneous	$2.00
T. 3, R. 4, WELS	April 30	3	Brush or Debris Burning	.....
Garfield Pl.	May 5	50	Smokers	75.00
T. C, R. 2, WELS	May 5	75	Campers	90.00
T. 11, R. 7, WELS	May 16	10	Campers	23.00
T. D, R. 2, WELS	May 18	....	Miscellaneous	.....
T. 14, R. 14, WELS	May 20	81	Lightning	.....
T. 11, R. 4, WELS, E. ½	May 20	2	Lightning	5.00
Molunkus-Macwahoc Pl.	June 5	75	Brush or Debris Burning	454.00
T. 18, R. 12, WELS	June 5	4	Campers	400.00
T. 4, R. 3, WELS	June 5	....	Campers	.....
T. 1, R. 4, WELS	June 9	....	Miscellaneous	.....
Wallagrass Pl.	June 13	12	Miscellaneous	.....
T. 9, R. 8, WELS, S.W. ¼	June 15	.1	Campers	5.00
T. 18, R. 12, WELS	June 18	1	Campers	20.00
T. 12, R. 8, WELS, N. ½	July 2	....	Lightning	.....
Molunkus	July 2	.2	Lightning	1.00
T. 15, R. 15, WELS	July 2	.5	Lightning	.....
T. 13, R. 7, WELS, S.W. ¼	July 2	....	Lightning	.....
Oxbow Pl., N.W. ½	July 3	.2	Campers	5.00
Garfield Pl., E. ½	July 8	.1	Campers	5.00
T. 5, R. 9, WELS, S.E. ¼	July 16	....	Lightning	.....
T. 14, R. 7, WELS, N.E. ¼	Aug. 4	....	Lightning	.....
T. 4, R. 3, WELS	Aug. 4	....	Smokers	.....
T. 17, R. 11, WELS	Aug. 23	250	Incendiary	2,500.00
E Plantation	Oct. 21	75	Smokers	.....
T. 14, R. 15, WELS	Oct. 29	4.5	Smokers	200.00
Franklin County				
Sandy River Pl.	June 11	.1	Smokers	20.00
Dallas Pl.	June 16	4.5	Unknown	.....
Stetsontown	June 21	....	Lightning	.....
Alder Stream	Aug. 31	....	Lightning	.....
Crockertown	Sept. 3	2	Lightning	2.00
Salem Twp.	Sept. 13	2	Smokers	.....
Freeman Twp.	Oct. 21	.1	Campers	.....
Freeman Twp.	Oct. 21	.1	Miscellaneous	.....
Hancock County				
T. 8, S.D.	April 5	.2	Campers	1.00
T. 32, M.D.	May 9	.2	Lumbering	2.00
T. 32, M.D.	May 21	15	Miscellaneous	.....
T. 8, S.D.	May 25	3	Campers	15.00
T. 32, M.D.	June 19	.2	Lightning	5.00
T. 9, S.D.	July 2	.5	Smokers	.....
T. 41, M.D.	July 22	.5	Campers	.....
T. 28, M.D.	Aug. 2	1.5	Lightning	15.00
T. 32, M.D.	Aug. 27	20	Unknown	.....
T. 41, M.D.	Sept. 10	150	Smokers	150.00
T. 7, S.D.	Oct. 21	....	Campers	.....
Oxford County				
Magalloway Pl.	May 13	.1	Lumbering	10.00
Albany Twp.	June 9	....	Lumbering	.....
Township C	June 21	....	Campers	.....
Magalloway Pl.	July 29	....	Campers	4.00
Albany Twp.	Aug. 6	....	Unknown	.....
Penobscot County				
Kingman Twp.	April 13	5	Smokers	1.00
T. A, R. 7, WELS	April 13	1	Brush or Debris Burning	.....
Indian No. 3	April 18	....	Campers	.....
T. A, R. 7, WELS	April 29	74	Incendiary	.....
Kingman Twp.	April 30	10	Incendiary	10.00
Kingman Twp.	May 1	3	Miscellaneous	.....
T. 3, R. 1, NBPP	May 15	1	Campers	15.00
Lakeville Pl.	May 22	.5	.....	.....
Indian No. 3	June 5	.5	Smokers	.....
T. 8, R. 8, WELS, SW ¼	June 14	....	Campers	.....
Summit Pl.	June 15	60	Campers	500.00
Lakeville Pl.	June 18	....	Lightning	.....
T. 2, R. 9, NWP	July 8	.2	Smokers	.....

MAINE FORESTRY DISTRICT FIRE RECORD 1949

Location	Date	Acreage	Cause	Damage
Penobscot County—Cont.				
T. 1, R. 6, WELS	July 12	60	Campers	$320.00
T. 5, R. 1, NBPP	July 17	.5	Smokers	.....
T. 1, R. 7, WELS	Aug. 4	.1	Smokers	15.00
T. 8, R. 8, WELS, NE¼	Aug. 14	....	Lightning	.....
E. Hopkins Academy Grant	Aug. 22	.5	Campers	.50
Webster Pl.	Aug. 26	....	Miscellaneous	.....
T. 1, R. 7, WELS	Sept. 5	....	Smokers	.....
Indian No. 3	Oct. 19	9.5	Smokers	.....
Grand Falls Pl.	Oct. 21	.5	Smokers	.....
Piscataquis County				
Medford Township	May 1	3	Brush or Debris Burning	3.00
Elliottsville Pl.	May 1	300	Smokers	300.00
T. 5, R. 10, WELS, NE ¼	May 14	.1	Campers	.....
Medford Township	May 17	12	Smokers	36.00
Orneville Twp.	May 17	2	Smokers	10.00
T. B, R. 10, WELS—5, R. 9—4, R. 9, NWP	May 17	3889	Campers	11,646.00
T. A, R. 14 (Lily Bay)	May 18	....	Smokers	.....
T. 2, R. 12, WELS	May 18	....	Campers	.....
T. 10, R. 10, WELS	May 22	....	Lightning	.....
T. 2, R. 12, WELS	June 12	2.9	Campers	.....
Kingsbury Pl.	June 13	.2	Campers	40.00
T. A, R. 11, WELS	July 2	....	Lightning	.....
T. 2, R. 10, WELS	July 4	2.5	Smokers	.....
T. 3, R. 11, WELS	July 5	....	Campers	.....
Harford's Point	July 7	....	Campers	.....
T. 9, R. 12, WELS, SE ¼	July 8	1000	Campers	3,500.00
Kingsbury Pl.	July 8	40	Campers	1,000.00
Orneville Twp.	July 15	.5	Smokers	.....
T. 3, R. 13, WELS	July 15	.6	Campers	.....
T. 3, R. 12, WELS	July 17	....	Campers	.....
T 1, R. 9, WELS	July 23	70	Smokers	140.00
T. 4, R. 9, NWP	July 26	.5	Campers	.....
T. 7, R. 14, WELS	July 28	....	Lightning	40.00
T. 6, R. 10, WELS, SW ¼	July 29	....	Campers	.....
T. 9, R. 12, WELS	Aug. 10	....	Unknown	.....
T. 3, R. 9, WELS	Aug. 12	.5	Brush or Debris Burning	.....
T. 10, R. 12, WELS	Aug. 14	....	Lightning	.....
T. 9, R. 11, WELS	Aug. 14	....	Lightning	.....
Birch Island, No. 42	Aug. 17	.2	Campers	.....
T. 4, R. 13, WELS	Aug. 18	.1	Lightning	.....
T. 2, R. 10, WELS	Aug. 22	....	Unknown	.....
T. 3, R. 5, BKP, EKR	Aug. 24	6	Lumbering	.....
T. 3, R. 5, BKP, EKR	Oct. 15	.5	Campers	.....
Somerset County				
West Forks Pl.	April 22	1	Brush or Debris Burning	.....
Flagstaff Pl.	April 29	....	Brush or Debris Burning	2,040.00
Dead River Pl.	May 1	200	Brush or Debris Burning	.....
Lexington	May 5	....	Smokers	.....
Moscow	May 8	....	Miscellaneous	.....
Carrying Place Town	May 11	40	Brush or Debris Burning	.....
Carrying Place Town	May 16	1500	Brush or Debris Burning	.....
Plymouth	May 16	....	Campers	.....
Seboomook	May 16	....	Campers	.....
T. 1, R. 6, BKP, WKR, (10,000 Acre Tract)	May 16	880	Campers	.....
Dead River Pl.	May 17	50	Brush or Debris Burning	.....
The Forks Pl.	May 31	.2	Campers	.....
T. 1, R. 6, BKP, EKR, (Indian Stream Town)	June 2	.2	Smokers	.....
Flagstaff Pl.	June 3	6	Brush or Debris Burning	.....
Flagstaff Pl.	June 3	1	Brush or Debris Burning	25.00
Seboomook	June 11	....	Campers	.....
Misery Twp.	June 12	.5	Campers	6.00
The Forks Pl.	June 12	.2	Campers	20.00
T. 1, R. 6, BKP, EKR	June 12	250	Campers	.....

MAINE FORESTRY DISTRICT FIRE RECORD 1949

Location	Date	Acreage	Cause	Damage
Somerset County—Cont.				
T. 4, R. 5, BKP, WKR	June 12	4.5	Smokers	.....
T. 6, R. 16, WELS	June 13	1.5	Smokers	.....
Dead River Pl.	June 13	2	Brush or Debris Burning	.....
Caratunk Pl.	June 14	....	Smokers	$3.00
Dead River Pl.	June 15	5	Brush or Debris Burning	.....
Bigelow	June 16	1	Brush or Debris Burning	.....
Flagstaff Pl.	June 26	70	Brush or Debris Burning	.....
Bigelow	June 27	100	Brush or Debris Burning	.....
Carrying Place Town	June 27	200	Brush or Debris Burning	.....
The Forks Pl.	June 27	1	Brush or Debris Burning	.....
Caratunk Pl.	June 28	....	Campers	4.00
Flagstaff Pl.	July 1	400	Brush or Debris Burning	.....
Carrying Place Town	July 2	150	Brush or Debris Burning	.....
Flagstaff Pl.	July 3	.5	Brush or Debris Burning	.....
Dead River Pl.	July 3	.5	Brush or Debris Burning	.....
Dead River Pl.	July 3	....	Brush or Debris Burning	.....
Long Pond	July 3	....	Miscellaneous	.....
Seboomook	July 3	.2	Lightning	.....
Dead River Pl.	July 5	600	Brush or Debris Burning	.....
Dead River Pl.	July 5	5	Brush or Debris Burning	.....
Flagstaff Pl.	July 7	600	Brush or Debris Burning	.....
Alder Brook	July 14	.2	Lightning	.....
Sandwich Academy Grant	July 17	....	Unknown	.....
T. 3, R. 4, BKP, WKR	July 21	4	Brush or Debris Burning	2,000.00
Bigelow	July 23	2	Brush or Debris Burning	.....
Bald Mountain	July 28	....	Lightning	15.00
T. 1, R. 7, BKP, WKR	July 30	.2	Brush or Debris Burning	.....
Flagstaff Pl.	Aug. 5	.1	Brush or Debris Burning	45.00
Dead River Pl.	Aug. 8	.1	Brush or Debris Burning	.....
Dead River Pl.	Aug. 8	.2	Brush or Debris Burning	.....
Dead River Pl.	Aug 9.	250	Brush or Debris Burning	.....
Dead River Pl.	Aug. 9	300	Brush or Debris Burning	.....
T. 3, R. 5, BKP, WKR	Aug. 13	....	Lightning	.....
Attean Pond	Aug. 18	12	Lightning	168.00
Dead River Pl.	Aug. 19	1000	Brush or Debris Burning	.....
Carrying Place Town	Aug. 19	.1	Brush or Debris Burning	20.00
Bigelow	Aug. 20	1300	Brush or Debris Burning	.....
Flagstaff Pl.	Aug. 23	15	Brush or Debris Burning	.....
T. 6, R. 17, WELS	Aug. 23	10	Lightning	150.00
Dead River Pl.	Aug. 26	2000	Brush or Debris Burning	.....
Caratunk Pl.	Aug. 27	.2	Lightning	5.00
Pierce Pond	Aug. 27	....	Lightning	5.00
T. 3, R. 4, BKP, WKR	Sept. 5	....	Brush or Debris Burning	1,000.00
Flagstaff Pl.	Sept. 6	3	Brush or Debris Burning	.....
Bigelow	Oct. 12	3	Brush or Debris Burning	.....
Dead River Pl.	Oct. 12	4	Brush or Debris Burning	.....

MAINE FORESTRY DISTRICT FIRE RECORD 1949

Location	Date	Acreage	Cause	Damage
Somerset County—Cont.				
Dead River Pl.	Oct. 16	200	Brush or Debris Burning	.....
T. 6, R. 16, WELS	Oct. 17	2.5	Smokers	.....
Dead River Pl.	Oct. 18	2	Brush or Debris Burning	$75.00
T. 1, R. 9, WBKP	Oct. 19	180	Lightning	.....
Washington County				
Indian Township	April 12	.5	Campers	.....
Codyville Pl.	April 25	.2	Smokers	.....
Codyville Pl.	April 26	.2	Smokers	.....
Crawford	April 30	.5	Brush or Debris Burning	.....
Marion Township	April 30	1	Incendiary	.....
Centerville	May 1	1.5	Brush or Debris Burning	.....
Trescott Township	May 8	35	Smokers	.....
Trescott Township	May 11	3	Brush or Debris Burning	.....
Cooper	May 15	.5	Smokers	.....
Trescott Township	May 18	3	Unknown	20.00
Trescott Township	May 22	.5	Smokers	.....
Trescott Township	May 22	2	Incendiary	4.00
T. 6, N.D.	June 3	.2	Campers	5.00
Brookton Township	June 7	.5	Smokers	5.00
T. 37, MD	June 11	90	Campers	300.00
T. 6, R. 1, NBPP	June 12	.2	Campers	12.00
Grand Lake Stream Pl.	June 15	....	Smokers	.....
No. 21 Pl.	June 19	....	Lightning	.....
T. 11, R. 3, NBPP	July 21	2	Campers	.....
T. 27, ED	July 21	.2	Campers	.....
No. 14 Pl.	July 28	....	Smokers	.....
Topsfield Township	July 28	5	Lightning	10.00
T. 19, MD	July 30	....	Miscellaneous	.....
Trescott Township	Aug. 7	2	Smokers	4.00
Beddington	Aug. 7	.5	Smokers	50.00
Centerville	Aug. 8	....	Smokers	.....
Grand Lake Stream Pl.	Aug. 14	....	Lightning	.....
Centerville	Aug. 14	1.5	Lightning	10.00
T. 19, ED	Aug. 14	....	Lightning	.....
Edmunds Township	Aug. 18	....	Miscellaneous	.....
Edmunds Township	Aug. 22	2	Smokers	16.00
T. 25, MD	Aug. 26	.7	Smokers	.....
T. 19, MD	Aug. 26	....	Smokers	.....
T. 19, MD	Aug. 26	....	Smokers	.....
Trescott Township	Sept. 3	1.5	Unknown	.....
Edmunds Township	Sept. 6	1.5	Smokers	15.00
Crawford	Sept. 10	....	Smokers	.....
Indian Township	Sept. 10	....	Miscellaneous	.....
Edmunds Township	Sept. 11	....	Incendiary	.....
T. 18, MD	Sept. 11	1	Smokers	.....
Marion Township	Oct. 14	.1	Unknown	.....
No. 14 Pl.	Oct. 18	....	Campers	.....

MAINE FORESTRY DISTRICT FIRE RECORD 1950

Location	Date	Acreage	Cause	Damage
Aroostook County				
T. 17, R. 5, WELS	May 8	....	Miscellaneous	.....
T. 1, R. 4, WELS	May 17	.1	Smokers	.....
Winterville Pl.	May 21	18	Brush or Debris Burning	.....
T. 14, R. 7	May 21	....	Campers	.....
T. C, R. 2, WELS	May 21	.5	Smokers	.....
T. 18, R. 10, WELS	May 23	9.5	Campers	$200.00
T. 8, R. 4, WELS	May 25	93	Railroad	152.50
T. 17, R. 4, WELS	May 26	3	Smokers	.....
T. 11, R. 8, & T. 11, R. 9, WELS	May 27	11	Smokers	145.00
T. 17, R. 10, WELS	May 28	212.5	Campers	1,425.00
T. 17, R. 3, WELS	May 28	20	Smokers	150.00
Molunkus	May 28	.1	Brush or Debris Burning	.....
T. 1, R. 4, WELS	May 30	.2	Smokers	.....
T. 11, R. 4, WELS, N.E. ¼	June 6	....	Campers	.....
T. 11, R. 9, WELS, S.E. ¼	June 10	....	Lightning	.....
Silver Ridge Twp.	June 10	....	Lightning	.....
T. 11, R. 8, WELS, N.E. ¼	June 10	....	Lightning	.....
T. 12, R. 8, WELS, N.W. ¼	June 18	....	Campers	.....
T. 12, R. 9, WELS, S.E. ¼	July 22	....	Campers	.....
T. 14, R. 6, WELS	July 22	....	Miscellaneous	.....
T. 15, R. 9, WELS, N.E. ¼	Aug. 2	.1	Miscellaneous	.....
T. 12, R. 16, WELS	Aug. 5	....	Lightning	.....
Hammond Pl.	Aug. 7	.2	Miscellaneous	.....
T. 16, R. 11, WELS, N.E. ¼	Aug. 8	1.5	Lumbering	.....
T. 16, R. 9, WELS, N.E. ¼	Aug. 9	.1	Lumbering	.....
T. 12, R. 7, WELS, S.E. ¼	Aug. 10	.2	Lightning	.....
T. 14, R. 16, WELS.	Aug. 10	.1	Lightning	.....
T. 8, R. 5, WELS, N.E. ¼	Aug. 12	....	Lumbering	.....
T. 17, R. 11, WELS, N. ½	Aug. 12	.3	Lumbering	.....
T. 17, R. 11, WELS, N.E. ¼	Aug. 12	....	Lumbering	.....
T. 18, R. 10, WELS, S.W. ¼	Aug. 13	....	Campers	.....
T. 16, R. 9, WELS	Aug. 13	35	Campers	2,450.00
T. 15, R. 8, WELS	Aug. 14	....	Lightning	.....
T. 10, R. 8, WELS, S.W. ¼	Aug. 18	....	Lightning	.....
T. 14, R. 8, WELS S.W. ¼	Aug. 27	....	Lightning	.....
T. 13, R. 7, WELS	Aug. 27	....	Lightning	.....
T. 13, R. 9, WELS, N.W. ¼	Aug. 27	....	Lightning	.....
T. 13, R. 9, WELS.	Aug. 27	....	Lightning	.....
T. 14, R. 8, WELS, S.W. ¼	Sept. 10	....	Smokers	.....
Garfield Pl., N.E. ¼	Sept. 21	....	Incendiary	50.00
Wallagrass Pl.	Oct. 4	.1	Smokers	.....
T. 12, R. 7, WELS, S.W. ¼	Oct. 7	....	Campers	.....
T. 16, R. 5, WELS	Nov. 14	....	Smokers	.....
Franklin County				
Perkins Pl.	May 13	1.5	Miscellaneous	300.00
S. ½ T. 1, R. 6, WBKP	May 15	76	Smokers	175.00
T. 3, R. 2, BKP, WKR	May 29	.1	Smokers	.....
Coplin Pl.	June 27	....	Lightning	.....
T. 1, R. 5, WBKP	July 11	....	Campers	.....
T. 3, R. 2, BKP, WKR	July 22	.1	Smokers	.....
Rangeley Pl.	Aug. 16	....	Lightning	.....
Freeman Twp.	Oct. 8	.1	Miscellaneous	.....
Freeman Twp.	Oct. 21	.5	Smokers	.....
Hancock County				
Osborn Pl.	May 7	3	Smokers	.....
T. 40, MD	May 8	1538	Smokers	2,080.00
T. 32-33-39, MD, MFD—Greenfield, Penobscot County.—Org. Towns (MFD figures listed here)	May 23	3524	Lumbering	35,240.00
T. 41, MD	July 18	....	Lightning	.....
T. 10, SD	July 21	4	Smokers	.....
T. 34, MD	Aug. 9	.2	Campers	.....
T. 3, MD	Aug. 10	5	Lightning	.....
T. 32, MD	Aug. 16	.5	Smokers	.....
Oxford County				
Albany Twp.	May 26	....	Lumbering	.....
Albany Twp.	June 15	....	Smokers	.....
T. 4, R. 3, WBKP	June 27	....	Lightning	.....
T. 4, R. 2, WBKP	Aug. 16	....	Lightning	.....
Penobscot County				
T. 2, R. 7, WELS	May 7	....	Miscellaneous	.....
T. 6, R. 7, WELS	May 21	1	Smokers	.....

MAINE FORESTRY DISTRICT FIRE RECORD 1950

Location	Date	Acreage	Cause	Damage
Penobscot County—Cont.				
T. 7, R. 8, WELS	May 21	.1	Campers	.....
Indian No. 3	May 25	1.2	Railroad	.....
Indian No. 3	May 29	....	Campers	.....
T. 8, R. 6, WELS, N.E. ¼	June 4	.2	Campers	$3.25
T. 5, R. 7, WELS	June 6	....	Campers	.....
T. 2, R. 6, WELS	June 9	....	Lightning	.....
Lakeville Pl.	June 10	.7	Campers	4.67
T. 2, R. 7, WELS	June 10	....	Lightning	.....
T. 6, R. 8, WELS	June 10	....	Lightning	.....
Lakeville Pl.	June 16	....	Smokers	.....
T. 1, R. 8, WELS	July 3	.2	Lightning	.....
Seboeis Pl.	July 20	.2	Smokers	.....
Indian No. 4	July 23	....	Smokers	.....
Grand Falls Pl.	July 26	.5	Lightning	.....
Indian No. 4	Aug. 6	....	Smokers	.....
T. 6, R. 8, WELS	Aug. 9	....	Smokers	.....
T. 6, R. 8, WELS	Aug. 13	....	Smokers	.....
T. 6, R. 8, WELS	Aug. 13	....	Smokers	.....
Indian No. 3	Sept. 24	....	Campers	.....
Indian No. 3	Sept. 30	....	Campers	40.00
T. 5, R. 8, WELS	Oct. 1	....	Smokers	.....
Webster Pl.	Oct. 21	30	Incendiary	.....
Kingman Twp.	Nov. 14	....	Campers	.....
Piscataquis County				
Kingsbury Pl.	April 30	10	Brush or Debris Burning	.....
T. 6, R. 8, NWP.	May 5	2	Smokers	.....
T. 1, R. 9, WELS	May 6	3.5	Brush or Debris Burning	.....
Bowerbank	May 12	125	Smokers	62.50
T. 1, R. 9, WELS	May 14	....	Brush or Debris Burning	.....
T. 6, R. 9, NWP.	May 17	1.2	Lumbering	.....
T. 1, R. 9, WELS	May 19	....	Campers	.....
T. B, R. 11, WELS	May 23	5	Lumbering	.....
Medford Twp.	May 25	10	Lumbering	20.00
T. 7, R. 10, NWP.	May 28	1	Campers	.....
Barnard Pl.	May 28	1.5	Railroad	.....
T. 2, R. 9, WELS	May 28	....	Campers	.....
T. 2, R. 9, WELS	May 28	1.5	Campers	1.50
T 2, R. 9, WELS	May 28	250	Smokers	250.00
T. 8, R. 12, WELS	June 10	....	Lightning	.....
T. A, R. 14, WELS	June 13	.2	Smokers	500.00
T. 8, R. 12, WELS	June 28	....	Lightning	.....
T. 1, R. 9, WELS	July 3	....	Lightning	2,000.00
T. 7, R. 10, NWP.	July 3	....	Lightning	.....
T. 3, R. 5, BKP, EKR	July 7	1	Smokers	.....
T. 2, R. 6, BKP, EKR	July 12	.5	Lightning	.....
T. 10, R. 10, WELS	July 24	.1	Lumbering	.....
T. 7, R. 9, NWP.	Aug. 10	....	Lightning	.....
Orneville Twp.	Aug. 13	.7	Smokers	.....
T. 1, R. 9, WELS	Aug. 20	....	Lightning	.....
T. 8, R. 12, WELS	Aug. 28	....	Lightning	.....
T. 8, R. 12, WELS	Aug. 28	....	Lightning	.....
T. 4, R. 10, WELS	Sept. 14	....	Campers	.....
T. 8, R. 11, WELS	Oct. 2	.5	Campers	75.00
T. B, R. 11, WELS	Oct. 5	275	Lumbering	21,500.00
T. 3, R. 11, WELS	Oct. 7	30	Lumbering	1,300.00
Medford Twp.	Oct. 19	....	Brush or Debris Burning	.....
Somerset County				
T. 1, R. 1, NBKP	May 8	.....	Miscellaneous	.....
Pleasant Ridge Pl.	May 26	.2	Incendiary	.....
T. 2, R. 4, BKP, WKR	May 28	....	Campers	.....
Rockwood Strip	May 30	.2	Miscellaneous	.....
T. 4, R. 5, BKP, WKR	June 10	25	Campers	250.00
Bigelow Twp.	June 27	....	Lightning	.....
T. 2, R. 7, BKP, WKR	July 14	.5	Campers	12.00
Caratunk Pl.	July 22	....	Smokers	.....
T. 2, R. 4, BKP, EKR	July 25	....	Lightning	.....
T. 2, R. 2, NBKP	July 25	.1	Lightning	.....
T. 2, R. 3, BKP, WKR	Aug. 14	....	Campers	.....
T. 5, R. 16, WELS	Aug. 16	.5	Smokers	.....
T. 5, R. 1, NBKP	Aug. 17	....	Lightning	.....
T. 2, R. 4, BKP, WKR	Sept. 25	....	Campers	.....
West Forks Pl.	Sept. 26	....	Lumbering	.....
Mayfield Twp.	Oct. 8	....	Lumbering	.....

MAINE FORESTRY DISTRICT FIRE RECORD 1950

Location	Date	Acreage	Cause	Damage
Washington County				
Northfield	April 19	3	Smokers	$15.00
Cooper	April 30	7	Brush or Debris Burning	25.00
No. 14 Pl.	May 4	2	Incendiary	.....
Trescott Twp.	May 7	10	Smokers	.....
Marion Twp.	May 7	24	Incendiary	.....
Trescott Twp.	May 8	3	Incendiary	.....
Trescott Twp.	May 9	1.8	Smokers	.....
Marion Twp.	May 9	....	Brush or Debris Burning	.....
Wesley	May 14	1.5	Incendiary	.....
Codyville Pl.	May 20	.2	Smokers	5.00
T. 25, MD	May 20	.2	Smokers	.....
Cooper	May 22	1.5	Smokers	15.00
Trescott Twp.	May 22	20	Incendiary	20.00
T. 19, MD	May 23	25	Campers	.....
Cooper	May 24	1	Campers	10.00
Cooper	May 25	.1	Smokers	2.00
T. 8, R. 3, NBPP	May 26	35	Smokers	2,000.45
T. 10, R. 3, NBPP	May 27	.1	Smokers	.....
Grand Lake Stream Pl.	May 27	.2	Smokers	.....
Trescott Twp.	May 27	30	Incendiary	30.00
Northfield	May 27	1	Brush or Debris Burning	25.00
Lambert Lake (T. 1, R. 3, TS)	May 28	.2	Railroad	.....
T. 6, ND	May 29	.2	Campers	.....
Trescott Twp.	May 29	.2	Incendiary	.....
Trescott Twp.	May 30	.2	Miscellaneous	.....
Centerville	June 2	4	Smokers	.....
T. 18, ED	June 12	....	Smokers	.....
T. 27, ED	June 14	....	Smokers	.....
T. 29, MD	June 17	6.5	Lightning	.....
Cooper	July 24	.1	Smokers	.....
T. 37, MD	July 27	....	Lightning	800.00
Marion Twp.	July 30	....	Lightning	.....
T. 27, ED	Aug. 15	....	Campers	.....
T. 30, MD	Sept. 28	....	Miscellaneous	.....
No. 14 Pl.	Oct. 26	.2	Smokers	.....

SUMMARY OF FOREST FIRES FOR 1949-1950 BY MONTHS, COUNTIES, AND CAUSES—MAINE FORESTRY DISTRICT

	No. of Fires		Acreage		Damage	
	1949	1950	1949	1950	1949	1950
By Months:						
April	17	3	107.7	20	$2,055.00	$40.00
May	39	65	7,172.8	6,071.3	12,254.00	42,308.95
June	43	29	894.3	36.7	1,824.00	1,557.92
July	47	17	2,946.5	7.2	7,040.00	2,012.00
August	45	36	5,173.4	44.4	3,003.50	2,450.00
September	12	8	161.0	....	1,167.00	90.00
October	16	12	481.8	336.4	275.00	22,875.00
November	....	2	....	....	....	....
	219	172	16,937.5	6,516.0	$27,618.50	$71,333.87
By Counties:						
Aroostook	30	43	659.7	405.5	3,787.00	4,572.50
Franklin	8	9	8.8	78.3	22.00	475.00
Hancock	11	8	191.5	5,074.7	188.00	37,320.00
Oxford	5	4	.1	....	14.00	....
Penobscot	22	25	221.4	34.1	860.50	47.92
Piscataquis	30	32	5,290.5	718.7	15,675.00	25,709.00
Somerset	71	16	10,409.4	26.5	6,621.00	262.00
Washington	42	35	156.1	178.2	451.00	2,947.45
	219	172	16,937.5	6,516.0	$27,618.50	$71,333.87
By Causes:						
Lightning	35	39	296.8	13.1	506.00	2,800.00
Railroad	....	4	....	95.9	....	152.50
Lumbering	4	15	6.3	3,847.2	12.00	58,060.00
Campers	53	34	6,374.3	312.9	17,936.50	4,471.42
Smokers	48	50	752.6	2,094.1	1,041.00	5,399.95
Debris Burning	51	9	9,109.3	39.6	5,587.00	50.00
Incendiary	6	10	337.0	110.9	2,514.00	100.00
Miscellaneous	13	11	32.1	2.3	2.00	300.00
Unknown	9	....	29.1	....	20.00	....
	219	172	16,937.5	6,516.0	$27,618.50	$71,333.87

ORGANIZED TOWNS
6,429,783 A.

Fred E. Holt, Supervisor

The major accomplishment of this biennium was the establishment of a step-up plan from former state cooperation with organized towns, cities, and plantations to centralized forest fire control. A maximum amount of authority and responsibility remains with the town forest fire warden with provision for state control whenever needed. This step-up plan was supported with:

1. Increased funds for:
   a. Additional personnel, equipment, and storage facilities
   b. A radio network
   c. Increased aid to towns for suppression costs
   d. Pay to town wardens for training and town forest fire plans
2. Laws for better control of:
   a. Slash and brush disposal
   b. Hazards around dumps and portable sawmills

Public acceptance of this program after it became effective on August 6, 1949, has been most encouraging. Cooperation between town officials and state wardens has been effective in prevention as well as suppression work. No fire has had to be taken over by state wardens because of poor, or the lack of, management by the towns. Training has been given more than 90% of the town forest fire wardens. Town forest fire plans have been drawn up by these men in every town not a part of the Maine Forestry District. Town forest fire wardens are recognized as the first link in the chain of command on all forest fire matters in the town.

Greater refinement in this organization will be forthcoming, but for a new program real progress has been made. This progress, and general public acceptance of the program, should be gratifying to the people of Maine, particularly to those people who assisted in making the program possible following the fires of 1947.

The fire season of 1949 saw a state-wide ban on woods fires declared by the Governor on three occasions: May 19-29; June 16-23; July 29-August 31. The last period was the longest ban on record. The fire hazard resulted from a rainfall deficiency carried over from the previous two seasons. No large number of high class days was recorded but the threat was there if high winds had occurred.

The 1950 season had a large number of class 4 days. The rainfall deficiency continued into 1950 from 1949 and was not eliminated until November in Districts 1 and 4 along the coast. High winds during May were chiefly responsible for the high class fire danger. A summary of the rainfall and class days follows:

		Class Day					
1949	Precipitation	1	2	3	4	5	No. Fires
April (16 days)	1.83	3	2	7	4		92
May	3.24	7	5	11	8		95
June	2.65	6	10	14			66
July	1.76	7	10	13	1		129
August	1.89	8	9	12	2		117
September	4.60	15	11	4			19
Other months							26
Total rainfall	15.97 Monthly Average	8.4	8.5	11.1	2.7		544

		Class Day					
1950	Precipitation	1	2	3	4	5	No. Fires
April (15 days)	1.87	5	1	4	5		99
May	.83	2	2	6	19	2	336
June	3.30	8	10	10	2		47
July	2.01	6	12	10	3		143
August	4.04	11	11	8	1		99
September	1.84	11	12	6	1		9
October (24 days)	2.50	5	4	11	4		41
Other months							5
Total rainfall	16.39 Monthly Average	7.5	8.3	8.7	5.5	0.3	779

Personnel

The warden force was doubled in this biennium from the previous. The construction of 7 new towers increased the number of watchman positions from 22 to 29.

Until August of 1949, there were 6 year around and 4 seasonally employed wardens and 22 watchmen. In August of 1949, 6 state district wardens, a radio technician, and a warden mechanic were appointed on a year around basis. Supervisor Robert Pendleton, Island Falls, has acted as district warden in District 7. Beginning with the spring of 1950, these men were assisted by 23 seasonal wardens and 24 watchmen. An assistant radio technician was added on a year around basis. In addition, one-half the

salary of the Green Mt. watchman at Effingham, N. H., and the Bald Mt. watchman, at Baring, was paid by the department. These two positions were maintained in cooperation with the New Hampshire Forestry & Recreation Department and the U. S. Fish & Wildlife Service, respectively. In 1950, 3 new watchman positions were created but not filled, and Kelly Mt., in Brighton, was transferred to the Maine Forestry District.

Former Supervisor Austin Wilkins was appointed Deputy Forest Commissioner in 1948. The writer was appointed to take over Mr. Wilkins' supervisory duties in August 1949.

The present force has made it possible to provide a state warden for as few as 12 towns in the southern tip of the state where fire occurrence is heaviest. In District 7, one warden is handling 29 towns. However, this area has more farm land and borders on the Maine Forestry District with emergency assistance available from District personnel. Under these conditions some of the wardens have been involved on as many as 5 fires in one day within their assigned territory. This coverage required long hours over extended periods of time during the 1950 season.

Training

Town Forest Fire Wardens. An active training program for town forest fire wardens was started in August 1949. State-wide series of meetings have been held as follows:

Fall 1949—Town warden duties and explanation of new laws.

Winter 1949-50—Individual town forest fire plans drawn up.

Summer 1950—Field meetings on progressive method of fire line construction.

Winter 1950-51—Fire behavior and discussion of fire case histories.

These meetings have emphasized that:

1. The program is theirs—planned to meet their problems.
2. Towns have first responsibility and will retain it, except when state control is needed because of size or other unusual situation.
3. Suppression is both practical and economical with the use of local equipment supplemented by state-owned equipment on larger fires.

Over 90% of the town wardens have attended the above meetings. They have shown genuine interest. Many suggestions have been received from them for planning future meetings. Deputy town forest fire wardens and other town officials have also attended.

State Wardens: The state wardens have attended the following schools:

Spring 1949—Bear Brook, N. H.—Large fire organization.
July 1949—Augusta—Interpretation of new laws.
March 1950—Augusta—Administrative procedure; all district and chief wardens of Maine Forestry District.
November 1950—Augusta—Review of past season.

District wardens held meetings (some as often as weekly) at their storehouses for seasonal wardens and watchmen for the purpose of reviewing current problems and testing equipment.

Public Relations

During the past biennium, two points have been emphasized to maintain good public relations:

1. A well informed public maintains interest in the program.
2. Ideas and suggestions from the public will be given full consideration in future planning.

The passage of the expanded forest fire prevention and control program, which became effective in August 1949, is believed to be largely the result of the above policy.

All personnel have taken part in this effort to convince the public that the department is genuinely interested in doing a good job. The effort has been through personal contact, meetings, press, and radio. Personnel have taken part in over 250 meetings with an attendance of 12,000.

Many of the above meetings have been attended to encourage the building of stronger local fire fighting organizations. This work is important for several reasons:

1. Local handling of the suppression job means faster attack.
2. Local control maintains local interest in the fire problem.
3. Use of local equipment reduces maintenance cost to the people of the state.
4. Competition between towns for better prevention and fire fighting organizations is increased.

Newspapers and radio have been helpful in keeping the people aware of the fire danger. This has been a valuable public service.

Facilities

An expanded building program was started in July 1949. Seasonal warden headquarters, 20′ x 24′, were completed by the fall of 1949 at:

Cornish	New Sharon	Morrill	Bluehill
Gorham	Benton	Newport	Houlton
Mechanic Falls	Alna	East Holden	Washburn
Weld	Union	Enfield	St. Agatha

District warden storehouses, 24′ x 24′, were completed at East Corinth and Jonesboro in late 1949. A 24′ x 24′ addition to the Hancock storehouse for pump repair and storage of parts now makes that building 24′ x 48′. The North Berwick storehouse was increased to 16′ x 30′ with an eight-foot square office.

During 1950, additions for woodsheds or other rough storage were made at:

West Paris, 10′ x 24′
Lovell, 8′ x 8′
Weld, 12′ x 20′
Norridgewock, 12′ x 12′
Benton, 10′ x 16′
East Corinth, 10′ x 16′
Columbia, 8′ x 12′
Meddybemps, 12′ x 12′
Houlton, 8′ x 8′
St. Agatha, 6′ x 8′

Several schoolhouses were torn down and used by the wardens for making some of the above storage spaces. A schoolhouse in Connor Township, a deorganized town, was made available to the department. This was reconditioned and a trailer with pump, hose, and hand tools was stored there for use by the town warden.

Four 59′ towers, with watchman camps, were completed in 1949:

Mt. Pisgah—Winthrop; 8′ x 12′ shelter
Cook Hill—Vassalboro; 14′ x 16′ camp
Wentworth Hill—Medford; 14′ x 16′ camp
Blue Hill—Bluehill; 14′ x 16′ camp

Three 59′ towers were built in 1950:

Rollins Mt.—Lincoln; 14′ x 16′ camp
Peekaboo Mt.—Weston; 20′ x 22′ house purchased
Story Hill—Wade; 14′ x 16′ camp

A 34′ tower was built on Streaked Mt., Hebron, in 1950, to replace the Bear Mt. tower. Steel from an old Wayne observation tower was used and a wooden cab was built by the wardens. The new site is 8 miles south of Bear Mt. and 563′ higher. It will give much greater coverage than the old tower. A new watchman's camp, 14′ x 16′, was built on the Buckfield side of the mountain.

A program of providing living quarters at the storehouse was started in the fall of 1950. A wooden frame, 1½ story house with land was purchased at East Corinth, main house 20′ x 30′; ell 18′ x 20′; stable 20′ x 24′. A new house was started at the Alfred storehouse, 25′ x 31′. Both of these will be ready for use in early 1951. A seasonal warden's home was started at Bluehill, 20′ x 30′, in late 1950. The house purchased at Weston will be used for living quarters for a combination watchman-warden. Space is available for a truck and equipment such as stored at seasonal headquarters.

Building #25 at the Augusta airport has been assigned to the department by the Adjutant General's office. This building has 2,700 square feet of floor space, including a drafting room 16′ x 18′.

Facilities at the end of the biennium:

6	District storehouses—2 living quarters
23	Seasonal " —1 " "
1	" " and repair shop
28	Towers with 30 watchman camps or storage sheds
3	Auxiliary 24′ x 24′ storehouses
1	Storehouse at Connor Township
1	Hangar storehouse—Augusta—20′ x 40′
1	Warehouse—Augusta

Equipment

Increased funds made available by the 1949 legislature made it possible to replace considerable old and lost fire fighting equipment, as well as purchase new equipment for additional personnel.

A large number of hand tools were purchased along with portable fire pumps, hose, and accessories. The emphasis has been on the purchase of standard equipment proven adaptable to local conditions. Heavy equipment and tank trucks have not been purchased because of heavy maintenance as well as initial costs. This type of equipment is usually available from towns or corporations so that it can be readily hired.

Equipment summary:

68	Portable power pumps
45,800	Ft. linen hose
64,050	Ft. rubber lined hose
1,345	Hand pumps
4,577	Hand tools, shovels, mattocks, rakes, etc.

Communications

Telephone. New telephone lines were constructed as follows:

Mt. Pisgah	— ¾	mile—1949
Cook Hill	—1¼	"
Blue Hill	— ½	"
Rollins Mt.	—2	"
Peekaboo Mt.	— ¼	"
Story Hill	—1/3	"
Chick Hill	—6	"

This makes a total of 37 miles of telephone lines owned and maintained by the department. These are all metallic circuits.

Radio. By mid-summer 1950, thirty 30-watt and three 10-watt mobile radio units had been installed in trucks. 30-watt units were also installed in the cars of the Commissioner, Deputy Commissioner, and Supervisors. Sixteen handie-talkie units were

available for use from fire line to the mobile units. Four land stations were in operation: Ossipee Tower, Waterboro (60-watt AC); Wentworth Hill, Medford (60-watt AC); Windsor Neck, Windsor (60-watt AC) with a repeater to Augusta; Blue Hill Tower, Bluehill (10-watt battery operated).

Maine Forestry District towers at Hedgehog Mt., Cooper, Bigelow Mt., Mt. Chase, and Squaw Mt. assisted also so that all mobile units could communicate with the Augusta office. One portable set (10-watt battery operated) was available for use on fires or other temporary installations.

Planes

Planes have been used only to a limited extent for spot fire location and hot spots on going fires. Transportation of personnel and equipment has not been of importance because of relatively good road networks. Increased use should be made of planes for locating lightning and camp fires in the more remote areas and checking progress of large fires. On windy days, the ground crew's confidence could be increased greatly if they had air observation available. The District plane was used on the Greenfield fire and on fires in Waterford and Wales.

Fire Danger Stations

Forest fire danger measurement picked up a great deal of impetus during the 1950 season. A shift to the open type station was started. At the end of this season the following stations were in operation:

Woods Stations
*Ossipee Mt.—Waterboro
Opportunity Farm—New Gloucester
Bear Mt.—Hartford
York Hill—New Sharon
*Chase Hill—Canaan
Mt. Ararat—Topsham
Haskell Hill—Jefferson
Frye Mt.—Montville
High Cut Hill—Garland
Harris Mt.—Dixmont
Chick Hill—Clifton

Open Stations
Mt. Blue State Park—Weld
Wentworth Hill—Medford
Massabesic Experimental Forest—Alfred
Blueberry Hill—Jonesboro

The starred stations are those sending data to the Boston Weather Bureau each evening. The Weather Bureau, in turn, sent a forecast by coded telegram each morning to each of five areas: Augusta, Machias, Greenville, Island Falls, and St. Agatha. These forecasts, based on local weather measurements, were very accurate and many fine comments were made in the field as to their usefulness.

More danger stations should be shifted to the open type as soon as possible. These open stations are located in areas with no nearby obstructions. The use of screens provides shade to fuel moisture sticks to correspond with conditions in the woods. These will give a much better indication of the fire hazard where most of our fires start—in open areas along the roadsides. Two new open type stations are planned at St. Agatha and Bluehill storehouse sites next season. The Weld, Alfred, and Jonesboro stations, combined with some District stations, should give a sound basis for determining the opening date of towers as these stations will be operated as soon as the snow leaves in the spring.

Prediction of class day and a start toward prediction of number of fires expected should be used during the coming biennium.

Roads

Roads are not a great problem in the organized town area except along the edge of the Maine Forestry District. Even here, during recent years, many new roads have been bulldozed into formerly inaccessible areas.

A problem that developed in late 1950 is that of wind-thrown timber closing many of these woods roads. This applies to southwestern Maine only and particularly in the 1947 burn area.

In some instances, where none have existed before, roads have been built by bulldozers during the fire to allow passage of tank trucks and other equipment to the fire area.

Lunch Grounds

Three new lunch grounds have been established at the North Berwick, Cornish, and Gray storehouses. These were made principally of secondhand materials. They have been located at the storehouse sites to make maintenance easier. There are only two camp sites in the organized town area. These are at the Pleasant Mt. watchman's camp and at Fryeburg on the Saco River. A new lean-to, 10′ x 22′, was made from slab wood at Pleasant Mt. A shelter was moved there from another site and the field stone fireplace rebuilt. A 10′ x 12′ lean-to was built at Fryeburg. These are maintained because of the large number of boys' camps in the area taking overnight trips.

Greenfield Fire

The largest fire of the 1949 and 1950 seasons was in the Greenfield area. This fire started in T. 32 on the afternoon of May 23,

1950, in the Maine Forestry District and burned into the Town of Greenfield in the organized town area on the afternoon of May 24. Organized town personnel went to the fire to offer assistance in the way of radio and other equipment early on the morning of the 24th.

This fire was of particular interest because it was the first time the Maine Forestry District and new organized town set-up operated together on a large fire.

This fire went out of control on the day following its start, not due to any one thing, but to an accumulation of many things which were not carried out in their proper sequence.

Cooperation between the two organizations was excellent. As the fire became large, an organized town district warden was made fire boss. A district warden and a chief warden were made sector bosses. Each sector had its own camp for feeding and sleeping men in the fire area. These camps were established and maintained by timber operating companies which relieved busy wardens of this detail.

The size of this fire (6,355 acres) indicated there should be valuable lessons to be learned from it. A board of review was convened on July 14 at the scene of the fire. The members of the board were:

Kenneth Hinkley, Chief Warden, Rangeley District
Fred Holt, Supervisor, Organized Towns
Robert Hutton, Supervisor, Western Division
Howard Rowell, District Warden, District 3
Harold Weeks, Chief Warden, Aroostook Waters

From the review, the following principles were brought out as being overlooked or not being followed up with enough aggressiveness:

1. Advance planning should be carried out so that each warden knows where he can get man power and equipment in a hurry, not only locally but from a distance, if needed.
2. On high class 3 days or on class 4 days, the fire fighting organization should be ready for top performance. Personnel should be available at a moment's notice. Trucks should be loaded and ready to roll.
3. Attack should be made at the earliest possible moment with no exceptions.
4. First person on fire should take charge until relieved by next higher in chain of command or by person of equal rank assigned to area where fire exists.
5. Fire boss should not leave area without appointing someone to act in his absence.
6. Full use must be made of all existing communications. The value of years of construction and maintenance work may otherwise be lost.

7. Scouting outside the main fire area, particularly where wind is an important factor.
8. Full knowledge of the advantages and limitations of all tools available for suppression followed by use of the proper tools.
9. Fresh men should be available on the fire line at daybreak. Where man power is limited it should not be used at night but should be rested for early morning efficiency.

ORGANIZED TOWNS

Financial Statement

	1949	1950
Appropriation Balance January 1	$23,334.80	$173,973.08
Receipts		
Tree Surgeon Licenses	271.00	—
Portable Sawmill Licenses	2,800.00	4,225.00
Federal Grants	43,490.31	13,650.69
Contingent Fund	41,000.00	—
Legislative Appropriation	272,415.00	192,815.00
Tax, Unorganized areas outside the Maine Forestry District	300.00	300.00
Sale of Equipment	300.00	74.40
Adjustment of Balance Forward	2.70	—44.97
Total Receipts	$383,913.81	$384,993.20
Disbursements		
Supervision	6,561.68	9,690.26
Administration	4,839.30	10,301.11
State Wardens	41,879.54	62,651.59
Watchmen	30,268.69	33,481.37
Truck Maintenance and Operation	11,206.74	18,338.67
Traveling Expenses	3,650.35	5,818.45
Telephone and Utilities	4,097.78	6,471.24
Rentals	115.50	183.00
Repairs	1,773.24	9,278.93
General Expense and Supplies	5,283.46	7,260.78
Disability Awards	287.50	55.25
Buildings and Improvements	17,096.81	5,389.18
Equipment	71,960.99	53,091.36
Land Purchases	1,380.00	4,240.03
Towers	7,838.69	6,493.80
Town Forest Fire Wardens	1,150.00	30,875.00
Total Disbursements	$209,390.27	$263,620.02
Lapsed	550.46	5,801.71
Reimbursed Contingent Fund	—	41,000.00
Balance December 31	$173,973.08	$74,571.47

AID TO TOWNS FOR FOREST FIRES

Financial Statement

	1949	1950
Appropriation Balance January 1	$7,783.43	$1,266.43
Receipts		
Legislative Appropriation	43,988.00	34,975.00
Tax, Unorganized Areas	2,508.43	2,016.40
Inter-departmental Transfers	—	2,000.00
Contingent Fund	—	26,500.00
Total Receipts	$54,279.86	$66,757.83
Disbursements		
Aid to Towns	53,013.43	64,732.03
Lapsed	—	1.58
Total Disbursements	$53,013.43	$64,733.61
Balance December 31	$1,266.43	$2,024.22

ORGANIZED TOWNS FIRE RECORD 1949

Location	Date	Acreage	Cause	Damage
Androscoggin County				
Greene	April 5	2	Smokers	.....
Livermore Falls	April 5	1	Railroad	.....
Poland	April 5	.5	Miscellaneous	.....
Poland	April 9	2	Brush or Debris Burning	.....
Poland	April 12	3.5	Brush or Debris Burning	$10.00
Poland	April 12	3	Brush or Debris Burning	.....
Minot	April 15	.7	Brush or Debris Burning	25.00
Livermore Falls	April 29	5	Unknown	.....
Poland	April 30	.2	Miscellaneous	.....
Livermore Falls	April 30	.7	Unknown	.....
Turner	April 30	12	Brush or Debris Burning	30.00
Turner	May 1	1	Brush or Debris Burning	5.00
Livermore Falls	May 1	2	Brush or Debris Burning	.....
Turner	May 12	.2	Brush or Debris Burning	2.00
Durham	May 12	1.2	Smokers	5.00
Minot	May 13	27.7	Railroad	100.00
Lisbon	May 15	.5	Smokers	.....
Poland	June 2	1	Brush or Debris Burning	.....
Poland	June 4	.5	Railroad	.....
Auburn	June 11	1.5	Railroad	5.00
Mechanic Falls	June 15	.5	Smokers	.....
Lisbon	July 2	.2	Miscellaneous	.....
Lisbon	July 4	.2	Miscellaneous	.....
Lisbon	July 5	.2	Smokers	.....
Auburn	July 5	1	Smokers	5.00
Lisbon	July 5	.3	Unknown	.....
Turner	July 6	2	Smokers	10.00
Turner	July 6	....	Smokers	.....
Turner	July 6	1	Smokers	.....
Auburn	July 6	6.2	Smokers	25.00
Poland	July 8	1	Campers	.....
Lisbon	July 9	25	Smokers	520.00
Turner	July 20	4	Unknown	1,020.00
Greene	July 21	.5	Smokers	.....
Lisbon	July 21	.5	Smokers	.....
Livermore	July 23	65	Lumbering	1,200.00
Poland	July 23	.5	Campers	.....
Mechanic Falls	July 24	.3	Smokers	.....
Wales	July 24	1	Miscellaneous	.....
Poland	July 24	.1	Brush or Debris Burning	.....
Livermore	July 27	.1	Smokers	.....
Auburn	Aug. 5	3.5	Lightning	25.00
Livermore Falls	Aug. 5	3	Unknown	.....
Livermore Falls	Aug. 5	3	Unknown	.....
Minot	Aug. 7	.5	Miscellaneous	75.00
Livermore Falls	Aug. 9	5	Unknown	400.00
Livermore Falls	Aug. 9	8	Unknown	350.00
Livermore Falls	Aug. 10	2	Unknown	12.00
Livermore Falls	Aug. 27	3	Unknown	.....
Minot	Oct. 13	1	Smokers	.....
Mechanic Falls	Oct. 18	.2	Smokers	.....
Aroostook County				
Sherman	April 30	8	Brush or Debris Burning	5.00
Masardis	May 1	12	Unknown	60.00
Littleton	May 1	3	Brush or Debris Burning	.....
Stockholm	May 6	1.5	Unknown	.....
Cary Pl.	May 8	4	Unknown	150.00
Ashland	May 15	1.2	Unknown	.....
Perham	May 15	10	Unknown	1,000.00
Madawaska	May 16	5	Brush or Debris Burning	100.00
Perham	May 17	15	Brush or Debris Burning	2,000.00
Linneus	July 9	1.5	Smokers	.....
Linneus	July 9	1	Smokers	.....

ORGANIZED TOWNS FIRE RECORD 1949

Location	Date	Acreage	Cause	Damage
Aroostook County—Cont.				
Madawaska	July 12	2	Brush or Debris Burning	.....
Chapman	Aug. 4	3	Campers	$5,700.00
Presque Isle	Aug. 8	.1	Smokers	.....
Ashland	Aug. 12	.5	Smokers	.....
New Limerick	Aug. 20	.5	Smokers	.....
Ashland	Aug. 25	1	Smokers	.....
Hersey	Oct. 14	3	Brush or Debris Burning	.....
Chapman	Oct. 25	2	Smokers	.....
Cumberland County				
Falmouth	Mar. 29	....	Brush or Debris Burning	2.00
Cumberland	April 1	.5	Brush or Debris Burning	.....
Cumberland	April 2	5	Brush or Debris Burning	.....
Falmouth	April 3	....	Brush or Debris Burning	20.00
Baldwin	April 5	17	Brush or Debris Burning	.....
Falmouth	April 9	.2	Brush or Debris Burning	.....
Cumberland	April 10	.1	Brush or Debris Burning	.....
New Gloucester	April 12	5.8	Unknown	25.00
Cumberland	April 12	.4	Smokers	.....
Bridgton	April 13	2	Brush or Debris Burning	.....
Gray	April 13	.5	Brush or Debris Burning	.....
Bridgton	April 14	1	Brush or Debris Burning	.....
Harrison	April 14	1	Brush or Debris Burning	10.00
Gray	April 15	2	Brush or Debris Burning	.....
North Yarmouth	April 22	.1	Brush or Debris Burning	.....
North Yarmouth	April 25	100	Brush or Debris Burning	50.00
New Gloucester	April 29	.2	Smokers	.....
Gray	April 29	.2	Brush or Debris Burning	.....
Gray	May 1	1.5	Brush or Debris Burning	.....
Bridgton	May 1	5	Brush or Debris Burning	.....
Bridgton	May 4	.5	Brush or Debris Burning	.....
Harpswell	May 8	4	Incendiary	.....
New Gloucester	May 8	35	Campers	50.00
Gray	May 8	2	Brush or Debris Burning	10.00
Brunswick	May 10	1	Lumbering	.....
Gray	May 10	.1	Smokers	.....
Falmouth	May 11	.5	Smokers	50.00
North Yarmouth	May 11	.1	Miscellaneous	.....
Baldwin	May 14	2	Lightning	200.00
Cumberland	May 14	20	Unknown	100.00
Falmouth	May 14	.7	Miscellaneous	25.00
Sebago	May 16	1	Smokers	.....
Standish	May 17	.5	Smokers	50.00
Cumberland	June 5	.2	Incendiary	.....
New Gloucester	June 9	.5	Smokers	440.00
New Gloucester	June 11	....	Smokers	.....
Cumberland	June 16	....	Brush or Debris Burning	.....
Casco	June 17	2.5	Lumbering	50.00
Bridgton	June 19	.5	Incendiary	.....
Sebago	June 30	1.5	Lumbering	.....
Gray	July 4	....	Miscellaneous	.....
Sebago	July 5	1	Lumbering	.....
Harpswell	July 5	....	Miscellaneous	.....
Harpswell	July 5	.2	Unknown	.....
Windham	July 5	.2	Miscellaneous	.....
Casco	July 11	....	Smokers	.....

ORGANIZED TOWNS FIRE RECORD 1949

Location	Date	Acreage	Cause	Damage
Cumberland County—Cont.				
Windham	July 14	1.5	Smokers	.....
Casco	July 17	....	Miscellaneous	.....
Falmouth	July 20	1.2	Smokers	$50.00
Standish	July 21	2	Smokers	.....
New Gloucester	July 21	.7	Smokers	5.00
Harpswell	July 24	15	Smokers	.....
Harpswell	July 24	2	Smokers	.....
Cumberland	July 24	.1	Smokers	.....
Harpswell	July 27	.5	Campers	.....
Sebago	July 27	1	Lightning	25.00
Casco	July 28	4.5	Lightning	25.00
Westbrook	July 28	2	Smokers	100.00
Bridgton	July 29	.2	Smokers	.....
New Gloucester	July 30	....	Smokers	.....
Windham	Aug 2	.2	Unknown	5.00
Cape Elizabeth	Aug. 7	.2	Smokers	.....
Baldwin	Aug. 8	1	Railroad	100.00
Freeport	Aug. 8	.5	Lumbering	.....
Harpswell	Aug. 10	3	Smokers	.....
Cumberland	Aug. 10	.1	Lightning	.....
Cape Elizabeth	Aug. 20	1.5	Smokers	330.00
Gray	Aug. 23	.5	Smokers	.....
Cumberland	Aug. 23	.1	Unknown	.....
Falmouth	Aug. 24	....	Miscellaneous	.....
Windham	Aug. 25	1.5	Miscellaneous	.....
Scarboro	Aug. 25	2	Smokers	25.00
Gray	Aug. 26	....	Miscellaneous	.....
Bridgton	Aug. 26	.2	Miscellaneous	.....
Brunswick	Aug. 26	2	Smokers	.....
Gray	Aug. 26	2.5	Smokers	.....
Standish	Aug. 27	1.5	Smokers	50.00
Scarboro	Aug. 27	22	Smokers	350.00
Gray	Aug. 28	.1	Miscellaneous	.....
Windham	Aug. 29	2	Lightning	50.00
Windham	Sept. 7	....	Miscellaneous	.....
Falmouth	Sept. 8	....	Miscellaneous	.....
Harrison	Sept. 10	.3	Brush or Debris Burning	10.00
New Gloucester	Nov. 26	....	Lightning	.....
Franklin County				
New Vineyard	April 13	5	Brush or Debris Burning	.....
Farmington	April 13	25	Brush or Debris Burning	25.00
Carthage	April 30	.5	Smokers	5.00
Chesterville	May 10	20	Brush or Debris Burning	.....
Madrid	May 15	.3	Smokers	2.00
New Vineyard	May 16	10	Smokers	15.00
Jay	May 18	15	Lumbering	80.00
Wilton	June 9	.5	Smokers	.....
Avon	June 17	1.5	Smokers	.....
Eustis (flowage fire)	June 27	950	Brush or Debris Burning	.....
Jay	July 7	1	Smokers	.....
Eustis (flowage fire)	July 8	2	Brush or Debris Burning	.....
Jay	Aug. 16	....	Unknown	3.00
New Sharon	Aug. 22	.2	Miscellaneous	25.00
Wilton	Aug. 28	....	Lightning	.....
New Vineyard	Sept. 8	.2	Brush or Debris Burning	.....
Chesterville	Oct. 7	.1	Miscellaneous	.....
Wilton	Oct. 21	.1	Smokers	.....
Hancock County				
Bucksport	April 1	2	Brush or Debris Burning	.....
Orland	April 12	5	Unknown	10.00
Ellsworth	April 12	5	Miscellaneous	1.25
Dedham	April 12	28	Brush or Debris Burning	30.00
Bucksport	April 15	.2	Brush or Debris Burning	.....
Bucksport	May 1	2	Brush or Debris Burning	.....
Bar Harbor	May 14	.5	Miscellaneous	.....

ORGANIZED TOWNS FIRE RECORD 1949

Location	Date	Acreage	Cause	Damage
Hancock County—Cont.				
Bucksport	June 4	.5	Smokers	.....
Tremont	June 10	.5	Incendiary	.....
Bucksport	June 11	2.5	Unknown	.....
Ellsworth	June 16	....	Incendiary	.....
Gouldsboro	June 17	1	Lumbering	.....
Bucksport	June 17	1	Smokers	.....
Gouldsboro	July 1	1.5	Lumbering	$176.00
Bar Harbor	July 7	.1	Smokers	.....
Ellsworth	July 7	.7	Miscellaneous	93.00
Ellsworth	July 22	....	Campers	.....
Franklin	July 24	450	Lumbering	510.00
Orland	July 27	.3	Lumbering	300.00
Ellsworth	July 29	....	Smokers	.....
Sullivan	Aug. 1	....	Smokers	.....
Sullivan	Aug. 5	2	Campers	25.00
Tremont	Aug. 6	.2	Smokers	.....
Mariaville	Aug. 17	.5	Miscellaneous	.....
Tremont	Aug. 20	5.5	Smokers	2,010.00
Tremont	Aug. 20	1	Smokers	10.00
Bar Harbor	Aug. 21	.2	Smokers	.....
Tremont	Aug. 21	3	Smokers	1,505.00
Sullivan	Aug. 24	2	Smokers	.....
Sullivan	Aug. 26	1.5	Smokers	.....
Bucksport	Sept. 10	1.5	Smokers	.....
Bucksport	Sept. 10	.6	Miscellaneous	.....
Penobscot	Oct. 18	4	Brush or Debris Burning	.....
Kennebec County				
Winslow	Mar. 28	1	Unknown	.....
Pittston	Mar. 30	15	Brush or Debris Burning	.....
Clinton	April 2	20	Brush or Debris Burning	20.00
Winslow	April 5	10	Brush or Debris Burning	.....
Wayne	April 6	.5	Campers	.....
Augusta	April 12	3	Brush or Debris Burning	3.00
Winslow	April 13	1	Brush or Debris Burning	.....
Winslow	April 15	6	Unknown	.....
Farmingdale	April 22	1	Brush or Debris Burning	.....
Clinton	April 30	33	Brush or Debris Burning	40.00
Pittston	April 30	.5	Brush or Debris Burning	.....
Chelsea	May 1	3	Smokers	20.00
Waterville	May 2	.1	Unknown	.....
Clinton	May 22	1	Unknown	3.00
Winslow	June 19	....	Lightning	.....
Gardiner	June 30	.2	Smokers	.....
Monmouth	July 5	1	Smokers	.....
Monmouth	July 6	.5	Brush or Debris Burning	.....
Monmouth	July 6	1	Brush or Debris Burning	.....
Augusta	July 20	.5	Incendiary	.....
China	July 21	1	Incendiary	.....
Augusta	July 22	.5	Unknown	.....
Windsor	July 23	7	Smokers	5.00
Wayne	July 23	10	Campers	800.00
Augusta	July 24	.2	Smokers	.....
Farmingdale	Aug. 10	.2	Lumbering	60.00
Oakland	Aug. 16	.2	Smokers	.....
Gardiner	Aug. 20	....	Miscellaneous	.....
Clinton	Aug. 21	.5	Incendiary	.....
Albion	Aug. 24	....	Smokers	.....
Vienna	Aug. 26	40	Smokers	130.75
China	Aug. 27	.2	Smokers	.....
Pittston	Aug. 27	.2	Smokers	.....
Windsor	Aug. 27	1	Miscellaneous	.....
Clinton	Aug. 29	.1	Brush or Debris Burning	.....
Litchfield	Sept. 2	.1	Unknown	.....
Fayette	Sept. 2	.5	Miscellaneous	.....
Monmouth	Sept. 9	1.5	Brush or Debris Burning	.....

ORGANIZED TOWNS FIRE RECORD 1949

Location	Date	Acreage	Cause	Damage
Kennebec County—Cont.				
Winslow	Sept. 10	.1	Smokers	.....
Sidney	Oct. 7	.2	Brush or Debris Burning	.....
Knox County				
Warren	April 11	63	Brush or Debris Burning	.....
Warren	May 5	.2	Lumbering	.....
Appleton	June 17	1	Unknown	.....
Isle-au-Haut	Aug. 8	6	Unknown	$1,000.00
South Thomaston	Aug. 8	1.5	Smokers	.....
Warren	Aug. 9	.2	Smokers	.....
Appleton	Aug. 15	.5	Lightning	.....
Washington	Aug. 23	....	Miscellaneous	.....
Warren	Aug. 26	1.1	Smokers	28.00
South Thomaston	Aug. 28	.7	Incendiary	.....
Rockport	Aug. 30	2	Smokers	.....
Warren	Oct. 17	....	Miscellaneous	.....
South Thomaston	Oct. 18	.7	Brush or Debris Burning	.....
Union	Oct. 23	.1	Lumbering	1,500.00
Lincoln County				
Nobleboro	April 5	4	Brush or Debris Burning	20.00
Boothbay Harbor	April 5	.2	Smokers	.....
Boothbay Harbor	April 10	....	Brush or Debris Burning	.....
Bristol	April 22	2	Unknown	.....
Wiscasset	May 1	5	Smokers	.....
Waldoboro	May 24	.5	Unknown	.....
South Bristol	June 15	....	Smokers	.....
Waldoboro	June 16	1.5	Smokers	27.50
Waldoboro	July 1	.1	Brush or Debris Burning	.....
Boothbay Harbor	July 4	.2	Miscellaneous	5.00
Newcastle	July 8	.2	Incendiary	5.00
Waldoboro	July 22	3	Lumbering	18.00
Somerville	July 24	200	Lumbering	2,657.64
Bristol	July 24	60	Incendiary	600.00
Bristol	July 24	....	Incendiary	.....
Nobleboro	July 28	8	Miscellaneous	160.00
Bristol	July 29	15	Incendiary	675.00
Bristol	July 29	....	Smokers	.....
Newcastle	Aug. 2	....	Lightning	.....
Alna	Aug. 23	4	Miscellaneous	5,010.00
Nobleboro	Aug. 24	1	Smokers	10.00
Bristol	Aug. 25	4	Brush or Debris Burning	.....
Wiscasset	Aug. 26	....	Smokers	.....
Dresden	Aug. 28	1.5	Miscellaneous	.....
Dresden	Sept. 4	1	Miscellaneous	.....
Oxford County				
Porter	April 12	10	Smokers	100.00
Hebron	April 13	3	Brush or Debris Burning	.....
Hiram	April 13	4	Brush or Debris Burning	.....
Lovell	April 14	1.5	Brush or Debris Burning	.....
Canton	April 30	20	Miscellaneous	80.00
Brownfield	April 30	.2	Unknown	.....
Lovell	April 30	1.5	Miscellaneous	.....
Denmark	May 7	1	Miscellaneous	75.00
Brownfield	May 8	.2	Unknown	.....
Mexico	May 15	1	Unknown	2.00
Hebron	May 20	.2	Brush or Debris Burning	.....
Buckfield	June 1	.1	Smokers	.....
Waterford	June 7	1	Smokers	.....
Buckfield	June 11	.1	Brush or Debris Burning	.....
Waterford	June 14	1	Smokers	.....
Woodstock	June 14	.1	Smokers	5.00
Paris	June 15	1	Smokers	10.00
Greenwood	June 15	42	Smokers	70.00
Oxford	June 15	1	Lumbering	.....
Byron	June 16	....	Miscellaneous	.....

ORGANIZED TOWNS FIRE RECORD 1949

Location	Date	Acreage	Cause	Damage
Oxford County—Cont.				
Woodstock	June 23	.1	Miscellaneous	.....
Denmark	July 2	.2	Miscellaneous	.....
Greenwood	July 2	.1	Unknown	$1.00
Hebron	July 3	.1	Miscellaneous	.....
Waterford	July 4	.2	Miscellaneous	.....
Hebron	July 5	.1	Unknown	.....
Bethel	July 6	1	Miscellaneous	.....
Canton	July 10	.5	Unknown	.....
Lovell	July 21	.5	Smokers	.....
Rumford	July 23	.5	Brush or Debris Burning	.....
Hartford	July 24	....	Miscellaneous	.....
Paris	July 24	.5	Smokers	.....
Bethel	July 28	4	Unknown	.....
Rumford	Aug. 3	.1	Lumbering	10.00
Bethel	Aug. 8	1	Unknown	.....
Porter	Aug. 10	.5	Lumbering	25.00
Sumner	Aug. 11	.1	Campers	25.00
Bethel	Aug. 14	1	Lightning	.....
Roxbury	Aug. 23	12	Incendiary	110.00
Woodstock	Aug. 26	....	Miscellaneous	.....
Fryeburg	Aug. 28	.2	Lightning	.....
Hartford	Aug. 30	.1	Lightning	4.00
Lovell	Sept. 5	....	Miscellaneous	.....
Hebron	Sept. 12	.5	Lightning	5.00
Sweden	Oct. 19	.5	Lumbering	.....
Paris	Oct. 19	.2	Brush or Debris Burning	.....
Penobscot County				
Eddington	April 13	40	Brush or Debris Burning	.....
Garland	April 20	8	Smokers	30.00
Dixmont	April 29	5.5	Campers	.....
Eddington	April 30	40	Brush or Debris Burning	60.00
Clifton	May 1	.2	Campers	27.00
Exeter	May 1	1.9	Miscellaneous	230.00
Old Town—Indian Island	May 5	55	Smokers	600.00
Veazie	May 10	8	Smokers	40.00
Clifton	May 13	.2	Brush or Debris Burning	.....
Mattawamkeag	May 14	1	Smokers	5.00
LaGrange	June 4	2	Brush or Debris Burning	50.00
Dixmont	June 4	.1	Incendiary	.....
Winn	June 14	150	Campers	100.00
Maxfield	July 2	2	Smokers	25.00
Alton	July 9	1.5	Smokers	25.00
Bradley	July 20	1	Smokers	.....
Plymouth	July 21	35	Lumbering	370.00
Dixmont	July 24	.3	Smokers	5.00
Lee	Aug. 5	.2	Smokers	.....
Etna	Aug. 9	.2	Miscellaneous	.....
Clifton	Aug. 17	....	Smokers	.....
Eddington	Aug. 22	.2	Campers	.....
Eddington	Oct. 21	5	Brush or Debris Burning	.....
Piscataquis County				
Sangerville	April 12	15	Brush or Debris Burning	.....
Sangerville	May 1	13	Smokers	.....
Milo	May 9	15	Brush or Debris Burning	150.00
Brownville	May 16	1.5	Smokers	.....
Abbot	June 4	.2	Smokers	16.00
Days Academy Grant (Unorganized territory not a part of the M.F.D.)	June 30	.5	Smokers	.....
Atkinson	July 3	....	Lightning	.....
Dover-Foxcroft	July 24	100	Smokers	235.00
Brownville	Aug. 25	.1	Smokers	8.00
Atkinson	Aug. 25	5	Incendiary	8.00
Sebec	Aug. 26	35	Lumbering	100.00
Sagadahoc County				
Phippsburg	Mar. 30	1	Unknown	.....
Phippsburg	Mar. 31	1	Brush or Debris Burning	.....

ORGANIZED TOWNS FIRE RECORD 1949

Location	Date	Acreage	Cause	Damage
Sagadahoc County—Cont.				
Topsham	April 3	.2	Brush or Debris Burning	.....
Woolwich	April 5	4	Brush or Debris Burning	$2,000.00
Topsham	April 10	7	Miscellaneous	2.00
Topsham	April 13	6	Smokers	.....
Woolwich	April 22	8.5	Railroad	.....
Richmond	May 11	.2	Smokers	.....
West Bath	May 15	3	Smokers	.....
West Bath	May 15	3	Smokers	.....
Topsham	June 7	.3	Brush or Debris Burning	.....
Woolwich	June 10	.5	Smokers	.....
Woolwich	June 12	.2	Smokers	.....
Bath	July 3	15	Smokers	.....
Bowdoinham	July 8	2.5	Smokers	8.00
Woolwich	July 14	.3	Brush or Debris Burning	.....
Bowdoinham	July 23	.1	Smokers	.....
Phippsburg	July 23	....	Smokers	.....
Bowdoin	July 27	.1	Lightning	.....
Woolwich	July 27	.3	Lumbering	.....
West Bath	July 31	.1	Lightning	.....
Arrowsic	Aug. 7	.5	Smokers	.....
West Bath	Aug. 19	1.5	Smokers	.....
Phippsburg	Aug. 20	.1	Miscellaneous	.....
Georgetown	Aug. 22	1.5	Smokers	210.00
Phippsburg	Aug. 23	....	Smokers	.....
Phippsburg	Aug. 26	....	Smokers	.....
Richmond	Aug. 27	1.5	Miscellaneous	.....
Topsham	Dec. 30	4	Smokers	.....
Somerset County				
Hartland	April 14	1	Brush or Debris Burning	.....
Hartland	April 15	1	Unknown	.....
Hartland	April 25	20	Unknown	30.00
Fairfield	April 29	30	Smokers	30.00
Detroit	April 30	30	Smokers	20.00
Solon	May 10	.5	Smokers	10.00
Skowhegan	May 13	.1	Smokers	.....
Smithfield	May 15	1	Smokers	95.00
Skowhegan	May 17	3	Smokers	75.00
Solon	May 17	150	Smokers	892.50
Norridgewock	May 21	3	Smokers	5.00
St. Albans	June 1	.1	Miscellaneous	.....
St. Albans	June 6	4	Campers	70.00
Smithfield	June 12	.1	Smokers	.....
Skowhegan	June 15	.2	Miscellaneous	.....
Solon	June 15	6	Smokers	245.00
Pittsfield	June 28	.1	Smokers	91.00
Solon	July 23	.5	Smokers	.....
Fairfield	July 24	20	Unknown	720.00
Bingham	July 26	1	Smokers	.....
Pittsfield	July 28	.5	Smokers	.....
Skowhegan	Aug. 9	.4	Smokers	2.00
Skowhegan	Aug. 17	....	Campers	.....
Detroit	Aug. 22	7	Smokers	460.00
Waldo County				
Belmont	Mar. 31	5	Brush or Debris Burning	.....
Montville	April 13	20	Brush or Debris Burning	.....
Burnham	May 1	4	Brush or Debris Burning	5.00
Unity	May 6	20	Unknown	.....
Belmont	May 7	.7	Brush or Debris Burning	.....
Knox	May 21	....	Unknown	.....
Jackson	June 9	.7	Unknown	.....
Knox	June 13	7.5	Unknown	.....
Frankfort	June 19	.7	Unknown	.....
Swanville	July 10	.2	Smokers	.....
Burnham	July 20	.1	Smokers	.....
Palermo	July 27	.2	Lumbering	15.00
Jackson	Aug. 8	1	Unknown	.....
Thorndike	Aug. 24	.1	Unknown	.....
Prospect	Aug. 24	....	Smokers	10.00

ORGANIZED TOWNS FIRE RECORD 1949

Location	Date	Acreage	Cause	Damage
Washington County				
Baileyville	April 12	2	Smokers	.....
Calais	April 12	2	Miscellaneous	$10.00
Calais	April 13	100	Incendiary	.....
Cherryfield	April 22	2	Brush or Debris Burning	.....
Baileyville	April 22	2	Miscellaneous	.....
Calais	April 29	24	Miscellaneous	.....
Baring	May 5	24	Incendiary	.....
East Machias	May 8	3	Smokers	.....
Whiting	May 8	4	Smokers	.....
Cherryfield	May 10	1	Campers	.....
Cherryfield	May 13	.5	Campers	.....
Columbia Falls	May 13	.2	Miscellaneous	.....
Columbia	May 14	4	Miscellaneous	130.00
Addison	May 15	4	Smokers	.....
Calais	May 17	4	Miscellaneous	.....
Princeton	May 22	125	Smokers	.....
Jonesport	May 22	.5	Incendiary	.....
Cherryfield	June 5	.5	Smokers	.....
Cherryfield	June 19.	2.5	Lightning	.....
Baring	July 5	.2	Smokers	.....
Pembroke	July 17	1.5	Smokers	.....
Princeton	July 19	.2	Lightning	.....
East Machias	July 23	.7	Smokers	.....
Lubec	July 24	6	Smokers	.....
Lubec	July 28	3.5	Smokers	.....
Lubec	Aug. 1	.2	Smokers	.....
Lubec	Aug. 2	....	Smokers	.....
Columbia	Aug. 7	.5	Smokers	.....
Alexander	Aug. 28	....	Miscellaneous	.....
Cherryfield	Sept. 6	1	Smokers	.....
Pembroke	Sept. 7	1.5	Smokers	.....
Jonesport	Sept. 11	.5	Smokers	.....
Jonesport	Sept. 13	.5	Miscellaneous	.....
Baring	Oct. 4	.2	Incendiary	12.00
Milbridge	Oct. 20	.2	Smokers	.....
York County				
Cornish	Mar. 29	1.5	Brush or Debris Burning	25.00
Acton-Lebanon	April 1	6	Brush or Debris Burning	.....
York	April 5	....	Incendiary	.....
North Kennebunkport	April 5	1	Brush or Debris Burning	.....
Wells	April 10	1.5	Brush or Debris Burning	10.00
York	April 12	1.2	Unknown	.....
Buxton	April 13	3	Smokers	100.00
Berwick	April 13	.5	Unknown	.....
York	April 16	.5	Incendiary	250.00
Lebanon	April 20	.5	Railroad	.....
Wells	April 21	.2	Smokers	.....
Buxton	April 27	.5	Miscellaneous	.....
Berwick	April 30	.7	Railroad	.....
Shapleigh	May 8	1	Brush or Debris Burning	.....
Lebanon	May 8	1.6	Smokers	15.00
Berwick	May 9	5	Brush or Debris Burning	25.00
Sanford	May 9	5	Miscellaneous	10.00
Old Orchard Beach	May 9	8.7	Smokers	110.00
North Berwick	May 10	.5	Railroad	.....
Berwick	May 10	.3	Railroad	.....
Wells	May 10	1.5	Railroad	10.00
South Berwick	May 11	3	Smokers	10.00
Old Orchard Beach	May 11	1.2	Unknown	5.00
North Berwick	May 13	6	Brush or Debris Burning	.....
Sanford	May 16	3	Miscellaneous	5.00
Saco	May 18	2.7	Smokers	10.00
Sanford	May 18	2	Miscellaneous	5.00
Old Orchard Beach	May 18	.7	Unknown	5.00
Old Orchard Beach	May 19	1	Unknown	5.00
Old Orchard Beach	May 19	1.2	Unknown	15.00
Wells	June 4	.2	Smokers	.....
North Berwick	June 7	....	Lumbering	.....
North Berwick	June 8	.1	Unknown	.....

ORGANIZED TOWNS FIRE RECORD 1949

Location	Date	Acreage	Cause	Damage
York County—Cont.				
Old Orchard Beach	June 9	2	Unknown	$10.00
Sanford	June 11	.1	Unknown	5.00
Sanford	June 12	.2	Unknown	5.00
Waterboro	June 13	3	Smokers	.....
Sanford	June 13	.5	Unknown	3.00
Wells	June 13	....	Miscellaneous	.....
Sanford	June 14	1	Miscellaneous	.....
Saco	June 14	5	Unknown	25.00
Parsonsfield	June 25	....	Lightning	.....
Shapleigh	July 2	.2	Miscellaneous	.....
Shapleigh	July 3	1	Miscellaneous	.....
Shapleigh	July 3	.2	Miscellaneous	.....
Shapleigh	July 4	1	Miscellaneous	.....
North Kennebunkport	July 7	1	Smokers	.....
South Berwick	July 7	1.7	Smokers	.....
Old Orchard Beach	July 7	1	Unknown	5.00
Parsonsfield	July 8	.5	Smokers	.....
Parsonsfield	July 9	2	Miscellaneous	25.00
Old Orchard Beach	July 9	.2	Smokers	.....
Saco	July 9	.5	Lumbering	.....
Waterboro	July 20	1.5	Smokers	5.00
Old Orchard Beach	July 23	.2	Smokers	5.00
York	July 23	.2	Smokers	.....
York	July 23	.4	Smokers	.....
Lebanon	July 24	.5	Smokers	.....
Wells	July 30	1	Lightning	.....
Wells	Aug. 3	.2	Smokers	.....
York	Aug. 5	1	Campers	.....
York	Aug. 10	1.5	Miscellaneous	.....
Parsonsfield	Aug. 15	....	Miscellaneous	.....
Waterboro	Aug. 22	.5	Unknown	.....
Acton	Aug. 22	2	Smokers	.....
Lebanon	Aug. 22	9	Unknown	.....
Waterboro	Aug. 26	.5	Incendiary	.....
Sanford	Aug. 26	.1	Smokers	5.00
Buxton	Aug. 27	1	Unknown	5.00
Old Orchard Beach	Aug. 27	10	Smokers	75.00
Shapleigh	Aug. 27	8	Lightning	30.00
Acton	Aug. 27	.2	Lightning	5.00
Acton	Aug. 27	1	Lightning	25.00
Limerick	Aug. 27	2	Miscellaneous	.....
York	Sept. 4	.5	Smokers	10.00
South Berwick	Sept. 9	.....	Brush or Debris Burning	.....
Old Orchard Beach	Oct. 14	....	Brush or Debris Burning	.....

ORGANIZED TOWNS FIRE RECORD 1950

Location	Date	Acreage	Cause	Damage
Androscoggin County				
Lisbon	April 10	.1	Brush or Debris Burning	.....
Wales-Monmouth	April 16	6	Brush or Debris Burning	$30.00
Poland	April 16	2	Smokers	.....
Lisbon	April 17	.5	Brush or Debris Burning	.....
Lisbon	April 17	.1	Brush or Debris Burning	.....
Lisbon	April 18	.5	Brush or Debris Burning	.....
Minot	April 19	1	Smokers	.....
Livermore	April 19	8	Brush or Debris Burning	.....
Webster	May 3	.2	Campers	.....
Durham	May 7	1	Brush or Debris Burning	.....
Poland	May 7	3	Miscellaneous	15.00
Poland	May 12	1	Lumbering	20.00
Livermore	May 13	10	Brush or Debris Burning	100.00
Livermore Falls	May 20	1.2	Brush or Debris Burning	100.00
Mechanic Falls	May 21	6	Miscellaneous	212.00
Minot	May 21	25	Miscellaneous	600.00
Poland	May 26	.1	Lumbering	.....
Turner	May 27	.2	Smokers	10.00
Livermore Falls	May 29	1.5	Miscellaneous	150.00
Lisbon	June 7	1	Smokers	10.00
Minot	June 10	....	Lightning	.....
Lisbon	July 9	1	Smokers	.....
Webster	July 21	4	Smokers	.....
Poland	July 21	.5	Smokers	.....
Lewiston	July 22	.5	Miscellaneous	50.00
Lewiston	July 22	....	Smokers	.....
Lisbon	July 22	.2	Miscellaneous	.....
Lewiston	July 23	.2	Miscellaneous	5.00
Lisbon	July 24	.2	Smokers	.....
Lisbon	July 24	.1	Smokers	.....
Minot	July 25	2	Smokers	.....
Lewiston	July 26	.1	Smokers	.....
Lewiston	July 26	1	Incendiary	15.00
Poland	July 26	1	Miscellaneous	.....
Webster-Bowdoin	July 26	263	Lumbering	1,200.00
Minot	July 26	.2	Smokers	.....
Livermore Falls	July 27	.2	Smokers	35.00
Lewiston	July 27	3.5	Smokers	25.00
Lewiston	July 27	3	Smokers	50.00
Lewiston	July 27	3	Smokers	50.00
Lisbon	July 29	.1	Smokers	.....
Lisbon	Aug. 8	.5	Smokers	.....
Lewiston	Aug. 10	1	Miscellaneous	15.00
Lewiston	Aug. 10	.2	Miscellaneous	.....
Lewiston	Aug. 10	2.5	Smokers	5.00
Auburn	Aug. 12	250	Smokers	1,060.00
Lewiston	Aug. 14	21	Campers	35.00
Auburn	Aug. 16	12	Miscellaneous	.....
Lewiston	Aug. 19	.1	Campers	.....
Lisbon	Aug. 28	.2	Miscellaneous	.....
Webster	Sept. 23	.3	Smokers	.....
Webster	Oct. 1	1	Smokers	.....
Webster	Oct. 2	.2	Smokers	.....
Lewiston	Oct. 4	8	Smokers	100.00
Poland	Oct. 7	.1	Brush or Debris Burning	.....
Mechanic Falls	Nov. 1	.2	Miscellaneous	.....
Mechanic Falls	Nov. 7	.2	Miscellaneous	.....
Mechanic Falls	Nov. 13	.5	Brush or Debris Burning	.....
Lisbon Falls	Nov. 20	.2	Smokers	.....
Aroostook County				
Caribou	April 19	10	Brush or Debris Burning	.....
Easton	April 27	25	Brush or Debris Burning	.....
Island Falls	May 3	30	Brush or Debris Burning	.....

ORGANIZED TOWNS FIRE RECORD 1950

Location	Date	Acreage	Cause	Damage
Aroostook County—Cont.				
Dyer Brook	May 4	45	Brush or Debris Burning	.....
Caribou	May 5	4	Brush or Debris Burning	.....
Caribou	May 5	5	Brush or Debris Burning	.....
Woodland	May 5	18	Brush or Debris Burning	$12.00
Ludlow	May 5	26	Brush or Debris Burning	.....
Dyer Brook	May 5	2	Brush or Debris Burning	.....
Bancroft	May 5	2	Brush or Debris Burning	.....
Bancroft	May 5	5	Lumbering	200.00
Fort Kent	May 6	2	Brush or Debris Burning	100.00
New Limerick	May 7	15	Campers	.....
New Limerick	May 7	....	Miscellaneous	.....
Sherman	May 7	1.2	Miscellaneous	.....
Fort Kent	May 8	....	Miscellaneous	.....
Smyrna	May 8	.8	Smokers	.....
Caribou	May 8	5	Brush or Debris Burning	10.00
Castle Hill	May 9	5	Campers	.....
Fort Kent	May 9	5	Smokers	.....
Woodland	May 9	12	Miscellaneous	5.00
Ashland	May 10	3	Miscellaneous	.....
Ashland	May 10	7.5	Railroad	.....
Mars Hill	May 10	1	Miscellaneous	.....
Woodland	May 11	6	Brush or Debris Burning	.....
Caribou	May 11	3	Brush or Debris Burning	.....
Caribou	May 11	10	Brush or Debris Burning	.....
Woodland	May 12	8	Brush or Debris Burning	.....
Caribou	May 12	....	Brush or Debris Burning	.....
Caribou	May 12	3	Brush or Debris Burning	.....
Linneus	May 13	3	Brush or Debris Burning	.....
Sherman	May 13	.1	Smokers	.....
Caribou	May 13	10	Miscellaneous	.....
Sherman	May 15	.2	Brush or Debris Burning	.....
Littleton	May 15	1	Brush or Debris Burning	.....
Easton	May 16	10	Miscellaneous	.....
Littleton	May 16	8	Brush or Debris Burning	.....
Crystal	May 16	1	Railroad	672.50
Chapman	May 17	1	Brush or Debris Burning	.....
Caribou	May 17	10	Brush or Debris Burning	.....
Caribou	May 17	3	Brush or Debris Burning	.....
Castle Hill	May 18	40	Brush or Debris Burning	160.00
Caribou	May 18	3	Brush or Debris Burning	.....
Castle Hill	May 19	4	Brush or Debris Burning	.....
Easton	May 20	50	Brush or Debris Burning	160.00
Presque Isle	May 20	10	Brush or Debris Burning	.....
Monticello	May 20	1	Brush or Debris Burning	25.00
Chapman	May 20	15	Brush or Debris Burning	25.00
Presque Isle	May 20	20	Brush or Debris Burning	.....
Limestone	May 20	105	Brush or Debris Burning	700.00

ORGANIZED TOWNS FIRE RECORD 1950

Location	Date	Acreage	Cause	Damage
Aroostook County—Cont.				
Grand Isle	May 20	482	Brush or Debris Burning	$1,800.00
St. John Pl.	May 21	400	Campers	750.00
Monticello	May 21	.1	Smokers	.....
Monticello	May 21	7	Miscellaneous	.....
Bridgewater	May 21	.2	Miscellaneous	.....
Bridgewater	May 21	.2	Smokers	.....
Ludlow	May 21	3.2	Smokers	150.00
Bridgewater	May 21	.1	Brush or Debris Burning	.....
Wade	May 21	2	Smokers	5.00
Wade	May 22	4	Brush or Debris Burning	.....
Caswell Pl.	May 22	1	Brush or Debris Burning	35.00
Caribou	May 22	6	Brush or Debris Burning	.....
Caribou	May 22	2	Brush or Debris Burning	.....
Caribou	May 22	10	Brush or Debris Burning	.....
Easton	May 22	2	Smokers	.....
Fort Kent	May 23	6	Brush or Debris Burning	400.00
Westfield	May 23	15	Brush or Debris Burning	75.00
Van Buren	May 23	30	Brush or Debris Burning	.....
Wade	May 23	2	Brush or Debris Burning	6.00
Perham	May 23	1.5	Smokers	10.00
Limestone	May 23	90	Brush or Debris Burning	700.00
Linneus	May 24	1	Smokers	.....
Connor Twp.	May 24	2	Smokers	.....
Blaine	May 24	2	Brush or Debris Burning	50.00
Caswell Pl.	May 24	125	Brush or Debris Burning	200.00
Connor Twp.	May 25	.5	Brush or Debris Burning	25.00
Presque Isle	May 25	20	Brush or Debris Burning	.....
Caribou	May 25	3	Brush or Debris Burning	.....
Houlton	May 25	.2	Smokers	.....
Fort Kent	May 25	28	Brush or Debris Burning	600.00
Portage Lake	May 26	2	Brush or Debris Burning	20.00
Limestone	May 26	40	Miscellaneous	300.00
Connor Twp.	May 27	2	Brush or Debris Burning	.....
Mars Hill	May 27	1	Smokers	.....
Frenchville	May 27	2	Brush or Debris Burning	.....
Merrill	May 27	2.5	Brush or Debris Burning	30.00
Caswell Pl.	May 27	30	Brush or Debris Burning	500.00
Van Buren	May 28	600	Campers	.....
Presque Isle	May 28	.5	Miscellaneous	.....
Smyrna	May 28	100	Campers	300.00
Oakfield	May 28	30	Campers	100.00
Connor Twp.	May 29	17	Smokers	10.00
Connor Twp.	May 29	....	Brush or Debris Burning	.....
Amity	May 29	.2	Smokers	10.00
Littleton	June 1	.1	Brush or Debris Burning	5.00
Dyer Brook	June 10	....	Lightning	.....
Island Falls	June 10	....	Lightning	.....
Fort Kent	July 12	28	Brush or Debris Burning	200.00
Portage Lake	July 22	.2	Smokers	10.00
Littleton	Aug. 8	....	Lumbering	.....
Easton	Aug. 10	4	Smokers	.....
Linneus	Aug. 10	....	Lightning	.....
New Sweden	Aug. 12	....	Smokers	.....

ORGANIZED TOWNS FIRE RECORD 1950

Location	Date	Acreage	Cause	Damage
Aroostook County—Cont.				
St. John Pl.	Aug. 12	.5	Campers	.....
Masardis	Aug. 12	2	Railroad	.....
New Sweden	Aug. 13	....	Miscellaneous	.....
Fort Kent	Aug. 13	.7	Brush or Debris Burning	$100.00
Caribou	Sept. 15	.5	Brush or Debris Burning	.....
Island Falls	Sept. 30	....	Campers	.....
St. Agatha	Oct. 6	3	Brush or Debris Burning	200.00
Fort Kent	Oct. 8	1	Smokers	.....
Presque Isle	Oct. 9	6	Brush or Debris Burning	25.00
Fort Kent	Oct. 9	10	Brush or Debris Burning	50.00
New Limerick	Oct. 10	....	Brush or Debris Burning	.....
Fort Kent	Oct. 11	3	Brush or Debris Burning	.....
Dyer Brook	Oct. 20	1.5	Smokers	.....
Cumberland County				
Cumberland	April 10	.5	Brush or Debris Burning	.....
Cumberland	April 11	1.5	Brush or Debris Burning	.....
Cumberland	April 11	1	Brush or Debris Burning	.....
Cumberland	April 11	25.2	Brush or Debris Burning	.....
Cumberland	April 11	1	Brush or Debris Burning	.....
Cumberland	April 14	1.5	Smokers	.....
Cumberland	April 15	.2	Brush or Debris Burning	.....
Cumberland	April 15	....	Smokers	.....
Cumberland	April 16	.2	Brush or Debris Burning	.....
Cumberland	April 16	.2	Brush or Debris Burning	.....
Falmouth	April 16	40	Brush or Debris Burning	600.00
Cumberland	April 17	.1	Miscellaneous	.....
Raymond	April 17	.5	Brush or Debris Burning	100.00
Falmouth	April 17	....	Miscellaneous	.....
Cumberland	April 17	30	Brush or Debris Burning	.....
Windham	April 17	3	Smokers	.....
New Gloucester	April 18	3	Brush or Debris Burning	.....
New Gloucester	April 18	....	Incendiary	.....
Cumberland	April 18	1.5	Smokers	.....
Falmouth	April 18	....	Brush or Debris Burning	20.00
Scarborough	April 18	3	Brush or Debris Burning	30.00
Windham	April 19	1	Brush or Debris Burning	.....
Gray	April 25	.7	Smokers	10.00
Falmouth	April 28	....	Miscellaneous	.....
Windham	April 30	.5	Smokers	2,500.00
Cumberland	May 3	.5	Miscellaneous	.....
Cumberland	May 6	.5	Brush or Debris Burning	.....
Scarborough	May 6	1	Brush or Debris Burning	.....
Cumberland	May 7	....	Smokers	.....
Scarborough	May 7	5	Brush or Debris Burning	.....
North Yarmouth	May 7	.7	Smokers	.....
Windham	May 7	6	Smokers	50.00
Gray	May 7	4	Miscellaneous	40.00
Gray	May 7	15	Brush or Debris Burning	.....
Gray	May 7	.2	Smokers	.....
Westbrook	May 7	150	Smokers	650.00
Freeport	May 7	7	Miscellaneous	.....

ORGANIZED TOWNS FIRE RECORD 1950

Location	Date	Acreage	Cause	Damage
Cumberland County—Cont.				
Freeport	May 7	135	Brush or Debris Burning	$14,700.00
Gray	May 7	.5	Miscellaneous	.....
Sebago	May 7	.5	Miscellaneous	2,500.00
Standish	May 7	1	Smokers	50.00
Bridgton	May 7	.5	Miscellaneous	50.00
Cumberland	May 8	1	Smokers	.....
Bridgton	May 8	2.5	Smokers	100.00
Brunswick	May 8	2	Smokers	15.00
Windham	May 9	1	Brush or Debris Burning	.....
Cumberland	May 9	.1	Brush or Debris Burning	200.00
Cumberland	May 12	.1	Miscellaneous	.....
Standish	May 12	1.5	Miscellaneous	.....
Scarborough	May 12	5	Railroad	.....
Scarborough	May 12	5	Railroad	.....
Gray	May 13	20	Lumbering	75.00
Casco	May 13	150	Lumbering	300.00
Scarborough	May 14	6	Smokers	15.00
Windham	May 14	1.5	Brush or Debris Burning	.....
New Gloucester	May 19	.5	Smokers	.....
Cumberland	May 22	.5	Miscellaneous	.....
Harrison	May 22	.1	Incendiary	.....
Naples	May 23	250	Miscellaneous	1,100.00
Freeport	May 23	5	Smokers	50.00
Baldwin	May 24	6	Miscellaneous	35.00
New Gloucester	May 25	.2	Miscellaneous	.....
Naples	May 26	2.5	Smokers	80.00
Falmouth	May 26	....	Smokers	.....
Falmouth	May 27	....	Miscellaneous	.....
Windham	May 28	....	Smokers	.....
Windham	June 10	2.5	Miscellaneous	10.00
Bridgton	June 10	.1	Lightning	40.00
Bridgton	June 10	....	Miscellaneous	.....
Naples	June 13	.3	Smokers	.....
Windham	June 16	....	Lumbering	.....
Raymond	June 18	.2	Smokers	.....
Windham	June 22	.5	Campers	.....
Freeport	June 29	.7	Smokers	1,020.00
Harpswell	June 30	....	Brush or Debris Burning	.....
New Gloucester	July 2	.1	Smokers	.....
Cumberland	July 3	.2	Smokers	.....
Freeport	July 3	1.5	Brush or Debris Burning	.....
Harpswell	July 8	1	Campers	.....
Harpswell	July 10	.5	Campers	.....
Freeport	July 15	.5	Incendiary	.....
Westbrook	July 16	3	Smokers	.....
Standish	July 16	1.5	Smokers	.....
Westbrook	July 18	1	Smokers	100.00
Windham	July 19	.7	Lumbering	.....
Harpswell	July 20	.2	Smokers	.....
Bridgton	July 20	3.5	Brush or Debris Burning	.....
Harpswell	July 21	2	Smokers	150.00
Harpswell	July 21	.5	Smokers	.....
North Yarmouth	July 22	.7	Smokers	.....
New Gloucester	July 22	....	Smokers	.....
Bridgton	July 22	1.5	Smokers	.....
Harpswell	July 23	1	Smokers	.....
Cumberland	July 23	4	Miscellaneous	.....
Yarmouth	July 23	3	Campers	50.00
Westbrook	July 23	1	Smokers	.....
Windham	July 24	.5	Smokers	.....
Sebago	July 24	.5	Miscellaneous	35.00
Harrison	July 26	.5	Miscellaneous	10.00
South Portland	July 26	75	Smokers	.....
Freeport	July 26	.5	Smokers	.....
Raymond	July 27	.5	Smokers	25.00
Windham	July 28	.25	Miscellaneous	10.00
New Gloucester	July 29	.75	Lumbering	.....
Cumberland	July 29	....	Miscellaneous	.....
Cumberland	July 29	1.5	Miscellaneous	150.00
Gorham	July 29	3	Miscellaneous	.....
Standish	July 29	1	Smokers	.....
Windham	July 29	.4	Incendiary	25.00

ORGANIZED TOWNS FIRE RECORD 1950

Location	Date	Acreage	Cause	Damage
Cumberland County—Cont.				
Westbrook	July 30	2	Smokers	$50.00
Harpswell	July 31	.5	Smokers	.....
Freeport	Aug. 4	1	Campers	.....
Falmouth	Aug. 5	....	Lightning	.....
New Gloucester	Aug. 6	....	Smokers	.....
Cumberland	Aug. 7	1	Miscellaneous	.....
Gray	Aug. 7	11	Miscellaneous	5.00
Cumberland	Aug. 9	6	Incendiary	225.00
Cumberland	Aug. 10	....	Miscellaneous	.....
Cumberland	Aug. 12	1	Miscellaneous	.....
Westbrook	Aug. 12	3	Smokers	50.00
Otisfield	Aug. 12	.1	Miscellaneous	25.00
Cumberland	Aug. 14	1	Smokers	.....
Bridgton	Aug. 16	.5	Brush or Debris Burning	.....
Falmouth	Aug. 27	.5	Smokers	.....
Standish	Oct. 2	.5	Miscellaneous	50.00
Westbrook	Oct. 9	4	Smokers	25.00
Harpswell	Oct. 21	.2	Smokers	.....
Franklin County				
Wilton	May 2	.1	Smokers	.....
Farmington	May 6	.5	Miscellaneous	.....
Wilton	May 8	.1	Smokers	.....
Avon	May 12	1.5	Miscellaneous	15.00
Wilton	June 6	....	Lightning	.....
Chesterville	July 16	.5	Campers	25.00
New Vineyard	July 24	1	Smokers	55.00
Carthage	July 25	....	Brush or Debris Burning	.....
Avon	Aug. 4	....	Smokers	.....
Carthage	Aug. 12	.1	Miscellaneous	.....
Strong	Aug. 15	.2	Brush or Debris Burning	.....
Strong	Oct. 8	....	Smokers	.....
Hancock County				
Tremont	April 11	1	Smokers	.....
Bucksport	April 14	40	Miscellaneous	.....
Bucksport	April 15	.3	Miscellaneous	.....
Ellsworth	April 16	3	Brush or Debris Burning	.....
Bucksport	April 16	1.7	Miscellaneous	.....
Bucksport	April 16	35	Brush or Debris Burning	.....
Sedgwick	April 18	3	Brush or Debris Burning	.....
Bluehill	April 21	4	Brush or Debris Burning	.....
Bucksport	April 30	.2	Miscellaneous	.....
Bluehill	May 4	1	Brush or Debris Burning	.....
Bucksport	May 5	1.5	Miscellaneous	.....
Hancock	May 6	6	Brush or Debris Burning	6.00
Gouldsboro	May 7	....	Smokers	.....
Bucksport	May 7	.7	Miscellaneous	.....
Bucksport	May 7	3	Miscellaneous	.....
Surry	May 7	4	Smokers	.....
Dedham	May 7	2	Smokers	59.25
Bucksport	May 7	22	Smokers	100.00
Bucksport	May 8	1	Miscellaneous	.....
Orland	May 8	10	Smokers	.....
Hancock	May 8	.7	Smokers	.....
Winter Harbor	May 8	15	Miscellaneous	.....
Bucksport	May 9	30	Smokers	90.00
Hancock	May 10	.5	Miscellaneous	.....
Aurora	May 12	25	Brush or Debris Burning	50.00
Surry	May 12	1	Brush or Debris Burning	.....
Sedgwick	May 12	....	Brush or Debris Burning	.....
Ellsworth	May 13	1.5	Smokers	400.00
Bucksport	May 13	....	Miscellaneous	.....
Brooksville	May 15	....	Brush or Debris Burning	.....
Ellsworth	May 17	.5	Campers	.....
Bucksport	May 18	1	Miscellaneous	.....

ORGANIZED TOWNS FIRE RECORD 1950

Location	Date	Acreage	Cause	Damage
Hancock County—Cont.				
Gouldsboro	May 27	....	Brush or Debris Burning	.....
Bucksport	May 27	15	Miscellaneous	.....
Mount Desert	May 28	5	Smokers	$5.00
Hancock	June 2	.7	Brush or Debris Burning	.....
Aurora	June 8	1	Lumbering	.....
Bluehill	June 9	10	Brush or Debris Burning	.....
Gouldsboro	June 14	2	Smokers	.....
Brooksville	June 14	....	Smokers	.....
Bluehill	July 15	1	Brush or Debris Burning	120.00
Eastbrook	July 16	100	Lumbering	300.00
Dedham	July 20	.5	Smokers	.....
Hancock	July 22	.5	Campers	10.00
Aurora	July 22	....	Lumbering	.....
Bar Harbor	July 26	....	Smokers	.....
Lamoine	July 29	1	Campers	10.00
Waltham	July 30	.2	Smokers	80.00
Ellsworth	Aug. 1	....	Campers	.....
Bar Harbor	Aug. 3	....	Smokers	.....
Bar Harbor	Aug. 9	....	Smokers	.....
Lamoine	Aug. 11	.5	Smokers	25.00
Deer Isle	Aug. 13	.2	Smokers	.....
Bucksport	Aug. 13	.1	Campers	.....
Ellsworth	Aug. 16	....	Smokers	.....
Deer Isle	Sept. 26	.2	Smokers	.....
Deer Isle	Sept. 28	.3	Smokers	.....
Gouldsboro	Oct. 2	1	Incendiary	10.00
Aurora	Oct. 4	25	Smokers	25.00
Hancock	Oct. 6	1.2	Smokers	1.25
Bucksport	Oct. 8	.7	Incendiary	.....
Kennebec County				
West Gardiner	April 10	.5	Miscellaneous	.....
West Gardiner	April 11	8	Brush or Debris Burning	.....
Windsor	April 11	.5	Brush or Debris Burning	.....
Winthrop	April 16	1	Smokers	.....
Winslow	April 17	5	Brush or Debris Burning	.....
Belgrade	April 18	6	Brush or Debris Burning	.....
Vienna	April 19	5	Brush or Debris Burning	.....
Wayne	April 19	20	Brush or Debris Burning	.....
Winslow	April 19	1	Brush or Debris Burning	.....
Benton	May 3	12	Railroad	.....
Belgrade	May 7	1	Brush or Debris Burning	5.00
Sidney	May 7	.2	Miscellaneous	.....
Windsor	May 7	10	Brush or Debris Burning	.....
Belgrade	May 7	.3	Brush or Debris Burning	.....
Gardiner	May 9	.1	Miscellaneous	.....
Litchfield	May 11	5	Smokers	.....
Litchfield	May 11	3	Smokers	.....
Windsor	May 13	2	Miscellaneous	.....
Vienna	May 15	10	Brush or Debris Burning	200.00
Sidney	May 19	.1	Brush or Debris Burning	.....
Sidney	May 20	....	Smokers	.....
Albion	May 20	.4	Brush or Debris Burning	.....
Wayne	May 21	1	Campers	2,000.00
Monmouth	May 21	.7	Miscellaneous	8.00
Winslow	May 22	4	Campers	30.00
Chelsea	May 28	1.5	Miscellaneous	10.00
Sidney	May 28	.5	Smokers	5.00
Sidney	May 29	2	Smokers	.....
Benton	June 13	.2	Miscellaneous	.....
Monmouth	June 18	.1	Incendiary	.....
Albion	June 21	.5	Smokers	10.00

ORGANIZED TOWNS FIRE RECORD 1950

Location	Date	Acreage	Cause	Damage
Kennebec County—Cont.				
Augusta	June 28	2	Brush or Debris Burning	.....
Unity Twp.	July 7	.2	Smokers	.....
Skowhegan	July 14	.1	Smokers	$1.00
Augusta	July 16	.5	Lumbering	.....
Winslow	July 24	.2	Smokers	.....
Benton	July 26	.2	Lightning	5.00
Monmouth	July 27	.1	Incendiary	.....
Gardiner	July 27	7	Smokers	20.00
Winslow	July 28	.5	Smokers	.....
West Gardiner	July 30	.5	Lightning	.....
Windsor	Aug. 10	....	Brush or Debris Burning	.....
China	Aug. 16	1	Smokers	.....
Windsor	Aug. 26	.1	Smokers	.....
Chelsea	Sept. 27	....	Smokers	.....
Windsor	Oct. 2	15	Smokers	20.00
West Gardiner	Oct. 5	2	Smokers	50.00
Windsor	Oct. 8	....	Smokers	.....
China	Oct. 9	.2	Miscellaneous	.....
Mt. Vernon	Oct. 20	1	Smokers	.....
Knox County				
South Thomaston	April 1	2	Brush or Debris Burning	.....
South Thomaston	April 7	5	Brush or Debris Burning	.....
Friendship	April 10	.1	Smokers	.....
Warren	April 17	.5	Brush or Debris Burning	.....
South Thomaston	April 18	.2	Smokers	.....
Cushing	April 19	.2	Brush or Debris Burning	.....
Friendship	May 7	....	Brush or Debris Burning	.....
Camden	May 7	80	Brush or Debris Burning	.....
Washington	May 8	6	Miscellaneous	30.00
Cushing	May 9	1	Brush or Debris Burning	100.00
St. George	May 9	3	Miscellaneous	250.00
Warren	May 21	....	Smokers	.....
Rockport	May 22	10	Smokers	1,000.00
Union	May 26	.1	Lumbering	.....
Washington	July 14	1	Campers	.....
Appleton	July 18	.1	Lightning	.....
St. George	July 26	.5	Miscellaneous	.....
Vinalhaven	July 30	.1	Smokers	10.00
Warren	July 30	5	Smokers	.....
Vinalhaven	July 31	.2	Smokers	20.00
St. George	Aug. 7	3.5	Smokers	200.00
West Appleton	Aug. 10	.2	Lightning	5.00
Cushing	Oct. 1	....	Smokers	.....
Warren	Oct. 28	.2	Smokers	.....
Lincoln County				
Nobleboro	April 2	3	Smokers	5.00
Bristol	April 7	2	Brush or Debris Burning	.....
Bristol	April 8	1	Brush or Debris Burning	.....
Wiscasset	April 10	5	Smokers	.....
Bristol	April 11	10	Brush or Debris Burning	.....
Waldoboro	April 11	2	Smokers	.....
Wiscasset	April 16	15	Brush or Debris Burning	.....
Alna	April 17	10	Smokers	100.00
Dresden	May 7	6	Brush or Debris Burning	.....
Waldoboro	May 7	4	Brush or Debris Burning	550.00
Wiscasset	May 7	.2	Brush or Debris Burning	.....
Waldoboro	May 8	.5	Miscellaneous	.....
Dresden	May 9	1	Miscellaneous	.....
Nobleboro	May 10	.5	Railroad	.....
Bristol	May 15	.5	Incendiary	5.00
Bristol	May 15	5.5	Incendiary	15.00

ORGANIZED TOWNS FIRE RECORD 1950

Location	Date	Acreage	Cause	Damage
Lincoln County—Cont.				
Bristol	May 15	4	Incendiary	$10.00
Bremen	May 21	25	Brush or Debris Burning	
Nobleboro	May 22	.5	Miscellaneous	5.00
Nobleboro	May 22	.5	Smokers	
Southport	June 16	.5	Smokers	
Jefferson	June 20	3	Smokers	
Whitefield	June 20	3	Miscellaneous	5.00
Dresden	June 29	1	Smokers	
Westport	July 15	2.5	Smokers	
Whitefield	July 19	1.5	Smokers	5.00
Bristol	July 21	106	Lumbering	1,150.00
Bristol	July 22	....	Smokers	
Muscongus Isle	July 27	....	Miscellaneous	
Jefferson	July 28	2.1	Smokers	
Nobleboro	Aug. 4	3	Smokers	
Jefferson	Aug. 7	.2	Smokers	
Whitefield	Aug. 10	1	Lightning	
Jefferson	Aug. 11	.5	Miscellaneous	
Dresden	Aug. 11	.5	Smokers	
Bristol	Aug. 13	....	Smokers	
South Bristol	Aug. 15	1.5	Smokers	15.00
Bristol	Aug. 17	....	Smokers	
Bristol	Aug. 17	....	Smokers	
Bremen	Aug. 22	4	Lumbering	
South Bristol	Sept. 15	.5	Miscellaneous	
Oxford County				
Lovell	April 19	4.2	Miscellaneous	
Hiram	April 30	1	Brush or Debris Burning	
Denmark	April 30	.2	Brush or Debris Burning	
Denmark	May 7	.1	Brush or Debris Burning	
Hebron	May 8	9	Miscellaneous	500.00
Lovell	May 8	.5	Miscellaneous	
Norway	May 12	7	Brush or Debris Burning	
Fryeburg	May 13	.5	Miscellaneous	
Paris	May 13	15	Miscellaneous	30.00
Buckfield	May 13	30	Lumbering	300.00
Fryeburg	May 15	3	Incendiary	25.00
Hebron	May 20	.2	Smokers	
Oxford	May 20	2	Smokers	25.00
Waterford—Norway	May 21	20	Miscellaneous	100.00
Hartford	May 21	.5	Smokers	25.00
Hiram	May 22	.5	Miscellaneous	
Brownfield	May 23	.7	Smokers	
Dixfield	May 25	.1	Miscellaneous	
Hiram	May 28	5	Smokers	50.00
Brownfield	June 10	....	Lightning	
Fryeburg	June 10	....	Lightning	
Hartford	June 24	.1	Lightning	
Oxford	July 10	.1	Miscellaneous	
Fryeburg	July 12	.5	Lightning	
Buckfield	July 18	....	Smokers	
Sweden	July 24	1	Smokers	10.00
Waterford	July 24	.1	Smokers	
Fryeburg	July 24	2.5	Smokers	
Fryeburg	July 25	2	Brush or Debris Burning	
Buckfield	July 28	....	Lightning	
Buckfield	July 28	.1	Lightning	5.00
Hartford	July 28	.1	Lightning	2.00
Newry	July 29	....	Smokers	
Hebron	Aug. 1	.1	Miscellaneous	
Denmark	Aug. 5	.1	Lightning	
Fryeburg	Aug. 12	.3	Smokers	
Woodstock	Aug. 14	.2	Miscellaneous	
Hebron	Aug. 15	.2	Lumbering	
Rumford	Aug. 15	2	Smokers	
Brownfield	Aug. 15	.2	Smokers	
Woodstock	Aug. 16	....	Lightning	
Fryeburg	Aug. 18	....	Lightning	2.00
Denmark	Aug. 18	2	Lightning	100.00
Bethel	Aug. 26	.1	Lightning	
Hartford	Sept. 20	.1	Smokers	
Canton	Oct. 2	.5	Miscellaneous	
Hebron	Oct. 11	.5	Smokers	

ORGANIZED TOWNS FIRE RECORD 1950

Location	Date	Acreage	Cause	Damage
Penobscot County				
Alton	April 19	.5	Smokers	.....
Newport	April 29	8.1	Brush or Debris Burning	$125.00
Enfield	May 4	5	Miscellaneous	.....
Mt. Chase Pl.	May 7	2.5	Miscellaneous	.....
Millinocket	May 7	4	Campers	.....
Woodville	May 8	50	Smokers	75.00
Howland	May 9	25	Smokers	50.00
Charleston	May 10	25	Miscellaneous	.....
Brewer	May 12	.5	Brush or Debris Burning	5.00
Lincoln	May 13	12	Miscellaneous	.....
Eddington	May 13	.5	Brush or Debris Burning	.....
Orono	May 13	5	Miscellaneous	.....
East Millinocket	May 16	3	Smokers	.....
Charleston	May 17	....	Brush or Debris Burning	.....
East Millinocket	May 19	50	Smokers	.....
Carroll Pl.	May 19	10	Smokers	.....
Greenbush	May 20	....	Lightning	.....
Garland	May 20	.2	Smokers	.....
Winn	May 20	.5	Miscellaneous	.....
Newport	May 21	1	Miscellaneous	.....
Carmel	May 22	2	Miscellaneous	15.00
Holden	May 23	.5	Miscellaneous	15.00
Greenfield—Org. Towns—T. 32, 33, 39 MFD (Org. Town figures listed here)	May 23	2831	Lumbering	28,310.00
Holden	May 26	8	Railroad	160.00
Garland	May 27	.1	Incendiary	.....
Charleston	May 28	.2	Brush or Debris Burning	.....
Chester	May 29	100	Smokers	500.00
Winn	May 30	1.5	Lumbering	.....
Winn	June 9	.2	Brush or Debris Burning	.....
Old Town	June 11	5	Smokers	.....
Exeter	June 20	1	Brush or Debris Burning	.....
Hermon	July 12	1	Smokers	.....
Chester	July 19	30	Smokers	.....
Glenburn	July 22	.5	Brush or Debris Burning	.....
Eddington-Holden	July 24	87	Lumbering	3,620.00
Exeter	July 28	....	Smokers	50.00
Bangor	Aug. 8	5	Miscellaneous	.....
Enfield	Aug. 9	2	Brush or Debris Burning	.....
Burlington	Aug. 10	.2	Lightning	.....
East Millinocket	Aug. 13	.5	Miscellaneous	.....
Lincoln	Aug. 28	....	Lightning	.....
Clifton	Oct. 5	....	Miscellaneous	.....
Argyle Twp.	Oct. 21	.5	Smokers	.....
Piscataquis County				
Sangerville	April 30	.5	Smokers	.....
Dover-Foxcroft	May 3	.2	Brush or Debris Burning	.....
Dover-Foxcroft	May 14	....	Lightning	.....
Dover-Foxcroft	May 15	3	Brush or Debris Burning	.....
Brownville	May 18	....	Smokers	.....
Brownville	May 20	.5	Incendiary	.....
Sebec	May 22	1	Railroad	.....
Atkinson	Aug. 15	3	Smokers	.....
Dover-Foxcroft	Aug. 16	....	Lightning	40.00
Dover-Foxcroft	Aug. 17	.1	Smokers	.....
Sagadahoc County				
Georgetown	Jan. 1	.2	Miscellaneous	.....
Phippsburg	April 16	3	Brush or Debris Burning	.....
Bowdoinham	April 17	4	Smokers	.....
Woolwich	April 17	.5	Miscellaneous	5.00
Phippsburg	April 18	.1	Miscellaneous	.....
West Bath	April 18	3.5	Miscellaneous	.....

ORGANIZED TOWNS FIRE RECORD 1950

Location	Date	Acreage	Cause	Damage
Sagadahoc County—Cont.				
Topsham	April 19	1	Brush or Debris Burning	.....
Bowdoin	May 5	2	Brush or Debris Burning	.....
Richmond	May 7	.5	Smokers	.....
Bowdoinham	May 7	2	Brush or Debris Burning	$5.00
West Bath	May 7	2	Miscellaneous	.....
Topsham	May 7	1.5	Miscellaneous	.....
Bowdoinham	May 8	.1	Smokers	.....
Bowdoin	May 9	5	Brush or Debris Burning	.....
Richmond	May 21	4	Smokers	.....
Phippsburg	May 22	1	Miscellaneous	.....
Phippsburg	May 22	145	Smokers	1,280.00
Woolwich	May 22	.2	Miscellaneous	.....
Topsham	June 2	.7	Railroad	.....
West Bath	June 10	3	Smokers	.....
Phippsburg	July 9	....	Campers	.....
Phippsburg	July 9	....	Brush or Debris Burning	.....
Phippsburg	July 11	....	Smokers	.....
Arrowsic	July 15	2	Smokers	.....
Phippsburg	July 17	....	Smokers	.....
West Bath	July 19	.5	Smokers	.....
Topsham	July 20	.5	Smokers	.....
West Bath	July 23	1	Smokers	.....
Woolwich	July 24	2	Lumbering	.....
Woolwich	July 25	1	Campers	.....
Georgetown	July 26	.3	Brush or Debris Burning	.....
West Bath	Aug. 13	5	Miscellaneous	.....
Georgetown	Aug. 13	10	Campers	50.00
Woolwich	Aug. 17	2	Smokers	.....
Bowdoin	Aug. 28	.5	Smokers	70.00
Georgetown	Sept. 2	....	Miscellaneous	.....
Phippsburg	Oct. 31	....	Smokers	.....
Somerset County				
Ripley	April 19	10	Brush or Debris Burning	.....
New Portland	April 25	1	Miscellaneous	.....
Embden	May 7	2	Miscellaneous	4.00
Anson	May 8	1	Miscellaneous	.....
Mercer	May 13	5	Miscellaneous	25.00
Canaan	May 13	....	Miscellaneous	.....
Jackman	May 13	3	Railroad	.....
Harmony	May 16	1	Smokers	.75
Ripley	May 20	.2	Smokers	.....
Embden	May 21	1.5	Miscellaneous	25.00
Anson	May 25	7	Smokers	74.00
Smithfield	May 26	.1	Campers	.....
Anson	May 27	.5	Miscellaneous	.....
Madison	June 6	1	Smokers	.....
Cornville	July 12	.7	Lumbering	21.00
Fairfield	July 16	1	Smokers	.....
Canaan	July 30	.5	Smokers	10.00
Anson	July 30	.1	Smokers	.....
Skowhegan	Aug. 10	.5	Smokers	.....
Fairfield	Aug. 10	.2	Smokers	.....
Pittsfield	Oct. 2	1	Smokers	.....
Pittsfield	Oct. 7	1.5	Miscellaneous	.....
Waldo County				
Palermo	April 10	6	Smokers	.....
Northport	April 18	2.5	Miscellaneous	.....
Searsmont	April 19	3	Brush or Debris Burning	.....
Freedom	May 5	.2	Brush or Debris Burning	.....
Winterport	May 5	6	Brush or Debris Burning	.....
Frankfort	May 7	20	Brush or Debris Burning	250.00
Searsport	May 7	40	Brush or Debris Burning	440.00
Searsport	May 7	10	Brush or Debris Burning	50.00

ORGANIZED TOWNS FIRE RECORD 1950

Location	Date	Acreage	Cause	Damage
Waldo County—Cont.				
Jackson	May 7	1	Miscellaneous	.....
Searsmont	May 8	50	Brush or Debris Burning	$2,125.00
Lincolnville	May 8	3	Brush or Debris Burning	.....
Jackson	May 8	1	Miscellaneous	.....
Stockton Springs	May 11	3.5	Brush or Debris Burning	.....
Stockton Springs	May 12	1	Brush or Debris Burning	.....
Belmont	May 13	200	Brush or Debris Burning	300.00
Searsport	May 14	6	Brush or Debris Burning	.....
Northport	May 15	.2	Smokers	.....
Liberty	May 20	1.5	Lumbering	.....
Palermo	May 21	2	Miscellaneous	5.00
Searsmont	May 21	8	Smokers	100.00
Prospect	May 21	10	Smokers	510.00
Winterport	May 21	1	Smokers	.....
Winterport	May 27	....	Smokers	.....
Palermo	June 13	2	Miscellaneous	.....
Northport	June 16	.5	Smokers	.....
Belmont	June 23	....	Smokers	.....
Liberty	July 13	4	Smokers	.....
Stockton Springs	July 20	.5	Smokers	.....
Thorndike	July 23	.1	Smokers	.....
Searsmont	July 24	2	Smokers	.....
Unity	Aug. 16	1.2	Smokers	10.00
Jackson	Oct. 10	.7	Smokers	.....
Searsport	Oct. 20	3	Miscellaneous	.....
Washington County				
Steuben	April 17	125	Smokers	.....
Whiting	April 30	25	Smokers	.....
Calais	May 3	1	Smokers	.....
Milbridge	May 3	4	Miscellaneous	10.00
Lubec	May 5	3	Brush or Debris Burning	.....
Meddybemps	May 7	35	Brush or Debris Burning	.....
Alexander	May 7	3	Miscellaneous	.....
Milbridge	May 7	21	Brush or Debris Burning	15.00
Milbridge	May 7	8	Brush or Debris Burning	5.00
Calais	May 7	1	Brush or Debris Burning	.....
Whiting	May 7	2	Smokers	.....
Whiting	May 8	75	Smokers	.....
Columbia	May 8	.2	Miscellaneous	.....
Cutler	May 9	100	Smokers	.....
Whiting	May 9	185	Miscellaneous	.....
Milbridge	May 13	16	Smokers	15.00
Calais	May 18	.5	Smokers	.....
Waite	May 21	....	Brush or Debris Burning	.....
Jonesport	May 22	35	Brush or Debris Burning	.....
Addison	May 22	40	Smokers	115.00
Whiting	May 23	.3	Miscellaneous	.....
Addison	May 28	15	Smokers	30.00
Cutler	June 8	2	Lumbering	100.00
Machias	July 13	....	Smokers	.....
Alexander	July 27	....	Lightning	.....
Steuben	July 27	1	Lightning	.....
Charlotte	Aug. 9	....	Smokers	.....
Danforth	Aug. 10	....	Lightning	.....
Eastport	Aug. 11	4	Brush or Debris Burning	.....
Lubec	Aug. 12	12	Lightning	.....
Whiting	Aug. 15	....	Miscellaneous	10.00
Milbridge	Aug. 15	.5	Smokers	50.00
Dennysville	Oct. 7	....	Miscellaneous	.....
Machias	Oct. 8	.1	Smokers	.....
Columbia	Oct. 18	.5	Miscellaneous	.....
Columbia	Oct. 20	1	Brush or Debris Burning	.....

ORGANIZED TOWNS FIRE RECORD 1950

Location	Date	Acreage	Cause	Damage
York County				
Eliot	April 7	15	Smokers	.....
Wells	April 9	2	Smokers	.....
Old Orchard Beach	April 9	1.5	Smokers	.....
Shapleigh	April 11	12	Miscellaneous	$3,500.00
Wells	April 16	2	Railroad	.....
Wells	April 17	3	Brush or Debris Burning	.....
Saco	April 17	2	Brush or Debris Burning	.....
Buxton	April 17	47	Brush or Debris Burning	250.00
York	April 18	30	Brush or Debris Burning	.....
Saco	April 18	50	Smokers	250.00
Kennebunkport	April 19	1	Smokers	.....
Eliot	April 24	2	Railroad	.....
Waterboro	April 25	.2	Smokers	.....
Saco	May 5	1	Brush or Debris Burning	.....
Saco	May 7	5	Brush or Debris Burning	.....
Saco	May 7	1	Brush or Debris Burning	.....
York	May 7	25	Miscellaneous	.....
Sanford	May 7	1170	Miscellaneous	3,000.00
Newfield	May 9	....	Smokers	.....
Kennebunk	May 9	2.5	Lumbering	.....
Old Orchard Beach	May 12	1	Railroad	.....
Old Orchard Beach	May 14	5	Smokers	.....
Waterboro	May 21	2	Miscellaneous	.....
Waterboro	May 22	6	Miscellaneous	.....
Old Orchard Beach	May 24	20	Smokers	.....
Berwick	May 28	2	Smokers	20.00
Acton	May 28	.5	Miscellaneous	5.00
Newfield	June 6	.2	Smokers	.....
Acton	June 7	.5	Smokers	5.00
Kennebunkport	June 8	1	Smokers	.....
York	June 8	1	Miscellaneous	.....
Kennebunk	June 18	.5	Miscellaneous	5.00
Wells	June 22	.5	Smokers	.....
Sanford	July 1	1	Campers	5.00
Lebanon	July 19	.7	Lumbering	.....
Wells	July 19	.3	Smokers	5.00
Wells	July 21	.1	Smokers	.....
Shapleigh	July 22	.2	Miscellaneous	.....
York	July 22	18	Smokers	50.00
Old Orchard Beach	July 23	1	Smokers	.....
Saco	July 24	60	Smokers	150.00
Saco	July 26	.2	Smokers	.....
Saco	July 26	.5	Smokers	.....
Acton	July 26	.2	Campers	.....
Kennebunk	July 27	.5	Campers	.....
Old Orchard Beach	July 28	.5	Smokers	.....
Berwick	July 28	1.2	Smokers	200.00
Saco	July 31	.2	Smokers	5.00
Lebanon	Aug. 5	1.5	Lightning	125.00
Berwick	Aug. 7	5	Smokers	200.00
Berwick	Aug. 8	.5	Smokers	200.00
Saco	Aug. 9	1	Miscellaneous	10.00
Saco	Aug. 10	5	Miscellaneous	50.00
Acton	Aug. 10	.2	Campers	.....
Berwick	Aug. 10	8	Smokers	375.00
Lyman	Aug. 13	5	Smokers	.....
North Kennebunkport	Aug. 14	.5	Smokers	.....
Acton	Aug. 15	3	Smokers	.....
Lebanon	Aug. 16	.2	Lightning	.....
Lyman	Aug. 16	5	Smokers	5.00
Old Orchard Beach	Oct. 9	.5	Smokers	.....
Old Orchard Beach	Oct. 27	3	Smokers	10.00

SUMMARY OF FOREST FIRES FOR 1949-1950 BY MONTHS, COUNTIES, AND CAUSES—ORGANIZED TOWNS

	No. of Fires		Acreage		Damage	
	1949	1950	1949	1950	1949	1950
By Months:						
January	....	1	....	.2	....	....
February	....	....	....	....	....	....
March	7	....	24.5	....	$27.00	....
April	92	99	809.1	725.8	3,051.25	$7,525.00
May	95	336	642.7	9,351.1	6,598.50	72,904.50
June	66	47	284.7	48.6	1,227.50	1,210.00
July	129	143	2,059.1	886.0	10,436.64	8,189.00
August	117	99	262.1	423.2	15,244.75	3,062.00
September	19	9	10.3	1.9	25.00	....
October	17	41	17.6	97.6	1,612.00	566.25
November	1	4	....	1.1	....	....
December	1	....	4.0	....	....	....
	544	779	4,114.1	11,535.5	$38,222.64	$93,456.75
By Counties:						
Androscoggin	51	59	200.5	650.4	3,824.00	3,892.00
Aroostook	19	116	74.3	2,688.5	3,472.00	8,735.50
Cumberland	84	127	288.9	1,049.9	4,212.00	25,325.00
Franklin	18	12	1,031.4	4.0	155.00	95.00
Hancock	33	61	522.8	380.7	4,700.25	1,291.50
Kennebec	40	50	161.8	132.2	1,081.75	2,364.00
Knox	14	24	77.0	118.9	2,528.00	1,615.00
Lincoln	25	41	311.2	227.0	9,188.14	1,865.00
Oxford	46	47	112.9	112.3	522.00	1,174.00
Penobscot	23	42	373.2	3,279.0	1,567.00	32,925.00
Piscataquis	11	10	185.8	8.3	967.00	40.00
Sagadahoc	29	37	62.4	204.1	2,220.00	1,410.00
Somerset	24	22	279.5	38.8	2,745.50	159.75
Waldo	15	33	60.4	389.9	30.00	3,790.00
Washington	35	36	247.2	716.1	152.00	350.00
York	77	62	124.8	1,535.4	858.00	8,425.00
	544	779	4,114.1	11,535.5	$38,222.64	$93,456.75
By Causes:						
Lightning	25	35	29.1	20.0	394.00	324.00
Railroad	11	14	43.7	50.7	215.00	832.50
Lumbering	27	30	816.1	3,615.75	7,521.64	35,681.00
Campers	19	33	217.5	1,193.4	1,154.00	3,315.00
Smokers	193	290	835.8	1,939.9	9,590.75	13,276.25
Debris Burning	102	203	1,596.1	2,595.1	5,642.00	26,694.00
Incendiary	23	16	244.6	23.5	1,660.00	330.00
Miscellaneous	74	158	120.1	2,097.15	5,966.25	13,004.00
Unknown	70	....	211.1	....	6,079.00	....
	544	779	4,114.1	11,535.5	$38,222.64	$93,456.75

NORTHEASTERN FOREST FIRE PROTECTION COMPACT

The 1949 legislature passed a law making it possible for Maine to become a member of the Northeastern Forest Fire Protection Compact. It was not until July 1950 that the "Commission" actually became organized. The New England States and New York are members of the Commission, of which the Maine representatives are as follows:

L. J. Freedman	Governor's representative
Senator Clarence Crosby	Legislative representative
A. D. Nutting, Forest Commissioner	State Forestry representative

Each state has three representatives, all appointed in a similar way to the Maine group. Perry Merrill, State Forester of Vermont, was elected chairman of the Commission, and Robley M. Evans was chosen executive secretary.

By the cooperation of the U. S. Forest Service, headquarters were established in the federal building in Laconia, N. H. They supplied the office and furniture for the executive secretary.

The Commission was very fortunate in being able to obtain the services of Mr. Evans, who for many years was Regional Forester for the Northeast, Region 7, of the U. S. Forest Service. During 1950 Mr. Evans worked out a program of procedure in case of requests for assistance from one state to another to the Commission.

Representatives from the New Brunswick Forest Service and the Quebec Forest Service attended the annual meeting in July 1950, in Boston. They were invited with the idea of interesting the two Provinces to become members of the Compact.

The two chief accomplishments of the Commission to date have been a coordinated training program for top forest fire personnel in the Northeast, and work on a common basis for woods closure or ban.

The organization should be of great importance in case a disaster hit the Northeast in the future. Naturally, it will be mainly beneficial in case of forest fire. Civil Defense officials recognize it as an ideal organization in their preparation against forest fire disaster. They have suggested it for other areas of the country.

Maine contributed $465.00 in 1949 and $2,310.00 in 1950 as its share of the Commission expenses.

There is no intention on the part of any member of the Commission to relieve states of any responsibility on forest fires. Its purpose is to coordinate, and in the event of an emergency, assist. It also encourages all states to have better forest fire programs within their own organizations.

The executive secretary is doing a fine job of public relations in forest fire prevention work. He has the opportunity through the press and radio to step up the work of all states in the area. The public relations value of the Compact is very great.

INSECT CONTROL

H. B. Peirson, State Entomologist

The insect problem is one of ever increasing importance in the protection of our natural plant resources, in the protection of manufactured products, and in the protection of man and animals from insect attack. In New England it is estimated that on an average twenty times as much timber is destroyed each year by insects as by fire. In our last budworm outbreak enough spruce and fir were killed to have furnished our paper mills with an additional twenty years' supply of pulpwood. The widespread killing of birch and beech has been a real blow to our hardwood industry which will be felt more as shortages occur due to the cutting of the remaining stands.

The upsetting of the natural balance in our forests due to cutting, fire, and insects has brought about large areas of relatively pure stands of timber, containing only a few species of trees, which are very susceptible to insect attack. Many of our most serious insect pests are of foreign origin and have come into this country through commerce. Once here their natural enemies, which held them in check in their native country, are no longer present and they multiply rapidly without this check.

The division has learned that it is highly essential to keep a careful check on insect conditions to locate outbreaks as soon as they start. In this way only can economical control be started at once. This is just as essential as in the case of fire. Careful checks on trends must also be kept and for this purpose we have established 237 permanent sample plots which are continually checked.

In the 1947-1948 Biennial Report of the Forest Commissioner the work of the division of entomology was summarized as being divided into four phases:

1. **Administrative**—Planning of work, answering of inquiries, keeping of records, and administering the tree surgery law.
2. **Research and Control**—The carrying out of large scale major projects.
3. **Detection**—The work of the rangers, fire wardens, and others in spotting and reporting insect and disease outbreaks.
4. **Laboratory**—Identification of specimens sent in by the detection force, life history studies, and rearing of parasites.

Major Projects

During the seasons of 1949 and 1950 the major work of the division has been concentrated on a number of insect pests

which have threatened large areas of forest land. Spruce budworm is continually building up in northern Maine and is a constantly increasing threat to our extensive spruce-fir forests. Estimates show that the bronze birch borer, following adverse growing conditions, has killed 67% of our merchantable white and yellow birch, some of which could have been saved if funds for study followed by control had been available when the outbreak appeared. The beech scale and Nectria disease have killed approximately 22% of our merchantable beech. A severe outbreak of the arborvitae leaf miner is killing quantities of white cedar through the central and eastern parts of Maine. Other forest insects such as the forest tent caterpillar, hemlock borer, sugar maple borer, pales weevil, white pine weevil, and wood borers attacking fire injured timber all called for extensive field work. Real progress was made in finding economical means of combatting these insects.

Requests for Information

Many inquiries are received each year in regard to insects found in homes. In order to help answer these inquiries a series of illustrated mimeographs have been prepared which save a great deal of time. This series of mimeographs is gradually being added to so as to include other items about which many requests are received. To date this series covers ants, fleas, bedbugs, cockroaches, silverfish, carpenter ants, powder post beetles, clothes moths, carpet beetles, poison ivy, pruning of trees, white pine weevil, and elm leaf beetles.

Other inquiries which are received in considerable numbers have to do with insects attacking stored products, lumber, gardens, shade trees, shrubs, lawns, and animals. Many requests for information in regard to control of mosquitoes, black flies, and green-headed flies are received. The division cooperates with a number of municipal health departments on insect, mite, and tick control. Requests are commonly received on control of bats, squirrels, and other rodents invading camps and houses. All told it is estimated that over 3,000 inquiries are received at the Augusta office each year from people needing help. Most of these calls are by letter but many are received by telephone and personal calls.

Shade Trees

A rapidly growing interest in the protection of shade trees has been particularly noticeable during the past few years. Some of this is due to the interest in shade trees being taken by the Maine

Federation of Garden Clubs. Many cities and towns are requesting aid in formulating shade tree programs and in advising them on spraying. Approximately 40 towns requested aid this past year and the Maine Municipal Association sent out over 600 copies of our bulletin "Planting and Care of Shade Trees." About 2,000 copies of this bulletin have been requested this year. An article entitled "Our Shade Trees" was published in the November 1950 issue of Maine Townsman.

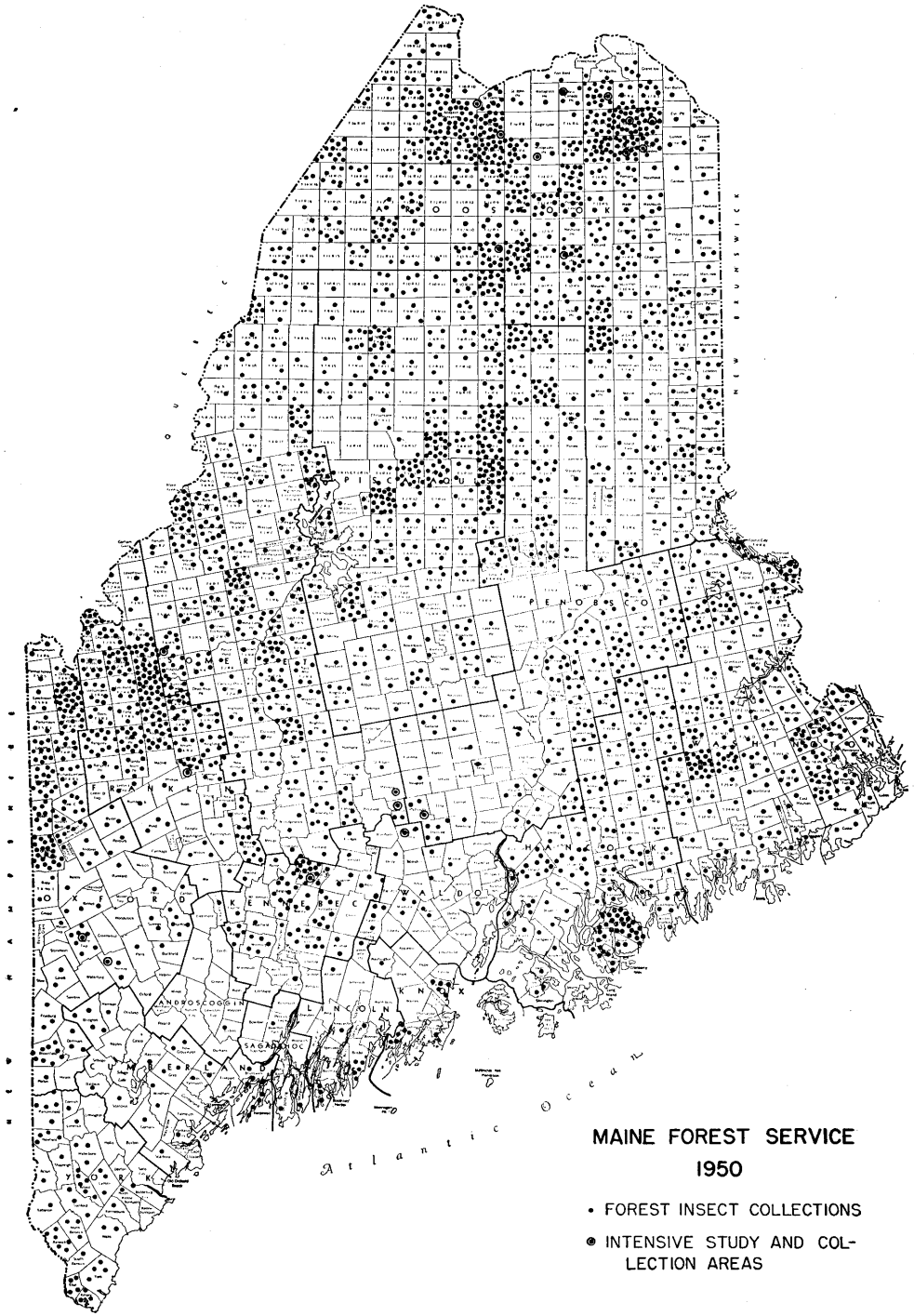
Mosquito and Fly Control

Mosquitoes have always been a problem along our coastal areas, particularly near salt marshes. Drainage has been expensive although some ditching has been done. The advent of airplane spraying is now making it possible to protect large areas at relatively low costs, and the entomology division is working with private groups, municipalities, and commercial concerns in mosquito control. A great deal of work is also being done around summer camps. Some work has been done on State Parks and more is contemplated.

Detection Service

The old belief held by some that insect outbreaks spring up simultaneously over wide areas has now been pretty well exploded. Many outbreaks were not even recognized until trees began to die. We now know that most outbreaks start as small infestations and then if left unchecked may spread over wide areas. In the case of some native insects there may be a number of such infestations. Even in the case of shade tree insects, such as the elm leaf beetle, an outbreak in a town frequently starts in a relatively small area and then builds up and spreads out.

It is the purpose of the insect detection service carried on by the forest insect rangers, fire wardens, licensed tree men, and other interested cooperators to locate these outbreaks in the early stages. A school on detection methods is held yearly for insect rangers. The state is gradually building up a service so that very close touch on forest and shade tree conditions in the state can be kept. Collections sent in to the laboratory make it possible to keep track of fluctuations in insect populations so as to know whether parasites and natural factors are holding an insect in check or not. A total of 3,378 reports of forest and shade conditions were made in the detection work during 1950. This does not include inquiries sent in by the general public. Collections made by the rangers have dropped during the past two years as more


NEW BRUNSWICK
PENOBSCOT
WALDO
KENNEBEC
SAGADAHOC
LINCOLN
KNOX
Atlantic Ocean
MAINE FOREST SERVICE
1950
• FOREST INSECT COLLECTIONS
◉ INTENSIVE STUDY AND COLLECTION AREAS

detailed collection methods are being used to get quantitative results that will be comparable from year to year. Instead of beating trees the rangers now collect 25 fifteen-inch twig samples cut by means of a pole pruner and examine these for the numbers of larvae present on spruce and fir. This slows up the collecting but makes the collections comparable. Although collections have been received since 1921, the following table shows results since the ranger service was started in 1945:

Year	Collections and Reports Made By			Total Collections
	Insect Rangers	Fire Wardens	Others	
1945	476	550	86	1,112
1946	655	433	223	1,311
1947	1,348	580	208	2,136
1948	1,555	581	206	2,342
1949	1,350	1,017	307	2,674
1950	1,345	1,081	952	3,378

A great deal of territory was surveyed from the air and areas of infestation mapped in. Joel Marsh, with federal entomologists, surveyed all of northern Maine by plane, mapping in defoliation by the spruce budworm. Ranger Harold Bullock used a plane to get into difficult areas and also to map in the outbreak of the forest tent caterpillar in the Katahdin area. Other rangers used a plane occasionally.

Two new aluminum canoes were purchased for rangers who have a great deal of waterways to cover. These are very serviceable and light to carry over the many portages. Four of the six rangers now have canoes.

The rangers are all equipped with pole pruner heads that can be attached to poles cut in the woods. These heads have a basket to catch twigs as they are cut so insects present will not be lost.

Laboratory

Insect collections made by the rangers and fire wardens are sent to the laboratory for identification and recording. Some of these collections are quite large and require considerable time and patience to sort, identify, and record. The rangers are being taught to identify some specimens in the field which helps lighten the load at the laboratory. Material identified by the rangers and staff in the field is recorded and sent in as observations. Many of these observations are made in great detail, especially on the per-

manent plots. A report on each collection telling what was present is sent back to each collector.

Collections are checked for possible presence of disease and many collections are reared for life history and parasite studies. Detailed records are kept of the more important economic species.

A spruce budworm parasite rearing program was carried on under the supervision of Edward Duda with two assistants during June.

A great deal of microscopic work has been done this winter checking on results of sprays used against the arborvitae leaf miner. The mist blower spray results are being checked by Mr. Bell and the airplane spraying results by Mr. Nash and assistants.

The yearly checks on insect conditions at the Acadia National Park and the Reef Point Gardens were done by Dr. Brower.

Forest and Shade Tree Insects

Although hundreds of different species of insects are received each year, only those which seem to be of paramount importance are discussed in this report. The following table summarizes the more important of these:

Insect or Disease	1949	1950	Increase or Decrease
Arborvitae Leaf Miner	Severe—east to central	Spreading	Same
Balsam Woolly Aphid	Medium—east to west	Spreading	Increase
Beech Nectria	Heavy—east to Greenville	Slowly spreading	Increase
Beech Scale	Heavy except northwest	Spreading	Increase
Blackheaded Budworm	Light to medium—general	Light—general	Decrease
Bronze Birch Borer	Heavy—western	Heavy—western	Same
False Mistletoe	Heavy—coastal areas	Heavy—coastal areas	Same
Forest Tent Caterpillar	Medium—central	Heavy—Katahdin Region	Increase
Pales Weevil	Heavy—southern	Heavy—southern	Same
Spruce Budworm	Light to medium, 272 towns	Light to medium, 285 towns	Increase
Sugar Maple Borer	Heavy on shade trees	Heavy on shade trees	Same
White Pine Weevil	Generally light	Spreading to spruce	Same
Yellow-headed Spruce Sawfly	Heavy—Sagadahoc County	Under control	Decrease

Arborvitae Leaf Miner *(Argyresthia sps.* and *Recurvaria thujaella).* Over the greater part of Maine, owners of cedar or arborvitae and those interested in wildlife have been alarmed during recent years by the serious damage to cedar. Many trees have been killed and many more will die or be seriously injured. The sight of large areas of nearly leafless or brown cedar is a common one. Three species of small moths, *(Argyresthia sps.,)* are responsible for most of this injury with *(A. thuiella)* the most important. The fourth moth, *(Recurvaria thujaella)* Kft. is of some importance. Severe drought conditions have added to the injury. The area of most severe infestation is in south-

central Maine, extending from Princeton and Topsfield to Reed Plantation and Island Falls, thence through Brownville and Solon to Farmington, and southward to Ellsworth, Belfast, and Augusta. A moderate infestation exists southward to the coast, and somewhat farther north and west to the border. The higher elevations and northern parts of the state have relatively light infestations. In a large area south and west of Bangor, damage has been especially severe. The injury or defoliation of the cedar is most noticeable just after the peak and time of heaviest feeding is reached, with the defoliation being most apparent one or more years afterward. In the past the arborvitae leaf miners have continued to be injurious in some parts of the state even during lows in the cycles of the insects.

Spraying in 1950. Experimental sprays using a mist blower under the direction of A. E. Brower were applied to a series of plots in Belgrade to check the value of DDT in killing the moths to prevent egg laying. These plots were all in a relative uniform, thick stand of arborvitae, about fifteen feet high, with a moderate and increasing infestation. Results show that DDT will kill a high percentage of the arborvitae leaf miners, though the results secured were not equal to the regularly recommended nicotine sulfate spray. Furthermore, a serious mite infestation followed and until some means of preventing mite outbreaks can be found, DDT has doubtful value.

DDT Spray Plots, Belgrade, Maine
Spray Applied June 18, 1950, with a Mist Blower

Amount applied per acre	Percentage of kill or reduction in infestation	Mites per 100 twigs 3 inches long	Percentage increase of mites
2 pounds	100%	7,948	4,788%
1 pound	92%	20,838	12,553%
½ pound	83%	17,825	10,738%
Check	Used as 100%	166	

A. E. Brower

A second set of experiments were carried out to determine the possibility of control by applying insecticides by airplane either prior to egg laying or just prior to the hatching of the young larvae in order to kill them before their entrance into the leaves.

On June 26, 1950, a spray of one and one-half pounds of DDT in one gallon of oil solution per acre was applied by airplane on

two stands of cedar, one in St. Albans and the other in Palmyra, at a time supposedly prior to egg laying. The work was carried on by and at the expense of Walpole Woodworkers, Inc., Walpole, Mass., represented by H. L. Peterson of Detroit, Maine. Data was not taken concerning the number of moths killed in each area at the time of spraying. Consequently, the only data is that collected in January of 1951 on each sprayed area and on two check areas which showed similar previous defoliation. Comparisons were made between the present larval population on the sprayed and unsprayed areas.

During the week of July 10, 1950, it was figured that egg laying was about completed and, therefore, spray areas were established in Palmyra, Troy, Detroit, and Plymouth, totalling 45 acres. Concentrated sprays were to be applied by plane to learn if there is a possibility of killing the young, hatching larvae. The above Mr. Peterson gave freely of his time and was very helpful in locating suitable areas and in arranging for permission to spray with the owners. Spraying was done on the morning of July 15. Check or unsprayed areas of similar defoliation were established for each sprayed area in the approximate vicinity. Pre-spraying material was collected and examined.

These areas were revisited in December 1950 and January 1951, at which time twig samples were collected from the sprayed and corresponding unsprayed areas. These were brought to the Augusta laboratory and examined in detail. This time-consuming analysis was done with the assistance of Rangers Bullock and Manning.

Although the results as shown in the table are not satisfactory, they should be augmented by examinations of the areas after feeding begins this spring. This may present a better portrayal of the effects of the various sprays. Since more than one species of the leaf miner is involved, it is evident that the presence of moths and the egg laying period are greatly extended. While it is apparent that good control was obtained in the mist blower spraying for moths, the spraying by the Walpole Company on the Peterson lots was less effective. This result may be explained in considering the dates of application. The Walpole Company sprays may have been after many eggs had been laid.

It is felt that further work should be continued this year. Possibly two sprays for moths at two week intervals would give more promising results.

Experimental Airplane Spraying of Arborvitae

Location	Spray Material and Dilution (All oil solutions)	Apparent Defoliation at time of Spraying	Number of Infested Twigs per 100	Larval Populations on three inch twig samples, collected Dec.-Jan. from		% Reduction on Sprayed areas against Unsprayed
				Sprayed 100 samples	Unsprayed 100 samples	
Hardin Lot Detroit 10 Acres	Chlordane 12% 1 lb. 1 Acre	Medium	4	242	335	27.7%
Merchant Lot Palmyra 10 acres	DDT 12% 1 lb. 1 Acre	Medium	6	287	369	22.2%
Murray Lot Plymouth 5 acres	DDT 12% 1 lb. 1 Acre	Severe	12	149	324	54%
Furbush Lot Palmyra 10 acres	DDT 12% 2 lbs. 1 Acre	Medium to Heavy	24	67	369	81.8%
Gowin Lot Troy 10 acres	DDT 12% 2 lbs. 1 Acre	Heavy	2	305	335	8.9%
Peterson Lots St. Albans Palmyra	DDT 1½ lbs. 1 Acre DDT 1½ lbs. 1 Acre	Medium Medium	32 17	56 166	174 201	67.8% 17.4%

E. J. Duda and R. W. Nash

Balsam Gall Midge *(Cecidomyia balsamicola).* This insect causes heavy dropping of balsam foliage in the fall. Some years it is difficult to find Christmas trees in infested areas that are free enough from the gall to warrant cutting and shipment. During the past two winters this insect has not been abundant. The injury from this insect warrants working out methods of control that can be used by those raising Christmas trees.

Balsam Woolly Aphid *(Adelges piceae).* This insect continues to take a heavy annual toll of fir in Washington and Hancock Counties, with lesser damage westward across the state and somewhat farther northward. It has been spreading northward, and has been found for the first time near Grindstone, north of Brownville in T. 4, R. 9, Katahdin Iron Works, Jerusalem, above Dead River in T. 3, R. 4, and Grafton, with a small infestation in Westmanland. It usually attacks trees of merchantable size or larger, and in southeast Maine, especially, trees seldom reach a diameter above nine or ten inches before they are killed. Unless fir is managed on a short cutting cycle the loss is very high from this insect. The chief control has been severe cold. The Balsam Woolly Aphid is an introduced species and has had no known parasites in America. In Maine both predatory syrphid fly larvae

and larvae of The Harvester, a butterfly, have been found feeding on the aphid, but in small numbers.

Canadian entomologists have introduced and established a European parasitic fly in New Brunswick. This is *(Leucopis obscura Hal),* an important parasite in the Old World. One or more specimens of this were secured in Indian Town in 1948. In 1949 a considerable number were reared from collections in Indian Town, and in the summer of 1950 a collection made in Kossuth yielded many flies. In the fall of 1950 collections made at Meddybemps, Edmunds, Wesley, Whiting, Northfield, East Machias, Jonesboro, Harrington, East Gouldsboro, and Franklin yielded the parasitic fly, in good numbers. The only collection not producing the parasite was made in Amherst. This rapid and wide spread through Maine of an introduced parasitic fly is most encouraging and means that we have an ally in the control of the Balsam Woolly Aphid. Bred specimens of this fly have been sent out to other parts of Maine, and plans are to continue to assist in its distribution until it is present wherever fir is being killed by the aphid.—A. E. Brower.

Beech Scale *(Cryptococcus fagi)* and Nectria Disease. This European insect spread into Maine from Nova Scotia and New Brunswick and is now found in an area covering 70% of the state. The Nectria disease which follows the scale, killing the beech, now occurs in nearly 60% of the scale infested area.

In 1950 twenty-six permanent sample plots of twenty-five trees each were established across the state in areas of incipient to heavy infestations. Subsequent studies of these should give the rate of development of scale plus Nectria on beech of all ages and of their damage to beech; the effects of climate, parasites, and predators on infestations; and the type of reproduction in stands where extensive beech death occurs. The field work was done by Ranger McGinley.

Field conferences were held with various agencies in the fall of 1950 when forest management study areas for control of these organisms were established by the U. S. Department of Agriculture's Forest Service, Bureau of Entomology, and Division of Forest Pathology on the Bartlett, N. H. Experimental Forest (federal).

Although the most severe damage occurs in the eastern half of Maine where a very high percentage of beech has been killed,

there is considerable damage in east-central New Hampshire. It is expected that the same will eventually occur through western Maine. In eastern Maine in the fall of 1950 studies were made of reproduction in various types of killed beech stands, both salvaged and uncut. Findings were that site was the strongest factor in the kind of reproduction to be expected, in most cases regardless of the present or most recent cover type. Added influences were the species established as advance reproduction at the time of beech death, and the degree of opening of stands due to the death of beech. The last was influenced by the additional opening up of stands by the accompanying recent and widespread death of yellow birch.

Softwood and mixed sites were reproducing excellently to spruce and fir which had advanced above beech and seemingly will make up the future stand with some beech. Yellow birch has as yet shown little chance of coming through. Small seedlings are present but apparently die out early. Where softwood and beech reproduction is present the slow kill of the large beech has apparently favored the advance of softwoods in contrast to the quick opening by cuttings which are more apt to favor hardwoods. However, one large mixed site was observed which had been salvaged in 1943 for beech and yellow birch amounting to nearly a clear cut. This area then became a rather complete raspberry growth which is on the wane. Many spruce and fir are now above the raspberries and hardwood seedlings are nearly so. A red spruce-yellow birch stand will apparently result with scattered fir, beech, and sugar maple.

Hardwood sites are reproducing abundantly to beech to indicate that the future stands will be pure beech. In some places scattered sugar maple and varying amounts of hemlock are succeeding. There appears to be but little chance for anything else. Yellow birch seedlings become established but due to the lack of sufficient sunlight die out when very small. This same general impression is being gained about sugar maple. It is areas of thick advanced beech reproduction that a real problem exists in management in obtaining good mixed hardwood stands. Cutting of the merchantable trees, at least with our present knowledge, would simply release the beech reproduction. Clear cutting, even to the extent of mowing, also offers little hope as abundant sprouting and root suckering would result and increase the beech stems on an area. More extensive studies should be made on all of the above factors.

In the eastern part of the state where severest damage occurred, there is still considerable beech that remains alive and has recovered from the past severe infestations. The majority of this beech, however, is pitted with cankers and of low market value. The scale population in the old infestations in eastern Maine is now generally light.—R. W. Nash.

Black-headed Budworm *(Acleris variana).* During the period 1941-1949 this spruce and fir defoliator increased nearly one-hundred fold and became so abundant in northern Maine that defoliation was visible from the air. In many areas it was more abundant than the spruce budworm. The injury from both are quite similar. During 1950 there was a decided drop in the infestation both in Maine and in New Brunswick. Indications are that this was brought about by parasites.

Birch Studies

All phases of this project which were started in the past have been continued. The methods and objectives have been given in past yearly reports. Summary of the twenty-two hundred plot trees show in each year an increase in the total percentages of trees holding their own or improving in their crown condition compared with previous years. The state-wide estimates by the fire warden force show that while the percentage of dead trees increased some, there were less in a dying condition.

The general state-wide impression is that, while the continuance of damage has not stopped anywhere, it has gone by its peak in many places. There are sections such as the Jackman and other western areas and local areas as in Aroostook where damage is still continuing. Wood operators have the definite impression that birch is looking better particularly in the central and eastern parts of the state. Our yearly studies of increment cores show that the average growth of white and yellow birch and sugar maple in 1948 as compared to 1947 decreased approximately 19%. In 1949 each of these three species showed an approximate gain in growth of 18% over that of 1948. In 1950 the growth of white birch fell off 8%, yellow birch gained 7%, and sugar maple gained 18% in growth over that of 1949. The growth of birch is still below normal. Dead trees infected with the so-called shoe-string fungus became more noticeable in 1950, .5% of such plot trees being so infected. Although this fungus is considered a weak parasite we may expect additional dying of a

small percentage of severely weakened trees adjacent to dead trees infected with this fungus.

	Condition of Plot Trees				Fire Warden Estimates			
					White Birch		Yellow Birch	
	% dead	% with less injury	% same injury	% increased injury	% dead	% dying	% dead	% dying
1947	15.4	3.2	76.7	20.0	58.9	22.8	59.9	23.8
1948	19.2	9.7	73.9	16.4	63.3	20.9	60.4	23.8
1949	22.3	9.2	77.4	13.4	66.3	18.2	64.0	21.4
1950	25.7	6.2	83.2	10.6	67.2	13.7	67.1	16.8

Spraying. Control experiments for the bronze birch borer as an important factor in the death of birch were continued in both years by ground applications with a mist blower and by airplane applications. The mist blower tests were made on a six-acre block of birch; the airplane tests on forty-acre blocks for each dilution. Condition of the trees in the sprayed areas as compared to those unsprayed show that spraying checked damage to the birch stands involved, particularly in the areas which had not been cut over. From a practical, cost standpoint it appears that two pounds per acre is sufficient. Checks by the Wildlife Research Division of the Inland Fisheries and Game Department showed no ill effects to birds or animals. Streams were not in the sprayed areas.

1950
DDT Spraying of Birch
All in 12% Emulsion Form

Type of Spray and Year		Per Acre Dosage	Cut or Uncut Stand	% Trees with Increase in Injury	% Trees with less Injury	% Trees Dead having Shoestring Fungus
Mist Blower	1949	5 lbs.-5 gals.	Uncut	1.7	1.7	—
		Check	Uncut	24.4	—	—
	1950	5 lbs.-5 gals.	Uncut	5.3	8.8	—
		Check	Uncut	20.7	—	—
Airplane	1949	2 lbs.-2 gals.	Cut	9.0	3.0	—
		2 lbs.-2 gals.	Uncut	1.0	3.0	—
	1950	2 lbs.-2 gals.	Cut	9.4	9.4	—
		2 lbs.-2 gals.	Uncut	2.9	10.8	—
	1949	3 lbs.-3 gals.	Uncut	1.0	—	1.0
	1950	3 lbs.-3 gals.	Uncut	2.0	5.3	.7
	1949	5 lbs.-5 gals.	Cut	2.0	—	1.0
		5 lbs.-5 gals.	Uncut	1.0	—	—
	1950	5 lbs.-5 gals.	Cut	4.0	9.4	4.0
		5 lbs.-5 gals.	Uncut	2.0	11.3	—
	1949	Check	Cut	11.0	—	—
			Uncut	12.0	—	—
	1950	Check	Cut	8.7	1.3	—
			Uncut	16.7	2.0	—

Seeding and Planting. Seeds from both white and yellow birch, were collected in October of 1949 and 1950 for planting tests. Seeds can be collected easily by going into cutting operations and beating appropriate tops over sheets. In one man-day one and one-half bushels of seed, cleaned except for catkin scales, can be obtained.

In the fall of 1949 an old field for experiments was supplied in Albany through the cooperation of Arthur McKeen, of Norway. Five strips were laid out with the sod handled differently on each: (1) removed by bulldozer, (2) plowed, (3) harrowed, (4) plowed and harrowed, and (5) untreated. Each strip was then divided into 20 x 30 foot plots each being seeded differently as to method of seed curing, storage, stratification, and time of planting either on bare ground in the fall or spring or on snow in the winter. One quart of seed with catkin scales, to one quart of sand was applied to each plot. Only a few seedlings were present in 1950, to indicate the tests as unsuccessful. However, bindweed which appeared commonly on the plots grew very much slower than normal and for this reason we were convinced that the severe drought in the spring and summer was responsible. Therefore, the whole test is being repeated now with seeds collected in the fall of 1950, the only difference being in the application of two quarts of seeds per plot. Use of this second field was supplied by Mr. Daniel Heath, Norway.

Seeds we collected and which were planted by Mr. Harold Eastman of the Western Maine Forest Nursery, Fryeburg, in the springs of 1949 and 1950 produced excellent seedlings. 1,500 seedlings, mainly white birch two years old, were transplanted in the fall of 1950 on part of the same strips as used for seeding tests. More will be transplanted in the spring of 1951.

Sprout. Studies of cutting tests and of areas cut in the past do not indicate hope of extensive sprout reproduction of birch from stumps of ordinarily merchantable trees. Sprouts start but after one to three years are all dead. Severe deer and rabbit browsing is apparently responsible. In the occasional cases of stumps being well surrounded by slash of tops, sprouts which started grew well. For this reason on one of the 1950 stump-sprout study areas, twenty-five stumps were protected from deer by fencing them individually with poultry wire. Studies of old operations indicate a correlation between dropping off of successful sprout growth and increase in the deer population and

lack of deer food. Young, thrifty trees cut in the spring give best sprout growth.

Management. More management plots were established in both years in stands before and after cuttings to determine the degree of cutting which can be made whereby residual birch will continue to live and thrive. While these studies are too recent to make conclusions, they indicate that this degree will be somewhere around a 40% cut. Plots were established in white birch and in yellow birch on both mixed wood and hardwood sites. These have been established on the White Mountain National Forest near Gilead and Stoneham through the courtesy of S. G. Hile, District Ranger, of South Paris.

Assistance in the field and office work on this project was given by Rangers Bullock and Manning.—Edward J. Duda, Robley W. Nash.

Elm Leaf Beetle *(Galerucella xanthomelaena).* This chewing and skeletonizing insect is causing heavy damage to elm shade trees throughout most of the southern two-thirds of the state. One outbreak was found as far east as Calais. During 1949 reports of damage were received from 23 towns and in 1950 from 33. With the threat of the Dutch Elm Disease, it is highly essential to keep our elm shade trees in a healthy condition. Weak trees attract bark beetles which carry the disease.

Only a partial second generation occurred in the vicinity of Augusta and this may hold true for all of Maine. The adults appearing between August 15 and September 1 fed on the foliage, chewing holes in the leaves and skeletonizing them much as the larvae or grubs do earlier in the season. Most of the spraying is now being done with a 6% DDT concentrate applied with a mist blower. Repeated spraying with DDT is not advised. A great deal of spraying has been done and much more will be needed in the coming years to protect the trees.

European Elm Bark Beetle *(Scolytus multistriatus).* See Dutch Elm Disease.

European Spruce Sawfly *(Diprion (Gilpinea) hercyniae).* This foreign insect, which a number of years ago threatened to destroy spruce forests in Maine, is being held well in check by parasites and disease. Parasites raised and put out by the division of entomology during the period 1936-1942 should continue to hold this insect in check.

Fall Webworm *(Hyphantria textor).* This northern variety of *(Hyphantria cunea)* is also known as the spotless fall webworm. It is quite generally abundant in the state and is particularly noticeable on shade trees in the fall. Large numbers appeared at light traps in northern Maine which would indicate heavy populations in 1951. In the forest, ash and elm are favorite hosts although the larvae feed on over 100 different food plants.

Forest Tent Caterpillar *(Malacosoma disstria).* A severe outbreak of this insect started north of Mt. Katahdin probably near Trout Brook Farm in 1948. In 1949 and early in 1950 this outbreak was found to be on the increase as observed by Harold Bullock, our insect ranger, and by officials of the Baxter State Park. During August of 1950, Mr. Bullock flew over this area and found that stands of poplar were being heavily defoliated toward the south in T. 5, R. 8 and in T. 5, R. 9. During October many of these areas were scouted by Mr. Bullock, Mr. Marsh, and Park Ranger Dolley, where egg masses were collected to determine the extent of the area likely to be infested in 1951. Very heavy egg counts in some areas indicate as high as 12,000 larvae per tree may develop. This outbreak is definitely moving south and may eventually easily follow the old burn along the Wassataquoik Stream toward Stacyville. It may be necessary to do some airplane spraying to protect areas where campers tent and picnic on Baxter State Park. Although poplar and white birch are favored, the larvae are stripping all hardwoods. Large numbers of forest tent caterpillar moths were collected in the light traps in a belt from Jackman to Kellyland in 1950 which would indicate more extensive outbreaks starting in 1951 over a large area wherever poplar stands are present.

Oak Twig Pruner *(Hypermallus villosus).* Injury from this insect was very abundant throughout the southern half of the state. In 1950, cut twigs began falling as early as July 11 which is somewhat earlier than normal. This was probably due to drought conditions. The heavy dropping of twigs and branches brought in many requests as to the cause and how to correct it.

Pales Weevil *(Hylobius pales).* It has been known for years that coniferous plantations on freshly cut over pine lands almost never survive due to the killing of the young trees by the Pales Weevil. It was not known what the results would be when planting on recently burned-over land. Indications were that it would not be safe to plant such lands, but exact knowledge was lacking.

This was a problem that faced the state following the widespread 1947 burns which occurred in late October in southern Maine. With the cooperation of private landowners, the Western Maine Forest Nursery, and the U. S. Forest Service eight areas were planted in the spring of 1948, three in the spring of 1949, and four in early 1950. As wide a range of conditions as possible were covered. These include areas cut following the burn, and areas not cut where the trees killed by the fire still stood. Areas of red, white, and pitch pine were covered. Trees planted were white pine, red pine, and Norway spruce.

There was considerable variation in the percentage of trees killed on the various plots that could only seem to be explained by the probable population of the weevil in the area at the time of the planting. This was tied in with the amount of cutting that had been going on in the immediate vicinity before the fire. For example, on plot No. 8 in Brownfield no damage occurred until the second year and then the injury was light. There had been no previous cutting near this area so the weevil population was low. This insect is attracted for at least a mile by the odor of pitch from freshly cut pine stumps, slash, logs, or boards so that in such areas there is a heavy population of the insect.

It was thought by some that trees showing up as dead the second year in previous experiments had actually been killed the first year. In order to check on this three plots were planted the second year and the killing on these plots, which was quite severe, showed conclusively that injury the second year is heavy.

Plots planted the third year following the burn showed little or no damage. This condition was also borne out in the results on the original plots. The following table gives the results to date:

Pales Weevil Plots

I. Planted in spring of first year following burn.

Plot No.	Location	Type	Percent Killed by Weevil								
			White Pine			Red Pine			Norway Spruce		
			1st Yr.	2nd Yr.	3rd Yr.	1st Yr.	2nd Yr.	3rd Yr.	1st Yr.	2nd Yr.	3rd Yr.
1	Lyman	White pine burn—cut	48	4	0	44	0	0	0	0	0
2	Alfred	White pine burn—not cut	20	12	8	24	12	0	4	4	0
3	Alfred	Pitch pine burn—cut	32	34	0	8	40	0	8	4	4
4	Alfred	Pitch pine burn—not cut	20	56	0	24	44	0	4	40	4
5	Brownfield	White pine burn—cut	24	8	0	32	16	0	4	8	4
6	Brownfield	White pine burn—not cut	28	28	0	28	12	4	4	16	4
7	Fryeburg	Red pine burn—cut	52	16	0	28	0	0	12	8	0
8	Brownfield	Pitch pine burn—not cut	0	8	4	0	8	12	0	4	4
Average percent killed			28	21	1	23	16	2	5	11	2
Total Average percent killed			50			41			18		

II. Planted in spring of second year following burn. Only white pine planted.

Plot No.	Location	Type	Percent Killed by Weevil		
			White Pine		
			1st Yr.	2nd Yr.	
1	Fryeburg	Red pine burn—cut	20	4	These figures refer to the first and second year of planting or the second and third year following burn.
2	Brownfield	White pine burn—cut	56	0	
3	Brownfield	White pine burn—not cut	60	4	
Average percent killed			45	3	
Total Average percent killed			48		

III. Planted in spring of third year following burn. Only white pine planted.

Plot No.	Location	Type	Percent Killed by Weevil	
			White Pine	
			First Year	
1	Fryeburg	Red pine burn—cut	0	These figures refer to the first year of planting or the third year following burn.
2	Brownfield	White pine burn—cut	8	
3	Brownfield	White pine burn—not cut	0	
4	Brownfield	Pitch pine burn—not cut	0	
Total Average percent killed			2	

Results of these experimental planting plots show:

1. That coniferous plantations of white pine, red pine, or Norway spruce should not be started on cut-over or burned-over red, white, or pitch pine areas until the fall of the third year following cutting or burning.

2. Losses may run as high as 76% for white pine, 68% for red pine, and 52% for Norway spruce with average losses of 50, 51, and 18 percent.

3. Approximately half the total loss occurs the first year, half the second, and a small percentage the third.

4. Red pine was almost as severely killed as white pine. The killing of Norway spruce was about half that of red pine.

Satin Moth *(Stilpnotia salicis).* This European insect which invaded Maine from the South is a severe defoliator of poplar shade trees. In 1950 it appeared in epidemic numbers at Edmunds defoliating a stand of poplar on the mainland as well as on a nearby island. Swarms of moths appeared here on July 20. This outbreak is over 100 miles east of the nearest previous report in Maine.

Spruce Budworm *(Choristoneura fumiferana).* This destructive forest insect continues to be a threat to the spruce and fir forests of Maine. During the past two years there has been a considerable increase in the area of defoliation as detected both from air and from ground surveys, although as yet the defoliation is not heavy enough to kill the trees. The division of en-

tomology of the Maine Forest Service has continued to work in close cooperation with the landowners, and with the U.S.D.A., Bureau of Entomology and Plant Quarantine. This work involved ground, aerial, and egg mass surveys, studies to determine the effect of natural factors of control, rearing and releasing of parasites, and experimental tests in airplane spraying.

Ground Surveys. Since 1941 ground surveys have been carried on each year by the Maine Forest Service to determine the status of the spruce budworm in Maine. Up to 1949 most of this involved collections by beating trees and recording the number of larvae and pupae falling on a sheet spread beneath them. The only exception to this was a series of 60 so-called observation points established in 1946. Trees were sampled each year at these points and a number of larvae and pupae per fifteen-inch twig were recorded in order to determine the fluctuation in population from year to year at these specific points. In 1950 collections by insect rangers were all based on the number of larvae and pupae found on 25 fifteen-inch twig samples. This method requires more time than the beating method but gives a more accurate quantitative measure of the population from year to year and from one location to another. Collections by the fire wardens were obtained under the old system. These collections gave additional information on the general distribution of the budworm.

The 1950 ground survey showed an increase in the distribution of the budworm and indicated a build-up over a larger area in northern Maine than in 1949. The population remained low in western Maine and only a few specimens were found in the eastern part of the state. In the Jackman area the infestation was lighter than in 1949. There was a slight increase in Big and Little W north of Moosehead Lake. In the Mt. Chase-Mattagamon area the infestation remained fairly constant.

There has been a decided increase in the area west of the St. John River and north of T. 16, R. 12. This infestation extends through to the St. Lawrence River in Quebec. Another infestation has built up just east of the Allagash River north of T. 13, R. 10 and extends eastward to join the Cross Lake and Westmanland area.

Collections at the 21 light traps distributed throughout the spruce regions of the state operated in 1949 showed that there was an increase of budworm moths flying during the period of July 5 to August 5 as compared with the same period in 1948.

During 1950 light traps were run at 22 points at approximately the same locations and during the same period as in 1949, to catch any possible flight of moths into the state. Collections from the trap at Dennistown indicate a flight into this area July 23-24. The light trap at T. 16, R. 5 caught 803 moths—the largest number from any trap. Only about one moth out of ten flying near the light was actually caught. J. W. Marsh observed great numbers of moths in this area. Although the traps at Oquossoc, Greenville, Ashland, and Enfield caught small numbers there were enough to indicate a fair population. Nine caught only a few budworm moths. Seven showed no budworm.

The following table shows spruce budworm collections. Revised methods of collecting cut down the number of larvae and pupae collected in 1950 so that the figures shown under 1950 would have been greater under the old method. Egg masses are indicative of next year's infestation where collected.

Year	Number of Collections	Towns	Larvae	Pupae	Pupal Cases	Moths	Egg Masses	Total
1941	2	2		1		12		13
1942	6	6	4			18		22
1943	3	3				3		3
1944	8	5	4	1				5
1945	38	31	56	1		21		78
1946	67	49	304			13		317
1947	218	146	424	60	149	71		704
1948	419	181	1,123	43	157	128	218	1,669
1949	699	272	3,332	608	213	223	248	4,624
1950	807	285	3,587	254	413	1,134	487	5,875

Large numbers of larvae, pupae, and egg masses, in addition to those shown in the table, were collected for parasite and research projects.

Data from the observation points showed that the area of general infestation has increased considerably. Populations of full-grown larvae and pupae continued to be very erratic; some of the points, such as that at Stockholm, had smaller populations whereas others indicated an increase, and in addition several points had populations for the first time. As in the previous years no budworms were found at the observation points in Ranger District 6 —Washington and Hancock Counties in southeastern Maine.

Aerial Surveys. During the early part of July, 1949 several hours were spent flying with Robert Heller, Bureau of Entomology, and Earl Crabb, Maine Forest Service pilot. At that time observations of spruce budworm defoliation were made from the air on areas that had been previously checked on the ground as to

the intensity of infestation. From these flights a standard method of observation was set up using blue pencil to indicate the line of flight where no defoliation was observed, green pencil to indicate scattered individual infested trees, red pencil for larger groups of infested trees, and red crosshatch for heavier defoliation in larger areas. Using this method Joal Marsh and Charles Coe, Forestry pilot, flew over 350 miles of low altitude flying covering some of the Allagash and St. John waters in Piscataquis and Aroostook Counties and some of the Penobscot and Moose River waters in Somerset County. Mr. Heller and Mr. Bean of the Bureau of Entomology flew approximately 1,150 miles over other parts of Aroostook, Piscataquis, Somerset, and Franklin Counties covering many more miles of observation flying. The aerial observations showed that the heaviest defoliation is concentrated between Caribou and Guerette westward to the Fish River chain of lakes, and along the St. John River just west of Allagash Plantation.

A more intensive aerial survey was carried out in 1950 to give a statistical approach and an accurate defoliation map. In order to accomplish this, a line-strip type of aerial cruise was laid out for the spruce-fir forest type in Maine. On these strips permanent records of budworm defoliation and general forest types were obtained by the use of an operation recorder. Several ground checks were made prior to and during the survey to make certain that the observers were recording the spruce budworm damage properly. As in the 1949 aerial survey, all estimates of damage were based on the defoliation of balsam fir. A wet spring and the heavy production of staminate flowers caused a delay of one week in the start of the survey. The wet weather had a twofold effect: one, it retarded the browning of fir needles characteristic of budworm feeding, and two, it provided poor flying conditions. As a result, the aerial survey was completed one week later in the season than was anticipated.

Preliminary flights were conducted on June 28 in the vicinity of Madawaska Lake and it was determined that the defoliation could be detected at that time. The aerial survey was carried on from that date until July 21, when it was completed in the southern part of the spruce-fir region at Greenville.

A Cessna 195 seaplane, owned by the Bureau of Entomology and Plant Quarantine, was used on the entire survey. It is a five-seated high-wing cabin monoplane with no struts obstructing the

view. Full length plexiglass doors were installed to provide the observers with maximum visibility. A radio altimeter was used to aid the pilot in maintaining a constant altitude above the ground.

The base of operation for Aroostook County was at Fish River Lake with seaplane facilities available at nearby Portage Lake. For areas around Moosehead Lake, Greenville was used as a seaplane base of operation.

The aerial survey was conducted in much the same way that a conventional line strip timber cruise is carried out on the ground. Flight lines were drawn three miles apart on Maine Highway Atlas maps and flown so that each township was traversed twice. This was done on areas of reported infestation in 1949. The flight lines were traversed in an east-west direction and were numbered consecutively from the northernmost part of Maine. As soon as the observers could no longer detect defoliation along a flight line, the distance between flight lines was increased to six miles; if no defoliation showed up on lines six miles apart, the distance was further increased to ten miles.

J. L. Bean, of the New Haven Laboratory of the Bureau of Entomology and Plant Quarantine, and J. W. Marsh, of the Maine Forest Service, acted as observers on the greater part of the survey. By recording their observations on a moving chart, a permanent record was obtained which was transferred to a map and then plotted much in the same manner that a type map is made up during a timber cruise. Such a system will allow aerial surveys to be run yearly to compare the extent of the spruce budworm infestation. The airplane was flown at an average speed of 95 miles per hour and at a constant elevation of 200 feet above the ground, with over 2,000 miles of observational line flown. R. C. Heller, forester-pilot, of the Beltsville Laboratory, flew the airplane during the entire survey.

In each area showing continuous defoliation from the plane, ground checks were made at several points. Collections of larvae and of egg masses at these locations substantiated the fact that the observers were recording the defoliation with surprising accuracy. It is doubtful whether complete coverage of inaccessible areas would be possible by any other method. The aerial survey was completed in approximately two weeks, with 44.7 hours of flight time (including ferry time and flights for ground checks).

The total area in Maine where defoliation was observed from the air covers about four million acres. Of this area approximately 560,000 acres showed continuous defoliation, while on the remaining 3,440,000 acres scattered defoliated trees were observed.

Egg Mass Survey. This survey, expanded during the two years since its initiation in 1948, is valuable in providing an index to the potential budworm population and relative amount of damage to be expected the following year. This survey has covered areas of noticeably heavy feeding, detected by ground and aerial surveys, and also certain areas under particular study by state or federal agencies throughout the generally infested spruce-fir forests of Maine.

The sampling unit used in this survey was the fifteen-inch twig, the number collected at each point being thirty twigs in 1948 and twenty-five twigs in 1949 and 1950. Balsam fir was selected generally for sampling; white spruce and black spruce were sampled occasionally when present in sufficient amount. The egg mass counts obtained represent estimates only of the relative potential bud-worm population level for a given location and are subject to reduction by natural control factors. The estimates obtained in the 1949 survey, reduced by natural control effects, proved to be a fairly accurate prediction of the larval population counts obtained in 1950.

The 1950 survey indicated a continuing slow build-up of the budworm population in northern Maine. No great increase, general or local, was indicated. The infestation remains generally light with occasional areas or spots of heavier feeding and heavier egg deposition. Characteristically there was considerable variation in population numbers within short distances. The areas of heaviest feeding did not necessarily show the largest egg counts, some relatively high counts in areas of little defoliation reflecting potentially heavier feeding next year.

Highest egg counts were obtained in the vicinities of Westmanland, Stockholm, Cross Lake, and Soldier Pond, where study areas have been under observation for at least two years. In addition, high counts were obtained from several new areas: T. 20, T. 18, R. 13, T. 14, R. 9 just west of Fish River Lake, and T. 15, R. 5 near McCluskey Lake. Egg parasitization in the Cross Lake study area averaged about 14% and at Soldier Pond approximately 16%. Very few egg masses were found in the vicinity of Ash-

land or in the area just north of Jackman where the budworm had been quite abundant.

Rearing of Parasites. Several species of budworm parasites occur in the West, which are absent in the East. Since 1945, several small colonies of these Western parasites have been liberated in Eastern infestations. It is too early to determine whether they have become established, but it is believed that further colonization is distinctly worthwhile. With this in mind it was decided to attempt rearing a large, solitary, hymenopterous parasite, *(Phytodietus fumiferanae)*, which attacks large budworm larvae. Canadian entomologists generously supplied about 100 females as breeding stock and rearing work was undertaken at both Fort Kent and Augusta. This particular parasite has one generation a year, and it over-winters in the cocoon stage. Females oviposit very slowly, but about 1,400 cocoons were obtained for overwintering. They should supply enough adults for two good colonies as well as for breeding stock for 1951. Techniques were worked out in 1950 which should make it possible to increase production in the following years. One small colony was liberated in Little W.

It was hoped to obtain another parasite, a Tachinid fly, *(Ceromasia auricaudata)*, by large scale rearing in Oregon in 1950, but parasitism by this species proved to be very low, and only about 200 flies were obtained for release in Maine. This species requires an alternate host for hibernation, but it was decided to try rearing it on a small scale. One generation was reared at the New Haven laboratory on cabbage worms, cabbage loopers, and hemlock loopers. Strangely enough, almost all of the eighty flies reared were females, and no mating for further reproduction was obtained. Possibly additional stock of this species can be obtained from Canada. If so, further work will be attempted. At the same time, P. B. Dowden and H. A. Jaynes, of the Bureau of Entomology, have been conducting research investigations concerning natural control factors pertaining to the spruce budworm. They have located their field laboratory headquarters at Fort Kent, Maine.

Experimental Airplane Spraying. In 1949, the original plan to spray 20,000 acres of infested spruce and fir had to be abandoned due to the fact that federal funds were not made available until too late and also due to the fact that the budworm populations were lower than was expected. Preliminary experimental

spraying was carried out on eight twenty-five acre plots. These plots were laid out by personnel directed by William Waters from the Bureau of Entomology, and Joel Marsh of the Maine Forest Service, and were located along the highway between Stockholm and Guerette in northern Maine. Back corners were marked with white bags and poles tied to trees, and the front corners with helium filled balloons. Aluminum plates were used to check on the spraying. The plots were sprayed between June 17 and June 23 and the post sampling indicated an average control of over 90%. Because of the success of the above spraying, plans were made immediately to lay out similar plots for spraying in 1950. It was felt that this additional spraying would be necessary before definite recommendations could be made pertaining to the control of the spruce budworm.

In June 1950, 20,000 pounds of Technical Grade DDT were purchased with spruce budworm funds. With the budworm on the increase in northern Maine, but still in an unstable and unpredictable situation, it was definitely felt that it would be unwise to spray a large area in 1950. The DDT has been placed in storage at Presque Isle and will be available for immediate use if the budworm situation becomes more serious.

In accordance with plans, experimental plots were again established and sprayed in June of 1950 to determine the effectiveness of DDT formulations applied by airplane for control of the budworm. This was conducted by the Division of Forest Insect Investigations, Bureau of Entomology, in cooperation with the Maine Forest Service and private timberland owners in northern Maine. A series of sixteen 10-acre plots in typical balsam fir stands in the Westmanland-New Sweden area were sprayed by R. C. Heller, of the Beltsville Station, between June 14 and June 18, 1950. DDT was applied in solution and emulsion form at the rates of one-half pound and one pound per gallon of liquid per acre. Each formulation was distributed with both coarse and fine atomization.

The experiment was designed to provide additional information on (1) the effect of solutions as compared to emulsions, (2) droplet size, and (3) amount of deposit on the degree of control obtained. Past experiments in controlling the spruce budworm by airplane spraying have demonstrated that one pound of DDT in one gallon of liquid per acre can effect excellent control, but that

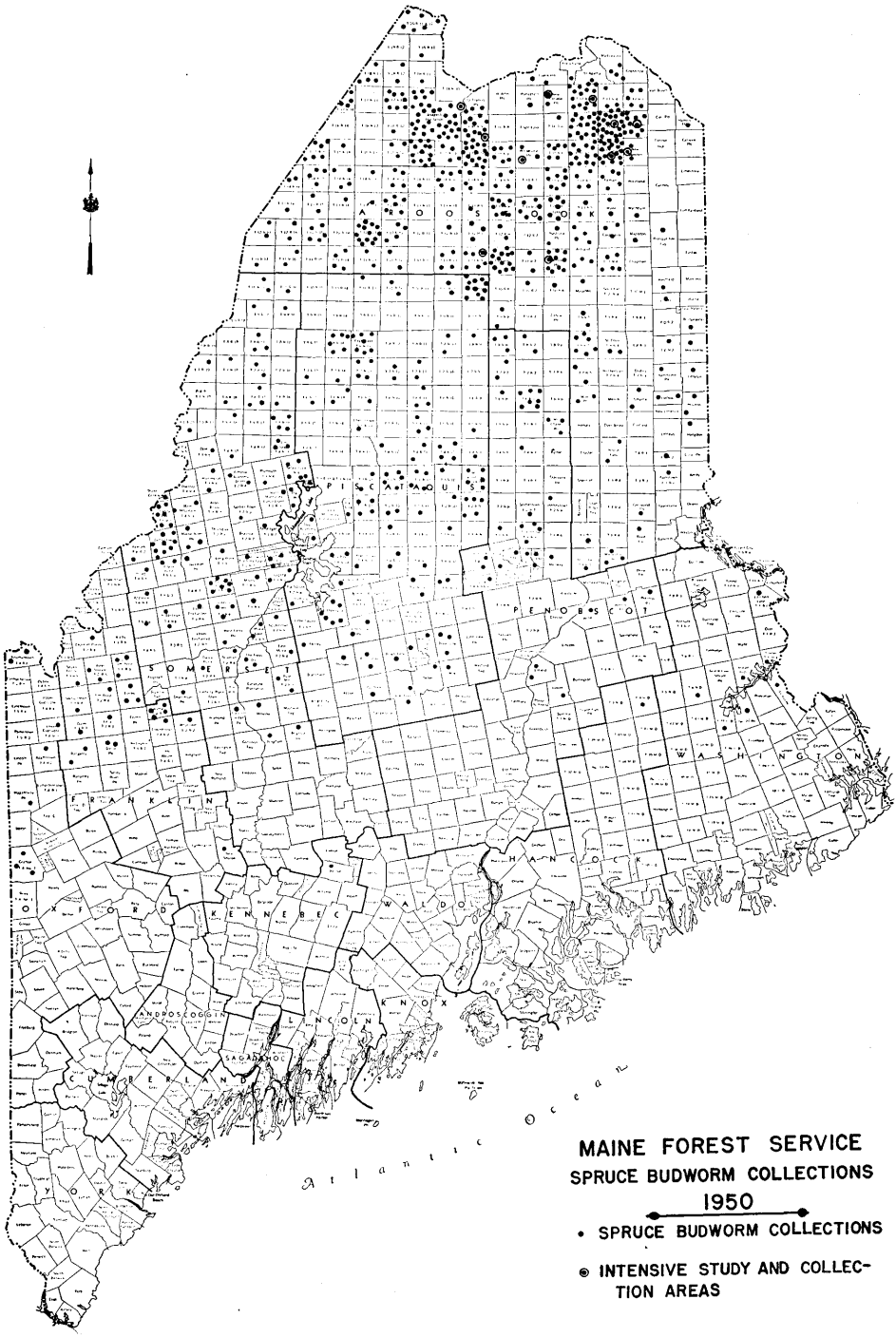
uniform coverage by the spray is a critical factor in obtaining a high measure of control.

The budworm population in this area was generally light, with occasional trees or groups of trees more heavily infested. At the time of spraying all larval stages from third to late sixth were represented, the majority, however, being fourth and fifth. This is considered the most favorable time to control the spruce budworm by spraying.

Mortality data was obtained from sample trees located in checkerboard fashion in each plot. In addition, a record of the actual DDT deposit was obtained by erecting aluminum deposit plates on poles to approximately midcrown height at half of the sample trees.

A quantitative analysis of the deposit plates has not yet been completed. Final evaluation of the experimental data is not possible at this time. A preliminary analysis of the mortality data has shown, however, no real difference in effectiveness of control between solution and emulsion sprays or between fine and coarse atomization. However, the DDT solution applied as a relatively fine spray apparently gave the best results, while the coarse emulsion spray gave the poorest control. Twig samples taken both before and following the spraying did indicate that a high degree of control was obtained on all of the plots where one pound of DDT was used per acre.

Conditions in Nearby States and Provinces. Cooperative surveys conducted in New Hampshire, Vermont, and New York indicated extremely light infestations of the spruce budworm with no trace of defoliation. The situation is serious north of the St. Lawrence River in Quebec. The insect reached outbreak proportions in western Quebec between 1940 and 1945 and heavy tree mortality was noted by 1946. By 1947 outbreaks occurred in the St. Maurice River Valley and in 1949 heavy defoliation covered a wide area in the Laurentides Park. The situation was more serious in 1950 with noticeable defoliation extending south of the St. Lawrence to the Maine border. It appears, therefore, that the outbreak in Quebec has spread steadily eastward. A tremendous flight of moths descended upon the City of Quebec on August 13, 1950. *The eastward advance of the budworm in Quebec increased the hazard of large scale moth fights into northern Maine.* Up to the present time, however, no mass flights have been observed.


MAINE FOREST SERVICE
SPRUCE BUDWORM COLLECTIONS
1950
• SPRUCE BUDWORM COLLECTIONS
⊙ INTENSIVE STUDY AND COLLECTION AREAS
Atlantic Ocean
AROOSTOOK
PISCATAQUIS
PENOBSCOT
SOMERSET
FRANKLIN
WASHINGTON
HANCOCK
OXFORD
KENNEBEC
WALDO
KNOX
ANDROSCOGGIN
LINCOLN
SAGADAHOC
CUMBERLAND
YORK

A rather large area of infestation has been found in the southern part of Restigouche County, New Brunswick, some 60 to 70 miles east of the northern tip of Maine. In addition three smaller areas of infestation in New Brunswick, located nearer the Maine border, were reported in 1950 by Canadian officials.

The accompanying map shows the areas of heaviest defoliation in Quebec, northern Maine, and New Brunswick.

Present Situation. Spruce budworm surveys conducted in Maine in 1950 indicate that there is a decided increase over 1949 in the size of the area where continuous defoliation occurred. Egg populations, which represent the potential infestation for 1951, are as likely to show a decrease as an increase at locations where records were taken in both 1949 and 1950.

There appears to be a colossal struggle in progress in Maine between the spruce budworm and its natural factors of control. Studies conducted during the past year have shown conclusively that there was a tremendous reduction in the budworm population from the time the eggs hatched in 1949 until development was completed in 1950, and that in general, budworm populations were too low to cause defoliation which appreciably injured trees. Prominent among the natural control factors affecting the reduction in budworm populations were egg parasites, winter mortality, larval and pupal parasites, and birds. If these factors had not been so effective, serious defoliation would have occurred in 1950.

Conclusions and Recommendations. It is the belief of the federal and state entomologists that it is unlikely that infestations in 1951 will be heavy enough to cause serious injury to spruce and balsam fir over extensive areas in Maine. This conclusion is, of course, based on the assumption that the natural factors of control will be equally effective in reducing the current populations of the budworm. If the natural factors fail to do this, some areas will suffer rather severe defoliation in 1951. There is always the possibility of a heavy flight of moths from Quebec as long as the budworm outbreak persists there, and the present outbreak in Maine can easily and quickly assume epidemic proportions.

It is recommended that the state and timberland owners be prepared to contribute toward the spraying of a large area if the population increases to the point where spraying is justified and trees are in danger of being killed. Experimental spraying of

small areas in 1951, in order to obtain additional information on the timing of spray applications, should be conducted. Biological and natural control studies should be continued. Both ground and aerial surveys should be made in 1951 and continued until the threat is over. Increased efforts should be made to detect possible mass flights of moths into the area.

Sugar-maple Borer *(Glycobius speciosus)*. This insect is on the increase in the state and is particularly serious on shade and ornamental trees. During 1950 reports of the insect were received from many places. Many of our older sugar maple trees along the highways are in poor condition due to attacks from this insect. One report was received of a forest stand of maple dying in East Stoneham which was found to be due to attack from this insect. A number of mills are reporting increasing evidence of this insect in logs being delivered. Tree age and drought are important factors favoring borer attack.

White-pine Weevil *(Pissodes strobi)*. This insect, which kills the leading or terminal shoot of white pine and spruce, is considered by many authorities to be the worst enemy we have of white pine and one of the most damaging forest insect enemies in the Northeast. The killing of the leaders causes the trees to fork and become bushy so that they do not produce clear, straight lumber. In Maine it is conservatively estimated that this insect reduces quality in our white pine by 40%. The division of entomology has carried on research work in relation to this insect. Removal of weeviled leaders and spraying have been suggested but little such control has been applied. Much more research is needed. During the past few years the weevil has become increasingly abundant in northern Maine where it is attacking our native red spruce. This is a new departure for the insect. Entomologists in New England have formed a white pine weevil committee to work up plans for a concerted attack on the weevil problem, each state taking different phases.

Yellow-headed Spruce Sawfly *(Pikonema alaskensis)*. Surveys made in 1948, following the airplane spraying which took place during the first two weeks of July, indicated that the sawfly population in 1949 would be quite heavy on Cox's Head, in Phippsburg, and on Bay Point and Kennebec Point in Georgetown. Thus, considerable time was spent in the spring of 1949 making cocoon, adult, and egg collections. Pre-spraying analysis showed a decided decrease in population. The infestation was still heavy enough

to warrant spraying. Actual examinations of cocoons indicated that approximately 40% of the larvae were parasitized. Light to medium egg laying was present throughout the entire areas of both towns which had previously been infested. Some trees on Long Island, Cox's Head, and in the Atkins Bay area were found to have as many as 18-20 eggs per new shoot. However, these were the exceptions rather than the rule. Egg parasitism was becoming quite apparent. This was especially true between Morse River and Atkins Bay and on Lower Cox's Head where as many as 70% of the eggs were parasitized.

Through funds made available by the Towns of Georgetown and Phippsburg, and through the cooperation of individuals, it was possible to spray 225 acres of timber spruce. It was impossible to spray all infested areas, so preliminary surveys were made to determine the areas which contained the heavier infestations.

On June 24, 1949, 125 acres of spruce in Georgetown and 100 acres in Phippsburg were sprayed by plane with Resitox (25% DDT) cut with fuel oil at the rate of one pound of DDT per gallon per acre. The work was contracted to the Airborne Sprayers, Inc., of Arlington, Mass. The areas and their corresponding acreage were: Bay Point, 40 acres; Kennebec Point, 70 acres; Long Island, 15 acres; Atkins Bay-Morse River, 45 acres; and Lower Cox's Head, 55 acres. Trays and glass slides were placed in these areas to aid in checking on control and on the distribution of spray material. Post checks showed good distribution of spray and control very satisfactory. Very few live larvae were found feeding in these areas following the spraying.

Since climatic conditions were approximately two weeks ahead of 1948, all stages of the insect were stepped up. Consequently, the date of spraying was 15 days earlier with larvae in the second and third instars.

Many parasitized eggs have been collected and brought into the laboratory where the parasites are being reared and identified.

Studies have shown that a small number of larvae may remain in diapause. Adult sawflies were obtained from a small plot of ground which had been caged the previous spring to further substantiate this fact.

The outlook in the spring of 1950 was very encouraging. Cocoon collections made in April and May revealed that the number of adults emerging would be quite small. The egg laying was light and localized in individual trees. This was especially true on trees outside the areas sprayed the previous years.

Egg parasitism was again quite noticeable and general. A rough estimate showed that over one-third of the eggs were parasitized.

Defoliation this year was practically unnoticeable. Repeated attacks in previous years had reduced the size of the live crown on some trees to such a degree that many trees succumbed during the winter of 1949-1950. Salvage operations are being undertaken by landowners.

If there had not been an intensive airplane spray control program conducted on 1,500 acres in 1948 and 1949, there undoubtedly would have been large acreages of timber spruce killed by the sawfly in Phippsburg, Georgetown, and along the adjoining coastline. Red spruce was the favorite host, although white spruce was also attacked. Because of this control program tree mortality was limited to one area. The outbreak was believed to have started prior to 1946 on the Sabino Hill area near Fort Popham. Even as early as 1948, heavy damage had occurred on this 125-acre spruce tract. The sawfly caused from 20% to 80% tree mortality by 1950. It was found advisable to make a salvage cut of merchantable spruce on 100 acres of this tract. On the remaining 25 acres located on the Fort Baldwin State Park lands, 18 cords of dead spruce were salvaged in 1948. A survey made by the Park authorities during the fall of 1950 indicated that an additional 185 cords of spruce need cutting. 20 cords of this consists of dead and dying spruce which was blown down late in November, 1950; the remaining 165 cords of spruce consist of a large percent of trees in a dying condition, which had been previously weakened by the sawfly.

Collections received at the laboratory during the past year show that although the Yellow-headed Spruce Sawfly is quite generally distributed throughout the state its population, including this coastal outbreak, is relatively low at this time. Outside of this one outbreak on the coast where timber spruce was infested, this insect has been found attacking only ornamentals and spruce located in the open or along the edges of dense stands.—E. J. Duda.

General Forest and Shade Tree Insects. Large numbers of insects are received each year for identification. Only the more common of these are listed:

Host and Insect	Locality Affected	1948	1949	1950
Alder				
Alder Flea Beetle *Altica ambiens*	Central and eastern Maine	—	Heavy	Heavy
Beech				
Beech Leaf Tier *Psilocorsis faginella*	Coastal and eastern Maine	Medium	Medium	Medium
Birch				
Argid Sawflies *Arge sps.*	General, mostly northern Maine	Light	Light	Light
Birch Casebearer *Coleophora salmani*	Pemaquid Point, Owl's Head	—	Medium	Medium
Birch Leaf Miner *Fenusa pusilla*	General	Medium	Medium	Light
Birch Leaf-mining Sawfly *Phyllotoma nemorata*	General	Light	Light	Light
Rusty Birch Leaf-beetle *Syneta ferruginea and other sps.*	General	Light	Light	Light
Elm				
Elm Flea Beetle *Haltica ulmi*	Central and southern Maine	Medium	Light	Light
Elm Leaf Miner *Fensa ulmi*	Central and southern Maine	—	—	Light
Hemlock				
Flat-headed Hemlock Borer *Melanophila fulvoguttata*	Standish, Belgrade	—	—	Light
Hemlock Looper *Ellopia fiscellaria*	General	Medium	Medium	Medium
Hemlock Webworm *Recurvaria apicitripunctella*	Southern Maine	Medium	Light	Light
Juniper				
Juniper Webworm *Dichomeris marginella*	Coastal	Medium	Heavy (Mt. Desert Isle)	Heavy
Larch				
Eastern Larch Beetle *Dendroctonus simplex*	New Sharon	—	Heavy	Stand killed
Larch Casebearer *Coleophora laricella*	Central and southern Maine	Light	Medium	Light
Woolly Larch Aphid *Chermes strobilobius*	Winslow	—	Medium	Light
Maple				
Maple Bladder-gall Mite *Vasates quadripedes*	Scattered	Medium	Light	Light
Maple Petiole Borer *Caulocampus acericaulis*	Augusta	—	—	Light
Mountain-Ash				
Mountain-Ash Sawfly *Pristiphora geniculata*	General, mostly northern Maine	Heavy	Medium	Light
Oak				
Woolly Oak Gall Wasp *Callirhytis lanta*	Central	—	Heavy	—
Pine				
European Pine Shoot Moth *Rhyacionia buoliana*	Bailey's Island, Harpswell	—	Medium	Light

Host and Insect	Locality Affected	1948	1949	1950
False Pine Webworm *Acantholyda sps.*	General	Medium	Medium	Medium
Pine Bark Aphid *Pineus strobi*	General	Medium	Medium	Light
Pine Needle Miner *Exoteleia pinifoliella*	Southern Maine	—	—	Medium
Pine Needle Scale *Phenacaspis pinifoliae*	Central Maine	Medium	Light	Light
Pine Spittle Bug *Aphrophora parallela*	General	Heavy	Medium	Medium
Pine Tube Moth *Argyrotaenia pinatubana*	Central and coastal Maine	—	Medium	Light
A Pine Twig Borer *Pityophthorus ramiperda*	Coastal	—	Light	Medium
Pine Webworm *Tetralopha robustella*	Burned areas	—	—	Heavy
Red-headed Pine Sawfly *Neodiprion lecontei*	Burned areas	Light	Light	Heavy Waterboro
Red Turpentine Beetle *Dendroctonus valens*	York County burned areas	—	—	Heavy
Twice-marked Looper *Semiothisa bisignata*	General	Light	Light	Light
White Pine Sawfly *Neodiprion pinetum*	Southern	Light	Light	Heavy Dover-Foxcroft
Poplar				
Poplar Leaf Roller *Epinotia solandriana*	Littleton	Light	Heavy	—
Poplar and Willow Borer *Cryptorhynchus lapathi*	T. 18, R. 13	—	Heavy	—
Spruce and fir				
Aphids *Aphididae*	General	Medium	Heavy	Very heavy
Balsam-fir Sawfly *Neodiprion abietis*	General	Light	Light	Light
Balsam Gall Midge *Cecidomyia balsamicola*	Scattered	Medium	Light	—
Brown Spruce Looper *Eupithecia palpata*	General	Medium	Medium	Medium
Chameleon Caterpillar *Anomogyna elimata*	General	Light	Light	Light
Dotted-line Looper *Protoboarmia porcelaria*	General	Medium	Medium	Medium
Fall Spruce Needle Moth *Argyrotaenia lutosana*	General	Light	Light	Light
False Hemlock Looper *Nepytia canosaria*	General	Medium	Medium	Medium
False Sawflies *Lyda sps.*	General	Light	Light	Medium
Fir Harlequin *Elaphria versicolor*	General	Light	Medium	Medium
Fir Tip Sawfly *Pleuroneura borealis*	Western Maine	Light	Medium	Medium
Fir Tortrix *Tortrix packardiana*	Northern Maine	Light	Light	Light

Host and Insect	Locality Affected	1948	1949	1950
Gall Aphids *Adelgidae*	General	Medium	Medium	Medium
Green-headed Spruce Sawfly *Pikonema dimmockii*	General	Light	Light	Light
Green-striped Spruce Caterpillar *Feralia jocosa*	General	Light	Light	Medium
Green Spruce Looper *Semiothisa granitata*	General	Medium	Medium	Medium
Grey Spruce Tussock Moth *Olene sps.*	General	Light	Light	Medium
Large Spruce Weevil *Hypomolyx piceus*	General	Light	Light	Light
Northern Smoky Moth *Lexis bicolor*	General	Light	Light	Light
Phalaenid larva *Zanclognatha sp.*	General	Light	Light	Light
Pine Measuring Worm *Paraphia piniata*	General	Medium	Medium	Medium
Red Spruce Leaf-miner *Recurvaria piceaella*	General	Medium	Medium	Medium
Rusty Tussock Moth *Notolophus antiqua*	General	Light	Light	Light
Spruce Bud-moth *Zeiraphera ratzeburgiana*	General	Light	Light	Light
Spruce Cone Worm *Dioryctria reniculella*	General	Medium	Medium	Medium
Spruce Harlequin *Palthis angulalis*	General	Light	Light	Light
Spruce Needle Miner *Taniva albolineana*	General	Light	Light	Light
Spruce Tufted Caterpillar *Panthae acronyctoides*	General	Light	Light	Light
Spruce Webworm *Epinotia nanana*	General	Medium	Medium	Medium
Transverse-banded Looper *Hydriomena divisaria*	General	Light	Light	Medium
Yellow-headed Spruce Budworm *Zeiraphera fortunana*	Northern Maine	Light	Light	Light
Willow				
Willow Flea Beetles (Several species)	Augusta	Heavy	Heavy	Medium
Willow Leaf Beetle *Galerucella decora*	Northern Maine	Light	Heavy	Heavy
Imported Willow Leaf Beetle *Plagiodera versicolora*	Rumford	—	—	Light
The Willow Flea Weevil *Orchestes rufipes*	Mt. Desert	—	—	Medium

Tree Diseases

Ash Rust *(Puccinia fraxinata)* was reported as prevalent from Kittery to Rockland. This rust causes swelling on the petioles and twigs, and swollen areas on the leaves. The disease causes

heavy dropping of foliage. It has an alternate host on marsh grasses, so is found for the most part close to the coastline.

Dutch Elm Disease *(Graphium ulmi)*. This disease is a very grave threat to Maine's elm trees. It has been moving rapidly northeast through New England and is now present in most of the northern tier of towns in Massachusetts and this year was found in two New Hampshire towns. It is quite possible that it has already invaded Maine although it has not as yet been found in the state. Another infestation is moving more slowly toward the Maine border from the Province of Quebec. This infection is now within about thirty miles of Jackman.

During 1949 and 1950 the division employed Mr. Vernon Jordan for two months in the summer to scout for the disease and its carrier the European Elm Bark Beetle. A very thorough job was done in the southern third of the state. Licensed tree men and municipal authorities throughout southern Maine were alerted to the danger. No Dutch Elm Disease was found but the European Elm Bark Beetle was found for the first time in the state near the New Hampshire line in Berwick and South Berwick in 1949. In 1950, beetles were found at two points in Kittery, two in Eliot, and an additional point in both Berwick and South Berwick.

As the beetles are particularly attracted to dying elms, trees were cut in 1950 to serve as traps in North Berwick, Lebanon, Berwick, York, and Alfred. These will be examined and checked during the summer of 1951.

It has been pretty generally proved that thrifty trees are far less liable to attack from the beetles and the disease than weak trees. An effort is being made to interest towns in keeping their shade trees healthy. The Maine Municipal Association and the Maine Federation of Garden Clubs have taken an active interest in this work.

Through the cooperation of Garden Clubs a census of the number of elm shade trees within the built-up sections of 39 cities and towns was taken by the club members. From this cross section it was estimated that Maine has 400,000 elm shade trees valued at $40,000,000. This figure is higher than was estimated in 1948 and probably is conservative.

Eastern Dwarf Mistletoe *(Arceuthobium pusillum)*. This interesting parasitic plant continues to kill considerable red and

white spruce along the coast. It has been particularly abundant at Ocean Point, Boothbay, Christmas Cove, and Pemaquid. Cutting of infested trees has slowed the infestation down.

Other Tree Diseases. Although the chestnut blight has practically eliminated this tree, individual trees were found this year in West Gardiner and Albany dying from the disease. A number of elm twig and leaf diseases were reported. Leaf blight and tar spot were common on maple shade trees. Cedar rust was found very heavy on the fruit of Mt. Ash and Hawthorne. Lichens and mosses are abundant on spruce and fir on slow growing sites. Trees dying from drought, crowding, or other causes are frequently covered with lichens and mosses. A new very destructive disease of oak, known as oak wilt, has appeared in the central states, and Maine has been requested to scout for its possible presence here. The Willow Scab Fungus continues to kill willows throughout much of Maine.

Insects and Other Pests Found in Buildings

Each year at least six hundred requests are received in regard to insects and other pests invading houses and camps. These insects come in packaged foods, in fuelwood; others invade houses from nearby fields, trees, and lawns. Wood borers are found frequently in new houses coming out of green lumber. One unusual call was received in regard to swarms of so-called aeronautic or balloon spiders which had drifted on to a white house standing in the open. They were so numerous the house was literally spotted with them. These spiders, often in great numbers, climb to some high object, spin out a long thread, and then drift long distances with the wind.

A few of the more common insects found in buildings are listed below:

Pests troublesome in Household and to Stored Products	Locality affected or Reported	Infestation	
		Status	Type of Danger
Ants (house) (Several species)	General	Common	In houses
Balloon Spiders	Hallowell	Occasional	Swarming in house
Bats	General	Common	In camps and sheds
Black Carpenter Ant *Camponotus herculeanus pennsylvanicus*	General. Mostly southern Maine	Common	Tunneling and destruction of building timbers
Bean Weevil *Acanthoscelides obtectus*	Mostly south central Maine	Common	Injury to dry beans
Bed Bug *Cimex lectularius*	General	Occasional	Bites humans

Pests troublesome in Household and to Stored Products	Locality affected or Reported	Infestation	
		Status	Type of Danger
Blue Bottle Flies *Lucilia caesar, L. sericata*	Augusta	Occasional	In house
Book Lice *Psocids*	Augusta	Occasional	In house
Carpet Beetles (Three species)	General	Common	Destruction of woolen goods
Chinch bug *Blissus leucopterus*	Augusta, Vassalboro	Occasional	Invading houses and camps
Clothes Moths (Two species)	General	Common	Destruction of woolen goods
Cockroaches (Three species)	General	Common in municipal buildings	Attracted by food waste
Confused Flour Beetle *Tribolium confusum*	Mostly central and southern Maine	Common	Found feeding on flour, grain, meal, etc.
Dog Ticks *Dermacentor variabilis*	Augusta	Occasional	Large numbers in house
Elm Leaf Beetle *Galerucella xanthomelaena*	Mostly central and southern Maine	Common with presence of an infestation	Adults hibernating during winter in houses
Fleas (cat and dog) *Ctenocephalides felis and C. canis*	General	Common with presence of cats and dogs	Troublesome house pest occasionally attacking humans
Head Lice *Pediculus humanus humanus*	South-central	Occasional	Attacks humans
House Cricket *Acheta domestica*	South-central	Occasional	In houses
Larder Beetle *Dermestes lardarius*	General. Mostly central	Occasional	Animal food products
Mites (Bird)	Farmington, Limestone	Fairly common	Getting into houses and buildings from nests, biting people
Powder Post Beetles (Several species)	Caribou, but mostly central and southern	Common	Tunneling and destruction of timbers, furniture, and wood products
Saw-toothed Grain Beetle *Oryzaephilus surinamensis*	Mostly central and southern	Common	Feeding on dry food stuffs
Silverfish (Two species)	General	Common	Feeds on starched paper and cloth goods
Snow Fleas *Collembola*	Augusta	Rare	Invading house
Sow-bugs *Isopoda*	Augusta	Fairly common	In cellar
Spiders	Central and southern	Common	Entering house in fall
Spider Beetles *Mezium americanum*	Portland	Occasional	Found in buildings
Strawberry Root Weevil *Brachyrhinus ovatus*	Central and coastal	Common	In houses
Tinea (*Tineids*) (A case-making larva)	Brunswick	Rare	Swarming into buildings, normally feeding on lichens
Wasps	General	Common	In houses
Wood Borers	General	Common	Stored wood, and buildings

Miscellaneous Insects and Pests

Many requests are received each year in regard to insects attacking gardens, lawns, shrubs, and vines. The chinch bug has been very destructive to lawns during the past dry summers. Wood ticks *(Ixodes cookei)* are becoming very abundant in southern Maine and in the Sebago Lake region were numerous enough to interfere with men working on logging operations. Many requests were received on control of poison ivy. A mimeograph was prepared to help in answering these. Experiments with 2-4-D were very successful in killing the vines. Requests were received for aid in controlling rats, mice, bats, squirrels, moles, and sap suckers.

Green-headed Flies, Mosquitoes, Midges, and Black Flies. The control of mosquitoes and flies through airplane spraying has become a regular business along the coast and around inland sporting and boys' and girls' camps. Several concerns located in Maine are spraying large acreages and the results are extremely pleasing. Some areas where mosquitoes had been very troublesome were sprayed twice—in early July and early August. Reports indicated that mosquitoes were practically eliminated during the two months. Over wooded areas it was found best to use one pound of DDT per gallon of fuel oil per acre. Over marsh lands the amount of DDT can be cut in half.

Spraying properly timed has been very effective against the green-headed fly. Results against black flies have not been so effective. Some immunity of mosquitoes against DDT spray was reported in southern York County.

Tree Surgery

The present tree surgery law, passed in 1933, was amended and strengthened in 1949. It now covers airplane spraying of woodlands. There are at present 150 licensed arborists in the state. Fourteen examinations were given in 1949 and forty-four in 1950. One license was revoked during the past two years. A number of other infringements to the law were reported but all except one were settled out of court.

The Maine Arborists Association was active in 1949 and several meetings were held. During 1950 the Association was inactive due to illness of the officers.

Publications

1. Poison Ivy, 1 page mimeo. leaflet. H. B. Peirson and J. W. Marsh, 1949.
2. Forest Insect Primer, 18 page mimeo. book. J. W. Marsh, 1949.
3. The Beech Scale and Beech Bark Disease in Acadia National Park. A. E. Brower, Journal of Economic Entomology, Vol. 42, No. 2, April 1949.
4. Report on Aerial Spraying Experiments for the Control of the Yellow-headed Spruce Sawfly. Mimeograph report. Maine Forest Service and U.S.D.A., Bureau of Entomology, 1949.
5. Forest Insect Notes. H. B. Peirson and staff. Nos. 1-6, 1949.
6. Spruce Budworm Control, A Cooperative Project in Maine. H. B. Peirson. Maine Forest Service Circular No. 8, 7 pages, 1950.
7. Planting and Care of Shade Trees. H. B. Peirson and R. W. Nash. Maine Forest Service Bulletin No. 14, 32 pages, 1950.
8. Our Shade Trees, A State Asset. H. B. Peirson. The Maine Townsman. Nov. 1950.
9. The Elm Leaf Beetle, 2 page mimeo. leaflet. H. B. Peirson and J. W. Marsh, 1950.
10. The Spruce Budworm in Maine with Special Reference to Surveys. Mimeographed report. Maine Forest Service and U.S.D.A., Bureau of Entomology, 1950.
11. Excessive Birch Mortality in the Northeast. Hansbrough, MacAloney, Jensen, and Nash. Tree Pest Leaflet No. 52, 1950.
12. Forest Insect Notes. H. B. Peirson and staff. Nos. 1-4, 1950.

WHITE PINE BLISTER RUST CONTROL

White pine blister rust, caused by a fungus disease, Cronartium ribicola, Fischer, was found on pines in the State of Maine as far back as 1916. This Asiatic disease was unintentionally introduced into the United States by importation of white pine seedlings grown in European nurseries, and by introduction of cultivated specimens of European black currants. Conditions were ideal for its development, since both host plants essential to the spread of the disease were present in abundance. These are the five-needled or white pines and all species of currant and gooseberry, known collectively as ribes.

The spread of the disease has now reached practically all of the white pine growing regions of the United States and Canada. Yearly it is taking its toll on unprotected areas of white pines in all stages of growth. Young growth usually suffers higher losses due to greater susceptibility and less resistance to the disease. At the present time it is found throughout the white pine region of Maine, varying in intensity from light, scattered infections to heavy concentrations approaching 100% by stem count. Infection on controlled areas does not approach the latter condition and if present, is due chiefly to infections established prior to control workings. This disease has an interesting life cycle, part of which is spent on the five-needled pines (white pine) and the remainder in the leaf tissues of currant and gooseberry plants. White pine blister rust does not spread from pine to pine. Diseased white pines continue to produce spores or minute seed bodies each spring as long as there is life in the host plant. Spores reaching currant and gooseberry develop in the leaf tissue, finally developing in the late summer another type of spore which is capable of producing the disease in the white pine. These spores are wind-borne and have only a short infection range, generally not exceeding 900 feet from their source. The disease attacks the white pine by entering through the needles whence it works through the bark of the branches, eventually reaching and girdling the main trunk.

Climatic conditions play an important part in the spread of the disease. Seasons of extreme moisture are more favorable for its development. In regions where ribes have not been removed, nearly 100% infection may be found. Once established in a pine

lot, a high degree of infection may develop in a few years unless control measures are applied in time.

Since the disease requires two hosts to develop, and it cannot spread directly from one pine to another, control is possible by removal of all currant and gooseberry plants from a pine area and for a distance up to 900 feet around the pine.

The importance of white pine to the economic life of the State of Maine cannot be over-emphasized. From the time of the early settlers and continuing down to our present day, white pine has remained high on the list of lumber cut and dollar value. There has never been a successful substitute for many of its uses. Its annual growth is high in value per acre; it reproduces abundantly, and is relatively light and easy to handle.

The white pine cut for 1949 of 694 mills located in the State of Maine was 272,198,541 board feet. At an average price of $12.00 per M, this represents a total stumpage value of $3,266,382. In addition, over 30,400,000 feet were cut for wood pulp and other purposes. The logging, milling, and manufacturing of white pine furnishes employment to many thousands of workers. Undoubtedly it is the most valuable renewable natural asset of southern Maine. Its preservation through good management is essential to continued prosperity of the region. The virgin growth is gone but there are thousands of acres of reproduction which, if protected from fire, insects, disease, and improper cutting practices, will supply our future requirements.

Throughout the commercial range of white pine in this country and Canada, foresters and timberland owners are concerned over the presence of white pine blister rust. In order to establish control of the disease within the pine growing regions, the Federal Government, together with the various states, counties, towns, and individual timber owners, has been carrying on a cooperative control program. As far back as 1917, the State of Maine began a definite program of control. No one can say what the blister rust situation would be today if continued control efforts had not been made.

In Maine, this program is now conducted under a cooperative agreement between the Maine Forest Service and the Bureau of Entomology & Plant Quarantine, of the U. S. Department of Agriculture, together with town and private owner cooperation.

At the beginning of this biennium and continuing until October 1, 1950, the supervising federal personnel consisted of the

following: W. O. Frost, State Leader, with headquarters at the office of the Maine Forest Service, State House, Augusta, and three district leaders, viz., H. G. Bradbury, P. O. Building, Belfast; M. G. Calderara, 53 Court St., Auburn; and J. B. Pike, Jr., 40 Main St., Bridgton.

On October 1, 1950, W. O. Frost, retiring State Leader, terminated his services with the U. S. Department of Agriculture after 33 years of continuous employment on the blister rust program. Following a policy of reducing federal blister rust personnel in the Northeast Region, the office of State Leader was discontinued. A plan for combining the supervision of control work in Maine and New Hampshire under an Area Leader was put into operation. Headquarters were established at the office of the Maine Forest Service, in Augusta, with P. H. Simmonds as the Area Leader.

Under a mutual working agreement between the Maine Forest Service and the U. S. Department of Agriculture, the Federal Government agrees to furnish the educational and supervisory work; the state, towns, and to some extent, individual pine owners, furnishing the labor. Town appropriations are supplemented by state and/or federal funds. Under the Lea Act, Maine has received certain sums of federal money which are used chiefly to supplement town and state funds.

During the 1949-50 control seasons, 78 towns in 14 counties made $24,965.00 available for ribes eradication. Actual expenditures amounted to $22,490.22. Failure to utilize all funds was due chiefly to lack of suitable labor available to complete the work. The following table shows appropriations, expenditures, and acreages worked, by towns:

County and Towns	1949			1950		
	Appropriated	Expended	Acres Worked	Appropriated	Expended	Acres Worked
Androscoggin						
Greene	$300.00	$299.28	4,352	.....	.....	.....
Leeds	200.00	197.81	2,377	$200.00	$199.95	1,699
Lisbon	300.00	158.98	1,700	200.00	199.78	1,034
Livermore	200.00	120.68	2,027	200.00	199.84	1,350
Poland	300.00	300.00	4,897	300.00	299.87	1,962
Turner	200.00	122.77	3,139	200.00	200.00	2,486
Cumberland						
Casco	300.00	300.00	3,747	300.00	299.93	4,071
Cape Elizabeth	200.00	123.12	1,379	200.00	105.12	669
Cumberland	.....	.....	.....	300.00	299.96	5,980
Gray	200.00	199.33	1,936	200.00	200.00	2,256
Raymond	200.00	199.86	2,586	.....	.....	.....
Sebago	100.00	100.00	9,478	.....	.....	.....
Yarmouth	.....	.....	.....	300.00	285.56	1,880

County and Towns	1949 Appropriated	1949 Expended	1949 Acres Worked	1950 Appropriated	1950 Expended	1950 Acres Worked
Franklin						
Jay	.....	.....	.....	$300.00	$236.40	4,372
New Vineyard	.....	.....	.....	100.00	99.00	1,613
Hancock						
Orland	$200.00	$60.00	1,293	200.00	208.00	2,314
Kennebec						
Albion	.....	.....	.....	300.00	299.85	2,072
Belgrade	300.00	300.00	3,612	300.00	299.85	2,874
Benton	300.00	299.50	2,003	300.00	299.84	1,641
Rome	*200.00	.....	.....	.....	.....	.....
Sidney	*150.00	.....	.....	*150.00	149.75	1,478
Vassalboro	300.00	300.00	2,131	300.00	299.72	1,633
Vienna	.....	.....	.....	200.00	196.69	1,556
Wayne	100.00	98.39	2,305	100.00	99.99	1,132
Winslow	200.00	198.75	3,974	.....	.....	.....
Knox						
Warren	400.00	396.16	3,692	400.00	398.93	1,810
Lincoln						
Boothbay Harbor	.....	.....	.....	200.00	141.60	1,355
Bristol	150.00	147.75	1,330	.....	.....	.....
Edgecomb	300.00	295.13	3,386	.....	.....	.....
Jefferson	300.00	300.00	2,939	300.00	299.83	1,050
Newcastle	300.00	288.35	3,075	.....	.....	.....
South Bristol	200.00	200.00	998	.....	.....	.....
Oxford						
Bethel	.....	.....	.....	300.00	299.50	8,506
Dixfield	.....	.....	.....	100.00	56.00	4,007
Gilead	.....	.....	.....	200.00	199.50	3,576
Hanover	.....	.....	.....	100.00	99.20	1,473
Oxford	.....	.....	.....	400.00	396.60	4,107
Paris	.....	.....	.....	100.00	99.00	5,018
Roxbury	.....	.....	.....	50.00	48.00	1,321
Sumner	100.00	38.50	1,600	.....	.....	.....
Sweden	300.00	150.75	13,948	.....	.....	.....
Waterford	150.00	150.00	11,778	150.00	149.40	9,364
Penobscot						
Enfield	300.00	300.00	1,913	.....	.....	.....
Greenbush	100.00	100.00	855	.....	.....	.....
Lee	.....	.....	.....	300.00	299.42	1,825
Orono	300.00	299.60	2,806	.....	.....	.....
Piscataquis						
Brownville	.....	.....	.....	400.00	394.37	1,780
Dover-Foxcroft	.....	.....	.....	400.00	394.37	1,305
Guilford	.....	.....	.....	400.00	399.63	951
Milo	.....	.....	.....	400.00	395.26	888
Parkman	.....	.....	.....	100.00	100.00	735
Sangerville	.....	.....	.....	400.00	383.35	525
Sagadahoc						
Bath	.....	.....	.....	500.00	432.76	4,434
Bowdoinham	200.00	149.89	2,425	200.00	195.91	2,375
Georgetown	100.00	17.41	100	.....	.....	.....
Phippsburg	200.00	199.73	2,115	200.00	153.62	2,138
West Bath	300.00	299.72	4,767	.....	.....	.....
Somerset						
Bingham	200.00	199.50	716	200.00	199.87	1,991
Embden	300.00	299.93	2,451	300.00	300.00	1,125
Harmony	.....	.....	.....	300.00	299.41	1,665
New Portland	.....	.....	.....	400.00	399.75	1,520
Norridgewock	.....	.....	.....	400.00	398.60	2,085
Skowhegan	.....	.....	.....	400.00	399.38	2,218
Waldo						
Brooks	100.00	99.81	835	100.00	99.88	635
Liberty	.....	.....	.....	300.00	299.87	1,483
Monroe	100.00	99.73	765	100.00	99.82	1,250
Palermo	.....	.....	.....	300.00	299.31	1,739
Searsmont	.....	.....	.....	200.00	199.85	857
Waldo	100.00	99.71	856	.....	.....	.....
Unity	300.00	300.00	1,854	300.00	299.53	2,048

County and Towns	1949 Appropriated	1949 Expended	1949 Acres Worked	1950 Appropriated	1950 Expended	1950 Acres Worked
York						
Biddeford	.....	.....	.....	$500.00	$364.25	3,046
Buxton	.....	.....	.....	300.00	299.26	1,337
Hollis	.....	.....	.....	300.00	292.83	2,870
Lebanon	*$100.00	$44.00	3,212	.....	.....	.....
Old Orchard	*150.00	.....	.....	*150.00	149.52	2,736
Parsonsfield	300.00	45.00	9,894	.....	.....	.....
Wells	.....	.....	.....	300.00	196.50	16,614
York	*179.00	93.00	10,537	*86.00	85.10	301
78 Towns	$9,779.00	$7,992.14	141,783	$15,186.00	$14,498.08	148,135

*Held over from previous year

The following is a tabulation of all federal and state expenditures, including supervision, control area mapping, and overhead:

Year	Federal	State	Town	Total
1949	$36,357.07	$6,755.56	$7,992.14	$51,104.77
1950	39,537.92	7,747.96	15,240.73*	62,526.61
Totals	$75,894.99	$14,503.52	$23,232.87	$113,631.38

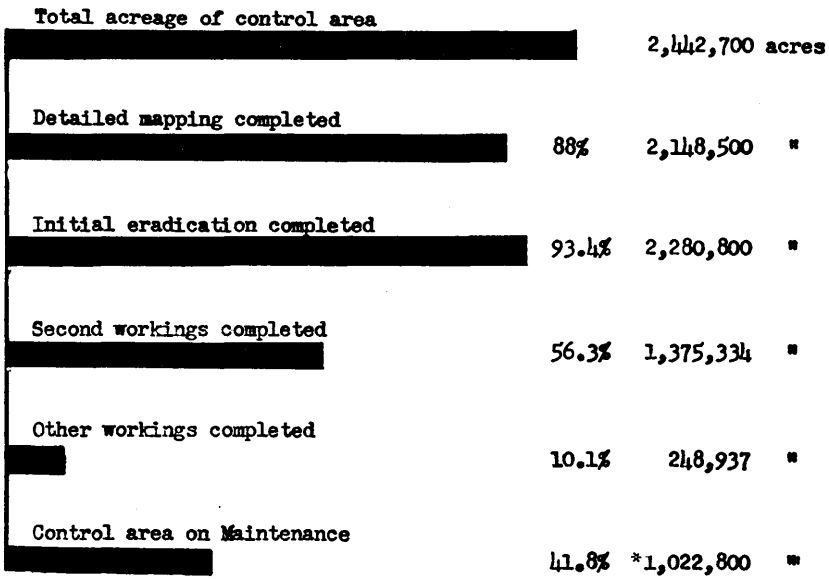
*Includes $742.65 contributed by private owners.

SUMMARY

	1949	1950
No. acres worked	*175,227	*149,599
" " pine protected	76,829	60,412
" ribes destroyed	354,590	536,726
Ribes per acre	2.0	3.58
Cost " "	$0.13	$0.22
Labor cost to government	$11,766.72	$12,689.54
" " " Towns	7,992.14	14,498.08
" " " State	3,275.98	5,116.80
" " " Individuals	—	742.65
Total ribes eradication cost	$23,034.84	$33,047.07

*Includes acres worked in non-cooperating towns

The following chart illustrates the present status of the control program:



*Areas on which ribes plants have become so scarce through eradication they are no longer a menace, and no further control work is anticipated for an indefinite number of years.

In order to conduct blister rust control work, type maps showing pine and control areas brought up to date are essential. This requires initial and remapping performed by trained mappers. Federal and state funds have been used on this project. Improvements in mapping procedure with the use of aerial photographs has resulted in increased accomplishments and reduced cost. New methods are being tried out in search of increased production in this field. As indicated in the foregoing chart, 88% of the total control area, or 2,148,500 acres have been initially mapped. Remapping has, in recent years, been performed by specially trained scouts in conjunction with the summer eradication program.

The blister rust disease has been distributed on pines and ribes throughout Maine for the past forty years. During the 1920's and 1930's, heavy damage occurred in unworked, young stands of pine and to some degree in merchantable pine. In a few years the young trees died, leaving many infected merchantable pine to continue the spread of the disease. Various studies have been made to determine the amount of infection on both controlled and un-

controlled areas. Invariably the results show effective control of the disease on areas where ribes have been removed. Current studies in young pine stands on check plots taken at random continue to prove that control can be accomplished by removal of ribes plants. Results of 60 sample plots taken in 36 towns in 14 counties in worked areas show approximately 3% average infection.

Each year the supervisory force renders a large amount of informational and service work through the press, service clubs, schools, granges, and private individuals, by use of radio, colored sound films, descriptive literature, field demonstrations, and temporary and permanent roadside exhibits. The 2.2-acre roadside exhibit on Route #137 in Belfast still attracts hundreds of visitors each year. In addition, 13 demonstration areas of a semi-permanent type were placed in 13 counties through the state. During the two years covered in this report, funds voted by cooperating towns were decidedly increased. This was the result of intensive publicity during 1948, followed by close cooperation between towns and blister rust personnel.

Each year the Maine Forest Service places a display at the Eastern States Exposition in Springfield, Mass. A white pine blister rust exhibit occupying a space of approximately 11 x 15 feet was part of this display. The exhibit material demonstrated the life cycle and resulting damage from infection. This affords excellent means for public contacts and distribution of descriptive literature.

Heavy cutting of pine, together with extensive burned over areas, has created need for an unusually large amount of remapping. For the same reason, new areas of white pine reproduction, together with a recurrence of ribes, have become established since the original control work was performed. The reworking of these areas is of prime importance since the disease can be most damaging to white pine in a reproductive stage.

The objective of the blister rust control program is to establish maintenance on a maximum of the control area in the shortest possible time. In order to realize this objective, increased towns, state, and federal funds must be made available. Reexamination is way behind needs, owing to insufficient funds being available in recent years. Present increased stumpage prices for white pine indicate a value trend which further justifies an increase in funds for this project.

Maine still has 161,900 acres needing initial examination and 1,067,407 acres need reexamination. The scope of the program during the next two years will depend entirely on funds available.

SERVICE FORESTRY

W. Robert Dinneen

Service forestry is conducted under a cooperative agreement with the Forest Commissioner, Maine Forest Service, and the Forest Service, U. S. Department of Agriculture. From 1943 to 1948 service forestry was financed 100% by the U. S. Forest Service. Due to a change in federal policy, this project could no longer be financed in this manner after 1948, and if the work was to be continued it would have to be financed 50% by the state and 50% by the federal government. This policy became law in 1949. Unfortunately, 1948 was a year that the legislature did not meet and consequently it was not possible to raise any state funds to continue the project. From 1948 to 1949 the money needed, in addition to the federal money, was financed by funds contributed to the state by private landowners, lumber, and pulp and paper companies in the area where the project had been located. These people had seen how successful this work had been in getting good cutting practices into the woods and benefits that followed such work. They were convinced that it was the answer to the problem that had long awaited solving. The legislature in 1949 appropriated $5,000 yearly to finance two projects for the ensuing two years.

These two projects cover York, Cumberland, Oxford, Androscoggin, and Franklin Counties, with headquarters in Bridgton and in Dixfield. W. Robert Dinneen has been in charge of both projects. Morris Wing served as forester from July 1949 to October 1950, with headquarters at Dixfield. Sumner Burgess succeeded him in October 1950 and is the present leader of the Dixfield project. The department was very sorry to lose Morris Wing who did an outstanding job in starting the project in a new area.

The purpose of this cooperative program is to provide specific in-the-woods assistance to the small woodland owner. Working with the owners the service forester assists in the marketing of the timber and marking the trees to be cut. If necessary, a management plan for the area is made covering all phases of handling the woodland according to good forestry practices. Information on planting, thinning, pruning, protection from fire, and grazing may be included in the management plan. Showing the owner how to carry out the various forestry practices and instructing

him in the procedures to be followed, and then checking to see that the recommendations are understood and are being properly applied, are also part of the work. To fulfill his duties properly, the service forester needs not only a forestry education and training, but must be well versed in all phases of logging and lumbering and must have a complete and intimate knowledge of all possible markets for forest products in his work area. Such work calls for highly trained and thoroughly experienced employees.

In addition to the above duties that are carried out with woodland owners that he contacts, the service forester also assists the County Agents of the Extension Service with their cooperators. He also does all the forestry work for the Soil Conservation Districts in his work area as they employ no foresters to do this work. He does all the contacting, instructing, and checking of farmers for the Production and Marketing Administration, U. S. Department of Agriculture, under their woodland practice program.

From the above description, it can be seen that the farm foresters' work is most detailed and involved. Because of this, the work area described can easily be seen to be far too large for two men to handle adequately. The recommended size for such projects is one county or less to a forester. Due to the great demand and need for the services in the area around the original small project, however, it was decided to enlarge the service area to its present size. By so doing it was planned to increase the forestry knowledge and practice over as large an area as possible on an extensive basis, even though it was realized that by so doing it would reduce the individual effectiveness essential to the ultimate success of the work, obtained by use of smaller working territories, until more funds and foresters are available.

In practically all states in Region 7 of the U. S. Forest Service, which covers from Kentucky to Maine, there is complete statewide coverage by service foresters. When it is considered that in very few states in this area does the importance of the timber crop to the state's economy even approach its importance to that of Maine, where 75% of the income is derived from the timber crop in one form or another, it is apparent that Maine is lagging far behind other areas in protecting and perpetuating its, and the nation's only renewable natural resource. Timber is a crop, but a long term crop. The mistakes in handling it cannot be corrected in one season as in other crops, but takes many years. The years

wasted while endeavoring to correct the mistakes can be disastrous to the economy of the state. The best solution is to prevent the mistakes from happening. With this thought in mind a program of developing service forestry projects in Maine has been suggested. Service foresters have been proposed, one for each county in the organized area of the state, with a supervisor in charge to work out of the Augusta office. This program will be introduced into the 1951 legislature. With the bulk of the timber ownership in the organized towns in the hands of small landowners who do not hire private foresters, but often allow their land to be cut destructively, the impetus to good forest management practices through this program is needed.

As an example of the work accomplished by the two projects in the year and a half that they have been under complete state supervision and 50% state financing, a few figures for the period ending December 1950 are given below. During this period 488 woodland owners requested and received assistance, with a backlog of 59 requests yet to be serviced. The area involved in servicing these 488 woodland owners was 27,884 acres of land. 6,830,000 board feet of timber and 1,805 cords of pulpwood, involving 2,151 acres of land, were marked for harvesting by the service foresters. The approximate stumpage return to the owner was $104,205, with a gross return, including his own labor, of $132,160. This was in return for $7,500 investment of state money. Most important, however, was that woodlots which have been marked for cutting and left with growing trees, which means increased growth rates. These lots, instead of being stripped by destructive logging practices, will continue to grow and produce another crop in a relatively short time, to give more work and more income to the area. On a stripped lot without reproduction, there is a minimum of 50 years, and more often closer to 100 years, before another merchantable crop is produced. In the meantime it does not produce income or give labor to support the owner or the area.

Timber is a crop, but a long term crop. This thought is worth repeating and considering seriously. We have only to look over the past few years to find many events that have occurred and conditions that have changed, that should arouse us from a complacent state of mind that there will always be a timber supply adequate for our industry's need in Maine.

First, we had the 1938 hurricane which blew down thousands of board feet of sawlogs and thousands of cords of pulpwood, a

great deal of which was salvaged. This was followed by ten years of heavy demand and cutting for the war effort and the housing and industrial boom that followed. Then the 1947 fires burned over approximately 130,000 acres of land. While much of this timber was salvaged, there will be a large percentage of this area that probably will not produce another crop of pine for the next 100 years. These are events of a physical and sometimes of an uncontrollable nature.

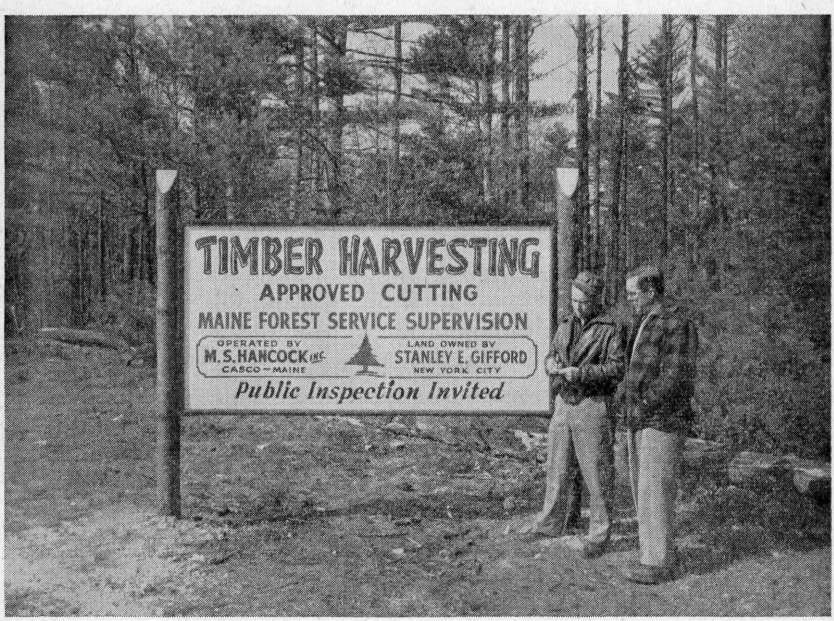
We also have man-made events that increase the drain on our forests. U. S. paper output is 70% greater than since before World War II, but demand is out-running supply. Consumption of paper products is at the rate of more than 400 pounds per person per year and is increasing all the time. Research and technical advances have increased the number of products from paper from 19 to 177 in the past 50 years and is constantly developing more. With Maine ranking third in the nation in production of wood pulp and seventh in paper and paper board, this tremendous drain cannot be taken too lightly. In our lumber industry locally produced softwood lumber has regained many of its former markets that have been lost for the past few decades to where it is becoming increasingly sought after. During this period when Northeastern softwood lumber was not in demand our timber was growing faster than it was being cut, giving rise to the thinking that it was inexhaustible. Within only this short decade of increased demand, the available supply of softwood stumpage has decreased tremendously, giving rise to perhaps a permanent sellers' market rather than the former buyers' market that existed.

In addition to the above, we now have two new threats to conserving our timber resources. The first and probably the most serious is the large and increasing demands the defense effort is going to make on our woodlands. High demand and high prices will tempt many owners into completely stripping their woodlands unless they are properly advised on their proper handling both for the present and the future. It has been definitely proven that wise forest management will return a higher income from forest property over a long period of time than the quick, sell, and get out policy that has been practiced so much in the past. The second is the new demand for white pine in the form of pulpwood. White pine is our primary sawlog product in Maine. It is the mainstay of the lumber industry.

The cutting of pine pulpwood indiscriminately would be a disastrous blow to the lumber industry as many of the young

stands that they are depending upon for the future crop could be stripped. Wise cutting and management practice of white pine stands would enable both of these products to be harvested so that the needs of the two industries could be completely satisfied. This would call for two types of cutting operations; the first would produce pulpwood as thinnings from woodlots too small for any other products, and the second would be an integrated operation which would produce sawlogs as one product and pulpwood from trees too small or not suitable for sawlogs. One of the largest pulp companies buying pine pulpwood is advocating this sort of cutting.

These two threats are not potential. They are here. They are now working. To harness them to our ability to produce will tax all concerned to the utmost. To prevent them from overwhelming our timber producing facilities will be a job that only good forest management can overcome. Good forest management can only come from an adequate staff of foresters in the woods; namely, a forestry program of state-wide coverage.



SCHOOL (Public) LOTS

Forest markets have been very active during the biennium.

Timber on school lots has been in great demand. The major handicap in managing school lots is that they are scattered over almost the entire state. This necessitates using forest fire personnel in their administration and management. Glen Tingley, Assistant Supervisor in the Central Division, has spent considerable time re-running lines and looking after sales. Joseph Stickland, Dispatcher-Draftsman, has in general looked after the surveying and boundary line work in the western part of the state.

The timber on the school lot in Macwahoc Plantation was marked by the Northeastern Forest Experiment Station personnel for proper protection against the spruce budworm attack, as well as timber harvest. Due to the opposition of the local assessors to partial cutting of timber, it has not been possible as yet to carry out the marking program.

There is a real complication in the management of school lots in organized plantations. This is because local assessors believe they should have the right to go far beyond what the law provides in the way of determining management of the lots. According to law, they have the right to determine whether stumpage prices are sufficient after the stumpage has been put up for bid. Quite often they believe they should determine who is to have the timber regardless of bids and how it shall be cut. Naturally, the department is very glad to have their suggestions, but when they go beyond that point it makes it difficult to sell the timber and administer the areas properly.

The school lot in T. 17, R. 5, Aroostook County, was set off in 1950.

The best possible program of management is being followed on school lots. As indicated, it is very difficult for the state to set a good example in management because of the scattered areas and the limited amount of stumpage available for sale on each area.

INCOME FROM PUBLIC LOTS

Calendar Years 1949-1950

	Stumpage	Leases	Other
Aroostook County			
T. 17, R. 10, WELS	$2,155.79	—	—
T. 18, R. 13, WELS	—	$10.00	—
Cyr Plantation	554.55	—	—
A R. 5, Molunkus	—	215.00	—
St. John Plantation	216.00	—	—
Reed Plantation	—	45.00	—
T. 16, R. 10, WELS	4,625.09	.67	—
T. 17, R. 5, WELS	—	17.36	—
Hammond Plantation	245.54	—	—
T. 17, R. 11, WELS	3,974.95	—	—
T. 10, R. 4, WELS	—	45.00	—
Winterville Plantation	—	240.00	—
Oxbow Plantation	34.00	—	—
Glenwood Plantation	—	75.00	—
T. 3, R. 2, WELS	—	20.00	—
Hamlin Plantation	31.04	—	—
Caswell Plantation	916.07	—	—
Franklin County			
T. 3, R. 4, WBKP	—	1,500.00	—
Letter E	—	240.00	—
Sandy River Plantation	813.49	—	—
T. 3, R. 3, WBKP	—	600.00	—
T. 4, R. 3, WKR	—	—	136.00
Coplin Plantation	152.76	—	—
Dallas Plantation	957.00	—	—
Hancock County			
No. 33 Plantation	—	10.00	—
T. 4, N.D.	—	7.50	—
T. 8, S.D.	75.25	—	—
Oxford County			
T. 5, R. 4, WBKP	—	29.00	—
T. 4, R. 2, WBKP	—	485.00	—
A No. 1, Riley	311.57	—	—
Andover North Surplus	1,017.92	—	—
T. 4, R. 3, WBKP	—	10.00	—
T. 4, R. 4, WBKP	—	10.00	—
Penobscot County			
Lakeville Plantation	3,366.98	—	—
Webster Plantation	2,530.51	—	—
T. 5, R. 8	—	20.00	—
Seboeis Plantation	300.00	—	—
Piscataquis County			
T. 7, R. 12, WELS	—	30.00	—
T. 2, R. 11, WELS	—	77.50	—
Elliottsville Plantation	—	50.00	—
Lakeview Plantation	2,059.91	—	—
T. 8, R. 10, WELS	—	2.50	—
Somerset County			
T. 3, R. 4, BKP, WKR	—	50,000.00	—
T. 3, R. 1, NBKP	340.23	—	—
Caratunk Plantation	2,137.31	—	—
Flagstaff Plantation	1,240.00	—	—
Bigelow Plantation	1,960.00	—	—
Dead River Plantation	800.00	—	—
Dennistown Plantation	—	75.00	1.00
The Forks Plantation	886.71	—	—
Washington County			
Plantation No. 14	220.69	—	—
Plantation No. 21, ED	1,195.79	—	—
Codyville Plantation	1,382.19	220.00	—
Lambert Lake	3,500.00	—	—
T. 18, M.D.	85.07	—	—
Total	$38,086.41	$54,034.53	$137.00

LAND OFFICE

The work of the Land Office continues to be an important function of the department. Reference is made to the old records when boundaries are rerun. This is especially true in northern Maine where several towns are doing work on the lotting of the towns. There is a constant demand for original field notes, plans, and information from these records.

Due to the fact that most of the records are very old, it is hoped they can be micro-filmed in the near future as a protection against loss from wearing out or fire.

The office force has been able to meet the demands for records by surveyors and town officials as they have come in to the office.

Islands have become of interest and importance in several areas. There is more or less a constant demand for information on the ownership of islands.

The Land Office maintains a record of all state-owned real property, as well as the old Land Office records.

STATE FOREST NURSERY

The Maine State Forest Nursery at Orono, Maine has been under an expansion program, to increase the productive capacity and quality of stock being grown, since the last biennial report of 1947-48. Three factors have been instrumental in bringing this about:

1. Increased demand for all kinds and species of forest tree-planting stock by the landowners of the state.
2. An increase of available federal funds with the state matching appropriations.
3. The progressive policy adopted by the Forest Commissioner's office in respect to the future of forests and a sound forest management program for the state.

Land Use

The utilization of all possible ground area at the present nursery site has been complemented by an additional area of more than an acre of very desirable land at Stillwater, Maine. This "nursery annex" is about two miles from the present nursery and will allow for the surplus of seedling stock to be moved into new transplant beds.

Buildings

The present physical layout at the main nursery headquarters includes an enlarged building, 20′ x 24′, with an office and work room on the first floor, and double the amount of storage space in the basement over that of the old building. It is planned to include a cold room for seed storage purposes and thus be able to encourage limited collection and processing of tree seed from select native sources.

Production

Other buildings have been enlarged for storage purposes to take care of the added equipment and machinery which has been procured to handle the anticipated increase in production. Production from about 50,000 trees shipped in 1948 to 500,000 trees in 1953 and eventually to a million is being planned.

Equipment

A tractor with plow and harrow will now eliminate much of the hand spading done in the past by the forestry students at the University of Maine. The nursery has always been maintained on a basis of hand labor since the first few beds of white pine seed were planted nearly 40 years ago.

Cultural Practices

The use of sawdust to reduce weed growth, maintain soil in place, control moisture loss, and improve the soil texture has been adopted along with application of liquid nitrogen supplements. This study has been undertaken in cooperation with the Forest Soils Department at the University of Maine.

Water

The assurance of a sufficient and controlled supply of water as needed throughout the growing season is guaranteed with the installation of an irrigation system to utilize water from the Stillwater River, which flows within 100 feet of the nursery site.

Nursery Species

The species of conifer trees that seem to do well within the borders of the state when grown on proper soil sites are: Eastern White Pine *(Pinus strobus)*, Norway Pine *(P. resinosa)*, White Spruce *(Picea glauca)*, and Norway Spruce *(P. abies)*.

There appears to be an increasing demand for other species—especially for the Christmas tree trade of firs, pines, and cedars. A very limited amount of hardwood stock has been experimented with such as oaks, butternut, and black walnut.

Wildlings

Some success has been obtained with the lifting of wildling stock from our University forest and farm forest woodlot areas in the vicinity of the state nursery and transplanting directly in the nursery for two-year periods. All trees sold from the State Forest Nursery, at Orono, are shipped to landowners within the State of Maine for the sole purpose of reforestation.

Appropriations

The annual nursery appropriation of $500 to $1,000 or less each year up until 1948 failed to guarantee the production of any large quantities. With a budget of $12,000 obtained from state and federal cooperation on a matching basis, the annual production should provide enough for all who request planting stock in the future.

TIMBER PRODUCTION

As a result of 1949 legislation, the department has obtained the timber cut during 1949 and 1950. One of our major jobs is to maintain an up-to-date list of timber producers.

Most producers did an excellent job of sending their information in by way of the mail. The balance was obtained by our warden force.

The department has attempted to obtain the figures early in order to send the summary to the producers promptly. The information has been helpful to many groups, especially timber users, in determining timber drain by species and areas. The 1949 and 1950 figures follow:

HARDWOOD LUMBER PRODUCTION IN MAINE—1949
In Board Feet

County	Birch	Maple	Beech	Oak	Ash	Basswood	Poplar	Elm	Mixed Hardwoods	Total Hardwoods
Androscoggin	1,050,005	261,868	200	505,024	26,787	49,825	—	200	—	1,893,909
Aroostook	567,690	3,015,128	529,542	358,000	125,232	162,781	14,824	27,050	138,882	4,939,129
Cumberland	1,480,591	115,000	112,840	768,116	2,224	85,493	—	1,200	—	2,565,464
Franklin	14,676,154	3,297,822	1,602,395	49,989	32,775	116,494	11,012	—	17,084	19,803,725
Hancock	319,000	2,000	—	17,500	4,000	—	—	—	131,427	473,927
Kennebec	1,038,380	215,000	118,590	361,500	19,000	129,000	3,000	16,000	79,000	1,979,470
Knox	214,862	76,602	55,026	170,628	2,538	—	—	2,400	3,846	525,902
Lincoln	143,140	31,773	16,850	494,750	2,800	2,000	—	—	—	691,313
Oxford	18,322,422	1,897,858	1,182,259	738,024	228,146	116,146	29,373	1,223	656,007	23,171,458
Penobscot	1,624,380	1,588,840	532,220	69,089	369,550	207,462	7,000	1,200	14,000	4,413,741
Piscataquis	5,164,712	2,217,539	100,847	30,423	362,099	333,151	—	3,000	15,000	8,226,771
Sagadahoc	6,417	1,702	868	33,295	—	—	—	—	10,020	52,302
Somerset	13,208,716	3,740,060	1,768,455	202,010	1,787,734	232,782	31,589	11,528	285,988	21,268,862
Waldo	371,553	89,520	36,202	201,500	156,000	29,500	16,920	1,000	225,000	1,127,195
Washington	672,395	62,620	29,645	78,247	2,700	—	—	—	—	845,607
York	1,197,350	124,838	129,100	989,822	57,132	—	—	—	326,405	2,824,647
Totals	60,057,767	16,738,170	6,215,039	5,067,917	3,178,717	1,464,634	113,718	64,801	1,902,659	94,803,422

Birch	63.3%	of total
Maple	17.7	" "
Beech	6.6	" "
Oak	5.3	" "
Ash	3.4	" "
Basswood	1.5	" "
Poplar	.12	" "
Elm	.07	" "
Mixed Hardwoods	2.	" "
	100%	

SOFTWOOD LUMBER PRODUCTION IN MAINE—1949
In Board Feet

County	White Pine	Hemlock	Spruce and Fir	Norway Pine	Cedar	Pitch Pine	Tamarack	Mixed Softwoods	Total Softwoods
Androscoggin	19,269,061	12,876,257	6,574,570	193,573	1,000	501,000	—	63,166	39,478,627
Aroostook	3,613,747	407,457	19,583,153	—	1,046,394	79,000	49,820	20,829,148	45,608,719
Cumberland	40,314,973	13,131,279	743,340	62,300	12,500	15,600	—	9,693,461	63,973,453
Franklin	5,729,642	2,170,343	1,181,325	25,000	29,500	—	6,000	—	9,141,810
Hancock	11,929,526	601,813	3,988,009	1,207,946	73,000	267,690	—	—	18,067,984
Kennebec	11,951,465	5,824,199	1,033,890	104,182	54,000	155,000	2,000	757,931	19,882,667
Knox	2,515,567	1,261,528	1,119,306	—	5,000	—	5,000	29,905	4,936,306
Lincoln	7,338,518	1,577,241	1,331,256	52,500	200	—	—	133,673	10,433,388
Oxford	51,798,354	12,640,413	1,100,822	225,849	—	—	2,000	10,000	65,777,438
Penobscot	11,606,255	2,535,054	2,246,635	1,142,389	779,104	120,000	12,500	68,500	18,510,437
Piscataquis	8,841,497	1,322,440	2,735,830	10,000	144,048	—	2,000	—	13,055,815
Sagadahoc	3,673,340	1,229,669	209,978	20,448	—	1,200	1,500	—	5,136,135
Somerset	9,558,702	3,518,553	1,818,657	11,500	203,350	1,400,000	9,000	732,134	17,251,896
Waldo	9,509,950	3,059,828	2,925,748	41,214	107,700	62,000	2,000	645,975	16,354,415
Washington	8,806,145	478,710	1,819,774	1,104,646	1,516,000	—	—	6,262	13,731,537
York	65,741,799	12,565,190	935,347	686,883	—	99,000	—	1,330,662	81,358,881
Totals	272,198,541	75,199,974	49,347,640	4,888,430	3,971,796	2,700,490	91,820	34,300,817	442,699,508

White Pine	61.3 %	of total
Hemlock	17	" "
Spruce and Fir	11	" "
Norway Pine	1.2	" "
Cedar	.9	" "
Pitch Pine	.6	" "
Tamarack	.02	" "
Mixed Softwoods	8.	" "
	100 %	

Rough Cords

County	Spruce & Fir	Hemlock	Pine	Hardwoods	Poplar	Total
Androscoggin	7,978	2,671	24,250	4,134.3	68	39,101.3
Aroostook	196,796.2	6,214	—	3,166.5	24,326	230,502.7
Cumberland	4,085	700	653	8,559	381	14,378
Franklin	68,831	4,223.4	7,412	10,458	1,412.2	92,336.6
Hancock	42,729	8,456.5	59	2,918	371.2	54,533.7
Kennebec	8,755.3	5,015.5	3,058	1,612.6	428.3	18,869.7
Knox	11,268.7	1,812.6	1,529	517.5	184.2	15,312
Lincoln	9,723.7	3,031.4	1,829	264	308	15,156.1
Oxford	30,380.8	9,910	6,588	41,320	698.5	88,897.3
Penobscot	98,940.6	37,653.2	5,406	20,352	9,113.4	171,465.2
Piscataquis	81,267	5,985.6	235.3	9,235	11,573.4	108,296.3
Sagadahoc	2,720	896	941	436	75	5,068
Somerset	191,568.5	5,610.7	737.5	30,001	9,876.6	237,794.3
Waldo	21,673.5	5,129.3	4,551.5	3,337	1,067.4	35,758.7
Washington	105,814.4	9,968.5	3,579	7,637	20,004	147,002.9
York	—	—	—	1,500	10	1,510
	882,531.7	107,277.7	60,828.3	145,447.9	79,897.2	1,275,982.8

HARDWOOD LUMBER PRODUCTION IN MAINE—1950
In Board Feet

County	Birch	Maple	Beech	Oak	Ash	Basswood	Poplar	Elm	Mixed Hardwoods	Total Hardwoods
Androscoggin	705,433	1,600	2,200	241,274	1,700	83,167	1,800	700	—	1,037,874
Aroostook	1,902,170	490,432	127,524	—	166,600	390,557	10,000	3,865	—	3,091,148
Cumberland	1,131,758	11,700	112,715	655,697	8,794	10,321	—	1,000	75,000	2,006,985
Franklin	8,124,403	1,725,454	370,171	40,570	1,259	159,179	32,648	—	—	10,453,684
Hancock	869,625	—	20,000	26,000	1,000	—	—	—	—	916,625
Kennebec	915,500	135,500	76,600	329,083	45,000	98,500	30,000	26,000	—	1,656,183
Knox	71,225	25,092	20,671	120,915	5,200	—	—	—	—	243,103
Lincoln	179,509	87,714	45,200	336,133	7,500	6,000	1,000	—	—	663,056
Oxford	11,757,856	1,634,345	3,066,282	672,901	99,341	15,174	106,883	1,000	145,646	17,499,428
Penobscot	4,337,781	2,778,565	2,281,000	99,898	976,527	272,000	13,500	10,500	6,000	10,775,771
Piscataquis	3,947,982	2,601,380	80,635	89,388	522,272	417,915	1,000	10,000	—	7,670,572
Sagadahoc	36,937	5,272	2,361	60,199	401	5,220	—	—	—	110,390
Somerset	3,845,829	1,415,480	243,375	126,936	481,906	474,209	109,900	26,523	17,177	6,741,275
Waldo	835,370	361,185	128,200	228,239	57,100	17,500	20,500	500	4,133	1,652,727
Washington	777,565	56,796	42,000	75,000	4,000	—	6,000	—	—	961,361
York	354,913	378,538	279,036	1,171,466	8,500	—	900	500	341,000	2,534,853
Totals	39,793,856	11,709,053	6,897,970	4,273,699	2,387,100	1,949,742	334,131	80,588	588,896	68,015,035
Per cent of total	58.5%	17.3%	10.1%	6.4%	3.4%	2.9%	.5%	.01%	.9%	100%

SOFTWOOD LUMBER PRODUCTION IN MAINE—1950
In Board Feet

County	White Pine	Hemlock	Spruce	Fir	Pitch Pine	Norway Pine	Cedar	Tamarack	Mixed Softwoods	Total Softwoods
Androscoggin	14,498,358	5,692,132	356,405	95,515	793,500	144,500	1,000	500	—	21,581,910
Aroostook	3,702,433	382,105	12,217,869	3,795,968	118,858	424,120	913,412	13,000	657,229	22,224,994
Cumberland	40,786,086	14,954,226	531,249	61,028	1,355,002	445,700	—	830	2,919,426	61,053,547
Franklin	4,442,213	2,977,725	106,455	91,000	—	1,033,000	10,000	4,000	—	8,664,393
Hancock	10,948,073	384,246	2,160,989	55,894	—	586,612	159,723	165,000	50,000	14,510,537
Kennebec	11,191,278	7,181,344	579,095	157,000	1,548,204	128,000	70,322	12,000	—	20,867,243
Knox	2,174,118	834,176	1,329,957	86,000	—	—	25,000	29,000	22,878	4,501,129
Lincoln	14,114,754	3,577,078	2,492,824	226,310	262,434	115,000	163,000	—	—	20,951,400
Oxford	53,645,165	18,338,022	2,042,799	402,115	1,187,000	574,369	17,000	11,200	—	76,217,670
Penobscot	14,498,340	2,998,002	2,275,016	330,981	460,000	898,568	1,194,218	27,000	53,830	22,735,955
Piscataquis	9,789,354	1,173,399	4,183,992	537,231	—	305,151	174,059	47,000	—	16,210,186
Sagadahoc	4,294,732	969,609	713,775	136,572	15,131	41,969	38,473	46	—	6,210,307
Somerset	12,138,705	3,814,116	1,601,415	749,673	770,283	66,000	413,542	8,950	42,919	19,605,603
Waldo	9,613,034	3,163,493	2,557,359	319,084	333,000	—	322,045	7,500	14,427	16,329,942
Washington	7,364,013	1,237,633	2,380,370	75,000	515,000	454,640	1,627,138	—	50,000	13,703,794
York	65,957,069	13,638,423	1,185,409	386,050	1,054,517	809,765	35,000	—	1,036,600	84,102,833
Totals	279,157,725	81,315,729	36,714,978	7,505,421	8,412,929	6,027,394	5,163,932	326,026	4,847,309	429,471,443
Per cent of total	65%	19%	8.4%	1.8%	2%	1.4%	1.3%	.07%	1.1%	100%

PULPWOOD PRODUCTION IN MAINE—1950
(In Cords)

County	Spruce and Fir		Hemlock		Pine		Hardwoods		Poplar		Totals	
	Peeled	Rough	Peeled	Rough	Peeled	Rough	Peeled	Rough	Peeled	Rough	Peeled	Rough
Androscoggin	2,070	3,192	445	2,295	2,541	18,682	—	8,595	109	59	5,165	32,823
Aroostook	95,691	192,366	7,430	500	—	—	625	2,612	9,348	5,126	113,094	200,604
Cumberland	1,186	1,936	—	635	—	2,296	—	21,444	—	8	1,186	26,319
Franklin	10,925	65,068	—	5,667	1,026	2,483	—	25,667	1,249	1,233	13,200	100,118
Hancock	16,760	5,735	493	5,450	325	—	200	4,564	1,694	106	19,472	15,855
Kennebec	1,864	4,711	3,300	2,773	474	2,952	1,010	8,911	1,305	12	7,953	19,359
Knox	1,587	3,988	1,421	116	540	—	—	290	441	5	3,989	4,399
Lincoln	2,365	6,399	2,382	154	145	50	—	70	755	19	5,647	6,692
Oxford	4,106	33,814	—	14,405	2,040	9,835	—	73,570	9	603	6,155	132,227
Penobscot	41,955	56,167	37,461	9,402	1,781	156	21,910	9,769	14,901	2,076	118,008	77,570
Piscataquis	28,738	78,258	3,781	4,333	75	2,245	2,845	8,493	8,697	1,957	44,136	95,286
Sagadahoc	1,524	2,212	445	139	—	2,733	—	412	109	2	2,078	5,498
Somerset	31,573	177,898	99	6,460	—	15	125	39,699	2,635	4,439	34,432	228,511
Waldo	6,231	5,645	1,671	3,441	550	—	40	6,876	1,955	305	10,447	16,267
Washington	44,575	40,808	3,925	2,681	1,700	—	1,115	3,100	9,113	8,290	60,428	54,879
York	—	41	—	15	—	47	—	16,691	—	—	—	16,794
	291,150	678,238	62,853	58,466	11,197	*41,494	27,870	230,763	52,320	24,240	445,390	1,033,201
Conversion of "Peeled" to "Rough"	342,529		73,945		13,173		32,788		61,553		523,988	
Total Rough	1,020,767		132,411		54,667		263,551		85,793		1,557,189	

EXTENSION FORESTRY

The extension forestry program is a part of the University of Maine Agricultural Extension Service. This program is planned to teach the farmer and small woodlot owner improved woodland management practices and better marketing of forest products. Assistance in this work is given through the County Agricultural Agents in each county. Fred E. Holt was forestry specialist until August 1949. Lewis P. Bissell has been forestry specialist since November 1949.

Newspapers and radio have been used as a means of getting wide distribution of information. A quarterly publication entitled "Forestry Facts" is sent to over 3,200 woodland owners and industry representatives. This publication carries information on markets and forest management. A monthly column of timely forestry information is prepared for the "Farm Bureau News."

Field meetings have been held to demonstrate good forest practices and discuss market conditions. Movies and slides are used as teaching aids at indoor meetings. Sets of slides have been prepared on forest management, maple syrup, Christmas trees, and home grounds landscaping.

Information and guidance are given to town officials in developing and managing forest lands owned by the towns as town forests.

The Extension Forester has prepared a series of four forestry projects for 4-H clubs. County 4-H club agents have organized several 4-H forestry clubs. 4-H boys from each county attended a three-day school in conjunction with the State 4-H Club Camp in Orono in August of 1949 and 1950. Pulp and paper companies buying wood in Maine assisted in this camp project with cash contributions.

A series of meetings is held each winter in the counties where maple syrup is an important crop. Assistance in management and production is given maple producers and the Maine Maple Producers Association.

Bulletins and other printed information are made available from the county Extension Service offices and directly from the University of Maine, Orono.

CIVIL DEFENSE

Many leaders on the national level have said that sabotage is probably the major civil defense problem at the present time. This probably makes forest fires the number one potential problem in Maine. The 1947 fires indicated, under the right conditions, how difficult they are to handle and what destruction can be caused by them.

Every attempt has been made to coordinate and cooperate with General Spaulding Bisbee, Civil Defense Director in Maine. Several of our wardens have served local and county groups by training civil defense workers in forest fire protection. The department believes its own training program, especially for large fires, is the best preparation it can make for civil defense. The expansion of the department's radio communication system should be of value not only to the department but possibly to other agencies and groups, in case of a disaster of any major proportion.

Four forest fire wardens have been attached to the so-called battalions under the Director of Civil Defense. It is understood that these men will be responsible and serve as leaders of squadrons in the event of a forest fire disaster.

KEEP MAINE GREEN

Arthur A. Hauck, President of the University of Maine, continued as chairman of the Keep Maine Green program in 1949. Roland Cobb was chairman in 1950. The Forest Commissioner acted as secretary for both years, as in 1948.

American Forest Products Industries, with headquarters in Washington, D. C., continued to be the national sponsoring organization. They supplied the state with Keep Green literature, but their largest contribution was the service of their District Manager, L. C. Rawson, located in Boston. He made a number of trips to Maine to assist the acting executive secretaries in each of the two years of the biennium. In addition to his field visits, he prepared three mimeographed bulletins on Keep Maine Green for use by county chairmen and schools. This was basic information regarding the forest products industries of the state and the forest fire problem.

Francis Landry, of Yarmouth, served as acting executive secretary of the program in the spring of 1949. His work did a great deal to encourage county chairmen in going ahead with an active Keep Maine Green program. During the time he was employed he visited every county chairman and in most cases held one and in other cases, a series of Keep Maine Green meetings. His work indicated the advisability of a person to permanently carry on this work. Volunteer county and community chairmen working on Keep Maine Green cannot be expected to keep the program active without encouragement and help from a coordinating standpoint. Mr. Landry's work did indicate the advisability of having a person well acquainted with the state and with forest problems.

In the fall of 1950, Norman Gray, of Fryeburg, served as acting executive secretary. He again contacted county chairmen and in a number of cases worked with community chairmen. Another feature of his work was contact with public utilities and banks. He interested telephone and power companies to emphasize the Keep Maine Green program for one month during the summer. He also made excellent contacts with the Maine Bankers Association and obtained their interest in supporting the program.

Several of the counties did an outstanding job with this program during both years. As a result of three years of the Keep

Maine Green program, it is evident that county chairmen should be men with a definite interest in the forest problems of the state, especially fire. This usually means a man connected with forest industries, or in public relations work such as radio and newspapers.

It is hoped that funds can be obtained to provide a full time or a part time person who will be able to carry on this program on a year to year basis. Changing the executive secretary each year tends to slow up the program, making repetition of previous work necessary.

The Keep Maine Green program has been of real benefit to the department in prevention work. The addition of many volunteer workers, provided by the program, has given the department a prevention program that would be impossible to carry on with its limited personnel. It has also opened avenues of contact with business and industry which are not open to public agencies.

KEEP MAINE GREEN

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