

# MAINE STATE LEGISLATURE

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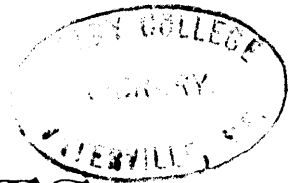
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# PUBLIC DOCUMENTS

OF THE

## STATE OF MAINE

BEING THE



# REPORTS

OF THE VARIOUS

PUBLIC OFFICERS  
DEPARTMENTS AND  
INSTITUTIONS

FOR THE YEAR 1918

VOLUME II

# DEPARTMENT OF STATE LANDS AND FORESTRY

1918



BULLETIN NO. 2

STATE OF MAINE.

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To His Excellency, Carl E. Milliken, Governor of Maine, and to all persons interested in forest fire protection and conservation of the forests of Maine, this bulletin is respectfully submitted.

FORREST H. COLBY,

*Forest Commissioner.*

## Department of State Lands and Forestry

*Land Agent and Forest Commissioner,*

FORREST H. COLBY, Bingham, Me.

*Deputy Forest Commissioner,*

NEIL L. VIOLETTE, Augusta, Me.

*Clerk and Stenographer,*

MILDRED KEENE, Augusta, Me.

*Assistant Clerk and Stenographer,*

LILLIAN J. COLEMAN, Augusta, Me.

*Director of Public Instruction in Forestry,*

JOHN M. BRISCOE, Orono, Me.



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**Fire Protection**  
**Maine Forestry District**

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# FINANCIAL STATEMENT

MAINE FORESTRY DISTRICT DECEMBER 1, 1918.

## RECEIPTS.

Balance on hand January 1, 1918 .....	\$33,203.35
1918 Assessment .....	83,255.72
Interest on deposit .....	103.79
Miscellaneous income .....	932.75
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Total receipts .....	\$117,495.61

## EXPENDITURES.

Expense of fire protection during season of 1918 (for detail see watershed expense) .....	102,701.39
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Balance December 1, 1918 .....	\$14,794.22

All bills that have been presented up to the date of this statement have been paid in full and a careful estimate of the bills that will be received and paid to December 31, 1918, does not exceed \$6,000.00.



STATE EXPENDITURES DISTRIBUTED BY WATERSHEDS--Dec. 1, 1918.

Watershed	St. John	Penobscot	Kennebec	Androscoggin	St. Croix Machias, Etc.	Total
Chief Wardens.....	\$5,452 45	\$6,250 81	\$3,167 36	\$374 98	\$899 47	\$16,145 07
Deputy Wardens.....	368 96	486 09	425 56	553 06	311 76	2,145 43
Lookout Expense.....	7,072 36	11,302 19	8,300 04	2,590 82	3,989 17	33,254 58
Patrol Expense.....	12,069 60	9,561 16	178 44	1,924 78	1,951 72	25,685 70
Fire Expense.....	403 77	950 52	454 95	1,609 44	2,841 10	6,259 78
Tools and Supplies.....	2,199 83	4,223 77	2,292 16	976 69	1,645 38	11,337 83
Administration Charges.	576 89	576 91	576 89	576 89	576 90	2,884 48
Miscellaneous.....	853 42	954 39	1,369 87	817 52	993 32	4,988 52
Total.....	28,997 28	34,305 84	16,765 27	9,424 18	13,208 82	102,701 39

## LOOKOUT STATIONS OPERATED.

		<i>Fires Reported by Same</i>
*Lead Mt.	Twp. 28 Hancock Co. ....	0
Pleasant Pond Mt.	Caratunk Pl. ....	2
*Attean Mt.	Attean Twp. ....	1
Tumbledown Mt.	Twp. 5, R.-6, W. K. R. ....	1
*Squaw Mt.	Twp. 2, R. 6, E. K. R. ....	2
Snow Mt.	Twp. 2, R. 5, Franklin Co. ....	2
*Mt. Bigelow	Bigelow Twp., Somerset Co. ....	4
White Cap Mt.	Twp. 7, R. 10, N. W. P. ....	3
Spencer Mt.	Middlesex Grant, Piscataquis Co. ....	4
Rocky Mt.	Twp. 18, R. 12, W. E. L. S. ....	7
Pogey Mt.	Twp. 4, R. 9, W. E. L. S. ....	2
Otter Lake Mt.	Twp. 3, R. 4, W. E. L. S. ....	14
*Mt. Chase	Chase Twp. ....	18
*Ragged Mt.	Twp. A, R. 9, W. E. L. S. ....	9
*Mt. Kineo	Moosehead Lake ....	6
*Mt. Coburn	Twp. 3, R. 6, B. K. P., W. K. R. ....	3
*Wesley Mt.	Wesley, Washington Co. ....	3
Depot Mt.	Twp. 14, R. 16, W. E. L. S. ....	2
Round Mt.	Twp. 11, R. 8, W. E. L. S. ....	3
Aziscoos Mt.	Lincoln Pl, Oxford Co. ....	2
Mt. Katahdin	Twp. 3, R. 9, W. E. L. S. ....	2
*Bald Mt.	Twp. 2, R. 3, E. K. R. ....	2
Kibbie Mt.	Twp. 1, R. 7, W. B. K. P. ....	1
Priestly Mt.	Twp. 10, R. 13, W. E. L. S. ....	6
Boundary Bald Mt.	Twp. 4, R. 3, N. B. K. P. ....	4
*Williams Mt.	Twp. 2, R. 7, B. K. P., W. K. R. ....	6
*W. Kennebago Mt.	Twp. 4, R. 4, W. B. K. P. ....	7
No. 4 Mt.	Twp. A. R. 14, W. E. L. S. ....	2
Cobb Mt.	Lee, Penobscot Co. ....	1
*Pocamoonshine Mt.	Princeton, Washington Co. ....	5
Tug Mt.	Twp. 30, M. D. Washington Co. ....	1
Beetle Mt.	Twp. 7 R. 10, W. E. L. S. ....	3
Horse Mt.	Twp. 6, R. 8, W. E. L. S. ....	2
*Boarstone Mt.	Elliottsville Pl. ....	9
*Joe Mary Mt.	Twp. A, R. 10 ....	1
*Cooper Mt.	Cooper, Washington Co. ....	10
*Musquash Mt.	Topsfield ....	4
Green Mt.	Twp. 4, R. 18, W. E. L. S. ....	0
Mucalsea Mt.	Twp. 5, R. 16, W. E. L. S. ....	5
Saddleback Mt.	Twp. 2, R. 1, W. B. K. P. ....	3
Double Top Mt.	Twp. 4, R. 10, W. E. L. S. ....	2
Nulhedus Mt.	Twp. 5, R. 17, W. E. L. S. ....	0
Norway Bluff	Twp. 9, R. 9, W. E. L. S. ....	3
No. 9 Mt.	Twp. D, R. 2, W. E. L. S. ....	4
*Hedghog Mt.	Twp. 14, R. 6, W. E. L. S. ....	5
*Three Brooks Mt.	Twp. 15, R. 6, W. E. L. S. ....	2
Speckles Mt.	Grafton, Oxford Co. ....	0
Spoon Mt.	Twp. 8, R. 7, W. E. L. S. ....	4
*Mattamiscontis Mt.	Twp. 3, R. 9, N. W. P. ....	8
*Squapan Mt.	Twp. 11, R. 4, W. E. L. S. ....	14
*Schoolic Mt.	Twp. 9, Hancock Co. ....	3

MAINE FORESTRY DISTRICT

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Hardwood Mt.	Twp. 9, R. 18, W. E. L. S. ....	0
Allagash Mt.	Twp. 7, R. 14, W. E. L. S. ....	0
Picket Mt.	Lang Pl. ....	1
Sonbongey Mt.		1
Bald Mt.	Twp. 42, Washington Ct. ....	0
Kellogg Mt.		0
Mitchell Mt.	Haynesville .....	0

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\*Federal stations.

REPORT OF FIRES BY PATROLMEN.

<i>Patrolman.</i>	<i>Territory.</i>	<i>County.</i>	<i>Total No. Fires</i>
Fred Long	Twp. 12, R. 17	Aroostook Co.	1
W. B. Robinson	Twp. A, R. 5	Aroostook Co.	1
H. F. Russell	Twp. 18, R. 3	Aroostook Co.	2
Frank Marquis	Twp. 15, R. 8-9	Aroostook Co.	2
Scott Adams	Twp. 3, R. 2-3-4 & A, R. 2	Aroostook Co.	1
Otto Hede	Twp. 16 and 17, R. 4	Aroostook Co.	4
Frank McMannus	Twp. 8 and 9, R 5	Aroostook Co.	2
Hubert Labby	Twp. 11, R. 16	Aroostook Co.	1
C. H. Fraser	Twp. 16, R. 5	Aroostook Co.	2
Joe M. Labby	Twp. 11, R. 6	Aroostook Co.	2
H. E. Huson	Twp. 10, R. 3-4; 11, R. 4	Aroostook Co.	4
Jos. Albert	Twp. 17, R. 4	Aroostook Co.	6
Henry Chassee	Twp. 17, R. 4	Aroostook Co.	2
Geo. W. Ripley	Twp. 16, R. 8; 17, R. 7-8	Aroostook Co.	3
Richard Witham	Twp. 12, R. 17	Aroostook Co.	1
			34
John H. Martin	Twp. 3, R. 1	Franklin Co.	6
M. W. Toothaker	Twp. Dallas	Franklin Co.	7
Chas. Goggins	Twp. Letter D	Franklin Co.	2
			15
Charles Todd	Twp. 12, R. 17	Somerset Co.	1
Merl Spencer	Twp. Seboomook	Somerset Co.	1
			2
Leo Griffin	Twp. Indian 3	Penobscot Co.	1
Jos. A. Lebel	Twp. 6, R. 7-8	Penobscot Co.	2
Carroll G. Sargent	Twp. 7 and 8, R. 7	Penobscot Co.	2
Reuben B. Chase	Twp. 7, R. 8-9	Penobscot Co.	1
			6
L. E. Nice	Twp. Burbank	Piscataquis Co.	2
Chas. Daisey	Twp. 5, R. 10	Piscataquis Co.	1
			3
Samuel Marshall	Twp. 5, R. 4-5	Oxford Co.	2
			2
			62

## FEDERAL CO-OPERATION.

As the general provisions of the 1916 agreement remain mutually satisfactory, a new contract was not required for this year. The text of the agreement will be found in the report of the Forest Commissioner for the year 1917.

The following tabulation will show the amount of money received from the U. S. Forest Service and the amount expended to date by this department under the different headings:

United States Department of Agriculture				
FOREST SERVICE				
Report of Expenditures on Watersheds of Navigable Streams				
State of Maine—Season 1918.				
KIND OF EXPENDITURE.	STATE		FEDERAL	
	Number	Amount of expenditure (salaries, travel, and other charges).	Number	Amount of expenditure (salaries only).
<b>State or Federal:</b>				
Collaborator.....			1	\$12 00
Lookout watchmen.....	36	\$14,758 77	22	7,482 00
Patrolmen.....	76	23,943 59		
<b>State Only</b>				
Firewardens, rangers, etc.....	38	17,922 37		
Fire fighting.....		7,166 47		
Construction work (lookouts, telephone lines, etc.)		31,314 29		
Administration charges.....		2,316 02		
Miscellaneous charges.....		5,279 88		
<b>Total to date.....</b>		<b>\$102,701 39</b>		<b>\$7,494 00</b>

The Federal allotment, as in previous years, was confined entirely to Lookout Stations, selected by the Chief of State Co-operation, as follows:

<i>Stations.</i>	<i>Number.</i>	<i>Watchman.</i>
Squapan Mt.	52	J. M. Potter
Three Brooks Mt.	48	J. M. Donahue
Hedhehog Mt.	47	Herbert E. Brown
Mt. Chase	13	Warren Darling
Joe Mary Mt.	36	R. E. Sewall
Coburn Mt.	35	P. J. Walsh
Kineo Mt.	15	Alice Henderson
Mattamiscontis Mt.	51	John Stanchfield
Ragged Mt.	14	George H. Monroe
Boarstone Mt.	35	T. H. Katen
Squaw Mt.	5	Eugene Arnold
Attean Mt.	3	Allen Runnells
Williams Mt.	27	Herbert Holden
Bald Mt.	23	Richard Morris
Bigelow Mt.	7	Lewis F. Marsh
West Kennebago Mt.	28	Kenneth F. Lee

Musquash Mt.	38	Warren A. Bailey
Lead Mt.	1	Hiram Corliss
*Pocamooshine Mt.	33	Roy M. Fenlason
Wesley Mt.	17	S. M. Hawkins
Cooper Mt.	37	Oscar Sadler
Schoodic Mt.	53	Howard L. Webb

\* Substituted for Tug Mt. Station.

In February a letter was written to all of the 1917 Federal employees in regard to their returning to their respective stations for the coming year. Practically all answered that they were ready to return, provided their salary was increased somewhat. According to the present law the salary of the deputy wardens is fixed at two dollars per day and subsistence. It was thought wise in the province of the Department to pay these wardens two dollars per day and allow them one dollar per day for board. In previous years they were paid two dollars per day and allowed fifty cents per day for board. This made an increase of fifty cents per day. Even at such a low salary all the Federal employees returned to their work in the spring except those that were called under the Selective Draft.

#### CO-OPERATION WITH THE STATE OF NEW HAMPSHIRE.

As in previous years, the watchmen of the Maine Forestry District were furnished with a list of watchmen and wardens in New Hampshire, with post office address and telephone connection. They were instructed to be on the lookout for fires across the State boundary and should a fire be discovered to get into communication with the watchmen and wardens in that territory.

Patrolmen on the Magalloway River, the Valley of Big Meadows and Hammond Brooks were employed and paid jointly by the Maine Forestry District and New Hampshire Timberland Association.

#### CO-OPERATION OF THE RAILROADS.

As usual, all the section foremen of the different railroads in the State, whose divisions are in the Maine Forestry District, were commissioned as Deputy Forest Fire Wardens. These men were not called upon to do any work except during the month of May and the first part of June.

We are greatly indebted to all the railroads of the State for their hearty coöperation with this Department in the protection of our forests from fire.

### SLASH.

As last year, instructions were given to the Chief Wardens that especial attention should be paid to the disposal of Slash along side of all roads, according to the Law. In some instances where it was difficult for the owner, for various reasons, to get at the burning of such slash the department went ahead and burned and the cost was divided equally between the State and the owners. Letters were written to the County Commissioners and Road Commissioners asking them to coöperate with us in regard to the so-called Slash Law.

### FOREST FIRES.

According to our records, 271 fires were reported by our wardens and watchmen during this past season. Of these, 52 required the services of men outside the regular force. At one time in May a dozen big fires were raging in different parts of the State and just as they seemed to be beyond the control a heavy rain fell and they were extinguished at very small expense. We should mention here the fires which started on the railroad near Moosehead Station, Somerset County, two in the town of Wesley, Washington County, and two in Franklin County.

### SUPERVISION.

Carlton W. Eaton, Associate Professor of Forestry at the University of Maine, was re-appointed inspector. He was unable to finish his work on account of being called to the colors, but the most important stations were inspected. On receipt of his reports at this office a copy was sent to the chief wardens, who were instructed to comply with the recommendations as closely as possible.

FOREST FIRES 1918 IN MAINE FORESTRY DISTRICT.

Township	Date	Acres	Cause	Damage
Twp. 8, R. 4, Aroostook Co.	May 25	150	Lunch fire	\$100 00
Twp. 2, R. 3.	May 26	5	Fishermen	50 00
Macwahoc	April 28	15	Unknown	
Twp. C, R. 2	May 25	40		500 00
Twp. 15, R. 7	June 3	150	Brush fire	500 00
Twp. 17, R. 4	June 3	3	Unknown	75 00
Twp. 8, R. 4.	June 3	25	Fire left in ground	50 00
Twp. 10, R. 7	June 19	4 rods sq.	Sportsmen smoking	
Twp. 1, R. 5.	May 20	2 (bog)	Pulp peelers	
Twp. 13, R. 6	Aug. 28	4	Unknown	75 00
Twp. C, R. 2	June 29	1	Sparks, camps	
Twp. 12, R. 17	Aug. 19	5	Brush fire	500 00
Dallas, Franklin Co.	May 9	2	Freight train	
Twp. 3, R. 1.	Aug. 19	5	Spark, train	5 00
Twp. 3, R. 1.	Aug. 25	1-8	Berry pickers	
Twp. Letter D	Aug. 23	15	Berry pickers	
Twp. No. 9, Hancock Co.	April 27	65	Fishermen	
Twp. No. 7.	April 27	60	Unknown	
Twp. No. 8.	May 16	75	Freight train	300 00
Twp. No. 8.	May 25	15	Freight train	
Twp. No. 22	May 15	75	Fishermen	100 00
Twp. No. 16	May 26	2	Fishermen	
Twp. No. 7	May 25	1	Freight train	25 00
Twp. No. 8	July 1	10	Unknown	30 00
No. 21 Plantation	June 5	1000	Unknown	1500 00
Twp. No. 21	June 5		Unknown	
Twp. 4, R. 1, N. D.	June 4	100	Unknown	300 00
Twp. 4, R. 7, Penobscot Co.	June 24		Woodsmen	
Twp. 6, R. 7	June 11	1	Cigarette stub	
Twp. 6, R. 7	June 5	1	River drivers	
Indian Twp. No. 3	April 29	5	Locomotive	
Schoodie Brook	April 28	3	Unknown	
Twp. A, R. 7	June 3	1	Match	
Lakeville	June 6	1-8	Unknown	
Twp. No. 2	June 5	10	Unknown	100 00
Twp. 6, R. 7	Aug. 21	3-4	Lightning	10 00
Twp. 1, R. 6	Aug. 23	2	Campers	30 00
Rainbow Lakes, Piscataquis Co.	June 18		Unknown	
Burbank	Aug. 20	2	Campers	50 00
Twp. 4, R. 10	Aug. 28	250	Woodsmen	
Twp. 7, R. 9	May 24	15	Spark, locomotive	120 00
Twp. 7, R. 9	June 3	1-2	Spark, locomotive	25 00
Attean, Somerset Co.	April 29	10	Spark, locomotive	50 00
Twp. No. 5	May 19	5	Lightning	
Soldier Town	July 20		Unknown	
Chase Stream Town	June 6		Unknown	
Sapling Town	June 21	10	Railroad	2000 00
Cooper, Washington Co.	May 19	5	Unknown	25 00
Twp. No. 27 E. D.	May 25	20	Unknown	120 00
Twp. No. 26	May 20	100	Unknown	200 00
Kossuth Pl.	June 2	1	Unknown	1 20
Twp. No. 27	May 25	75	Unknown	
Indian Township	June 6	1½	Unknown	100 00
Twp. No. 27	June 3	60	Unknown	250 00
Wesley	May 18	1200	Unknown	
Forest Station	June 4	15	Railroad men burning ties	75 00
Wesley	June 4	200	Unknown	
No. 14 Plantation	June 2	1	Fishermen	25 00
		3820 +		\$7291 20

## SUMMARY OF FOREST FIRES 1918 IN MAINE FORESTRY DISTRICT.

County	Acreage	Damage
Aroostook.....	400	\$1850 00
Franklin.....	22 1-8	5 00
Hancock.....	1403	2255 00
Penobscot.....	24 1-16	140 00
Piscataquis.....	267 1-2	195 00
Somerset.....	25	2050 00
Washington.....	1678 1-2	796 20
	3820+	\$7291 20

### EDUCATIONAL WORK.

Besides the 10,000 tag posters containing the Laws and useful information in regard to forest fires, this Department has put out 8000 metal signs which will prove more substantial. A big danger sign four feet long by two feet wide was put out this year, which can be seen on all cross roads and main roads leading to the forests of the State. Some of these were strung on wires across the road and others were posted on the side of the road. It is well to state here that the Kennebec Valley Protective Association has distributed a series of very attractive and effective posters through the extensive forest territory which is covered by its membership.

### PERMANENT IMPROVEMENTS.

The detail of the building of the steel tower at Kineo Mt. was completed and the State should be proud of such a station, as it is the best fire station in the country.

#### STEEL TOWERS ERECTED.

STATION	WATERSHED	HEIGHT IN FEET
Ragged Mt.	Penobscot	36
Round Mt.	"	48
Doubletop Mt.	"	24
Otter Lake Mt.	St. John	48
*Center Mt.	Penobscot	16

#### WOODEN TOWERS ERECTED.

Squa Pan Mt.	St. John	26
Bald Mt.	Machias	55
Mt. Mitchell	Penobscot	38

\* Not completed.



The steel for the following stations was purchased this year and will be erected next season.

No. 9 Mt.	St. John	36
Passadumkeag Mt.	Penobscot	36
Moxie Bald Mt.	Kennebec	16

During the past season the Department has built about forty miles of telephone, erected eight new camps, and two store-houses. Thirty-eight telephone instruments were purchased and installed and seven tests sets were added to the service. A twenty-five horse-power motor boat capable of carrying twenty-five men at any time was purchased and placed on Chesuncook Lake.

#### STATION MAPS.

The twenty panoramic maps which were started last season have been completed and installed on the stations. Our engineer has sketched for the following stations: Depot Mt., Round Mt., Doubletop Mt., Ragged Mt., Mattamiscontis Mt., Pocamoonshine Mt., Musquash Mt., Attean Mt., Kibbie Mt., Horse Mt., Tumble-down Mt., Snow Mt., and Mt. Chase.

These maps will be finished this winter and will be ready for the stations the coming spring. We have spent this year in preparing and making permanent improvements over \$31,000.00.

#### INVENTORY.

The Department has, this fall, taken a complete inventory of all stations, camps, tools, telephone instruments, telephone lines, that comprise the system of the Maine Forestry District. We submit the following tabulation which we think is very conservative.

## INVENTORY.

Watershed	Lookout Stations	Camps	Telephone Miles	Telephone Instruments	Tools	Total
	No.	No.	No.	No.		
St. John.....	15— \$7,100	27— \$3,975	242— \$4,850	47— \$940	\$4,374 75	\$21,239 75
Androscoggin.....	5— 1,850	4— 700	18— 360	8— 160	813 75	3,883 75
Kennebec.....	14— 8,500	13— 1,800	194— 3,880	60— 1,200	7,803 65	23,183 65
Penobscot.....	20— 6,450	24— 4,300	190½— 3,810	66— 1,320	6,549 65	22,429 65
St. Croix, Machias, etc.,	8— 2,900	5— 800	109½— 2,190	35— 700	1,783 75	8,373 75
Totals.....	62— \$26,800	73— \$11,575	754½— \$15,090	216— \$1,320	\$21,325 55	\$79,110 55

## REPORTS FROM CHIEF WARDENS.

HOSEA B. BUCK, Bangor, Chief Warden, Northwestern part of Aroostook County:

To carry on the work successfully over so large a territory the following active Chief Wardens were appointed as follows: Grover C. Bradford, Ervin L. McKenney and Fred A. Lancaster. By active, I mean these men were on the work continuously during the season and were held responsible for the efficiency of the patrol in the special territory which was assigned to each.

SEC. I. Grover C. Bradford, St. Francis, Maine, covered the watersheds of the St. Francis River in Maine; the Little Black River in Maine; the Allagash from its mouth to Umsaskis Lake; and the St. John River from the mouth of the St. Francis River to the mouth of the Big Black River. Mr. Bradford lives at St. Francis, where he has switch connection with all the woods telephone lines and with the Fort Kent Telephone Co. lines and the New England lines. It is usually very easy to get into telephone communication with Mr. Bradford from our Bangor office; and through him, Mr. Ervin L. McKenney, Chief Warden on the Upper St. John, can be reached, which makes it possible for me to keep in close touch with the greater part of this territory. Mrs. Bradford was allowed one dollar per day to attend to "switch connections" at St. Francis, and the service thus rendered very materially added to the efficiency of the service.

SEC. II. Ervin L. McKenney, Sebago, Maine, was located on Twp. No. 14, R. 16, close to the Canadian Boundary and on the road leading from St. Pamphile, P. Q., to Seven Islands farm on the St. John River, in Twp. No. 13, R. 15. This section covers the Canadian Boundary adjoining Twps. Nos. 15, R. 15; 14, R. 16; 13 R. 16 and 12 R. 17; the Big Black River watershed in Maine; and the St. John River from the mouth of Big Black River to the northwest branch of the St. John River. After several years' experience on the patrol we feel that there is but little fire danger on the St. John River in this section. During the summer season the water is usually at a low pitch, not easy to traverse with canoes. For this reason we have not during the

past season maintained a patrol on this river. To offset this favorable condition in this section, we have some 28 miles of the Canadian Boundary which is nearly always a source of danger. The Canadian farmers in clearing land often burn during a dry period and with a westerly or northwesterly wind, our Maine forests are dangerously exposed. But it is not only fair to state that during the past few years the Canadian Government, through its Forestry Department, has done much to reduce this fire danger.

SEC. III. Fred A. Lancaster, Old Town, Maine, was located at the Eagle Lake end of the "Tramway" connecting Eagle and Chamberlain Lakes. This section covers the watershed of Eagle Lake, Chamberlain Lake, Telos Lake, Churchill Lake and Allagash Lake and stream. Mr. Lancaster connects with Ralph L. Brick, Chief Warden, at Mud Pond, and with John E. Mitchell, Chief Warden, at Telos Lake. As will be seen by reference to this territory, the patrol consists practically of lake work. On Chamberlain Lake a motor boat has been used during the past three summers and adds greatly to the efficiency of the system.

FIRE LOOKOUT STATIONS. In this territory we have five lookout stations as follows: 1. On Depot Mt. in Twp. No. 14, R. 16, Aroostook County. This station is a 60 ft. steel tower built in 1914, replacing a platform station in a high spruce tree. 2. On Rocky Mt. in Twp. No. 18, R. 12, Aroostook County. This station was originally built in 1907, at the expense of those owning land in that immediate vicinity. In 1917 a new log tower was built on another bluff of this mountain. From the two bluffs a view can be obtained in all directions. 3. On Soper Mt. in Twp. No. 8, R. 12, Piscataquis County. This tower was originally built of logs in 1909. In 1916 it was rebuilt of logs. 4. On Priestly Mt. in Twp. No. 10, R. 13, Piscataquis County. This is a log tower built in 1910. This is the best log tower we have in this territory. It has a house on the top for the watchman. It commands a good view of a large area in all directions. 5. On Allagash Mt. in Twp. No. 7, R. 14, Piscataquis County. This is a log tower built in 1916. The log towers are in good usable condition. At best, the life of a log tower is limited to but a few years. The location of the towers at Allagash Mt., Soper Mt. and Priestly Mt. almost precludes the possibility of erecting steel

towers. It appears to be a question of replacing with log towers as conditions demand. The steel tower at Depot Mt. was repainted in 1917 and is in good condition.

**CAMPS.** There is a camp at each of the lookout stations, in which the watchmen live. The Department also owns camps built for the use of the patrolmen, located as follows: At the Castonguay settlement, so called, on the St. John River, in Twp. 16, R. 12; at the mouth of the Big Black River; on the westerly bank of the St. John River, in Twp. No. 15, R. 13; on the westerly bank of the St. John River, about one-half mile below Seven Islands farm in Twp. No. 13, R. 15; near the Canadian Boundary, on the road leading from St. Pamphile, P. Q., to Seven Islands farm, in Twp. No. 14, R. 16; at English Lake in Twp. No. 12, R. 17; on Round Pond, on the Allagash River in Twp. No. 13, R. 12; on Umsaskis Lake in Twp. No. 10, R. 13; and on St. Francis River in Twp. No. 20, R. 11 and 12. Of these camps, those on Twps. 14, R. 16, 12, R. 17 and 10, R. 13 are fitted with the necessary equipment for permanent occupancy. The others are used but temporarily by the patrolmen. They are so located as to be convenient as temporary stopping places.

**TELEPHONE LINES.** The following telephone lines are owned by the Department: St. Francis to head of Glazier Lake in Twp. No. 18, R. 10, a distance of 10 miles; Dickey, at mouth of Little Black River in Twp. No. 16, R. 11, to Rocky Mt. station in Twp. No. 18, R. 12, a distance of 15 miles. Dickey, as above, following the St. John River to the St. John farm, so called, in Twp. No. 14, R. 14, a distance of 30 miles. From camp on Twp. No. 14, R. 16, to English Lake camp on Twp. No. 12, R. 17, following the Canadian Boundary, a distance of 13 miles. From camp on Twp. No. 14, R. 16, to Depot Mt., on same township, a distance of 4 miles. Other telephone lines on the Allagash and St. John Rivers and lines connecting these rivers are owned partly by the Department and partly by the various lumbering interests and land owners. These lines have been built from time to time, and have been used in common.

**FIRE FIGHTING TOOLS.** This territory, at the beginning of the Forestry District Service, was furnished with a fair equipment. No suitable places were provided for the storage of the tools with the result that a large part has been stolen or lost.

**EXPENSE OF PATROL.** During the season of 1918, the expense of patrol and lookout stations in this territory has been \$9,200.00, approximately. This amount deducted from the tax assessed to lands in this territory, \$11,766.34, leaves a balance of \$2,566.34. Were it possible to foretell what the season was to be it would have been possible and safe to have maintained a smaller patrol, and thereby had a larger balance at the end of the season; but in this remote section experience has taught that an adequate patrol has to be established at the beginning of each season, and maintained throughout, with the exception of a possible reduction of the force in the latter part of the summer. From personal experience with this territory during the past fourteen years, I do not feel that adequate protection can be given these lands at a less cost; and with the increase in wages and supplies I cannot see why the cost is not going to be greater in future years.

**FIRES.** This territory has been entirely free from forest fires the past season. While the patrolmen have extinguished many camp fires in their inception, no fires of any consequence have occurred. I want to call attention to the extreme good will and hearty coöperation of the people who live near or within this vast territory; and the lumbermen and the crews of men working in the forests. To my mind, based upon personal observation and contact with these people, a very great part of our success in this fire prevention work should be accredited to these people. Without this honest, hearty coöperation our small force of patrolmen, for such a large area, would be dealing with a difficult proposition. The telephone lines have been repaired during the season. In general the lines have been in good working order.

**RECOMMENDATIONS TELEPHONE LINES.** As the most important feature of our protection system, as it appeals to me, is our lookout stations and our telephone lines, I wish to submit the following for your consideration: As I have stated earlier in this report, the Department owns certain lines of telephone and the lumbermen and land owners own certain other lines. In the past these lines have been used in common but under no definite arrangement between parties. This may or may not give satisfactory service. I have been familiar with this condition since the first telephone line was established on those rivers and I know what the service has been. With the increasing fire risks from

logging operations and with the many differently owned lines, I think some definite arrangement should be made whereby all interests would be better served. With your approval I will, during the coming winter, take this matter up with all parties interested and endeavor to get an agreement under which all the lines will be kept in good working order and be available for the use of the Department during the summer season. The expense of establishing and maintaining such an arrangement will be as nothing when compared with the increased efficiency it will add to the service.

**NEW TELEPHONE LINES.** We have never had telephone connection between Eagle-Chamberlain Lakes section and the Allagash section. It seems almost necessary that a telephone line be built connecting Soper Mt. station with Priestly Mt. station. The distance I estimate to be 15 miles. With this line these two stations could be of great assistance to each other, and the whole surrounding territory better protected. There should also be a telephone line from Chesuncook through to Chamberlain Farm on easterly shore of Chamberlain Lake in Twp. No. 7, R. 12. I am not certain as to the best route for this line, but am inclined to favor following the canoe route to Umbazooksus Lake and the carry road to Mud Pond; from Mud Pond across Twp. No. 6, R. 12, to Telos Dam, where connection could be made with the line of Lincoln Pulpwood Co.; running from Trout Brook Farm in Twp. No. 6, R. 9, to Chamberlain Farm in Twp. No. 7, R. 12. I would estimate this would require the building of some 10 miles of new line. It would be the connecting link between two large forest areas and is much needed.

**MOTOR BOATS.** On Chamberlain Lake the Department has a 23 ft. dory with a five h.p. Mianus motor. This boat has proven conclusively that canoes on these large lakes are entirely inadequate. I would suggest that for Chamberlain Lake a larger power boat be provided,—one capable of carrying 18 or 20 men, with fire fighting equipment. With such an addition, the boat now used on Chamberlain Lake could be put on Eagle Lake and used to patrol Eagle and Churchill Lakes in a more efficient manner and at less cost than in the past with canoes. The motor in the boat at Chamberlain Lake has been in use several years and needs a thorough overhauling. I have arranged to have this done during the winter so it will be ready for use next season.

**LOOKOUT STATIONS.** The stations are well located and equipped with field glasses. What is needed badly are maps for use on each station. We have furnished the watchmen with copies of our general map, but these maps are not complete in detail, and show none of the elevations, a feature so important for the guidance of the watchmen.

**TOOL BOXES, ETC.** During the past season, Mr. Bradford has built tool boxes, of heavy material, and painted red with proper marking. These boxes were made by one of his patrolmen during the wet periods. Another season we should plan to have more of these boxes made and have them located at convenient points, properly supplied with tools, so as to be available for immediate use in the case of fire. In this way, we can prevent the loss of the tools.

In closing I want to call attention to a condition with which you are familiar, and that is the material increase in the cost of labor and of supplies. If this condition exists another season, it seems to me a larger allowance per man will have to be made if we are to get the right kind of men for this service.

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J. M. BROWN, Eagle Lake, Chief Warden, Fish River Territory:

Nine fires were reported from the Lookout Stations, eight of which proved to be small camp and brush fires, excepting one at Portage, which started at the head of the lake, the origin of which cannot be ascertained. The damage was very slight, being in the second growth. A large crew of men from the Portage Lake Mill Co. got on the ground before the fire had got much headway, and it was under control in a short time.

A new patrolman's camp was built at Wallagrass Lake, size of camp 14 x 16, 9 ft. posts, roof and walls boarded one tier of boards, shingled and painted all over, and equipped with cooking stove and set of cooking utensils, blankets, (2 cot beds and some bedding belonging to the patrolman). Telephone in camp. Repaired the telephone line seven miles to Wallagrass Station, which was in very bad condition.

Erected six miles of telephone line from the main line in Eagle Lake to Birch River Dam, on Township No. 16, Range 8. Installed a telephone box in lumber office of the Fish River Mfg. Co. The Fish River Mfg. Co. paid for the labor bills putting in



this line, the State furnishing costs of location, wire, insulators, etc. We have had good service over all the lines during the season with the exception of the line from "Cooper's Camps" to the head of Eagle Lake, which has been somewhat troublesome on account of it being all a woods line and falling trees have broken down the wire several times.

The Lookout Station at Hedgehog Mt. No. 47, is in good condition and furnished with all necessary equipment, except map and alidade. All tools are stored in camp at foot of mountain.

I would recommend that a Lookout Station be erected on DeBoulie Mt., Twp. No. 15, Range 9. This would overlook the valley of the Big Fish Lake and Big Brook country so that it would not be necessary to have patrols there. This mountain is bald stone and a low tower eight or ten feet high would be sufficient, with a camp at foot of mountain for watchman, and the material for building same should be hauled on the site on first snow roads this fall.

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JAMES M. PIERCE, Houlton, Chief Warden, E Plantation, Hammond Plantation, C. & D. R. 2, Aroostook County:

After a dry spell during the last of May and first of June, the woods kept pretty damp except for about two weeks in the summer. The first of the season we found a few fires left by fishermen, and in the summer we had one little fire that caught near a lumber camp, but the first part of the season we had to watch sharply, as there were a good many choppings that were burned, so that crops could be planted.

In Township E, Range 2, there were some bad fires but luckily the rain came in time to save them from spreading. In Monticello we had to put on a crew of men to stop a fire from crossing into Township C, Range 2; but in most cases we notified the selectmen and called on the party who set the fire, told them what the law was and had no further bother. I had the watchmen notify me whenever a fire was started and I called up the selectmen that they might know and so have somebody watch the fire.

The improvements that we have made this year consisted in taking down about two miles of wire and transferring it to connect with another camp. By this change we shortened our line nearly three miles and thus secured much better service. We

also, during a wet spell, sent the patrolmen and watchmen to repair and bush out a line that went into a lumber camp where a watchman was kept. This line had become more or less troublesome and as it led right into our district it seemed advisable to repair it, as the State's two men had caught up on their work and had been promised straight time. We were also given two instruments, one we put into the watchman's camp and the other in a camp about half way to Harvey where two other main tote roads join the trail to the Station. This enabled the patrolman to call the watchman without waiting until he got to the camp on the mountain or sent to Harvey.

This year I kept the patrolman with the watchman, so that they could work together on the line in bad weather and when it was dry it seemed the central part for the patrolman to be located, and also, it kept him every day in touch with the watchman, so that he could investigate anything that seemed dangerous. Also, I found that the watchman was much more contented if the patrolman camped with him. This enabled them to take turns about cruising and watching, which they did.

When the State can afford it, it would pay to put a steel tower on the mountain; beyond this, we seem to have very good equipment. Of course we hope to have a table with a new map, as I think it would be a great aid in locating fires.

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CLAUDE M. AUSTIN, Guerette, Chief Warden, Northeastern part  
Aroostook County:

We have had no fires in my territory this season and I am glad that has been so, and while the season here has been favorable we have worked all the time and have done all we could to have the work go on; through August only had one patrolman; it was the dryest month of the season, but we had no trouble.

Lost three men by the draft this season and the watchman will not be with us next season and it will be a case of all new men.

IMPROVEMENTS. Have painted the tower and put in new table and cleaned away the base of the steel work as recommended by the Inspector, and have cleaned out along the telephone line from Winterville to the head of Eagle Lake.

The telephone has given the best service this year that it has since it was put up and it has done remarkably well considering

where it runs and with the wet weather we had at the first of the season.

Have repaired the road from Guerette to the Chief Warden camp at Cross Lake and it is in good shape. —

Have put in insulated wire at camp at Guerette and lightning arrestors. Made a few minor repairs on camp and also on watchman's camp at Three Brooks Mt. Put in small heater in tower and it was a good thing there. Have a good outfit at watchman's camp and at Chief Warden's camp, and have tools enough there for any ordinary occasion.

RECOMMENDATIONS FOR NEXT SEASON. Would like to change the telephone line from the Lookout Station on Twp. 15, R. 6, to Winterville so as to do away with the switch at J. P. Yexas camp, Twp. 16, R. 5, as it is a great inconvenience at times and it does not give the watchman a clear line in time of emergencies. Would recommend that a small camp be built at Madawaska Lake for storing tools and also to be used by the patrolman. Need insulated wire for Lookout Station and watchman's camp and lightning arrestors. There is a lot of pulp cutting in this territory, and would advise a patrolman on Square Lake and on Twp. 16, R. 4, all through the season if it is any way dry. The camp at Guerette needs to be shingled and could be done in slack time by the force without any extra expense for labor. Need two new telephone boxes as have no spare one now.

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CHARLES L. WEEKS, Chief Warden, Aroostook and Big Machias Rivers:

The first work of the season was the discontinuance of the Lookout Station on Hedghog Mountain, taking down tower, dismantling and burning camp, reeling up telephone wire, and taking all material that could be worked into new Lookout Station to new location on Squapan Mountain. Here we erected a 26 ft. wooden tower, with canvas house on top, hung telephone line from tower to head of Squapan Lake, built camp for watchman 14 ft x 16 ft. with 6 ft. piazza, cut trail from Squapan Lake to tower, and cut trail from B. & A. R. R. on west side of lake to shore of lake.

The telephone service for this station could not have been better. It was connected with toll line direct at Presque Isle Central. Mr. J. M. Potter was a most efficient watchman.

We put much work on the telephone line running from Ashland to Round Mountain. This was an old line and very badly broken. We cut out all bad joints, made new connections and soldered them. We took down that part of telephone line running from Machias Lake to American Realty Company's road, rehanging on this road back to crossing of Machias River, thus shortening line to Lookout Station about five miles.

We erected a 48 ft. steel tower on top of Round Mt. with house on top of tower, cut new road to top of Mountain, cleared out old tote road to American Realty Company's road, spotted trail from mountain to 25 mile camp on American Realty Company's road, cleared out trail to Rowe Lake, painted house on tower, also tower, and canvas house. This telephone line did not give entire satisfaction, as we had a good many crosses with American Realty Company's wire. I have just got through taking down and reeling up State wire running on the Realty Road and will recommend another change for next spring.

The watchman for Round Mountain, Ira D. McKay, is capable, vigilant and very trustworthy.

We repaired and cleared line from Oxbow to Norway Bluff, taking it away from flowage on Munsungan Lake and hanging on high ground. Erected house on steel tower on Norway Bluff, painted house and tower, cut out and mowed trail from tower to Munsungan Lake.

Much trouble was given watchman and patrolmen at this point by pulp operators connecting their telephone lines with State line, thus overloading State line. I can highly recommend Watchman Fred R. Johnston, who has served in this capacity for three seasons.

I have taken down and stored all large signs that they may be rehung next season. Some of these signs are badly shot up and I would recommend that some law be made whereby offenders may be punished for defacing, tearing down or otherwise destroying any fire notices.

I would also recommend that fire notices with the State laws in regard to building or setting fires on forest and timberlands be printed in Russian and Polack, as a good many men of these Nationalities are employed in the Maine woods.

I recommend that the telephone line running to Round Moun-

tain be connected with line running to Machias Lake at what is known as McKeen Crossing, as Round Mountain can be reached with about four miles of wire running southwesterly from this point, thus cutting out about thirteen miles of wire as it run this year, and avoiding any trouble of crossing other companies' lines. I recommend that a telephone line be hung from Sterling Ridge at the east line of Masardis to the foot of Squapan Lake, about four miles, to connect with patrolman's camp at this point. I recommend that each section foreman whose section runs through forest or timberland be appointed Deputy Forest Fire Warden.

I recommend that a telephone be installed at Round Mt. Lookout Station and wire hung to connect with American Realty Company's line, near foot of Rowe Lake. This Lookout Station overlooks practically all of the Realty Company's Road from Ashland to Musquacook Lake, and watchman should have direct communication with camps located on this road.

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S. C. CUMMINGS, Haynesville, Chief Warden for Southern Aroostook:

I have the honor to submit my annual report of my Fire District in the southern part of Aroostook County.

First, I built a Lookout Fire Station on Mt. Mitchell in Haynesville, Aroostook County. It is built of wood, 16 feet square on the ground, about 38 feet high, 7 feet square at top end, stayed with telephone wire in first class shape so the wind cannot blow it over, and it gives a great view of the surrounding country. You can view the county south 25 miles, east 20 miles, north the whole county to Mt. Chase in Penobscot County, which is about 38 miles west beyond Benedicta, which is 25 miles, and is a very fine Lookout Station.

The season started in with fine weather and was quite dry, but there were very few fires, the last part of the season was wet; I also built a telephone line to the Lookout Station and repaired the old line to the State Camp on East Branch River and cleared trail to build telephone line 7 miles next year.

Everything is in first class shape for next year. The large metal signs to hang over the roads are a great help to the fire department as it tells everybody who goes under the signs to be careful. I think the whole system of signs is the best we ever

had, and the public pays more attention to them, as they are something new and they take notice of them more than they did the small paper ones.

I have done my best to make the district work satisfactory to the Forest Commissioner. I had photos taken of the Lookout Station with the Stars and Stripes flying on a 20-foot flag pole, which can be seen a long way.

I have plenty of tools to fight fire with and they are distributed around in my district so any fire started can be seen to at once. I do not think any State has a better forest fire system than the State of Maine. At this time everything seems to work in harmony. The people as a rule this year seem to take more care in putting out their dinner fires by the roadside and on the brooks while fishing than they did years ago, because they see the large signs and read them and have seen the effects of large forest fires, and I sincerely hope in years to come that everybody will see as we see, no forest fires in our great Forest of Timber destroyed by fires such as we had in 1903.

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R. L. BRICK, Chesuncook, Chief Warden, Chesuncook Section :

The season of 1918 has been very successful. No fires have occurred and very few district fires reported from the Lookout Stations. The conditions of the country has made help scarce but I have been able to obtain competent men. My lookout man on Sonbungy Mt. was called into the service in July, so I dispensed with that station. Also the man at Spencer Mt. Lookout entered the service in August and I had to place new men on that station. All other patrolmen stayed until the end of the season, which closed in this section Sept. 25th.

The Great Northern Paper Company should be classed as a branch of the Maine Forestry District. The management, superintendents and employees have rendered every available precaution and assistance obtainable to the service, and the same is highly appreciated by your Chief Warden.

I find that all sportsmen and their guides are using more precaution in regard to their camp fires and all other inflammable material. The woodsmen have also realized the necessity of saving our forests from fire and are more precautious in preventing the same.

There have been for improvements in this section a new motor boat, 39' long, 8'-3" beam, built of oak-cedar planking and has a cabin. Same is equipped with 12 H. P. 4 cylinder Gray engine with high tension magneto, also life preservers, etc. This boat will carry 20 men with their fire fighting tools in any wind in these waters and I consider it a necessity as well as a good investment. On account of unavoidable circumstances I was unable to get this boat into Chesuncook waters for service until July 11.

There has also been built at Chesuncook Dam a boathouse and storehouse combined. This building is 48' long and 16' wide. The foundation is of hewed lumber with rock bearings. The walls are 7' high, built of peeled logs stood on end and securely braced. The roof is raftered 3' apart, square pitch and covered with boards planed on one side, also heavy roofing with all seams cemented and snugly nailed; all nailing has a coat of cement and the roof also has had a coat of paint. There is 1' eave projection and gables the same. There has been a set of boat ways built of hewed lumber 80' long, also a cradle 26' long. The boat has been given one coat of paint inside and outside and has been stored with the tools and the equipment at Chesuncook Dam in building built for same. There have been shutters built for Mt. Spencer Lookout of  $\frac{1}{2}$ " matched pine and put together with screws. There have also been added to the service some tools and telephone equipment replacing those that were lost in a fire last spring, cause of same uncertain; also have added spreads, blankets, pillows, stoves, furniture, dishes, etc., same being listed in the inventory. A complete inventory has been taken of all tools and equipment, where stored, etc. The tools are all in A1 condition and as good as when bought.

**SUGGESTIONS.** There should be a station built on Sonbongy Mt. and the material for same landed this coming winter. A telephone line connecting Soper Brook operations with Sourdnhunk and Double Top Mt. Lookout, distance 5 miles, would be a great improvement as that would connect Double Top, Sonbongy and Spencer Mt. Lookouts, and with the use of a range finder the watchman could inform the Chief Warden the exact location of the fire and save delay in his reaching the same. A telephone from the head of Chesuncook to Chamberlain would be of great value as that would connect a great link in the number of towns now included in the Maine Forestry District. I consider Chesun-

cook Dam the most available place for your Chief Warden's headquarters and I suggest that a suitable cottage or camp be built for same. There are a few smaller improvements that would be well to consider another season as tool boxes, etc.

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D. H. LAMBERT, Old Town, Chief Warden, Seboomook territory:

In addition to the general repairs on lookout stations and telephone lines which have to be made every year, I have built a new line from Green Mt. Lookout to the North branch connecting with driving line, and now we have an independent line of our own after the driving season from Green Mt. to Pittston Farm, distance of about fourteen miles. Have also built a Chief Warden's camp at Seboomook Dam, and this camp is about in center of territory and has telephone connection to all parts of the district.

I would recommend for another year that some dishes and bedding be bought for lookout camps. During the past season we have had some trouble in locating fires where people have been burning brush and old abandoned camps and I would suggest that this matter be taken up with the lumbermen and other interested parties, that before burning any of the above they should do so when conditions are favorable and also notify the nearest warden of what they are going to do.

As my territory extends in some places to the Canadian border it has caused us some trouble in locating their fires as they are burning brush almost the entire season. If there is any way this matter could be taken up with the Canadian Government, there should be some restrictions in regard to the time they should burn this material.

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THOMAS GRIFFIN, Millinocket, Chief Warden, Lower Lakes, West Branch of the Penobscot River:

Repaired old line between Norcross and Perkins, taking part of load from Jo Mary line, which has given us best service we have ever had on this line. Put a steel tower on top of Double Top Mt. and hung telephone line to same and installed telephone instrument, making this mountain, I think, one of the best Lookouts in this section. Bought a canoe for patrolman at Nahmakanta Lake and one for the watchman on Jo Mary Mt. to use



getting in supplies and getting out with mail. At this place in the early season when the drive is going by there is no other way to get to the mountain than by crossing Cooper Brook or Cooper Pond. We put a telephone in Potter's camp on Jo Mary Lake. Bought a bicycle to use patrolling 1 R. 7 and A. R. 7, and we added to our outfit this season a soldering outfit which enables us to solder when repairing lines. Our watchmen were furnished with Colt's revolvers. We also added a set of binocular glasses to our outfit.

Would recommend a steel tower for Jo Mary Mountain not less than fifty feet high and one on some high point of land not far from Millinocket. With these lookouts the patrol could be cut down and still get better protection. I never knew the good there was in a steel tower until we had this one installed on Double Top. The fact that the watchman has a good place to stop in has a tendency to make him a better watchman. With a steel tower on Jo Mary and one somewhere near Millinocket, I think our force could be cut down to at least three men and get good results.

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E. M. CHASE, Brownville, Chief Warden, Sebouis and Schoodic Lake territory:

With your instructions I visited Passadumkeag Mountain in March to investigate the advisability of erecting a tower on that Mountain. From observations, I reported favorable and recommended a No. 3 tower (steel). I am of the opinion that it will be one of the best lookout stations in the State, especially if the Maine Forestry District takes in incorporated towns for protection.

In April you instructed me to build a cabin for lookout man on Borestone Mountain. The cabin was built and ready for occupancy by the time it was needed. The cabin is 12 x 12, with roof projecting over front end 8 feet, making a piazza. This cabin is situated in a very beautiful spot, in a spruce grove, at the head of a ravine. It is very handy to water, also only 15 minutes' walk to lookout. It is well furnished and a very comfortable cabin.

In June the tower on Mattamiscontis was finished, which was started late last fall. This makes Mattamiscontis one of the finest lookout stations in the State.

In July we began the erection of the tower on Ragged Mountain, and in ten days from the time we started it was all up. For a small mountain this is a wonderful Lookout. Both Mr. Monroe, on Ragged, and Mr. Stanchfield, on Mattamiscontis, are very much pleased with their towers. The expense for erecting these towers was very small, as the work was done by our regular crew and no outside help was employed.

In years past the State has paid the telephone company \$100 per year for use of lines from the different lookout stations to Brownville. This year, by arrangement with Mr. Mason of the Moosehead Tel. & Tel. Co., we did away with that expense, or the greater part of it, by taking over the keeping in repair of certain of their lines for their use, which has proved a saving as well as better service. It seems to me that the State should own the line between West Seboeis and Brownville, a distance of 19 miles, and make arrangements with the R. R. Co. to string it on their poles. I understand that in some sections of the State this is done by paying so much per hitch. There is a short piece of line between Cedar Lake and Ingalls Siding owned by Mr. F. M. Smith. This line connects Mattamiscontis line with the Ragged Mt. line and West Seboeis lines. The purchase of this short piece of line would make an all State line between the two mountains and as far as West Seboeis, and with the above purchase of the West Seboeis to Brownville it would make an all State line to Brownville. It would be very convenient if the calls could come direct to the Chief Warden's house rather than through the several centrals. In the White Cap section there has been part of the time we have had poor service. Most of the trouble could be eliminated by either having a plug machine or one more box at Chadwick's. There are three lines coming in there, and we have to depend on them for switching and they being very busy most of the time cannot give it the attention they would otherwise. This can be overcome by an extra box. One other improvement would be to restring wire on White Cap, making the line shorter. The lines in many places have been restrung for the purpose of keeping them brushed out better. Taking all the line that is kept in repair in my territory, there is about 150 miles of which the State owns some eighty miles. The season has been very favorable for protection of forests.

The Maine Forestry District has very efficient men in their lookout men, as well as linemen, and it is a pleasure to recommend them all for next season.

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J. B. ROSIGNOL, Grindstone, Chief Warden, South End East Branch of the Penobscot River:

We have cut a trail 9 miles long from the East Branch of the Penobscot to Millinocket Lake. We have repaired the camp and cleared the yards around the camps. The large hanging signs which were hung up last spring were all taken down and stored away at my place.

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JOHN E. MITCHELL, Patten, Chief Warden for Upper East Branch Waters of the Penobscot River:

On the 11th day of March we started the erection of Center Mt., but on account of the snow going fast had to quit. The Lookout House to be placed on the steel of this Mt. was built at Patten. During the month of April all our telephone lines were given a thorough going over and put in good shape before the season was started. We had to set up some new poles on the Mt. Chase line and the tower house on Mt. Chase was painted and the line between the cabin and said station was completed. The following cabins were erected during this season: One at Haybrook for the patrolmen, size 12 x 14; another on Webster Lake, size 14 x 14; another at Beetle Mt., 14 x 14, and another at Millimigassett Lake, size 14 x 16.

During the first part of May we finished repairing all the lines. A road was cut from Beetle Mt. to the foot of Moose Pond, 1½ miles, and a new trail was spotted. Two miles of telephone was built from the north side of Webster Lake to Norway Point and a new wagon road was started from Scraggly to McDonald's Cove, on Millimigassett Lake. This work was done by the patrolmen during wet weather. A new trail was cleared from Millimigassett to Sawtell Pond. This fall we have completed the erection of Center Mt. with the exception of the tower house which will be completed early next spring.

FIRES. May 27th a fire was reported on 6 R. 7 at Signal rock. Burned over about 1 acre. Patrolman George Dubay located the

fire and with a few men put it out, with no expense to the State and no material damage. My idea is that a river patrolman on all drives is very necessary.

August 21st I was notified of a fire at 6 P. M. between Sawtell Brook Bridge and Seboeis Farm. This fire burned about  $\frac{1}{2}$  or  $\frac{3}{4}$  of an acre with small damage. The cause of this fire is unknown. Entirely out in about 46 hours.

August 28th, while going to Pogey, I discovered a fire in an old stub up under the old Black Brook Mt., about 2 miles from Black Brook. This stub was struck by lightning.

September 9th I was notified of a fire on Wissattaquoik Lake on 4 R. 10. It burned over 8 or 10 acres. It started where the big Pogey fire started on June 2, 1915. This fire burned in the turf, which was composed of rotten wood, burning from one inch to two feet deep among the rocks. For two days after I got there the wind blew a gale from the south. The only way to successfully fight this fire was by carrying water. This gave me the idea of the sap yokes.

After making all inquiries I cannot find that anyone was known to be near this place at that time. It might possibly have been set by lightning. Cause reported unknown. If the Center Mt. Lookout had been erected this fire would not have got the start it did before being discovered.

**SUGGESTIONS.** I would suggest that the road be finished this fall between Millimigassett and Scraggly and also to build a line from Millimigassett to the mouth of Munsungun River, 6 or 7 miles, of wire, to connect with Munsungun line. That connects at Arbo and would therefore be in communication with Chief Warden Weeks.

Also that the matter be taken under consideration of building a telephone from Patten to Trout Brook Farm, and to build a Lookout on Lunksoo's Mt., as when Center Mt. is completed with Lunksoos Mt. as Lookout, Pogey Mt. Lookout could be discontinued as Lunksoos would look down around Grindstone.

By picking up old wire we could build a line from Beetle Mt. to lower Moose Pond and put in a box for emergency calls; and that the Beetle Mt. line be restrung on the new road cut this year from Beetle to Upper Moose Pond to connect with Eagle Lake line about 2 miles from the swing camp, cutting off about three

miles of wire and therefore cutting out some of the repair work.

Would suggest that the old fields around Paul Gagnon's old camps be burned over very early in the spring as there is about 80 or 100 acres that would make a good fire trap. Hay and Lane Brook Farm should be burned over every year or two.

Would suggest also that we have a tool box at my home for fighting fire for 30 men. By having this outfit here it would take care of this whole section. Also have a box at Grand Lake Seboeis for 30 men. There is an old set of camps at Grand Lake Seboeis not in use and as the land owners will do all that they can to help out, we should have these camps to store this stuff in and in case of emergency we would have a place for our men and a place to store canoes.

We should also have a box at the head of Second Lake and one at McCarty Camps to take care of the country up there.

I would like to suggest that there be at least 100 of the sap carrier yokes made. These would enable a man to carry two pails of water with greater ease than he could carry one without these yokes. The Pogy fire on 4 R. 10 has given me the idea that these sap yokes are the most essential things for getting water to a fire.

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LÉROY BROWN, Chief Warden, Passadumkeag River Territory:

I don't know of any improvements to be made here. The Lookout Station you sent for Passadumkeag Mt. is stored at Enfield at Mr. Frank Tuck's. I would recommend a chief fire warden being appointed for Burlington another year, if the station is started another summer, as it would be so much nearer the station. Would recommend Earl S. Page or A. W. Bradbury of Burlington as Chief Warden.

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FRANK W. HILTON, Bingham, Chief Warden, Upper Kennebec Region:

The season has been very favorable and few fires have occurred, only two of any account, one on Chase Stream town and one on the Canadian Pacific R. R. at Somerset Jct. Through the hot, dry spell of July and August all lumbermen in my territory were notified to allow no smoking in the woods and to this they willingly complied.

During the season I have strung new telephone line from Troutdale to Landers Siding, which makes an independent line to run to Pleasant Pond Mt. This is a great improvement as it relieves the heavily loaded line from Troutdale to Hollingsworth & Whitney camps at Bald Mt. R. R. Station. I have also built a new line from the Lookout on Bald Mt. to the logging camps on the east side of the mountain. I have had the underbrush cut out on all trails during the season. I have put a new stove in the Lookout on Bald Mt. to replace the old one that was damaged by lightning a year ago. Everything is ready for erecting the new steel tower the coming spring. I would recommend, as I have done before, that the Maine Forestry District have an independent line of their own from Lake Moxie to The Forks, as they have to keep up and maintain the line now used.

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LOUIS OAKES, Greenville Jct., Chief Warden, Moosehead Lake Region:

All patrol and lookout service was discontinued for this season on or before Oct. 1st., as the continued wet weather made conditions safe to do so. I have had three lookout stations in operation in my territory during the season of 1918.

KINEO MT. STATION. On the summit of this mountain there has been erected a modern steel tower which commands an unobstructed view of nearly the entire shore line of Moosehead Lake and watersheds of the several tributaries which flow into the Lake. This station, during the past summer, has been under the immediate charge of Miss Alice Henderson, and her work there has been faithfully performed.

IMPROVEMENTS. Would recommend digging and walling up a well for a water supply at this station and to purchase a pump suitable for this location.

SQUAW MT. STATION. In the early part of the season this station was under the immediate care of Mr. Frank P. Conley, who has performed very efficient work on this mountain for the past several seasons. In the early summer Mr. Conley was called for army service and other men were commissioned to fill his position for the balance of the season. This station is equipped

with a commodious living camp for the use of the watchman in charge of this station, which is situated on the trail leading to the lookout, about one-fourth mile from the summit of the mountain.

IMPROVEMENTS. For future improvements would recommend the building of a roofed-over tower placed at the summit of the mountain. A tower 15 to 20 ft. in height would answer for this location, as the summit of the mountain is quite barren. Also the building of a new telephone line from the Maine State Hatchery to the summit of the mountain, as the line now in use has been installed for a number of years and is a much lighter wire than is used on the main line.

LILY BAY MT. STATION. This station during the past summer was under the immediate charge of Mr. Melroy C. Dolloff. The living camp at this station is situated about one mile from the summit of the mountain, which is the nearest point where water can be obtained for camp use. This station covers a territory in the Roach River and Wilson Pond section that is not safely overlooked by the other stations.

IMPROVEMENTS. For permanent improvements a tower should be built about 30 ft. in height which will enable the watchman to get an unobstructed view of the low ground in the territory covered for the lookout. It will be possible to get timber material for the building of this tower adjacent to the lookout, if wood is used.

During the past season the Slash Law requiring the removal of all waste material accumulated in the cutting of the forest growth adjacent to railroad or highway in my territory has been generally complied with and a proper distribution made of inflammable material cut within the 50 ft. limit.

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J. B. COMBER, Caratunk, Chief Warden, East Side Kennebec River, Somerset County:

There has been quite an amount of rain fall during the past season, still it could not be called a wet summer. There were frequent showers, but there were not any long rains until into early autumn.

My territory was posted with fire notices. The Lookout men were well furnished with equipment, and the telephone lines were

put in good condition. Trails were rebushed out. Each of the watchmen were furnished with some new dishes, and each had a new cot bed and mattress. Also a new cook stove with stove pipe was purchased for Mt. Coburn. There was a new board floor laid in the sleeping camp on Pleasant Pond Mt. Each of the towers were furnished with a new table, glass, and maps, and both towers had new telephone instruments installed. The towers were painted on the outside. The fire station boxes along the Canada Road have been newly painted, and the tool boxes properly filled with tools. There has not been a fire in my territory this summer. There were a few fires reported, but they proved to be camp fires.

I think that next season it would be advisable to have a little camp built for the watchman at the foot of the tower on Mt. Coburn, with a telephone installed in it, as there are days when it is very windy, and he cannot talk from the tower. Of course there are several improvements that can always be made in telephone lines and telephone service.

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RALPH WING, Dead River, Chief Warden, Kennebec Watershed:

We have not had a fire of any consequence this season. The whole section has been well posted with fire signs and I think the hanging signs put up over the roads are the best thing that has been put out. A new trail has been cut onto Mt. Bigelow, which is a good improvement and I would like to see the telephone line changed to the new trail so the watchman could keep it in repair at better advantage. The tower which went down on Bigelow Mt. has been rebuilt. All telephone lines were put in good working condition and all towers newly painted. Repairs have been made on Snow Mt. tower which was damaged by lightning. I think the camp on Mt. Bigelow should be better equipped for a living camp and have the watchman stay up there instead of traveling up each day, it takes so much time away from the tower night and morning, when sometimes they should be there.

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GEORGE G. NICHOLS, Jackman, Chief Warden, Kennebec Watershed:

BOUNDARY BALD MOUNTAIN. A new table and glass has been supplied for this Mt., also new map. A sleeping camp has been



built onto camp, and a new mattress furnished. The tower has been painted with two coats of paint. Trail has been cut out in first-class shape.

ATTEAN MOUNTAIN. Tower has been painted two coats. Trail has been put in fine shape. A new map has been supplied.

SUGGESTIONS FOR IMPROVEMENTS. WILLIAMS MOUNTAIN. A new trail from Mackamp to Williams Mountain ought to be cut and a new telephone line be established thereon, a distance of four miles. I would suggest that an office built by the Hollingsworth & Whitney Company about  $\frac{3}{4}$  mile from the tower be used as a camp instead of a new one, which might be constructed nearer the tower. A new camp outfit ought to be supplied for this camp.

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E. N. WILLIAMS, Great Pond, Chief Warden, Northern part of Hancock County:

There have been only two fires in my territory this season; one on T. No. 39, which was put out by patrolmen with very little expense to the State; one on T. No. 21 was quite a blaze, but the area burned over was partly old burn. We have about fifty miles of telephone line. The part running from Brandy Pond to Nickatouse Lake is rather difficult to keep in repair as moose and deer become entangled and break it, as in one instance the line was broken and carried several yards away. Have installed one new telephone box and done some work needed on the line. A Lookout Station in this northerly part would be a benefit.

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GEORGE E. ANDREWS, Princeton, Chief Warden, Upper Washington County:

Poccamoonshine Fire Station completed. Telephone line completed. Tower painted by Roy M. Fenlason as watchman and the tower has given good satisfaction. All fires promptly located and wardens notified. We have tools enough for this section and the tools are all housed for next season's use, large signs taken down and housed. The deputy wardens are all first-class men and well located. I have no recommendations to make for next season.

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HERBERT M. GARDNER, Machias, Chief Warden, Machias Waters:

I took in the three telephones that were on the Air Line Road

and stored them at the Bacon place. All the implements that belong to the Tug Mt. Tower are stored with them. Everything stored in good shape. The large hanging signs are taken down and stored at M. L. Co. storehouse. Mr. Roberts took them in.

I built five miles of telephone line this spring from Second Lake Camp to the top of Bald Mt. In July I commenced the building of the tower, got the frame up and three sides boarded in and shingled and the roof on, the top floor in, built the stairs, got the guys on them. I got out of boards and nails and we thought the trucking was so hard at that time we had better quit. I told Mr. Ames last spring how high the tower would have to be and how large the bottom and top. They made some mistake in figuring. They were short of boards, shingles and nails.

I think the Bald Mountain tower ought to be completed before the dry season commences. I think all those wooden towers ought to be repaired and painted. I think the State ought to build some kind of a fire proof building on the Air Line Road where all their property should be stored.

The telephone system is poor in this territory. There ought to be something done. If there was a fire up river it might be two or three days before we would get word.

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F. E. PATTEN, Cherryfield, Chief Warden, Narraguagus River :

The tools and camp supplies are all in good shape and the large signs I have ordered taken in by the different wardens that put them up. The Lead Mountain Station and camps, grounds and telephone lines are in first-class condition and everything packed up in good shape for the winter. The tower house will need painting another season. The steel frame is in good shape now. We can tell better in the spring about painting that. I think it would be a good idea to have a good tent and an outfit of spreads and dishes for same.

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J. J. KNEELAND, Topsfield, Chief Warden, Northern part of Washington County :

There has been added to the improvements in this territory this season three miles of wire, which improved the service greatly, Lookout painted and new floors in the Lookout. Guys used in

ledge, trails well cleaned up. Would suggest that there be a spread and blankets for the camp and pillows as there are none. That is all that would be needed for the camp. Have ordered the boards for the new camp from Calais. Could not get them anywhere else.

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GEORGE E. HATHAWAY, Jacksonville, Chief Warden, East Machias Waters:

Everything is taken care of and housed in the usual places for the winter. The road from the highway to the tower has been improved. The watch tower being of wood needs painting to preserve it from the weather. It is 5 miles from Cooper to Crawford across by the way of Love Lake and forest all the way. Talbot Bros. Co. have a camp at Love Lake one-half way across and a telephone line running to it. We need a telephone line from the tower to connect with that line  $2\frac{1}{2}$  miles. It would save 40 or 50 miles' distance and calling through 2 or 3 centrals.

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FRED S. BUNKER, Franklin, Chief Warden, Southern part of Hancock County:

There has been a new telephone box installed in both the Lookout and Camp, also a table, glass and map for the Lookout. The tower was painted this season and it is in first-class shape. A switch was installed at the camp in case of any trouble between the Lookout and the Camp, the watchman could get connection with me just the same. I was obliged to build a bridge about 20 ft. in length in order to make the road passable to the camp. The trails and telephone line have been all well bushed out and are in good order for next season.

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C. C. MURPHY, Chief Warden, Androscoggin Waters:

This season the Forestry District telephone line has been extended from Saddleback Lake to Rangeley, using the poles of the New England Tel. & Tel. Co. for a distance of 5 miles. This gives a line direct from Station No. 41 to the central office at Rangeley. It works very nicely. The watchman's camp at Station No. 28 will need some repairs next season and the telephone service could be improved by extending the line to Rangeley.

S. F. PEASLEE, Upton, Chief Warden, Androscoggin Watershed:

On account of help being so hard to get and so costly we have made but few improvements. We finished up the Lookout Station building at the summit of Aziscoos Mountain which was left last fall with a little more work to be done. I would suggest that the wooden tower on Speckle Mountain be built up higher next season, and a few more implements furnished for caring for the telephone lines.

The Maine Forestry District owns the telephone line from the main road in Grafton Notch to the summit of Speckle Mt. in Grafton, a distance of two miles or a little less. Also owns the telephone line from its connection with the Brown Company's line near the Horace Bennett building in Lincoln Plantation, Oxford County, Maine, to the summit of Aziscoos Mt., a distance of two miles or a little less.

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**Fire Protection**  
**Outside Maine Forestry District**

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## SLASH.

It is disappointing to report that the arrangement with the U. S. Forest Service for the year 1917 in regard to the Slash disposal could not be continued. By writing letters to different Selectmen and Mayors of the towns and cities we have succeeded in many instances to have the most dangerous places cleaned up. This department is indebted to all the railroads in the State, particularly the Maine Central Railroad, in keeping this Department informed about Slash left alongside their lines by individuals contrary to the so called Slash Law. In every instance where the railroad has notified the Department of such condition it has been possible to move or burn such Slash.

## PATROL.

George F. Granville was again commissioned as a patrolman and was called upon to patrol only a few weeks during the dry spell. He was paid out of money donated to the Department by the Sokokis Lumber Co.

## LOOKOUT STATIONS.

It is a pleasure to report that after much difficulty in making arrangements, the Department has been able to erect on Agamenticus Mt. and Ossipee Hill steel towers twenty-four feet in height each. These were erected in coöperation with the U. S. Forest Service. The material was paid for entirely by this Department with money received from the Contingent Fund of the Governor and Council. The material cost \$391.49 and the erection of same cost \$1,096.51. Telephone connection of these towers with the New England Telephone Co. will be completed early next spring. The maps for these two stations have been sketched and will be ready for the fire season of 1919.

## FOREST FIRES.

As shown by the tabulation below, there were more fires this year than last. As in the Maine Forestry District, fires were raging all over the State during the month of May and the first part of June, but with the help of the rain, which fell at an opportune time, these fires did very little damage.

FOREST FIRES OUTSIDE OF THE MAINE FORESTRY DISTRICT—1918.

Town	Date	Acres	Cause	Damage
Scarboro.....	May 9	10	Unknown.....	None
Standish.....	May 11	5	Sparks, portable mill.....	\$4200 00
Sebago.....	May 8	400	Sparks, portable mill.....	Not mentioned
Orland.....	May 22	400	Burning brush.....	600 00
Sullivan.....	May 20	150	Unknown.....	900 00
Union.....	April 28	40	Clearing for blueberries.....	1000 00
Camden.....	June 3	90	Mill stack.....	3000 00
Alna.....	May 9	30	Carelessness.....	Not mentioned
Somerville.....	June 3	30	Sparks, portable mill.....	1000 00
Edgecomb.....	June 2	8	Burning stumps.....	100 00
Boothbay.....	April 19	40	Rubbish fire.....	Not mentioned
Fryeburg.....	April 28	700	Unknown.....	Not mentioned
Brownfield.....	May 16	20	Portable mill.....	500 00
Livermore.....	April 26	30	Unknown.....	Not mentioned
West Bath.....	April 28	5	Unknown.....	Not mentioned
Westport.....	May 8	900	Smokers.....	50,000 00
Alexander.....	Aug. 13		Sparks.....	Not mentioned
Dennysville.....	May 19	140	Fishermen.....	600 00
Columbia Falls.....	May 18	20	Unknown.....	200 00
Kennebunk.....	May 8	600	Sawdust pile.....	3500 00
Hollis.....	May 8	1500	Brush fire.....	5000 00
		5118 .		\$70,600 00

SUMMARY OF FOREST FIRES OUTSIDE OF THE MAINE FORESTRY DISTRICT—1918.

County.	Acres.	Damage.
Cumberland .....	415	\$4,200.00
Hancock .....	550	1,500.00
Knox .....	130	4,000.00
Lincoln .....	108	1,100.00
Oxford .....	750	500.00
Sagadahoc .....	905	50,000.00
Washington .....	160	800.00
York .....	2100	8,500.00
	5118	\$70,600.00





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**Public Lands**  
**1918**

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We find in the laws of 1909, Chapter 268, a resolve authorizing the sale at public auction of lots number 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, and 109, in Township No. 18, Range 5, which is now St. Agatha. These lots were burned over a great many years ago and nothing has ever grown on them. This department does not deem it advisable to sell these, as after some inquiries it has been found that no man in that section would pay over 75c an acre.

In the same Resolve we also find a clause authorizing the Land Agent to sell in the same way in the town of Madawaska lots numbered 108, 109, 110, 160, and 161. By the records of the office the value of these lots could not be ascertained and the services of Henry J. Pelletier of Madawaska were obtained and he has submitted the following investigation :

#### LOT 108.

The first party that began to clear land on this lot was Eloi Beaulieu. He worked on this lot for a number of years and cleared about 20 to 25 acres of land, and then sold to Xavier Michaud. Xavier Michaud then sold half to George Michaud, Cleveland, Me., and the other half to Jos. R. Cyr, St. David, Me.

The last two parties since that time have cleared some more land and now have about 20 acres each more or less. They both have claims on the cultivated land on the ground that they bought it or worked on it. The wood on this lot is thick second growth. What was big enough has been cut from time to time by the nearby settlers. The lines are clear, having the corner bounds, but there is a little trouble between the two parties.

#### LOT 109.

Dolphie Cyr, Cleveland, Me., has cleared about 2 or 3 acres of land on this lot. Very little of this lot is fit for cultivation, being wet and swampy. The wood on this lot likewise is second growth cedar, spruce and fir trees mostly. What was big enough for use has been cut from time to time by the nearby settlers. That man claims what he has cleared.

#### LOT 110.

Adolph Cyr, Cleveland, Me., has cleared land on this lot, about 10 acres more or less. He has claims on that part that he has

cleared on the ground that he worked on it. The wood there is like the wood on the other lots, (108) and (109). The lines are clear. All these lots, (108), (109), (110), would be valuable for wood, pulp wood, ties and logs in a number of years if the nearby settlers are kept off.

#### LOT 160.

This lot is claimed by three parties: Jos. Cyr, Vital Cyr and Florent Lagassé of St. Agatha, Me.

Jos. Cyr has about 25 acres on this lot of good cultivable land, and most of this has been under cultivation this summer.

The other parties, Vital Cyr and Florent Lagassé, have about 20 acres each of cultivated land on this lot, being under cultivation this summer. The wood on this lot is thick and all second growth, some being large enough for pulp wood but too small for logs.

Each party claims one-third ( $\frac{1}{3}$ ) of the lot, all having claims on the lot on the grounds that they cleared the land and cultivated it. The lines on this lot are not very clear and I was not able to find the corner bounds, but there does not seem to be any trouble about them.

#### LOT 161.

I traced the south line of this lot, because it was impossible to follow the line otherwise, all traces having been burnt and most of the marked trees cut down.

On this lot there are about 15 acres more or less of cleared land, that is the stumps are not yet all cut and it is not very good for cultivation, but good enough for pasture.

Two parties claim this lot; one Magloir Leclair claims about five (5) acres of this cleared land, on the grounds that he bought the work of the deceased Nazair Beaulieu, who had cleared the land.

The other party who has claims on this lot is Alec Losier. He claims about ten (10) acres, more or less, on the grounds that he settled there and cleared this land. He has a camp on that lot and lives there most of the time. There is not very much lumber on this lot, in places the lumber has been destroyed by fire, and the soil along the lake is mostly swamps and bogs. However, along

the lake there are quite a few cedars, too small yet to be of any use. On the S. W. part of this lot there are some quite large hardwood trees.

On the N. E. side of the lot there are many spruce and fir trees, many large enough for logs, and there would be some pulp wood also. There would be more trees for logs on this lot if they had not been cut by Beaulieu and Leclair, from 15-25 cords of pulp wood on this lot this summer.

There is no road going to this lot.

After careful consideration of the facts stated in this report this Department believes that these lots should not be sold at public auction, but to the actual settlers and will so recommend to the coming Legislature.

### STUMPAGE PERMITS.

1918-1919.

Permits to cut timber have been granted on the public lots on the following Plantations: Coplin, Elliottsville, Nashville, (2), Long Pond, Flagstaff, Plantation No. 21, Hancock Co., Caratunk, Allagash, (2), Dallas, and The Forks. These permits were granted under authority given the Land Agent by Chapter 8, Sections 7 and 8, Revised Statutes. The permit on Elliottsville Plantation was given to cut hardwood for ship timber to a concern from Camden, Maine.

### ISLANDS.

As usual, this Department has been called upon to answer a great many inquiries about the title of Islands on the coast of Maine. The investigation made in 1914 has proven to be a great help in giving a clear answer to all such inquiries. No leases of Islands were given during this year.

### REVENUES.

This Department has on hand at the present time \$30,184.31 collected for stumpage and rental, with a few more bills to be collected, when the full amount will be turned over to the State Treasurer to be credited to the different Plantations and Townships, according to Chapter 8, Section 2, of the Revised Statutes.

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**State Nursery  
and  
Forestry Department  
at  
University of Maine  
1917-1918**

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REPORT ON PUBLIC INSTRUCTION IN FORESTRY  
AND FOREST NURSERY.

1917-18.

TO THE HONORABLE FORREST H. COLBY,  
Forest Commissioner,  
Augusta, Maine.

*Sir:*

I have the honor to submit the following condensed report of this department for the years 1917 and 1918:

The period just past has been a difficult one for us, in common with all other educational institutions in the United States, owing to the number of men enlisting in the various branches of the service. Many of our students were unable to complete the requirements for the Degree of Bachelor of Science in Forestry, but notwithstanding these unfavorable conditions we were able to graduate the following men:

In June, 1917—Harold P. Andrews  
Edward K. Hanley  
George E. Hansen  
Philip N. Libby  
William F. O'Donoghue  
William G. Wahlenberg

In May, 1918—Harold L. Annis  
Lewis T. Calhoun  
Herbert R. Lemont  
Robert B. Parmenter  
Carlton L. Perkins

All of these men on graduation entered some branch of the service, or the war industries.

At the beginning of the college year 1917-18 the following was the registration in the Forestry Department: Seniors, 5; Juniors, 4; Sophomores, 7, and Freshmen, 13, making in all 29 students majoring in Forestry. In the fall of 1918, the organization of the Students' Army Training Corps made it impossible for any of the men to register in their usual major departments, and required a uniform curriculum set down by the War Department.

A number of the men formerly in the Forestry Department have expressed their intention to return to complete their course as soon as conditions return to normal, and it is hoped that provision will be made for them to do so.

The usual short courses in Forestry have been offered for Agriculture students and also to candidates in the Pulp and Paper course in the Department of Chemistry. Besides lectures in schools, granges and clubs, an important part of the educational work during the past year was the revision of the bulletin, "The Forest Trees of Maine", and the issuing of a new edition for free distribution.

A bulletin on "Marketing Farm Woodlot Products in Maine", by George N. Lamb of the Forest Service, was published through the kindness of the Agricultural Extension Service at the University of Maine, in coöperation with the United States Department of Agriculture. This is known as Extension Bulletin No. 113, and may be obtained free on application to the Extension Service, Orono, Maine.

No important additions have been made to the equipment, and the staff was reduced to one man, Mr. C. W. Eaton being granted leave for enlisting in the Aviation Department of the United States Navy.

This year the Forest Nursery has become self supporting, the sales for the season amounting to \$846.57. In the future, if some arrangement can be made for retaining the money from sales of stock for maintenance, the Forest Nursery can be made to pay its own expenses.

Last spring transplanting was a difficult task both on account of the shortage of student labor and because the school year had been shortened, bringing the commencement time right up to the field season for transplanting. All of the forestry students taking the course in Nursery Practice did all that they possibly could by working overtime; but even with this aid we could not have moved the amount of plants that we did had it not been for volunteers from the young ladies of the University. They responded in sufficient numbers to make the work a success, and proved very adept. With their aid we were able to set more than 200,000 transplants in the short time allotted for the work.

We still have on hand a large number of three-year-old seedlings of White Pine, which will make excellent stock for next spring planting, and can be sold at considerably less than the transplants of the same age.

For the spring of 1919, we will also have on hand in three-year-old transplants the following:

White Pine .....	155,000
Red Pine .....	30,000
Norway Spruce .....	50,000

These plants are all suitable for economic forest planting in Maine. Besides these we have small quantities of a number of different species, grown more for experimental purposes, and to familiarize the forestry students with the different trees and the manner of raising them. There are also more than 250,000 two-year-old seedlings, and 500,000 one-year-old seedlings of various species, chiefly Pine and Spruce, now growing in the Nursery.

It has been decided to discontinue the growing and sale of any plants larger than four-year-old transplants, so as to in no way compete with commercial nurseries growing planting stock primarily for ornamental purposes. We are thus enabled to give all of the limited space available to the growing of young seedlings and transplants which we can sell at a very low figure for economic forest planting, which we hope to make an ever growing success in the Pine Tree State.

Respectfully submitted,

JOHN M. BRISCOE,

*Professor of Forestry.*

20 November, 1918.



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**White Pine Blister Rust Work  
in the State of Maine  
1918**

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## WHITE PINE BLISTER RUST IN MAINE SEASON OF 1918.

### INTRODUCTION

The work in Maine during the previous season (1917) has been chiefly concentrated on two areas, one at Kittery Point, where there was a large area of diseased pine, and the other near Alfred, in the heart of a good pine country, but where no diseased pine has been discovered. The purpose of the latter area was for a check in ascertaining the possibility of keeping the disease out of pine where ribes have been eradicated.

As a check on the eradication work and, inasmuch as the work was new and the crews were inexperienced, it was thought best to go over these areas thoroughly again this season as the first thing on the program for 1918, and to start the eradication on another area of pine known to be badly diseased, located along the New Meadows River between Brunswick and Bath.

No general scouting was undertaken, except that incidental to inspections of plantations. Some 46 plantations of pine totalling more than 250,000 trees were inspected during the season, and of these only at two places were suspicious specimens found. These were later identified by Dr. Taylor of the Bureau of Plant Industry as having only secondary fungi, and not blister rust.

Educational work was an important part of the program this year, and exhibits were shown at the larger fairs, besides the usual methods of poster, card and bulletin, distribution.

### ORGANIZATION

The administration of the work was in the hands of Forrest H. Colby, the State Land Agent, and the Forest Commissioner, who appointed N. L. Violette as collaborator and John M. Briscoe as executive agent in active charge of the field work, with B. R. Waterman as clerk and assistant. A coöperative agreement with the Bureau of Plant Industry was entered into, which was simply an extension of the existing memorandum of understanding. This agreement provided for a maximum expenditure of not more than \$5,500.00 on the part of each of the co-operators.

We were fortunate in having Mr. W. O. Frost, a member of

the Bureau of Plant Industry, and an able foreman with last year's experience in handling a crew; and also Mr. M. E. Brann, who had done similar work for the Gipsy Moth Commissioner as a crew foreman.

Two crews were formed with six men in each crew, under the direct supervision of the foreman.

Sixteen men in all were employed for the greater part of the field season, which lasted from June 1, to September 30. The following men were employed for all or a part of this time, as shown in the schedule:

#### EMPLOYEES 1918 UNDER FEDERAL APPOINTMENT.

Barron, John S.	Saco	June 12 to July 19
Brann, Mahlon E.	Augusta	June 1 to Sept. 28
Chaplin, Joseph B.	Cornish	June 1 to Sept. 21
Chase, Frank E.	Skowhegan	Aug. 1 to Aug. 31
Clark, Charles B.	No. New Portland	June 1 to July 20
Collins, Norman R.	Bingham	June 12 to Aug. 2
Cook, Carroll C.	Lubec	June 1 to Aug. 31
Faulkner, George A.	Orono	June 12 to Sept. 20
Greenleaf, Harry S.	Monmouth	June 1 to Sept. 21
Houghton, Vinal A.	Lee	Aug. 1 to Aug. 31
Jennys, Willard C.	Belfast	June 17 to July 15
Mahar, Harry V.	Lubec	June 1 to Aug. 31
Mortell, John H.	Bangor	June 1 to Sept. 28
McGouldrick, Paul F.	Togus	July 1 to Sept. 28
McKechnie, Ishmeal	Sanford	June 1 to Aug. 31
Stewart, Clyde W.	Saco	June 12 to July 19
Waterman, Burleigh R.	Portland	June 1 to Sept. 20

#### STATE APPOINTMENT ONLY.

Doyon, Rene	Augusta	Sept. 20 to Oct. 20
Upham, Warren P.	Orono	Sept. 3 to Sept. 28

The crew assembled at Alfred June 1, and the training and preliminary work were done there together, and as two separate units until June 22, when one crew was sent to Kittery Point.

Four months of continuous service is a long while to keep up intensive interest in eradication work, and various schemes had to be resorted to to maintain the efficiency of the crew, the chief of which was the awarding of a cash prize of \$5.00 to the one who left the least ribes behind him; the crew foreman to keep score, and be the judge. Mr. P. F. McGouldrick won this prize.

It is an easy matter to go at high pressure for a day, or for a few days at a time; but the monotony of the work, which, while not exactly *strenuous*, is tedious and nerve-exhausting in the extreme and has a distinct effect in time. The psychology of ribes eradication could be studied to advantage.

For general efficiency, the following men hold the highest honors, considering both personal efficiency and length of time employed continuously:—Frost, Brann, McKechnie, McGouldrick, Faulkner, and Mortell. Any of these men would make first-class foremen for future work, Frost and Mortell having had two years' experience at the work in their respective lines and the other four showing remarkable keenness and adaptability. It was difficult to get good men who would not be affected by the draft. There were no drones in either of the crews, and none of the men employed had to be discharged for any failure on their part to do their duty.

Two of the men, Barron and Stewart, left in July to answer a call to the Naval Reserves Station in which they were enlisted at that time, and Collins left to take up eradication work in New Hampshire. The six men crew with a foreman was found the most efficient, and was used consistently throughout the season.

Whether any work will be conducted next year, will depend entirely upon the action of the next Legislature, since state appropriations for this work will expire December 31, 1918. A new appropriation of equal amount will be asked for to continue the work.

At present no plans have been made for the work next year, nor can they well be made with the present indefinite factors both of finance and labor. Students were the only ones who would consider the job at the wages offered. The foreman received \$90 per month and two of the crew with last year's experience, \$60 per month. All of the other members of the eradication crew received \$50 per month. All expenses were paid by the State.

Few of the men who worked this season will be available for work next year, since most all of them have joined the Students' Army Training Corps in their various colleges or have been inducted into some branch of the service.

It seems advisable to change radically the present method of eradication, now that the experimental stage of the eradication work is over, and fairly definite cost data are obtainable for different types of woodland. Local co-operative control should be encouraged and developed in so far as possible. This will need to be supervised and systematized by some central agency, in order to secure any uniform or satisfactory results, and for this purpose State funds should be made available.

Areas eradicated should be carefully scouted and results watched for at least five years.

The Brunswick area should be enlarged and eradication of ribes completed.

Enough work has been done to settle any question of State-wide eradication of ribes. The cost would be prohibitive and the result would apparently be of very questionable value.

Future efforts at eradication should be confined to tracts of valuable young white pine, and the immediate vicinity of such tracts, where the value of the timber will justify the expense of eradication as a protective insurance.

It is difficult and somewhat dangerous to generalize from the data available at this time, but the work in Maine shows that while the average number of ribes per acre for all types of forest was 6 on the Kittery Point area, and 26 on the Brunswick area, a far greater number were found in the swamp and miscellaneous (includes stone-wall) types. One acre of swamp type, on the Alfred area, had 1470 plants of wild gooseberry, taking 17 hours' man-labor to eradicate, and costing \$3.78. This was the extreme outside figure, and was so abnormal that it should have been omitted in the calculation of the general average costs. It was included, however, and is largely responsible for bringing the average figure (including all types) for the Alfred area up to \$0.75 (per acre), while the average for the Kittery Point area was \$0.35, and for the Brunswick area \$0.56, or just about the correct mathematical average of the other two.

#### FIELD INVESTIGATION

In the scouting done this season no actually new areas of infection were found as the Bath-Brunswick area was known to Posey in 1916. The extent of the area was considerably enlarged by explorations of Frost in the spring of 1918.

Taken as a whole, the infection of ribes was not as general, nor as severe where found as it was in 1917. This may be due to unfavorable weather conditions at the time of the fruiting on pine or to other causes not definitely determined.

The æcea stage was practically over by June 20 at Kittery Point. No infected ribes were found this season on the Alfred area till July 26, when skunk currant was found diseased. The Telial

stage was found on the same area on August 20, while ribes were found in abundance on all of the area eradicated, but not more than 25% were diseased.

#### MAPPING

The mapping of the demonstration areas was done by Mr. W. S. Moir in a most accurate and painstaking way. More time and expense was put on this work than would be necessary for a mere eradication of ribes; but as the work was for obtaining definite and detailed cost figures, it was necessary to have maps with a considerable amount of local detail.

The present commercial White Pine area in Maine may be roughly included in ten southern counties with an extension into the central portion of Washington County, as shown on the map accompanying the report for 1917. No new areas of infection were located during the present season.

Inspections of plantations and of native grown stock were made in every county in the state excepting Aroostook. A detailed list of these inspections is as follows:

#### INSPECTIONS 1918.

<i>Name of Owner. Nearest P. O.</i>	<i>Source of Stock.</i>	<i>Date.</i>	<i>Number</i>
R. Leavitt, Kezar Falls	Keen Forestry As.	1915	3000
E. Piper, Kezar Falls	Keen Forestry As.	1916	1500
Sokokis Lumber Co., Kezar Falls	Keen Forestry As.	1916	90000
W. D. D. Churchill, Kezar Falls	Keen Forestry As.	1916	1000
Mrs. J. B. Fenderson, Old Orchard	Native Pine growth		
W. A. Maguire, Ogunquit	Keen Forestry Co.	1915	1000
Cecil Clark, Clark's Mills	700 acres Native Pine		
Dr. Brock, Lyman	Native Pine		
Harbert A. Jackson, Portland	D. Hill		10000
F. M. Spiller, No. Raymond	Diseased Currants		
Dr. C. B. Sylvester, Harrison	Keen Forestry As.	1916	7000
O. N. Abbott, Harrison			10000
E. C. Rich, Richville	Keen Forestry As.	1914	3000
W. A. Merrill, Gorham	Native Pine		
J. P. Clement, Gorham	Native Pine		
Thompson & Turner, Auburn	30 acres Native Pine		
G. A. Mahoney & Son, Saco	5 acres Nursery		50000
Dr. Twitchell, Monmouth	Native Pine (3 badly inf. currants)		
Mrs. J. B. Brackett, E. Parsonsfield,	Native Pine 100a		
F. T. Fearey, Pemaquid Point	Native Pine 10a		
Breckenridge Estate, York	1 diseased Pine (Currants removed last year)		
Mrs. C. H. Chase, Chase's Pond	Currants slightly infected		
	None on Gooseberries		
W. K. Burnell, Fryeburg	White Pine Keen Fy. As. 1913-16		5000

E. E. Hastings, Fryeburg	W. P. Keen Fy. As.	1913	8000
E. Weston, Fryeburg	W. P. Keen Fy. As.	1914	1000
T. C. Eastman, Fryeburg	Red & W.P. Keen Fy. As.	1916	6000
F. H. Moore, Waterford	W. P. Keen Fy. As.	1915-16	7000
H. M. Small, Thorndike	W. P. Keen Fy. As.	1914	2500
R. B. Dunning, Bangor	W. P. Keen Fy. As.	1916	150
Mrs. R. M. Jones, So. China	White Pine Keen Native		
A. L. Soule, Mechanic Falls	Pine and Currants		
R. A. Wing, Livermore Falls	W. P. Keen Fy. As.	1916	2000
G. L. Palmer, Kent's Hill	W. P. Keen Fy. As.	1915-16	6000
Walter Flint, West Baldwin	White Pine and Currants		
E. E. Black, West Baldwin	Currants Infected		
M. M. Bailey, Portland	W. P. Keen Fy. As.	1913.	2000
H. Hanson, Oak Hill, Scarboro	200 Currant Bushes		
J. L. Dean, Waterville	W. P. Keen Fy. As.	1914	4000
H. E. Wight, Parkman	W. P. Keen Fy. As.	1913	2500
L. K. Lee, Foxcroft	W. P. Keen Fy. As.	1913	2000
W. A. Garrigues, Rangeley	W. P. Keen Fy. As.	1916-17	6050
Langtown Co., Rangeley	W. P. Keen Fy. As.	1916	3000
Alfred Bowditch, No. Haven	W. P. D. Hill	1910	2100
J. A. Brewster, Camden	W. P. 2 Pines Wagner Park Nur.	1915	
John Hyde, Estate, Bath	Native Pine		
Mt. Desert Nur. Co., Bar Harbor	Commercial Nur.		15000

No pines effected by the White Pine Blister Rust were found in any of the inspected plantations.

## ERADICATION AREAS.

### ALFRED AREA

The Alfred area is located in the heart of York County in the center of one of the best white pine producing sections of the State. On this area nearly 3000 acres were eradicated and the types included the Mature Conifers, Immature Conifers, Mixed, Hardwoods, Swamp, Pasture and Cleared Land, and Miscl. The latter including all stone walls, and precipitous areas.

No infected ribes were found on this area until July 26th, when skunk currant was found to be infected; and no infected pine has been discovered to date.

During the last half of August the plan for eradication was somewhat modified, limiting the eradication to areas found to be particularly abundant in ribes, such as the actual pine types and the Brush type. In these localities they seemed to be the greatest menace, and a much larger area was covered in a shorter time than in the former method of covering every foot of the area.

This helped materially to reduce the cost of eradication on this area during the month of August, which averaged .36 per acre as

against from .56 to .75 by the former method. It is felt that the results will be fully as satisfactory, and that the method is justified by the decrease in cost obtained.

There are many stands of young pine in this area that will run from 15,000 to 20,000 ft. b. m. to the acre; but taking the average stand at only 10,000 per acre, the cost of protection by this method would only be about  $3\frac{1}{2}$ c per 1000 ft. b. m., which is unquestionably worth while considering present prices of pine lumber.

The chief object of eradicating this area was to provide a check area in a good pine region, as a means of noting the effect of eradication in case of a spread of the disease to this section of the State.

No cultivated ribes were pulled in this area during the present season, so all of the ribes eradicated were wild gooseberry and skunk currant, the latter being very abundant in parts of the area. The large amount of skunk currant found in several instances was due to the fact that low meadows where they were very abundant, had been mowed over just before the eradication work was done on the same area last year. On these mowed over areas, no ribes were found last season; but perfect mats of young reproduction were found in abundance at the beginning of the work this year. Most of these plants were not over three inches high at the time of eradication; but they had long and substantial roots, making the process of eliminating them long and difficult and considerably increasing the cost in such places.

On this area the location of these clumps of ribes was noted on the map, as well as the location of the patches of other wild ribes, and this map will be of considerable value for future work.

#### KITTERY POINT AREA

The Kittery Point area covered this season was some 1500 acres in extent, and included practically all of the types.

Owing to the very mixed character of the growth on this area, and the resulting difficulties of mapping and of eradicating, the wage cost of eradication per acre was higher than on either of the other areas in most of the types.

Practically all of the cultivated ribes within this area were destroyed in 1917, so that all but some 134 plants were wild gooseberry.



No eradication of the diseased pine was attempted by special request of the Bureau of Plant Industry, pathological experimental work being carried on within this area by the members of the Department.

On account of the area being very much cut up by stone walls and irregular property lines, as well as the swamp area and the natural rock and pebble deposits along the shore line, this area was the most difficult to work of any of the areas eradicated. It required more time per unit area, both for mapping and for the eradication, than either of the other areas. We were fortunate in having Mr. W. O. Frost, a good foreman with last year's experience, in charge on this area, and he was allowed to pick his crew from all of the men available for the work.

Housing and living conditions were one of the chief difficulties, but we were able to secure quarters for the crew until the end of August, when it was necessary to leave the area before having completed the second eradication of Gerrish Island, on account of the U. S. Housing Commission taking over all hotels and boarding houses in the locality to accommodate the workers at the Portsmouth Navy Yard and adjacent war industry plants.

On this area a total of 13,236 ribes were eradicated last season, as against 9,364 ribes this year.

#### BRUNSWICK AREA

This area was selected for eradication on account of the valuable pine that it includes and because much of the young pine was known to be already diseased. In order to, if possible, check the spread of the disease, in what is so far as known the northernmost limit of the diseased pine, an area of about one square mile was selected by the joint co-operators for eradication. This area was located along the west bank of the New Meadows River, in the town of Brunswick, extending from the new State road between Brunswick and Bath, south to a point of land below the New Meadows Landing.

The crew was depleted by resignations by the first of September, and as most of the remaining men were obliged to report at their various colleges for duty in the S. A. T. C. on October 1, only one month's work was possible on this area, and only one crew was available. An effort was made to secure local labor,

and advertisements were inserted in the local paper to that effect, offering good wages and Government time, but they met with no response; and the work was necessarily discontinued for lack of labor September 28th. The last two weeks of this time were largely taken up in going over a check area, at the direction of Mr. G. L. Barrows, so that only about 450 acres of new ground were covered on this area. The time occupied in making this check, which was incomplete even at the expiration of the season, would have been ample to have finished the 640 acres originally laid out for the purpose.

I am informed by Mr. W. O. Frost, who was foreman of the crew there, that during October Mr. Barrows hired school boys from the Bath High School (temporarily closed on account of the epidemic), and made an attempt to finish the check area to his satisfaction; but the results obtained were not gratifying, since more ribs were found the sixth time over than on the fourth and fifth times. Mr. Frost attributes this to the fact that the boys were becoming more accustomed to the work and to the identification of the plants; and perhaps to the falling of the leaves of many of the other associated species; but he says emphatically that he is not in favor of boys of 12 years of age for this work as "they could not stand it at all in hot weather", and "were all in" even this cool weather.

A larger area was mapped than was possible to eradicate this season, so as to provide a good field for beginning operations at the opening of another season if this eradication work is continued, and also as a means of locating the limits of the diseased pine in this vicinity.

Work should be continued on this area next year, in order to obtain any permanent or satisfactory results; but it is not likely that local labor can be obtained on account of the demand made by the ship building industry at Bath.

Co-operative work on an area near Limerick, York County, was suggested, but no definite plan could be made for work this year.

In the opinion of the writer, too much stress was laid on minutia and details in the field procedure. The result was an increase in the time taken to eradicate a given area, and the distraction of the foreman from his chief duty to check up overlooked ribs behind the crew.

Without good maps made in advance, the position of the foreman was made next to impossible, since his whole time was employed in keeping track of paces and the other details required in form B. R. 1.

Form B. R. 4 was an excellent aid to both of the co-operating parties, particularly if it could have been returned by the Federal agents with the same promptness that was demanded by them of the State representative.

The six-man crew seems to give the best results, spacing the men in the line from 6 to 12 feet apart, according to the character of the undergrowth. The foreman following the crew at a distance of about five or six paces in the rear. The two end men are made responsible for keeping the lines, which in most cases is done by breaking branches.

Ribes diggers were used and were a help where large plants were found or where they were imbedded in rocky or difficult places to pull without breaking the roots. Not all of the crew, however, need to be provided with them. Two or three to a crew are enough, and the end men should not be hampered with carrying them. The long-handled diggers, made in the form of a pick on one side and a two-pronged fork on the other side of the handle, were found to be the most useful, but some of them were made too light for the work, and in other types the handle was not properly fastened to the end of the pick.

No compensation for cultivated ribes was paid. Practically all of the few cultivated plants eradicated were diseased, and no claims were made by the owners for compensation.

Blister Rust was not found in any of the commercial nurseries inspected during the season; the Maine Department of Horticulture in co-operation with the Forestry Department expending some \$500 in inspection of nursery stock at commercial nurseries.

The general attitude of the people was a mild tolerance. Timberland owners were interested in doing anything practical to stop or hold the disease. Many people consider the methods used as impractical and are not convinced of the effectiveness of eradication, but are willing to do anything that may stop or check the spread of the disease.

Only one area of commercial ribes was met with, and that was outside of any of the eradication areas, near York, Maine. At

Chase's Pond, Mrs. C. H. Chase grows both currants and gooseberries for making jellies and jams on a commercial scale. Only slight infection on currants was found.

One violation of the quarantine on ribes was found in a plantation of 200 currant bushes on the farm of Mr. H. Hansen, at Oak Hill, Scarboro, in Cumberland County. The owner was not aware of the quarantine, and the currants were not diseased when inspected on August 23, 1918.

### EDUCATION

Lectures were given at the State College, and before a meeting of the County Agents at Orono.

All of the bulletins, No. 742, available were distributed and also 20,000 colored post-cards showing the stages of the disease on Pine and on ribes. Large posters were distributed at the Post Offices and railway stations throughout the pine region of the state warning of the disease and giving the important details for identification and control.

A personal effort was made to acquaint every one seen on the eradication areas and in the inspection work with the true character of the disease, and the approved methods of control.

A circular distributed by the Extension Service at the University of Maine, also gives advice to prospective planters of white pine and suggested means of recognizing the disease if present in plantations.

It is intended to issue a new bulletin on the subject, written in a non-technical way and with pictures of the chief host plants, for general distribution. About 30,000 of these will be circulated during the winter, as an educational measure, and in preparation for future work in the state.

Illustrated lectures and talks to clubs and granges will also be given during the winter, and information on the subject will be sent to all prospective forest planters in the spring of 1919. Literature for this purpose is now in preparation.

We are indebted to several of the County Agents for valuable assistance in sending in information of diseased plants, and in extending general information on the subject, as well as in making displays and exhibits of specimens of the disease at county fairs and grange meetings.

EXHIBITIONS WERE SHOWN AT THE FOLLOWING  
FAIRS:

Aug. 26-29.	Eastern Maine Fair Association,	Bangor
Sept. 3- 5.	Cumberland County Fair,	Gorham
“ 10-13.	Central Maine Fair,	Waterville
“ 17-20.	Maine State Agricultural Fair,	Lewiston
“ 24-26.	Franklin County Fair,	Farmington
“ 26-27.	Cumberland Center Fair,	Cumberland Center
Oct. 8-10.	Topsham Fair (cancelled on account of epidemic).	

The material shown at these exhibitions included specimens of the disease on both pine and all kinds of ribes. Large specimens of pine were mounted for the purpose, and also small hand-specimens were shown. The various species of both wild and cultivated currants and gooseberries, including the following currant, were shown under glass mounts. Descriptive posters and specially prepared signs were shown with the specimens, and the display was arranged in as attractive manner as possible, and received excellent attention from the public and favorable comment from the local press. Fresh specimens of wild ribes were also shown, and a supply of post cards and bulletins was distributed at all of the exhibitions.

Many questions were asked and answered, and it is hoped that the erroneous impression that the white pine blister rust is some kind of an insect pest has been in a measure corrected.

No changes were made in the law under which the work in Maine was conducted this year, but inasmuch as the proclamation of the quarantine was not included in last years' report, it might be well to quote it here:

PROCLAMATION

By virtue of the authority vested in me by Section 6, Chapter 178, of the Public Laws of 1917, I hereby place an embargo on the shipment into, and forbid all persons, partnerships, associations or corporations, to bring into the State of Maine any Gooseberry or Currant plant, or five-leaved Pine, commonly known as White Pine, without obtaining a permit from the Forest Commissioner under penalty of being prosecuted under Section 6 of Chapter 178 of the Public Laws of 1917.

Given under my hand this twenty-first day of September, in the year of our Lord, one thousand nine hundred and seventeen, at Augusta, State of Maine.

(Signed) FORREST H. COLBY,  
*Forest Commissioner.*

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### FINANCIAL STATEMENT.

In Maine the following projects were kept separately: Administration and Supervision, Eradication, Field Investigations, Education, and Miscellaneous. There were no local co-operative control areas, and no compensation was paid for any plants destroyed.

As shown by the tables following, the total expenditures during 1918, of the United States Department of Agriculture, Bureau of Plant Industry for this work in Maine, amounted to \$4,276.53, including all figures in the hands of the author up to November 1, 1918; and the State expenditures for the same period amounted to a total of \$4,543.16 for the same period. Thus making a gross total of \$8,819.69 expended for White Pine Blister Rust work in Maine for the season, up to the time of this report.

These figures are necessarily incomplete, and should not be used for publication, since the Federal expenditures for October are not included, nor are the State totals for October yet obtainable.

Further expenditures will be made by the State for educational work and for publications during the fiscal year, ending December 31, 1918. A complete statement can not, therefore, be made until after that time.

The average costs for eradication only were as follows, as shown by the accompanying tabulated data:

Average cost of labor, all areas, all types (by types)....	.53 per acre
Average cost of expenses, all areas, all types.....	.50 per acre

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Total cost of eradication.....\$1.03 per acre

This agrees with the total amounts expended for that purpose.

The average cost for board and lodging of the men was \$10.50 per week, per man, which was about the best that could be done under present conditions.

The total area eradicated during the period was 4904½ acres, and the total number of plants 90,097, or an average of 18.8 plants per acre for all areas, consuming on an average 2.1 man-hours labor, which at an average cost of .25 per man-hour for labor agrees with the average cost per acre found from the date, or .53 per acre.

It is also evident from the tables that the types having the most ribes, and requiring the most attention and time are the Pine Types, Mature Pine and Immature Pine, Brush Type, Swamp Type, and Pasture or Cleared Land Type, the others being of comparatively minor importance.

With these cost figures at hand it will be an easy matter to advise individual owners as to the approximate cost of eradication according to the kind of land that they own, and wish to eradicate of ribes. Under normal conditions it will probably be possible for individual owners to employ labor for the purpose for about the actual labor cost shown in the tables. When local labor can be employed it will be advisable to employ it even at a higher cost per man-hour, since no additional expenses will have to be incurred in the eradication work in that case.

In figuring on costs by this method, however, it should be born in mind that it will take on an average about 2 hours' man-labor per acre.

## SUMMARY OF AVERAGE ERADICATION WAGE COSTS PER ACRE, BY TYPES.

	Mature Pine	Immature Pine	Mixed	Hard- Woods	Brush	Swamp	Cleared Pasture	Misc. Walls	Check Areas	Total Acreage	Average C.
Alfred, June.....	.47	.50	.39	.38	.50		.45	.16		474½	.41
" ".....	.70	.36	.56			3.78	.40	.13	1.17	241½	1.01
Kittery Point ".....	.34		.57	.58	.39		.31		.51	120	.57
Alfred, July.....	.29	.40	.33	.53	.31		.22	.15	.33	204½	.51
Kittery Point ".....	.56	.50		.52	.67	.99	.35		.54	774½	.33
Alfred, Aug.....	.32	.28	.12	.10	.23		.16	.13	.18	462½	.54
Kittery Point ".....	.30	.45		.35	.40	.48	.24	1.90	.33	1238½	.18
Brunswick, Sept..	.26	.14	.30	.27	.40	1.05	.12		.25	833¾	.33
	8)	7)	7)	7)	7)	4)	8)	5)	7)	554½	.35
	3.24	2.63	2.60	2.73	2.94	6.30	2.25	2.47	3.31	4904½	
Average for each type, all areas..	.40	.37	.37	.39	.42	1.58	.28	.49	.47		

Average for all areas, all types—9)4.77 = .53

Average expense cost, all types .50 =

Total average cost per acre for eradication 1.03



FINANCIAL STATEMENT—SEASON 1918.

June 1 to Sept. 30  
By Projects

Month	Administration and Supervision	Eradication	Investigations	Education	Misc.	Total
May	\$31 93					\$31 93
June	331 62	\$1550 40	\$10 00		\$203 17	2095 19
July	367 66	1629 66	317 05		82 73	2397 10
August	507 15	1384 85	199 21		188 10	2279 31
Sept.	300 42	614 32	573 22	\$405 77	122 43	2016 16
	1538 78	5179 23	1099 48	405 77	596 43	8819 69

SUMMARY OF EXPENDITURES—SEASON 1918.

FEDERAL FUNDS.

Month	Administration and Supervision	Eradication	Investigation	Education	Misc.	Total
June.....	\$250 00	\$832 80	\$10 00			\$1092 80
July.....	247 50	817 03	67 05			1131 58
Aug.....	250 00	768 05	74 21			1092 26
Sept.....	225 00	286 67	448 22			959 89
	972 50	2704 55	599 48	Federal	Total.....	4276 53

STATE FUNDS.

May.....	31 93					31 93
June.....	81 62	717 60			203 17	1002 39
July.....	120 16	812 63	250 00		82 73	1265 52
Aug.....	257 15	616 80	125 00		188 10	1187 05
Sept.....	75 42	327 65	125 00	405 77	122 43	1056 27
	566 28	2474 68	500 00	405 77	596 43	4543 16
				State Gross	Totals.....	8819 69

SUMMARY OF TOTALS—BY MONTHS

Month	Federal	State	Total	
May.....		\$31 93	\$31 93	
June.....	\$1092 80	1002 39	2095 19	
July.....	1131 58	1265 52	2397 10	
Aug.....	1092 26	1187 05	2279 31	
Sept.....	959 89	1056 27	1567 94	
	4276 53	4543 16	8371 47	8819 69

It should be noted that the average labor cost of eradication, obtained by figuring the different types separately, is considerably more than the average taking the total cost of eradication and the total area covered in each project.

While the average cost, taking the types separately, for all types is 53c per acre, due to including several abnormal figures based on only a small acreage, the average cost figures, taking the totals by projects, as shown by the tables, are as follows:

#### LABOR ERADICATION

Average cost, per acre for the Alfred area.....	\$ .30
“ “ “ “ “ “ Kittery Point area.....	.40
“ “ “ “ “ “ Brunswick area.....	.25
	3) .95

Average cost per acre for all areas, season 1918..... .32

Taking this as the average cost for labor, per acre, and adding the average expense cost for eradication of.....\$ .50 we have as the grand total for eradication per acre.....\$ .82 for the work done during the season of 1918. This may be taken as a fair average for all types.

Since labor cost would be the only one that need be considered in the majority of cases where the work was to be done for eradication of ribes only, an average figure of 32c per acre for all types would seem to be a fair one. Such an expenditure may well be recommended to individual owners, as an investment in the form of protective insurance on young stands of white pine.

Respectfully submitted,

WHITE PINE BLISTER RUST WORK,

JOHN M. BRISCOE, *Agent.*