

354.55  
32R  
932

STATE OF MONTANA

---

TENTH REPORT

OF THE

# State Forester

For the Period July 1, 1930, to June 30, 1932

---

To

THE HONORABLE J. E. ERICKSON  
Governor

---

RUTLEDGE PARKER  
State Forester

L. L. WHITE  
State Fire Warden

E. A. ANDERSON  
State Forest Warden

Montana State Library



3 0864 1006 5210 9



**LETTER OF TRANSMITTAL**

Forestry Building,  
State University,  
Missoula, Montana.  
December 31, 1932.

Honorable John E. Erickson,  
Governor of Montana,  
Helena, Montana.

Dear Governor:

In compliance with the law, the Tenth Report of the State Forester, covering the period from July 1, 1930, to June 30, 1932, is herewith submitted.

Very respectfully yours,

RUTLEDGE PARKER,  
State Forester.



Digitized by the Internet Archive  
in 2013

<http://archive.org/details/biennialreport1932mont>

## FIRE PROTECTION

The following tables give a summary of private and state timber lands under organized fire protection and of the fire situation on these lands for the seasons 1930 and 1931:

Agency Handling Fires	Acreage Private Lands	Acreage State Owned	Acreage Public Domain	Acreage Totals
N. M. F. A. ....	1,070,000	105,000	25,000	1,200,000
B. F. P. A. ....	1,165,000	135,000	140,000	1,450,000
U. S. F. S. ....	750,000	82,000		832,000
State .....	40,000	97,000		137,000
Flathead Res. & Glacier Park .....	10,000	38,000		48,000
<b>Total W. Mont.</b> .....	<b>3,035,000</b>	<b>457,000</b>	<b>165,000</b>	<b>3,667,000</b>
<b>Total E. Mont.</b> .....	<b>570,000</b>	<b>24,000</b>		<b>594,000</b>
<b>Grand Total</b> .....	<b>3,605,000</b>	<b>481,000</b>	<b>165,000</b>	<b>4,261,000</b>

Year	No. Fires	Acreage Burned	Damage	Cost of Protection and Suppression	Federal Allotment
1930 .....	369	3,809	\$ 4,304.00	\$138,813.00	\$26,369.00
1931 .....	475	15,863	40,345.00	225,463.00	29,645.00

## FIRE PROTECTION

The high fire suppression costs of 1931 made it necessary for the Northern Montana Forestry Association to levy an extra assessment of 3c per acre, and for the Blackfoot Association to make an extra assessment of 1c per acre. These assessments against the state lands, listed with each association in the order named, amounted to \$3,060.00, and \$1,358.69. The U. S. Indian Service, handling fires on the former Flathead Reservation, presented claims for fire suppression in 1931, as follows: Hubbard Dam fire, involving Sec. 36, T. 25 N., R. 25 W., \$1,177.00, and the Henry Creek fire, covering a portion of Sec. 36, T. 20 N., R. 25 W., \$181.69.

It has been the custom to furnish one man with car for fire-patrol as the state's contribution for fire protection on lands within the reservation. Any fire suppression costs involving

state lands have been pro-rated with the Flathead Agency in accordance with ownership of acreage burned. On this basis the two above claims, totaling \$1,358.69, represent a just demand against the state.

The U. S. Forest Service submitted a claim of \$291.28, for fire suppression costs incurred in 1931, on unlisted state lands in Sec. 16, T. 11 N., R. 5 W., adjacent to the Helena National Forest. This tract had never been classified as timber land, and, hence, it was not listed with other known timber lands for protection. A member of this department examined this land in 1932, and reports that it is timbered and should be protected from fire. We are, therefore, recommending that the claim be paid.

Since the state appropriation for fire protection, amounting to \$13,500.00, is not quite sufficient to pay the pre-suppression assessments and costs on state timber lands, it is obvious that any additional assessments or claims for fire suppression can only be paid by a legislative deficit appropriation. Therefore, these various extra assessments and fire suppression claims, aggregating \$6,052.78, will be presented to the next legislative session for appropriate action toward payment.

The state was fortunate in having only one bad fire to handle in 1931. This fire originated along the Great Northern Railway, near Lupfer, and had it not been for the quick work of the state organization in placing a large crew on the fire it might easily have been as disastrous as the Half Moon conflagration of 1929. Instead, the fire was stopped, after covering only about 200 acres, at a cost of approximately \$2,800.00.

The increasing number of bad fire seasons in the state has become a subject for considerable concern with forest fire protection agencies. We know that the trouble is largely due to drouth, over which condition we have no control.

In spite of the best efforts of fire protective agencies, seasons like 1926, 1929, and 1931, continue to devastate a large acreage of forest land, at enormous public and private expense. It is the belief of some meteorologists that we have been passing through a drouth cycle which will, sooner or later, be followed by a period of abnormal moisture. Whatever the future weather may be, we fully realize that the drouth seasons referred to have established a record for frequency of occurrence.

All protective agencies have responded to the seriousness of the situation by strengthening their respective organizations, and by construction of roads, trails and other improvements to secure quicker action on fires. This has resulted in a  $33\frac{1}{3}\%$  increase in the cost of protection during the past seven years. Just what the future tendency toward a further strengthening of fire protection activities will probably depend on actual requirements.

It now seems that both state and private owners have reached the financial limit toward adequate protection. Each succeeding year increases the sum invested in the cause of fire protection, yet there can be no let up without endangering the investment.

A long record of the origin of fires has conclusively shown that the majority of fires are man caused. For this reason protective agencies have long carried on a campaign against negligence and carelessness in the woods. Most people observe the rules and regulations laid down for fire safety. A minority appears to be inherently careless and indifferent to fire danger. It is this class which we are now trying to reach, and with no particular feeling of leniency.

The limited and somewhat stationary distribution of the personnel of the regular organizations has always made it difficult to apprehend those who are guilty of starting fires through carelessness, or otherwise. After the disastrous season of 1931, when so many fires were of incendiary origin, the idea of enlisting representative citizens in each community to act as a support to the regular forces in the matter of fire detection was conceived. Particularly were these citizens to be on the watch for carelessness and incendiarism. This plan was welcomed by all protective agencies, and the volunteer fire warden movement went into effect in June, 1932, by the appointment of 2,000 citizens whose interest in protecting the forests and whose frequent recreative trips into the woods especially qualified them for such service.

One season's performance is insufficient to exactly determine the value of the auxiliary protection organization, but we are certain that it has been of immense benefit in reducing the number of man caused fires.

To those who served as volunteer fire wardens we extend deep gratitude on behalf of the state. We further wish to express our sincere thanks to the press of Montana for its loyal support in giving publicity to this and other fire prevention



plans which have been introduced. Without this co-operative assistance on the part of the press and of loyal citizens a successful campaign against fires would be doubtful of accomplishment.

Therefore, it is the earnest desire of all protective agencies that the volunteer fire warden organization may be continued as a permanent force in fire prevention.

### INSECT INFESTATION

Prior to about 1909, timber owners of this state felt that their property was fairly secure from all destructive forces except fire. To be sure, we had heard something of the "Black Hills Beetle" and the damage it had done to the yellow pine of that region. But this was considered more as a local ailment than as a threat to Montana forests.

A little over twenty years ago the first serious insect outbreak occurred in the Blackfoot River drainage, where during the next six or eight years about 30% of the merchantable yellow pine and douglas fir was destroyed. These beetles were supposed to have come from the Swan Lake region, where their presence first became threatening in 1909. The actual location of the beetles' original infestation in Western Montana is unknown, but it is assumed that they entered and spread largely through the lodge-pole pine stands of this region.

Following this outbreak in the Blackfoot drainage, there was little conspicuous damage done from about 1919 to 1924. This led many timber owners to believe that the beetles had disappeared as mysteriously as they had come. We now know what actually happened to give this false impression. The beetles were continuing their hunt for food in a southwesterly direction, through the lodgepole pine along Flint, Harvey, and upper Rock Creeks, but the percentage of kill was small on account of the fact that the majority of the timber was young growth which is not suitable to the larvae. In this class of timber it was necessary for the beetles to select the scattered mature trees, on which the larvae fed. The result was an inconspicuous damage which camouflaged their migratory progress.

By 1924, the infestation reached the vast mature lodgepole stands at the head of the East Fork of the Bitter Root River. With this enormous food supply available, the beetles increased by millions and spread rapidly to the Big Hole Basin country.



Until 1929, the attack was almost entirely confined to the lodgepole, but, with the food supply of this timber almost exhausted, existence demanded a change in diet, even though other species of timber might be less palatable. Accordingly, in 1929, the infestation was first noted in the heavy yellow pine stands of the French Basin, Ross's Hole, and various other places on the east side of the Bitter Root River.

In 1930, the brown needles of bug killed lodgepole at the higher elevations on the west side of the Bitter Root River gave definite evidence of the further spread of this relentless enemy. By 1931, this attack on the west side of the river had reached the yellow pine zone, and in 1932, we find it extending throughout the Bitter Root drainage, with an estimated present kill of 20% of the total merchantable yellow pine and douglas fir stands.

This southern migration of beetles from what originally appeared to be an incipient attack in the Swan Lake region does not tell the whole story. It appears that there was a northerly migration from the same locality, which has since extended into British Columbia and spread westward over millions of acres in the lodgepole belt.

This northern attack is now well advanced in the lodgepole regions of the Kootenai National Forest, and appears to be spreading toward the merchantable yellow pine stands of the Fisher River and Wolf Creek drainages.

This is a brief history of the movements of the pine bark beetles through Western Montana, where billions of feet of timber have already succumbed to their attack.

From present day knowledge of this insect depredation, we are confident that the beetles were here at a much earlier date than recorded, and that their spread has always been considerably in advance of the visible limits of infestation. It is largely due to this fact and to an under estimation of the seriousness of the situation that control methods have proven so futile. If this insect scourge had received the same serious attention twenty years ago that is now given to fire suppression, we might have been spared a loss of timber far greater than the damage caused by all fires since 1910. With the present wide distribution and numerical strength of this enemy, ordinary methods of control are now practically useless.

The invasion and alarming spread of this pest during a period of organized fire protection may well create a suspicion that our fire prevention accomplishments have reacted favorably to the beetles. What can, or should be done toward control at this rather hopeless stage of the infestation is a difficult question to answer. It is our opinion that a broadcast burning of the infested lodgepole areas six years ago might have solved the problem. Without a prophetic knowledge of the disaster which followed, who could have been so bold as to have advocated such a method? It was simply out of the question to use fire as an ally against insects when we had so long held it as the greatest enemy of the forests. Even now, with our more enlightened views on this insect menace it will take an unusual amount of courage to wage the fight for control with fire. The seriousness of the situation demands action and emergency measures if we are to safeguard the uninfested areas. The only hope we can now see of accomplishing this is by sacrificing infested lodgepole areas to fire before the more valuable timbered areas are attacked.

This program of beetle control is not so radical as it may sound. The infested lodgepole, except for the reproduction, is lost anyhow, so why not let fire avenge the cause?

### TIMBER SALES

Class C Sales			Class A Permits			
Timber Cut Log Scale	Receipts		*Timber Cut	Receipts	Total Timber Receipts	
1931— 8,679,090 ft.	\$29,174.05		1,743,750 ft.	\$3,011.73	\$32,185.78	
1932—15,025,700 ft.	46,895.38		1,493,950 ft.	2,382.81	49,278.19	
	23,704,790 ft.	\$76,069.43		3,237,700 ft.	\$5,394.54	\$81,463.97

\*Includes cordwood, posts, poles, ties and piling.

When conditions are normal, the annual cut of timber on state lands is a little more than 30,000,000 ft., with an approximate value of \$100,000.00. A glance at the preceding table, giving the amount and value of timber cut during the period covered by this report, indicates that the volume of business has decreased about 60%. This curtailment is fairly representative of the manufacturers' reduction in output during the same period.

The usual market for railroad ties and mining timbers has always favored a close utilization of the timber cut, regardless of species. The present inactivity of the mining industry, a greatly reduced demand for railroad ties and a lumber market which

offers a profit only on the better grades of lumber cut from our most valuable species, presents a serious problem to timber owners and manufacturers, who have been accustomed to a system of quantity production. So far as the lumber market is concerned, it is obvious that profitable operations can only be found in white and yellow pine stands. The small amount of accessible white pine left in Montana makes this species of negligible importance in our sawmill operations. Therefore, the continuance of lumbering under the present market is largely dependent upon a supply of the best quality of yellow pine. The matter would be simple if we had available stands of pure yellow pine of exceptional quality. Unfortunately, pure stands of yellow pine are quite limited in extent and the quality of a considerable percentage of the trees is too inferior for a present lumbering profit. Consequently, the operator is encouraged to select or "high grade" the most desirable trees in a stand, in order to secure a fair return on the investment.

It would be difficult to say just what percentage of the merchantable stand could be profitably cut under a quality selection system of the most desirable species. In almost pure yellow pine stands, 60% or more of the timber might be cut; while in mixed stands, the percentage would be much lower. It is safe to say that any extensive operations expecting a profit under present market conditions, must figure on leaving at least 50% of the merchantable sized timber in the woods. If there was any assurance that future markets would justify salvaging the merchantable sized timber left on the ground, the situation would not be so bad, even though it is contrary to customary and economic conceptions of logging.

With high taxes, insurance and fixed overhead costs on one side, and unemployment on the other, manufacturers are under heavy pressure to carry on in spite of a stagnant and bargain rate market. We can only hope that improved conditions will come, before too much of our inferior timber is left for an unknown and uncertain future market.

No large timber sales have been made during the past two years, and none may be expected during present market conditions, at our \$3.00 minimum stumpage rate.

A study of lumber prices for the past ten years is a convincing argument against the state minimum stumpage rate of

*Continued on Page 20*

The view on the opposite page shows a portion of the Yellowstone highway (Route No. 10) in Mineral County not far from what is known as the Camel's Hump. This particular area is located within the boundaries of the Lolo National Forest but the land and timber through which this road passes is the property of private interests. The private owners, however, have expressed a willingness to transfer the property to the U. S. Forest Service on the basis of an exchange for other similar lands of equal value. After the exchange has been consummated this beautiful forest tract will be protected and preserved by the Federal Government for the benefit of the people of this State and the Nation.

The State, likewise, is advocating the leaving of strips of virgin forests along the highways and lake shores, either in part or in full, as a contribution to scenic beauty. While the State has provided no funds for this purpose, some of the corporate enterprises within the State have exhibited an interest which has helped to keep the program alive.

Much can be done in retaining the beauty of our forested highways and lake shores, even though a part of the forests are cut immediately adjacent to them. The removal of the over-mature growth, and the leaving of the young, thrifty trees, supplemented by the piling and burning of the slash resulting from the cutting of the mature trees, will leave the areas relatively safe from fire, and add much to the aesthetic value of the highways and lake shores.





Yellowstone Highway No. 10

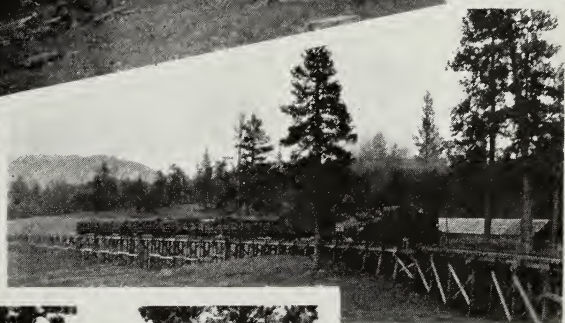
No. 1. Brush piling after logging on the State's forests. The work was performed by the State crews and paid for by the purchasers of the timber. The cost was 40c for each 1000 feet cut, including burning.

Nos. 2 & 3. Views of some of the best examples of natural regeneration of Western Yellow Pine (commercially known as Ponderosa Pine). These areas were cut over about forty years ago. The logging operators, for economic reasons, cut only the select trees, which would produce the highest grades of lumber, and left standing the trees which contained the lower grades. This plan of cutting was for the primary purpose of making the operations most profitable. Incidentally, this resulted in the very best forestry practice. Fortunately, the uncut trees were not subjected to the usual slash fires which followed such logging operations. These trees acted as seed trees in establishing natural re-production, as indicated in the photographs.

The coniferous forests of Montana have a great capacity for reproducing themselves naturally. With the continued present practice of fire protection and practical methods of slash disposal after logging, these forests can be kept in perpetuity.

No. 4. A logging train on its way to the sawmill. The cars average between 8000 and 9000 feet log scale.

This method of logging is practiced by all of the large sawmill operators. The use of trucks, however, is becoming an important factor in the hauling of logs from the woods to the mills. The portable and smaller stationary mills are almost entirely dependent upon this system of transportation.





## LAKES AND HIGHWAYS

No. 1. A view of Rainbow Lake in Sanders County showing State Forest lands bordering its shores. The State Forests contain many such sites for which there is an increasing demand each year for summer homes. The income from this source is far greater per acre than from other forms of land use.

The rapid completion of an extensive road program by the State and the U. S. Forest Service is gradually making accessible a large number of attractive lakes and other wooded areas along our streams and rivers. Thus, the general public is being afforded increased opportunities for enjoying the recreational facilities of the forests.

No. 2. A view of the Roosevelt highway in Flathead County. This is the extreme northern route extending east and west across the State, from which entrance can be made to Glacier National Park and the Canadian Rockies.

No. 3. This is a view of a part of the highway in Missoula County leading into the Blackfoot Valley and is along the proposed route between Missoula and Great Falls. This highway is on the State Highway Commission's program for construction and when completed will be one of the most scenic routes in the State.

The strip of virgin forest shown along the highway was donated by the Lumber Department of the Anaconda Copper Mining Company for scenic purposes. On behalf of the people of the State, and Missoula County in particular, members of this department wish to express their deep appreciation to the company for the interest displayed in the people's welfare.

No. 4. The result of a careless smoker. This fire was started during the peak of the dry season in August, 1931, on lands where logging had just been completed. For this reason, there had been no opportunity to dispose of the slash. This accounts for the intensity of the burn which blackened 1000 acres of young timber for a distance of over one mile on both sides of the highway, and cost \$5000.00 to place under control. A conspicuous monument to human carelessness.

I



II



III



IV



Nos. 1 and 3. Showing examples of slash and young growth left after logging operations on private lands.

During normal business times, approximately 30,000 acres of the virgin forests in Western Montana are cut-over each year, the raw products from which supply the sawmills and other allied forest industries.

After cutting the merchantable trees, there is left a young stand of unmerchantable trees. In addition, there is a vast amount of debris in the form of limbs cut from the trunks of the merchantable trees, commonly known as slash or brush.

This material becomes a serious fire menace during dry seasons, if it is not removed by practical methods of burning during the spring and fall months, when fires can be controlled.

Piling and burning the slash is the ideal method, but this is extremely expensive. In order to reduce the cost to the minimum, substitute methods of partial piling and selective burning are being practiced. While these inexpensive methods fulfill to a very satisfactory degree the objective desired, the services of the most experienced men are necessary to perform this work. This is obviously true, since the failure to take advantage of every opportunity may result in a conflagration which would defeat the entire plan.

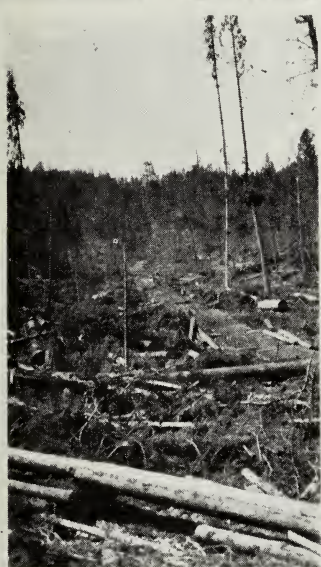
Nos. 2 and 4. Showing logged off areas after slash has been removed. Approximately 10% of the slash is piled and burned; and the remainder disposed of by selective burning.

The removal of slash by practical and inexpensive methods of burning, as previously described, is economically the basis for the best forestry practice on privately owned forest lands in Montana. Success in this accomplishment leaves the cutover areas productive, reduces the fire danger and gives a very definite promise for a future crop of timber.

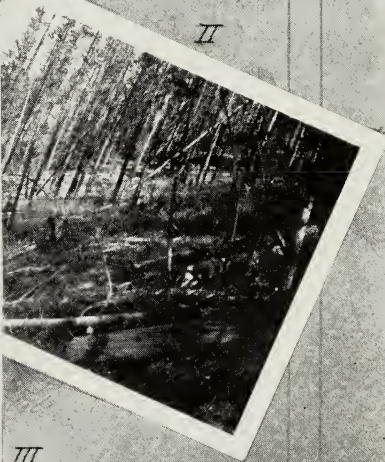




I



II



III



IV

*Continued from Page 11*

\$3.00 per M. Ft. on what is commonly termed "inferior species." This includes all of our native timber except white pine, yellow pine and spruce. The douglas fir and larch, which the state has been able to sell in the past at a rate of \$3.00 per M. Ft., has either been very accessible to market, or it has been mixed with a sufficient percentage of the more valuable species, such as yellow pine, to make it possible for an operator to pay the required stumpage rate. In other words, the sale of inferior species under the present law is largely dependent on there being enough yellow or white pine present to overcome the loss on fir and larch.

At the present time, with most of the accessible state timber cut, and with many areas where fir and larch predominate, there will be little likelihood of selling this timber unless the stumpage rate can be sufficiently reduced to give the buyer a margin of profit. If the state desires to retain a minimum stumpage rate on its timber, it is recommended that the rate on all species except yellow pine, white pine and spruce, be reduced to \$1.50 per M. Ft.

In addition to the regular activities connected with the timber sale business, the department has examined and classified approximately 60,000 acres of state lands, and has blazed and posted against trespass 230 miles of boundary on 75 separate parcels of state land.

The following table gives a fairly comprehensive picture of state forest land resources by grants.

### RESOURCES AND CLASSIFICATION OF TIMBER LANDS

Grant	Acreage Cut	Acreage Burned	Acreage Alpine- Protection	Acreage Merchantable	M. Ft. Stand B. M.	Average B. M. Per Acre
C. S. ....	38,399	55,677	28,640	204,581	1,382,180	6,700
P. B. ....	12,988	5,218	.....	54,137	517,445	9,500
A. C. ....	11,786	1,671	133	14,700	109,665	7,500
S. M. ....	3,116	1,140	.....	10,533	78,405	7,400
S. N. S. ....	7,666	1,653	.....	5,346	41,230	7,700
D. D. A. ....	2,568	80	.....	6,885	60,125	8,700
S. R. S. ....	1,595	560	.....	5,257	48,450	9,200
Univ. ....	1,340	.....	.....	60	445	7,400
Totals Western Montana .....	79,458	65,999	28,773	301,499	2,237,945	7,400
*Eastern Montana .....	5,860	4,781	.....	15,274	29,430	.....
Grand Total .....	85,318	70,780	28,773	316,773	2,267,375	.....

\*Incomplete.

## FREE TIMBER PERMITS

Fiscal Year	No. Permits	Cords Wood
1931 .....	317	3102
1932 .....	600	5139
	917	8241

“Permits may be obtained free of charge for dead down or inferior timber in such quantities and under such restrictions and regulations as the State Land Board may approve, for fuel and domestic purposes, to residents and settlers of the State.”

The above quotation from the Montana Statutes applies to the lands owned by the State. Acting under this authority the State Land Board has fixed the maximum amount of material which may be obtained under one permit during the year, at 10 cords of wood, or its equivalent.

In normal times, these permits are mostly confined to ranchers, but during the present period of unemployment, the cutting and hauling of wood has been the chief occupation of the many hundreds who are not steadily employed.

The preceding table indicates the volume of this business on State lands during the past two years. This amount represents only a small per cent of the total volume of wood taken from forest lands during the same period.

## BRUSH DISPOSAL ON STATE LANDS

Fiscal Year	Log Scale	Cost
1931 .....	13,860,000	\$ 5,543.31
1932 .....	12,330,000	4,930.28
Total .....	26,190,000	\$10,473.59

These figures show the log scale of timber cut and sold on State lands and the cost of disposing of brush resulting from logging operations.

The log scale as indicated for the two fiscal years, for the purpose of showing the volume of brush work and the cost, does not check with the actual amount of timber cut and sold during the period, for the reason that brush cannot be disposed of at the time it is created. There is often a delay of from seven to eight months after the timber has been cut before the brush is disposed of. Thus the brush resulting from timber cut during the fall of 1930 may not be disposed of until the spring of 1931.



The brush resulting from the cutting of State timber is all piled and burned at a cost to the purchaser of 40 cents per M feet B. M. The funds are deposited in the State Treasury and placed to the credit of the Foresters Co-operative Work Fund.

### SLASH DISPOSALS HANDLED BY STATE ON PRIVATE LANDS

Fiscal Year	No. Projects	Amount Log Scale	Cost
1931 } .....	91	127,461,000'	\$19,088.66
1932 } .....		85,370,000'	11,132.75
Totals .....	91	212,831,000'	\$30,221.40

The above figures show that State crews, during the two year period, disposed of the slash on 91 operations, involving a cut on private lands of 212,831,000 feet board measure log scale. This figure, however, does not include the total cut of saw timber on private lands for the western part of the State. The reason for this is that it is optional with an operator as to whether he takes care of his slash or turns the job over to the State. It is estimated, however, that the figures include about 80 per cent of the cut on private lands west of the Continental Divide. The slash created from the remaining 20 per cent of the cut was disposed of by the operators, under State supervision. This procedure is in compliance with the State law.

The disposal of slash by State crews on private lands is financed by the logging operators at the rate of 15 cents for each M feet cut.

### THE FORESTS PROVIDE JOBS

The forest industries of Montana give employment to a large force of men during normal times. During these times of business stress, the lumber and other allied industries have curtailed operations at about the same rate as other business activities. In spite of these unprecedented conditions, the forests have proved to be a refuge for literally thousands of men. Estimates have been made that over one hundred thousand cords of wood have been cut and removed from the forests by the unemployed. Practically all of this cut is dead standing and down timber, which would ordinarily go to waste, and which is also a fire menace to the adjoining green forests. The Federal, State and private forest interests have granted the cutting of this timber free for personal use; and only a small charge is made in cases where the wood



is cut for commercial purposes. Many thousand cords of wood have been sold by the unemployed, thus enabling the heads of many families to be independent of public or private aid. During the past two years, trucks and cars with trailers of all descriptions have been used for transporting the wood fuel to the homes and markets of our cities, towns and communities. Thus the forests, in spite of the present economic conditions, help provide for our citizens.

The extensive program of the U. S. Forest Service in the expansion of forest highways, in addition to regular appropriations, is being financed by the Reconstruction Finance Corporation out of funds created for the unemployed, for the construction of public works. This program is helpful not only in providing employment for Montana's citizens, but also it will open up additional avenues into the forests and thus provide new fields for cordwood operations.

Specific areas, in some instances containing large quantities of dead standing and down timber, have been set aside for community use. The people themselves, in some case, have solved their own problem through a cooperative effort in the construction of lateral roads for transporting the cordwood to the homes and markets.

The more fortunate citizens who still retain some of their former earning capacity have shown an extremely helpful spirit by purchasing large quantities of fuel from the less fortunate, jobless people. Therefore, our forests immediately adjacent to our cities and communities have provided a means for many people to earn, either in part or in full, a livelihood for themselves and their families.

**SPECIAL USE PERMITS**  
(Land Leases)

Fiscal Year	Grazing	Summer Homes	Other	Rental Receipts
1931 .....	241	13	73	\$ 8,272.43
1932 .....	237	15	88	6,426.33
				\$14,698.76

**LANDS EXCHANGE**

It has been the policy of this department to exchange, as rapidly as possible, all state lands within National Forest boundaries, which are isolated and not adapted to a plan of consolidation.

Pursuant to this program, about 26,000 acres of these scattered Common School grant holdings, containing a timber growth of little present value, have been placed at the disposal of the State Land Commissioner for use in making lieu grazing selections. About 12,000 acres of this land has been used by this department as base for lieu public domain timber lands. These selected timber lands, most of which are now clear listed, are largely contiguous to other state holdings and, therefore, contribute directly to a blocking up program.

The recent state and federal legislation providing for the exchange of State and privately owned timber lands, offers an excellent opportunity for the consolidation of state holdings into permanent administrative units or State Forests. The selection and designation of seven State Forests has already been made by the 1925 legislative session. Five of these seven forests were well chosen for the present value of the timber stands upon them and for the capacity of the lands to produce future crops.

The acquisition of private and National Forest lands within the boundaries of these State Forests will require several years to consummate. The State has already offered several thousand acres of its own lands for private lands, which have been examined during the past year. As soon as definite exchange plans can be arranged with the timber owners, the matter will be passed on to the State Land Board for final decision.

**RECEIPTS OF THE STATE FOREST DEPARTMENT  
FROM JULY 1, 1930, TO JUNE 30, 1932**

Period	Timber Sales	Timber Permits	Special Use Permits	Total
7-1-30 to 6-30-31.....	\$29,174.05	\$ 3,011.73	\$ 8,272.43	\$40,458.21
7-1-31 to 6-30-32.....	46,895.38	2,382.81	6,426.33	55,704.52
	<u>\$76,069.43</u>	<u>\$ 5,394.54</u>	<u>\$14,698.76</u>	<u>\$96,162.73</u>

**STATE FOREST DEPARTMENT STATEMENT OF APPROPRIATIONS AND  
EXPENDITURES FROM JULY 1, 1930, TO JUNE 30, 1932**

Appropriation:	7-1-30 to 6-30-31	\$33,910.00
Expenditures:	7-1-30 to 6-30-31	
Administration .....	\$ 8,974.14	
Capitol .....	399.30	
Repairs and Replacement.....	10.67	
Protection .....	14,287.65	
Timber Sales .....	7,187.11	
Land Exchange .....	1,143.78	\$32,002.65
Deficit, Fiscal Year 1930.....		1,725.08
Reverted to General Fund, 6-30-31.....		182.27
		<u>\$33,910.00</u>
		<u>\$33,910.00</u>

Appropriation:	7-1-31 to 6-30-32	\$32,735.00
Expenditures:	7-1-31 to 6-30-32	
Administration .....	\$ 8,246.57	
Capitol .....	85.00	
Repairs and Replacement.....		
Protection .....	13,621.86	
Timber Sales .....	7,544.44	
Land Exchange .....	398.14	\$29,896.01
Balance, Fiscal Year 1932.....		<u>2,838.99</u>
		<u>\$32,735.00</u> <u>\$32,735.00</u>

During the month of April, 1932, the records of the office were audited by Mr. Williamson of the Bank Examiner's office and found to be correct. A copy of the audit is on record in the office files.

## **Governor Erickson's message to the citizens of Montana on the Volunteer Fire Warden organization:**

“Montana's forests constitute one of her biggest assets. They provide timber, universally used in one form or another by more than 90% of her inhabitants. They help regulate stream flow; providing a more constant supply of water for power, for domestic purposes and for irrigation of mountain and valley ranches. They help prevent destructive erosion and the silting of reservoirs and irrigation canals. They provide shelter, refuge and breeding grounds for our fur-bearing animals and our wild game. They offer our most accessible and best-loved recreation grounds—for hunting and fishing; for camping, picnicking and for summer homes in the cool, green forests and beside beautiful, placid lakes.

Without the forage on our mountain slopes hundreds of valley ranches might fail; without the timber thousands of citizens must find other work; without a plentiful supply of well-regulated water ranches, towns, industries—cities even—would suffer.

One of the worst enemies of our forests is FIRE. During the period 1908 to 1930, inclusive, forest fires in Montana swept over more than 2,900,000 acres; destroyed resources valued at almost \$14,000,000. Within this period there were reported more than 17,500 individual forest fires; in their suppression 27 human lives were sacrificed.

And 65 PER CENT of these fires—11,568 in number—WERE MAN-CAUSED!

The time has come when responsible, reputable citizens of Montana are convinced that this drain upon their resources can no longer be tolerated.

Realizing their individual responsibility, these public-spirited citizens have asked for appointment as Volunteer Fire Wardens. Determined to stop the toll of death, damage and destruction in Montana's forests and on her forest lands, they have banded together as did the Vigilante Committees of pioneer days, donating their services for the common good.

Operating with all the powers conferred upon them by the Fire and Forest laws of their State, they have declared war against carelessness and incendiarism. Squarely behind them

stands the powers of the State and its criminal procedure applicable in the enforcement of these laws.

The State of Montana, through its State Forestry Department, welcomes the active assistance of these public-spirited citizens. To assist them it has issued this digest of MONTANA FIRE AND FOREST LAWS, AND CRIMINAL PROCEDURE APPLICABLE IN THE ENFORCEMENT OF THESE LAWS.

It is urged that the efforts of these Volunteer Wardens be concentrated upon EDUCATION AND LAW ENFORCEMENT. Attention is called to the fact that every Volunteer Fire Warden, by strict observance of the Forest and Fire Laws, State and Federal regulations affecting "closure," "registration" and "entrance permit," will further the purpose for which he has accepted his appointment.

J. E. ERICKSON,  
Governor.

Comments by officials of the various fire protection agencies on the part played by the 2000 Volunteer Fire Wardens appointed, are as follows:

Joint statement by Federal, State and private agencies covering northwestern Montana, October 7, 1932.

"Indications are that the 1932 forest fire season in Montana, North Idaho, and Eastern Washington is broken. Comparisons between last year and this, in the above territory, for the period ending August 30, are interesting. They indicate a decrease by 57% in the number of preventable man-caused fires, and a difference in damages and fire-fighting costs of one million dollars in favor of 1932. In this part of the State we had an even larger percentage decrease in the number of man-caused fires.

The weather helped, of course, but a part of the credit for the reduction in man-caused fires and reduction in damages and costs was due to the Volunteer Fire Warden organization. Scattered throughout the three states, many of the "Vigilante Volunteers," as they were termed by the papers, exerted a powerful moral influence and taught carefulness with fire in our forests both by example and by personal advice to campers, prospectors and tourists."



Supervisors' Comments on Work of Volunteer Fire Wardens,  
Region 1, 1932.

"The psychological effect on public opinion, the wide-spread publicity given the number and authority of the Volunteer Wardens, and the increased interest in National Forest affairs by representative and influential citizens, have been beneficial. The absence of incendiary fires on the Helena Forest during the past fire season as contrasted to the 1931 record, may be taken as indicative of what may be expected as a result of fire law enforcement and the efforts of interested citizens in preventive matters."

Templer, Helena National Forest.

"It is my belief that this volunteer organization did help. I know of at least two men who were appointed who went out of their way to impress on other men the necessity for care with fires. The fact that we had this large number of men, many of whom were unknown to the local people, may have been and I believe was an aid in keeping possible incendiaries from starting fires."

Abbott, Cabinet National Forest.

"While I do not have any striking illustrations where the Volunteer organization has materially helped during the past season, I know of a few cases where men have taken it upon themselves to instruct campers as to care of fire in the woods, and I know that many of the Volunteers have taken their appointment very seriously. I believe the greatest good, as far as I can determine, has been brought about from the psychological effect of having the large number of Volunteers, whose identity in many cases is unknown, thereby making people somewhat more careful with fires while in the Forest areas. I believe that the organization should be continued during the next fire season."

Wiley, Lewis & Clark National Forest.

"There is no doubt but what the publicity gained through the appointment of the Volunteer Fire Wardens helped to reduce the number of incendiary fires. In 1931 the incendiary fires totaled 4% of the total number of fires, while in 1932 they totaled 2%."

Shoemaker, Lolo National Forest.

“This year the Blackfeet had the same number of fires as in 1931, but the man-caused were reduced from 12 to 4. No incendiary fires this year, but in 1931 most of our suppression costs were on several incendiary fires. There was a lot of discussion about the organization and it undoubtedly made people more careful about fires.”

Nagel, Blackfeet National Forest.

“Undoubtedly put greater fear of being caught into those who have a tendency to willfully or carelessly set fires.

“Education and information is known to have been disseminated by a number of wardens to people they came in contact with at camps and along roads. I am sure it has helped to hold down the number of man-caused fires.”

Lowell, Bitter Root National Forest.

“Publicity, and fact that organization is existent, undoubtedly created a feeling that more care in causing fires should be taken.”

Simpson, Beaverhead National Forest.

“I am sure that the Volunteer Wardens helped materially during the past season not only in the prevention but in the suppression of fires. The following cases of action taken by Volunteer Wardens are on file:

“July 4. Volunteer Warden George Settergren remonstrated with campers leaving a burning campfire. They took help and put the fire out.

“July 2. Volunteer Warden R. P. McLaughlin and Dr. Weyer organized a crew and suppressed a lightning fire on Rock Creek. No assistance was given by the local Forest force.

“Warden H. H. Gay reported smoking violations on the Forest by letter but gave no names. As a result of the information given by Mr. Gay, action was taken by the local Forest officer and further violations of the smoking restrictions stopped.

“August 20. Volunteer Warden Jack Currie organized a party of seven, traveled three miles on foot to a lightning fire near Slough Lake, and according to Ranger Akers did an excellent job of suppression. Currie refused to accept any pay for his services.”

Derrick, Custer National Forest.



“The volunteer warden idea is a high-class publicity scheme, arousing general interest and directing public attention to the urgent necessity of materially reducing the destruction of Forest resources by man-caused fires. Leaders in the various communities are now definitely aligned with governmental agencies in the drive to reduce fires of this source. No longer do these leading citizens say, ‘*They* should do something about it,’ but instead, ‘*We* must face this problem squarely and solve it.’ These wardens not only have a far-reaching influence over the acts and trend of thought of others in the community, but having accepted the position of leadership in the work of educating the public, in the art of good woodsmanship. I believe the organization should be continued and even expanded some next season.”

Martin, Absaroka National Forest.



