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STATE OF MONTANA

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NINTH REPORT

OF THE

# State Forester

For the Period July 1, 1928 to June 30, 1930

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TO

HONORABLE J. E. ERICKSON

GOVERNOR

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**LETTER OF TRANSMITTAL**

Forestry Building,  
University of Montana,  
Missoula, Montana.

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

Dear Governor:

In compliance with the law, the Ninth Report of the State Forester, covering the period from July 1, 1928 to June 30, 1930, is herewith submitted.

Very respectfully yours,

**RUTLEDGE PARKER,**  
State Forester.



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## THE FORESTS OF MONTANA

For the convenience of reference and discussion, the forests of the state may be divided into two divisions as follows: first, those areas lying west of the Continental divide and drained by the Columbia river, known as the "western forests"; and second, those areas east of the Continental divide drained by the headwaters of the Missouri river, known as the "eastern forests."

The Continental divide, with adjacent mountain ranges, forms a natural barrier and its influence on climate and rainfall is a factor responsible in a large degree for the growth and development of the commercial and alpine forests found in the two regions. The mountain ranges in western Montana help to produce an environment favorable to tree growth, very similar to that which the Cascade range brings about in the creation of luxuriant forests on the west slopes and the gradual receding of the forests on the east slopes.

The moist winds from the Pacific coast, in approaching the higher and colder air of the Cascades, are precipitated in the form of rain and snow, thus greatly influencing the climate in the matter of temperature and humidity on the western slopes and favoring the growth of the greatest commercial forests in existence.

These winds, not entirely depleted of moisture in their eastward travel, furnish enough in the form of rain and snow for the growth of the forests in the mountain regions of northern Idaho and western Montana.

The winds become drier as they pass eastward over the Continental divide; hence the eastern country is only sparsely forested, growth confined principally to the north slopes of the mountains and to stream bottoms. The density of the forest types and the quality of the trees for lumber purposes are very much inferior to those of the western forests.

### Ownership of Forest Lands

Of the 94,000,000 acres included within the boundary of the State of Montana, about 22% or 20,500,000 acres are

forested. Very nearly all of the remaining  $\frac{4}{5}$  of the state's acreage stretches out in the treeless great plains, where wheat growing and stock raising are the principal industries.

Western Montana—that portion drained by the Columbia river—contains approximately 15,000,000 acres, a relatively small area in comparison. Of this, 11,750,000 acres are forested, and the balance is improved farms, grass lands and water surfaces.

Eastern Montana—drained by the Missouri and its tributaries—contains the enormous area of 79,000,000 acres. The most accurate estimates obtainable show that 11%, or 8,750,000 acres are forested, the growth occurring in scattered plots throughout a large area, although lying for the most part relatively near the Continental divide, where the country is mountainous in character and consequently more favorable to tree growth. Rather extensive forests of lodgepole pine and Douglas fir extend as far east as Lewistown in the mountain regions lying between the Missouri and the Yellowstone rivers.

Extending along the entire southern boundary of the state, <sup>are</sup> forests of lodgepole pine and Douglas fir in the western portion and yellow pine in the eastern; the latter type consisting of open stands of scattered trees, mostly of inferior quality.

Montana, like all western land grant-states, has a large portion of its domain in federal ownership—particularly forested lands.

Ownership of forest lands (exclusive of grazing, agricultural and barren lands) is as follows:

17 National Forests .....	13,275,000 acres
U. S. Indian Reservations, Parks, public domain .....	2,493,000 acres
State of Montana .....	447,000 acres
Privately owned .....	4,407,000 acres
	<hr/>
	20,622,000 acres

As these figures indicate, our federal government has in its possession and under its control in one form or another, over  $\frac{3}{4}$  of the forest lands of Montana. When considering the valuable merchantable stands of timber within our boundaries, under private ownership, the above figures may be misleading. The National Forests, which are the principal federal reserva-

tions, were originally set aside for the protection of headwaters of streams (all of which are interstate in character) and for timber production. These include lands which have been the property of the government from the time of the Louisiana Purchase, and for which title has not passed to other ownership under the land laws, grants, etc. The original boundaries of these reservations, at first called "forest reserves," included in some instances as much as from 5% to 15% of the land which had passed to private or other ownership prior to their creation. Relatively recent federal legislation has authorized the acquisition of these lands through purchase or exchange, an important feature in the National Forest program. As a general rule, negotiations are not initiated for acquiring these private lands until the timber has been removed. In all, approximately 5,000,000 acres of forest lands have passed out of the hands of the government through grants to the state, the Northern Pacific Railway Company, and in small tracts to the individual citizen under the various land law acts, in selections made primarily for the timber contained thereon. This resulted in the alienation of the major portion of the most valuable stands of timber from the standpoint of quality, accessibility and density, although the gross area involved covers only about  $\frac{1}{4}$  of the forest lands of the state.

### The Average Timber Cut

The most accurate data on the acreage and quantity of timber cut each year is covered very fully in the Montana Forest and Timber Handbook, a publication prepared by the Forest Products Research Department of Region One of the U. S. Forest Service. This publication will be used as a reference for subsequent figures given in this report, with such changes for western Montana as the evidence warrants.

The inroads being made on the privately owned forest lands of the state are caused primarily through the cutting of saw logs, hewed ties and round mine timbers, computed at 220,500,000 board feet annually. Other products, such as poles and piling, farm timbers, cordwood, pulpwood, shingle bolts and lath, do not appreciably reduce the available supply of virgin stands of commercial timber contained in the estimates of these holdings, although the cut equals a total of 86,500,000 board feet, since only a portion of such material is

taken from virgin saw-timber stands. A large percentage of the cordwood is salvage material in the form of dead standing and down timber, tops of trees from logging operations, slabs from saw mills, and trees cut from wood-lots adjacent to farms—the cutting of which reduces in a very small measure the available future supply of saw-timber for the mills of the state. Posts and poles for fencing farms and stock pastures add considerably to the volume of timber cut annually, but likewise these products are not taken from the commercial saw mill stands, usually coming from dense pole-stands or other growth, the cutting of which is in the nature of an improvement thinning, more helpful than harmful to the future forest. It is estimated that of the above 86,500,000 feet board measure, cordwood for fuel, and posts and poles for farm fences account for a total of 83,000,000 feet. The cutting of material for the manufacture of these minor or by-products having extensive local use, together with the loss from fire and insects, annually reduce the commercial saw timber types about 45,000,000 feet.

The cut, including the principal timber products, lumber, ties and round timbers from private lands—indicated at 220,500,000 feet—plus the cut for minor products and losses by fire—estimated to be 45,000,000 feet board measure—total an aggregate cut of 265,500,000 feet board measure annually from the virgin forest stands.

Articles which have been written in the past by foresters have indicated that the private forests of Montana will be exhausted in about 20 years, referring particularly to the western forests, where lumbering is conducted on a comparatively large scale and where large areas of forest lands are being cut over annually. Figures from the best estimates available indicate that there are still remaining in western Montana 1,600,000 acres of commercial timber stands in private ownership, which are being cut on the average of approximately 25,000 acres per year. Assuming that this will be the normal rate of cut for the future, it will require 64 years to exhaust the private timber. Few industries plan a half century ahead for their raw products.

Much of the private timber which supplies the smaller stationary mills will be depleted in 20 years, after which timber must be purchased from the federal and state agencies, if operations are to continue.



This condition does not apply to the large mills cutting private timber. There is every indication that the cut from private lands after 20 years will be less than the present average, and that the large mills will operate for a period of 50 to 60 years each, assuming that readjustments through purchase in the present holdings are made in order to supply the necessary timber resources for the mills throughout this period.

One large mill is dependent upon Indian Reservation timber. It has in sight a supply for 25 years from this source, and an additional 25 years from National Forest and state timber, if it is inclined to take advantage of the available supply.

It can not be assumed that the small portable mill will be eliminated entirely from the picture after a period of 20 years. Such mills will always play a part in supplying the needs of farms and communities in a local capacity, particularly those settlements removed from railroad transportation. The annual supply from this source is negligible, however, in comparison to the output of lumber from the large stationary mills, and will become less with the extension of railroads and the building of better highways for truck transportation.

### **Timber Resources on the 17 National Forests**

It has been estimated that these forests contain 29,500,000,000 feet of virgin stands of commercial timber, of which 20,000,000,000 feet lie in the western forests, and 9,500,000,000 feet in the eastern forests. The average annual cut from these forests in the past has been around 82,000,000 feet board measure, and of this amount approximately 20,000,000 feet are minor products used locally, the cut of which does not materially decrease the available supply for saw mill purposes. Cordwood, the largest item in the minor cut, is derived mainly from salvaged material, such as standing dead and down trees. If from green timber, the cut comes from small tracts, most of which would not be included in saw mill logging chances. The posts and poles for farm fencing—the other item of cut—are mostly improvement thinnings from dense stands.

The cut from the National Forests' logging chances valuable for saw mill production does not reduce the available supply to exceed 65,000,000 feet per year. With 20,000,000,000

feet available in western Montana, a period of 300 years will be required to remove the entire stand of merchantable timber at the present rate of cutting.

If economic conditions permitted the proper distribution of the cut over the entire area of these western forests, 225,000,000 feet board measure—exclusive of minor products—could be cut annually, all of which would be replaced each year by natural growth. In other words, it is possible for the National forests situated in western Montana to furnish three times more timber products to the various wood-using industries than are now being cut; and to continue to do so indefinitely under the present plan of forest management.

Just so long as the wood-using industries have at their command timber lands in private ownership, surpassing in quality and accessibility those publicly owned, they will confine their woods operations largely to private holdings, thus reducing to the minimum the cost of logging and transporting the raw products to the plants, while securing the highest grade of material to compete with similar products on the market from other regions. A further reason will be to reduce the taxes from year to year on the amount of standing merchantable timber in private ownership and thus directly decrease the carrying charges.

Assuming that all of the privately owned timber will be exhausted in from 50 to 60 years' time, the National forests will have in reserve an ample supply to meet the state's demands during the interim necessary to bring to maturity, for a second harvest, the advance growth left after logging on the private lands. This, however, can be accomplished only through an organized plan for the removal of the slash as logging progresses in order to reduce the fire hazard and safeguard the advance growth of trees left after logging. These accomplishments must be supplemented by an adequate plan for fire protection or else these young forests will suffer very seriously from the adverse effects of forest fires.

### Eastern Montana Forests

These forests comprise about 8,500,000 acres and are estimated to contain 11,000,000,000 feet board measure of timber 9,500,000,000 feet of which are in National Forests and 1,500,000,000 feet in private and state ownership. These forests

furnish only 3 per cent of the lumber production of the state. They are not capable of extensive lumbering operations on account of their limitations in quality and quantity for the manufacture of average grades of lumber. They supply, however, large quantities of material invaluable to the stock and farm industries, the mines, cities and communities as well. Such products as ties, posts and poles for fencing, cordwood and a limited quantity of lumber, add materially to the industrial wealth and social welfare of the people.

Since 84 per cent of the timbered lands in this region are controlled by the National forests, it is safe to assume that care will be exercised in the cutting of the forests, so that replacement through the growth of immature stands and the natural regeneration of the forests will provide a continual supply for future generations.

### **The State Forests**

These forests comprise an area of 447,000 acres. Seven state forests set aside by a law enacted in 1925 contain 225,000 acres; and the remaining 222,000 are mostly scattered and intermingled with the privately owned lands.

Practically no timber has been cut in the large blocks of state holdings. The state-owned timber, which is in demand by the lumber industries, lies upon areas adjacent or contiguous to private holdings where logging operations are in progress. The average cut during the last five years has not exceeded 30,000,000 feet board measure per annum. There is nothing to indicate that the cut will materially change in the immediate future. At the present average rate of depletion, 80 years' time will be required to remove the entire stand, which is from 20 to 30 years longer than will be required to cut the privately owned timber—based on the present rate of output.

### **Indian Reservations and Other Federal Lands**

The timber holdings on these lands are not very extensive. The Flathead Indian Reservation has the most valuable timber resources, all of which can be sold on the open market. These forests have been heavily cut into during the past 15 years. If the present rate of cutting is an index to the volume of cut for the future, the supply of sawlogs is sufficient for a

period of 25 years. This prediction is made on the basis of the existing logging units available for the larger stationary mills—units which are large enough to justify comparatively large operations. The final exhaustion of the extensive stands of timber for saw mill purposes, will not result in total depletion of these resources. Much of the tribal forest land on the reservation—not tributary to the logging units referred to, contains many smaller tracts of timber sufficient to fully meet the needs of the community.

These forests are being cut conservatively under the direction of the Indian Service. Careful selection of seed trees, progressive methods of slash disposal after logging and ample provision for fire protection to safeguard the forests, assure a second harvest of the timber crop within a reasonable period of time.

The Federal government has in its possession also about 200,000 acres of unappropriated forest lands. These are scattered over the western part of the state and the timber thereon is mostly inferior and will add but little to the future timber supply.

Glacier National Park contains more timber resources than any other Federal reservation with the exception of the National Forests. These resources are not subject to exploitation and will not be included as a part of the state's future timber supply.

### **The Forests as an Investment for the State**

The raw materials which are taken from the forests of Montana and which are manufactured into various products, maintain one of the state's leading industries. Recent figures compiled by the Federal government indicate that among the manufacturing interests, lumber with its allied industries, ranks first in point of value of finished products. This industry is estimated to have a total investment of \$50,000,000. Including the public forest agencies, it employs nearly 7,000 of Montana's citizens. When business conditions are at a normal level, there is an expenditure of \$8,500,000 in wages annually. Very nearly three-quarters of a million dollars in the form of taxes enter the state's coffers to aid in supporting the state's governmental units. This industry is also a liberal

supporter of the railroads and pays on an average each year in freight charges for raw and manufactured products about \$5,000,000.

The forests which contain the raw products for manufacturing lumber and other useful material can be maintained for all time with the expenditure of a reasonable sum of money each year to give the protection necessary to safeguard the young forests remaining after logging, which in all cases of cutover lands, form the basis for a future timber crop and the continuance or future prosperity of the industry.

The mines, oil wells and coal fields will, in time, through continuous operation, become exhausted, but the forests can be grown as crops are grown, harvest succeeding harvest throughout a period of years.

### **Forest Land Values; Recreational**

No land surfaces have any greater scenic and recreational value than the forested slopes of the mountainous regions. It is impossible to evaluate this in dollars and cents because there is such a wealth of use and purpose to which these mountain forests are put to serve humanity, which cannot be computed on any balance sheet. The capital invested in Glacier and Yellowstone National parks to attract tourists from all parts of the world, gives an idea of the value of these mountains, streams and lakes, set aside by the Federal government as extensive playgrounds for the people, advertised by the transcontinental railroads and visited yearly by thousands of people from every part of the world.

Little would have been known of the wonders of these mountain regions had not the government withdrawn the lands and set them aside as national recreation grounds, giving them the necessary publicity. Other regions outside these parks have equal scenic attractions, but are little known because of lack of publicity, and because modern highways have not kept pace with the public's demand.

The thickly populated sections of the industrial east have long been accustomed to the comfort and ease of travel on improved highways. All those states lying in the Appalachian, Alleghany, Adirondack and the Green and the White mountain regions, which have been able to finance the rapid con-

struction of improved highways, have added tremendously to their wealth from the visits of tourists from other parts of the world. New Hampshire is a shining example of the results of good roads and extensive advertisement of its natural resources. The mountain regions of this state are visited annually by hundreds of thousands of people, and this is by far the greatest source of income to the state.

Montana is very nearly sixteen times the size of New Hampshire and its scenic attractions cannot be surpassed; yet with a population only 150,000 greater than that of New Hampshire the state has been unable to finance the construction of great national highways to keep pace with public demand. The potential recreational resources with such added attractions as our summer climate, mountain scenery, streams and lakes, and the abundance of fish and big game, when made accessible by improved highways, will be the means not only of giving greater opportunities for added health, happiness and pleasure to the American people, but will also add exceedingly to the wealth of the state. There is no source of advertising or of publicity so logical, so sound and so receptive to the public mind as the construction of good roads.

### **Montana Forests As a Source of Water Supply!**

Forests have been recognized by all nations as an important factor in the regulation of stream flow. A plentiful supply of water during the growing season is essential to produce the maximum crops of many of the important agricultural products. The sources of all of the important streams originate in the forested mountains. They are the natural reservoirs which supply all of the water for farming, for the cities and for generating hydro-electric power.

Comparatively accurate estimates indicate that 60 per cent of the forested areas of Montana are situated in rugged mountainous country and above the zone of the commercial timber belt. Under present conditions these remote forests cannot be cut for the timber they contain. Lumbermen, foresters and others familiar with conditions will venture the statement that most of these forests will remain as nature has produced them, untouched—except for an occasional fire scar—by the hand of man. These great wildernesses of more than 12,000,000 acres are now being protected against the rav-

ages of fire—a measure which is vital to limit widespread destruction in a region more hazardous, from the standpoint of rapid fire spread, than any forests in the United States, excepting those of Northern Idaho. The cost of protecting these forests would be amply justified if their sole purpose was to preserve the great reservoirs which are our only source of water supply.

### **Forests, the Home of Big Game**

In protecting the remote forest regions from destruction by fire, they are likewise kept in fit condition for the maintenance and propagation of big game. People throughout the United States, who are only reasonably informed, picture Montana as the land of plenty. Sportsmen in particular look upon the state as a veritable paradise of game, with no signs posted in the back country of "No Trespassing" or "No Hunting Allowed." The great variety of game found is an asset as an actual food supply, and gives ideal recreation in the hunt, but the fact that these animals are here, is a very decided factor in increasing the wealth and business of the state by attracting many thousands of visitors.

Montana can well be proud of its game laws and the care which its game department and its citizens have given to the conservation of this natural resource. Fortunately, too, the greater portions of the ranges utilized by the game animals are not in conflict with those used by domestic stock. Fully one-half of the vast mountain territory of 12,000,000 acres, because of its remoteness, cannot be used profitably except for game animals.

Within the national forests, many large areas have been set aside as game preserves, upon which no cattle or sheep are permitted, thus providing ample winter feed for the wild life in those localities. The rugged terrain of the forested regions of Montana, together with the protection afforded by progressive game laws, through policing by an efficient game department, and the full support given by public sentiment, are such strong factors that Montana can be assured of a future abundance of its wild life.

### **Forests Are Ideal for Rest and Recreation**

Never before in the history of the country have people visited the forests in such large numbers. Thousands of cab-

ins, cottages, and many pretentious summer homes have been constructed in the forests of the state during the last 15 years, and from present indications the number will rapidly increase in the future. Better roads and better and cheaper automobiles have afforded this opportunity. "Dude ranches" are springing up like mushrooms throughout the entire forested region, patronized by all classes of people from the United States and are rapidly becoming a very important business enterprise, giving most valuable publicity to Montana.

### State Parks for Camp Sites

The people living in the mountain regions of Montana have fully recognized the importance of allowing the state to acquire camp sites, varying in size from five to 40 acres, located in attractive places along the public highways, where the virgin stands of timber are reserved from cutting and a few necessary improvements are established for the convenience and comfort of the travelers. Such a plan should cover the entire state, since the treeless regions of the great plains contain many attractive sites which could be developed and improved for this purpose. The time is rapidly approaching when an oiled road will reach across the entire state, and auto travel will increase beyond all expectations. No state could welcome its guests with a better spirit of good cheer and understanding of their needs and comforts, or with greater economy to them. However, unless the state, through legislation, takes advantage of these natural camp sites, private enterprise will commercialize the most desirable areas and operate them at the expense of our citizens, as well as that of tourists from the country at large.

The state of Washington has taken the lead in the northwestern states in acquiring valuable camp sites for the visiting public. In specific cases, the legislature has authorized the exchange of grant-lands for lands in private ownership, where such are of outstanding value for recreational purposes. In fact, all of the states which are naturally endowed with recreational advantages—and many of these have not the scenic resources of which Montana can boast—are rapidly acquiring park sites for the use of the public. The selection, development and improvement of these small sites should



not be confused with the ordinary interpretation of the park idea, for they are not at all alike.

### Commercial Uses Other Than Timber

The grazing of domestic livestock is the most profitable and extensive use of the forest lands in all ownerships. A large percentage of the scattered state-owned forest land units adjacent to stock-raising communities are under five-year grazing leases, and the demand is increasing each year. Until a few years ago, much of the state-owned lands in the back country and out of the livestock region had not been utilized by the stock industry. Most of these lands are more valuable for sheep than for cattle. Because of its scattered holdings, the state found it difficult to interest prospective users. A joint agreement was made, however, between the state and the owners of adjacent private lands, to consolidate the holdings for the purpose of leasing, with the fees prorated on the basis of ownership. Most of such areas have been used principally by sheepmen from the state of Washington, and the practice has worked out advantageously to both the stockmen and the landowners, since it has opened ranges hitherto not utilized, and has also created a source of additional revenue for the property owner. Demands are being made constantly for lands for many uses. Surveys have been made on many attractive lake shores, because of the many applications for summer home sites. Suitable campgrounds in each case have been set aside for public use, thus avoiding the exclusion of this very important body.

Applications for dude ranches, service stations and camp grounds in connection therewith, fur-animal farms, and like uses are being brought to our attention each year, and a number of leases covering such uses have been issued or are pending action. The sum total of these leases and permits is giving more income each year to the school fund. This department is making every effort to extend the uses of the state forests as rapidly as the needs of the times will warrant.

#### RECEIPTS OF THE STATE FOREST DEPARTMENT FROM JULY 1, 1928, TO JUNE 30, 1930

Period	Timber Sales	Timber Permits	Special Use Permits	Total
7-1-28 to 6-30-29 .....	\$ 70,201.76	\$ 5,850.59	\$ 6,240.89	\$ 82,293.24
7-1-29 to 6-30-30 .....	58,713.54	6,230.09	7,120.18	72,063.81
	\$128,915.30	\$ 12,080.68	\$ 13,361.07	\$154,357.05

STATE FOREST DEPARTMENT STATEMENT OF APPROPRIATIONS AND  
EXPENDITURES FROM JULY 1, 1928, TO JUNE 30, 1930

Appropriation: .....	7-1-28 to 6-30-29	\$ 39,400.00
Expenditures: .....	7-1-28 to 6-30-29	
Administration .....	\$ 8,930.24	
Capital .....	1,164.22	
Repairs and Replacements .....		
Protection .....	15,488.84	
Timber Sales .....	12,088.69	
Land Exchange .....	2,424.97	\$ 40,096.96
<hr/>		
Balance, Fiscal Year 1928 .....		749.25
Reverted to General Fund, 6-30-29 .....		52.29
		<hr/>
	\$ 40,149.25	\$ 40,149.25
<hr/>		
Appropriation: .....	7-1-29 to 6-30-30	\$ 33,910.00
Expenditures: .....	7-1-29 to 6-30-30	
Administration .....	\$ 8,095.44	
Capital .....		
Repairs and Replacements .....	410.00	
Protection .....	16,491.07	
Timber Sales .....	9,788.40	
Land Exchange .....	850.17	\$ 35,635.08
<hr/>		
Deficit, Fiscal Year 1930 .....		1,725.08
	<hr/>	<hr/>
	\$ 35,635.08	\$ 35,635.08

### FIRE PROTECTION DEFICIT, FISCAL YEARS 1930-1931

The high fire suppression costs of 1929 made it necessary for both of the large private protective associations to levy extra assessments on the listed acreage. These assessments amounted to 3c per acre with the Northern Montana Forestry Association, and 11½c per acre with the Blackfoot Forest Protective Association.

By using over \$3,000.00 from our cooperative funds, and borrowing about \$2,000.00 from our 1931 fiscal year appropriation, the state was able to pay the Northern Montana Forestry Association's assessment, and 11½c per acre to the Blackfoot Protective Association, leaving a balance due to this association of \$14,319.91, plus interest at 7% per annum.

The 1930 fire suppression costs in the Blackfoot Forest Protective Association caused this organization to levy an extra assessment of 1c per acre. The state's share on acreage listed amounted to \$1,355.01. Normally the department funds could have paid this assessment, but with the depleted balances left by the previous year's expenditures, it was impossible to raise the money. This amount must, therefore, be added to the deficit of the season of 1929.

CLASS A PERMITS—TIMBER CUT

Fiscal Year	No. Permit or Sales	Cordwood		Linear Feet Cedar Poles		Saw Logs		Posts	Poles	Ties Stulls	Mine Props	Value
		Green	Dry	Green	Dry	Green	B. M.					
1929	164	34	1,900	4,600	68,228	857,150	106,630	20,905	980	11,625	15,381	\$ 5,850.59
1930	178	173	1,570	23,371	55,735	211,720	602,860	9,611	2,575	5,576	19,841	6,230.09

ADVERTISED CLASS C SALES

1929	24	23,375	20,099,030	32,190	62,776.13
1930	17	19,262,990	428,750	59,602.55	

FREE PERMITS

1929	193	1,808	5,140	dry	dry
1930	177	1,706	625	200	610
					625

## TIMBER SALES

The foregoing table gives the volume and value of the forest products cut during the fiscal years 1929 and 1930.

By comparing this two-year value of timber cut with that for the preceding five-year period, as given in the eighth biennial report, it will be noted that the timber sale business has fallen off about 32 per cent.

Under the present market depression, the lumber mills of the state are cutting only about 70 per cent of normal capacity. This explains the reduced cut of state timber.

State timber, now under contract to be cut within three years, involves over \$160,000.00 in value. This, with the usual amount of small sales made each year, indicates that there will be no further reduction of cut on state lands.

The department has taken advantage of the slackening of timber sale activities by increasing the amount of timber cruising and boundary posting. Approximately 60,000 acres of timber land were cruised during the period covered by this report, and 1,000 trespass notices were posted along the boundaries of two hundred units of state land.

### SPECIAL USE PERMITS

Fiscal Year	No. Permits	Acreage Grazing	Acreage Crossing Permits	Other Uses Acreage	Rental
1929 .....	164	57,530	35,000	876	\$6,240.89
1930 .....	182	60,120	54,000	878	7,120.19

## LAND USES

Regardless of unfavorable conditions in the livestock industry, there has been a very satisfactory increase in the acreage of and income from lands held under lease or permit, as shown by the above table.

Probably the most significant growth in the use of the timbered forage has been brought about by sheep shipped in from outside the state for summer grazing. Originally this was a somewhat experimental enterprise, because of the unknown quality and capacity of the various ranges selected. For this reason the revenue rate based on acreage has been low. Just as rapidly as the carrying capacity of the various range units can be determined it will be the policy to increase the revenue rate per acre, in accordance with the corresponding increase in the number of sheep grazed on each allotment.

TABLES GIVING A COMPARATIVE FIRE RECORD FOR THE SEASONS 1928 AND 1929

A. NUMBER BY CAUSE AND CLASS

TOTALS	Lightning	Railroad	Campers	Smokers	Brush Burning	Incendiary	Lumbering	Misc.	Unknown	Total	Class	Class	Class
											A	B	C
1928	323	110	44	101	20	2	3	12	4	619	442	138	39
1929	640	163	139	231	66	27	9	65	2	1,342	778	380	184

B. AREA BURNED—ACRES

TOTALS	Mature or Merch.	Forest	Protection Forest	Railroad	Lightning	Smokers	Campers	Smokers	Will Restock	Young Growth Restock	Total	Protection Brush and Grass	No Protection or Forest Value	Total	GRAND TOTAL	Av. Area Per Fire
															(acres)	(acres)
1928	738	1,523	(b)	2,494	2,446	24	36,174	613	1,655	664	4,580	1,347	234	1,581	6,161	9.9
1929	110,695	49,433	(b)	3,484	56,148	36,174	64,840	6,248	71,917	10,096	242,141	8,448	6,376	14,824	256,965	191.4

C. AREA BURNED BY CAUSES—ACRES

TOTALS	Lightning	Railroad	Campers	Smokers	Debris Burning	Incendiary	Lumbering	Misc.	Total	Unknown	Total
										(for State use only)	
1928	2,446	2,494	24	613	113	6	12	348	348	105	6,161
1929	56,148	3,484	36,174	64,840	6,248	137	54,377	85,537	85,537	20	256,965

D. DAMAGE

TOTALS	Timber M. B. F.	Reproduction Value	Forage Value	Other Values	Total Values (a) to (d)	Protection Forest Value at \$1.00 Per A	GRAND TOTAL VALUES
1928	1,242	3,136	180	4,148	15,311	1,536	16,847
1929	519,512	1,244,695	4,784	24,875	1,483,602	57,881	1,541,483

E. DAMAGE BY CAUSES—(DOLLARS)

TOTALS	Lightning	Railroad	Campers	Smokers	Brush Burning	Incendiary	Lumbering	Misc.	Total	Unknown	Total
										(for State use only)	
1928	8,848	4,502	771	82	37	2,595	16,847				
1929	282,395	19,825	481,453	62,080	299	269,259	52,848				

## FIRE PROTECTION

The foregoing tables give a comparative fire record for the seasons 1928 and 1929.

The first report is for a season of normal weather, while the second is for one of extreme drought. Fire protection agencies have learned to expect and dread such conditions about once in every decade.

In comparing these tables many erroneous conclusions may be drawn unless full consideration is given to the factors affecting the origin and spread of fires. For example, the 1929 record indicates almost double the number of human agency fires reported for 1928. This might easily be mistaken for an indication of increased carelessness on the part of the public. If the facts could be determined, we would probably find that there were an equal number of chances for human agency fires during each of these two years. The difference lies in the fact that conditions were more favorable for starting fires during one year than during the other.

These same facts hold true for lightning fires. It frequently happens that some of our worst seasons for electrical storms are the easiest for fire fighting. Therefore, it is unfair to criticise the public for increased carelessness during these periodical drought years. To be sure there is plenty of room for improvement in the handling of fires by the public, and protective agencies are justified in carrying on a campaign which seeks to correct this human negligence. On the other hand, credit must be given to the majority of people visiting our forest regions for their fire-consciousness. A small minority is habitually careless, and it is doubtful whether repeated warnings to this class accomplish any lasting benefits. If these forest enemies could be identified and kept from our wooded areas during fire seasons, it would be a worthy achievement for fire protection. Since this cannot be done, fire protective agencies are now forced to adopt restrictive measures on the public use of forest lands during periods of fire hazard. Another case where the unoffending majority has to suffer for the carelessness of the few. Considering the increasing number of people who visit the forests each year, it is only fair to say that there has been a constant improvement in their use of fire in the woods.

With regard to fires started by brush burning and logging operations, it may be expected that fires from both of these causes will show a greatly reduced burned-over acreage under the present state slash disposal system which is explained elsewhere in this report.

In previous years railroad fires, caused by coal-burning locomotives, have always been near the top of the list of human agency fires. Most of these fires were started by the Northern Pacific Railroad. While this company invariably accepted the responsibility for such fires, and paid the bills, this did not relieve the protective agencies from the necessity of combating the flames. Nor did it keep the adjacent mountain sides in green timber. This railroad company needed no appraisal of a situation which was annually costing it thousands of dollars in fire fighting claims, and other thousands in claims for damage to public and private property. The solution lay either in finding some means for controlling locomotive sparks, or in the enormously expensive alternative of changing the fuel system. The problem was solved in the spring of 1930, by a mechanical expert in the employ of this railroad, Mr. M. F. Brown, through the invention of a spark-arrester. After making the most exacting tests of this device, it was installed on practically every locomotive operated by this company throughout the timbered divisions. When the 1930 fire reports have been computed they will probably show that railroad fires have materially decreased in number, thus establishing an enviable record when compared with other human agency fires.

This spark-arrester is probably the most outstanding single achievement ever made in the cause of fire protection. Montana can well join other states in congratulating the inventor and the company introducing it.

So far these comments on the fire situation have been concerned with progress and achievement. Unquestionably our timber lands are receiving a better degree of protection today than in the past. This is largely due to the construction of more trails, roads, lookouts, telephone lines, etc., all of which are intended to contribute toward a reduction in the yearly acreage burned over.

There can be little doubt that a certain amount of these improvements is essential if we are to adequately protect the

forests. In the future difficulties may arise in determining when timber has received a commensurate degree of protection. Our protective organizations pass through several seasons with gratifying results and about come to the conclusion that the fire problem is solved. Then they are hit by a year like 1929. After the smoke has cleared away, we go into a huddle to find a remedy. It is easy enough to take a back-sight on many mistakes and weaknesses of our organizations. The real problem is, "How may we correct these defects so that our organizations may best withstand a similar fire season and at the same time keep protection costs within reasonable economic limits?"

Fire protection without due regard to cost is not desirable, either for the state or the private owner. To be acceptable, its cost must coordinate with the values represented by the various timbered units. This cost limit should apply to both detection and suppression of fires. Obviously, if an extra cent per acre for prevention will save one and a half cents per acre in timber loss and fire fighting costs, it is a good investment. On the other hand, any rate of insurance out of proportion to the value of the lands' product is a questionable business policy.

Fire protection costs with all agencies have a more or less fixed rate, regardless of the season's hazard. In late years this rate has been somewhat increased in order to provide for needed improvements. The fire suppression rate depends upon the season, and cannot be anticipated. Normally this rate does not exceed one cent per acre. During seasons like 1929, fire fighting costs apparently have no limit. Possibly the cost limit during such seasons is more largely governed by available manpower than by any desire to curtail expenses. At any rate, there is an invariable tendency, during these bad fire seasons, to forget the cost item in a rather hopeless but sustained effort to control large fires.

The fact that we can, and do, control moderately large fires during normal seasons at no prohibitive cost, does not argue that the same results may be obtained during a bad season. Fires reaching one thousand acres in size during a season similar to 1919 or 1929, are seldom, if ever, placed under control without assistance from the weather. This may be a disputable fact, but there are three recorded fire seasons which



support the statement. If this is true, or even largely true, why wage a costly fight on fires during times when their control is doubtful, if not apparently impossible? Under such conditions would it not be better to maintain a smaller fire fighting crew that could be advantageously employed in "mopping up" the back and sides of the fires to prevent their spread to adjacent stands of valuable timber?

This should not be construed as an argument for any loosening of our protection standards during times of stress. On the contrary, emergencies must be met by increased forces, but is chiefly for the purpose of waging the fight while the fires are of controllable size. If this effort fails, it may then be wise to take stock of our bank balance and allow certain economic laws to guide us in the extent of further fire fighting activities.

It is realized that this is a rather unorthodox program, and probably it merits more unfavorable criticism than praise. In justification of its proposal, we have in mind certain embarrassing departmental deficits and the fires which caused them. If we, who act as timber land trustees, could truthfully report to our public and private stockholders that our fire fighting costs are always consistent with the value of the property destroyed or threatened, then there would be no cause for regret in requesting the property owners to pay the bills. As it is, we justify these unreasonable costs as a matter of fulfilling an obligation to a cooperating protective agency. Naturally, if the costs have been incurred, each property owner concerned has an obligation in paying the bills. This does not excuse our protective organizations for unwarranted expenditures. If our fire agencies are to merit the property owner's confidence in them, it would seem that a more businesslike policy would have to be adopted in the handling of uncontrollable fires.

Before leaving the subject of fire protection it seems appropriate to call attention to our fire publicity program during the summer months. In a zealous effort to impress the public with the seasonal fire hazard, there has been a tendency in late years to magnify the fire situation in the news items to the press. This news probably has more influence outside than inside the state. It is a question whether or not the reaction to it is detrimental to Montana. A word picture of the fire

AGENCIES HANDLING FIRE PROTECTION ON STATE, PRIVATE AND PUBLIC DOMAIN FOREST LANDS IN WESTERN MONTANA  
AND ACREAGE OF EACH

	Black-foot Ass'n	N. M. F. A.	Still-water by State	Big Fork by State	Koot-enai	NATIONAL FOREST DISTRICTS				Bitter-root	Glacier Park Flathead Reserve	Total
						Black-foot	Flat-head	Cabinet	LoLo			
Private contributing ....	790,000	912,000	20,000	30,000	54,750	20,154	197,870	95,313	53,877	168,416	35,163	2,377,543
Private not contribut'g	300,000	130,000	5,000	6,000	4,000	63,000	.....	32,000	.....	10,000	.....	550,000
State .....	135,000	102,000	92,000	8,000	5,514	24,618	39,333	8,687	.....	5,904	.....	457,056
Public domain contrib'g	125,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	125,000
Public domain not contribut'g	.....	35,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	35,000
<b>TOTALS</b> .....	1,350,000	1,179,000	117,000	44,000	64,264	107,772	237,203	136,000	53,877	184,320	35,163	3,544,599

situation giving horrors and dangers which do not exist, is not a good invitation to extend to the tourist. Montana needs this trade, and it would be unfortunate if the state should lose any appreciable portion of it through a fire publicity campaign of doubtful value. We, therefore, suggest for the mutual interest of the tourist and state, that the glowing press headlines concerning the fire situation be more factual and less sensational.

### SLASH DISPOSAL ON PRIVATE LANDS

The private timber owner and the public hold conflicting attitudes on the subject of slash disposal. One is guided chiefly by present profit in exploiting the timber resources, while the other contends that a degree of sacrifice must be made in present revenue as a means of perpetuating these resources to their greatest future usefulness.

A fair analysis of these two viewpoints will disclose that both are partly right. The private owner and public each have a responsibility in the condition of cutover areas. The problem is to equalize this responsibility.

The slash disposal law passed in 1927 was an attempt to reconcile both sides of the question. This law reads as follows:

“Every person, firm, or corporation who shall hereafter cut any timber, logs, ties, posts, poles, cordwood or pulpwood, or any other forest product upon lands within the State of Montana, shall remove any fire hazard to the property of others created by the slashings, or by other procedure, to the extent and in the manner required by the State Forester under the conditions obtaining, provided that expenditure in excess of 15c per 1000 feet board measure, or the equivalent thereof, of any merchantable timber cut shall not be required.”

In accordance with this law, slash disposal was handled by the individual logging operators, under state supervision and instruction for a period of two years. It was then found that the results were not all that could be expected. In some cases satisfactory work was done, but on the whole, the brush disposal did not fulfill expectations.

As a means of finding a remedy for this unsatisfactory slash condition, the State Forester called meetings at Kalispell and Missoula in November, 1929, and discussed the matter fully with lumbermen, loggers and timber owners. It was proposed by the State Forester that the slash disposal work could be greatly improved by centralizing it under one agency. All of the large timber operators and many of the smaller ones then agreed to turn this work over to the state and pay 15c per M. feet on all timber cut for the purpose of taking care of the slash. Since that time the state has assumed the responsibility for taking care of slash disposal on about 90 per cent of the timber cut on private lands. During the past year, this has amounted to approximately 175,000,000 feet, on 60 separate operations.

In carrying out this work the state has three objectives:

- (1) To make the operations reasonably safe for summer logging.
- (2) To reduce the fire hazard on the entire cutting unit to a degree of reasonable safety.
- (3) To dispose of the brush so that a minimum degree of damage will be done to the reproduction and residual stand.

The first objective is really a safety plan for the operator, who shares in making it. The state's part of this work invariably supplements the second objective by tying into the regular fire control lines of the unit.

The methods employed and the results obtained in securing objectives 2 and 3 under a 15c slash limit are largely dependent on the timber type. Our commercial forests of western Montana can be broadly divided into three types: (1) yellow pine; (2) larch and Douglas fir; (3) white pine, spruce and cedar.

On state lands where complete brush disposal is made by piling and burning, the following costs obtain:

Yellow Pine .....	\$ .35 to \$ .40 per M.
Larch and Douglas Fir .....	\$ .40 to \$ .60 per M.
White Pine and Spruce .....	\$ .85 to \$1.00 per M.
Cedar, per linear foot .....	\$ .01

From these figures it can be seen that where straight piling and burning is followed, only about 1/3 of the yellow pine and larch Douglas fir slash areas can be taken care of

for 15c per M. It is, therefore, customary to confine the piling and burning to advantageously located strips, supplementing these with broadcast burning wherever this can be accomplished without serious damage to the young growth. By a combination of strip piling and careful broadcast burning in yellow pine country, 80 per cent of the brush can frequently be removed with no appreciable damage to the young growth. The same combination of piling and broadcast burning can be practiced to a smaller extent in larch and Douglas fir areas. In white pine, spruce and cedar areas the slash is usually heavy and mixed with dense undergrowth. For this reason 15c per M. would not pile enough brush to offer any effective fire line. It is the custom on this type of land, to make a careful broadcast burn of the area. This method offers the best fire protection for the money, but it does not consider the young growth. The actual cost of giving this type adequate protection by a piling and burning method, to save the young growth, would be about 50c per M.

Many small operators have not consented to let the state handle the brush by paying 15c per M. Some of these take care of it under state instruction, and do a fair job. Others do a bad job, and the balance do nothing but make promises. The state has cleaned up some of these neglected slash areas and is still trying to collect the costs from the operators and land owners. We have no funds to trade for a slash lien on tax delinquent land.

This situation of having most operators make full compliance with the law, while a small minority persist in evading it, should not exist. It either reflects on the law itself or on those authorized to enforce it. We choose to believe the law is at fault, and propose that it be amended to require all timber operators to pay 15c per M. to the state for the purpose of slash disposal. A law of this kind, with teeth in it for enforcement, should be the timber owners' final contribution toward slash disposal. If the public decide that the cutover areas are not securing effective slash disposal under a 15c per M. limitation, then it seems only reasonable for the public to contribute the needed balance.

## BLISTER RUST IN MONTANA

White pine blister rust is a fungus disease which spreads on currant and gooseberry plants and attacks and kills white pine. Blister rust was introduced into eastern United States by the shipment of diseased white pine from Europe. This movement of diseased stock has also been responsible for the formation of new centers of infection throughout the various states. Blister rust generally appears on the bark of white pine trees two or three years after infection takes place. The bark becomes swollen, breaks and liberates millions of spores. These spores are carried by the wind over great distances, but do not directly infect other pine. The spores attack the leaves of the currant and gooseberry bushes and form a rust which in turn is carried back to the pine, thus completing a cycle. On the pine the disease lives in and under the bark and kills the tree by girdling it. Young white pine trees are killed from one to three years after the rust becomes noticeable.

White pine blister rust was found for the first time in the west at Vancouver, B. C., in the year 1921. The following year cultivated black currants (important host plants) were found infected throughout the coast region in Washington. This timber disease, although new to the west, prior to this time, was well entrenched in the east. Development of control measures in the United States began in 1917 and in 1928 over 75% of the white pine acreage of New England and New York, estimated at 8,221,167 acres, was under control. Spread of blister rust from the coast region to the white pine forests of Idaho and Montana was rapid. In 1928 when effective control methods were being applied, the disease was found in Montana.

The Montana State Forestry Department early recognized the importance of keeping the rust under control. The field organization has at all times been on the lookout for any evidence of the spread of the disease. During the past year the State Forestry Department, cooperating with the Bureau of Plant Industry has protected approximately 15,000 acres of state and private white pine producing land in the Echo Lake region of Montana. Another important project completed during the year was the protection of Savenac nursery at Haugan, Montana. This nursery, the largest of its kind in the United States, ships annually about 3,000,000 white pine trees for

planting purposes. A safety zone with a mile radius was established around the nursery. The importance of this was signaled by the fact that since the autumn of 1929 blister rust has been found on all sides of the nursery, but beyond the protection boundaries.

Control of white pine blister rust in the west is effected by destruction of the dense concentrations of currants and gooseberry plants along streams which drain white pine areas. Nature aids materially in suppressing the individual plants which occur within the heavily shaded stands. Chemicals are being developed and applied in the form of sprays which are reducing the cost and placing control work on a practical basis.

### LANDS EXCHANGE

The Federal Land Exchange Act of March 20, 1922, as amended by the Act of February 22, 1925, authorized the United States Forest Service to acquire, by purchase and exchange, alienated lands within National forest boundaries.

In 1927, the state legislature legalized a similar exchange of state lands with the Federal government; and, in addition, authorized the extension of this exchange to include lands outside of, and adjacent to, Federal reservations.

By Congressional Act of January 30, 1929, (44 statute, 1145), the United States Forest Service was authorized to extend its timber lands acquisition program to include territory within a distance of six miles outside the present National forest boundaries.

Previous to the legislative enactments mentioned above, authorization for exchange of state lands for Federal holdings applied only to certain unsurveyed common school grant lands within the National forest boundaries.

Some of the present state forests offer the most desirable locations for consolidating the state timber holdings. This is notably true of the Swan, Sula, Clearwater, Thompson River and possibly an additional unit in the Wolf Creek drainage. These state forests, with Stillwater, now include about 225,000 acres of state land which need not be disturbed in our blocking up program. Approximately an equal acreage outside of these units in western Montana will be available for exchange. In addition, there are a few state sections within, and a much

larger number adjacent to, the National forests of eastern Montana.

The rapid legislative extension of exchange authority, mentioned above, has contributed largely to our inability to complete any exchange unit. Our forces have been busily engaged in the examination of lands made available for exchange by each successive act of legislation. Now that the valuation surveys of state lands to be offered in exchange are practically completed, we are in a position to select National forest lands having corresponding values.

The future exchange work will be chiefly confined to the selection of National forest blocks which contain acreage values equivalent to those of the state lands offered for trade. The completed inventory of present and potential resources of the state lands under exchange consideration strongly indicates that only the best blocks of National forest timber will be acceptable in exchange.

This conclusion regarding the relative acreage values of state and National forest lands is quite obvious for the following reasons: The state lands under exchange consideration were all surveyed prior to the dates of withdrawal of the several National forests. This fact gives assurance that these lands are more favorably located for commercial use than most blocks of National forest timber lands. The quantity grant lands were selected, immediately after the survey, from the best stands of timber. Intermingled as all of these lands are with privately owned timber, there can be no question that the timber on most state areas will be marketed in advance of almost any large National forest timber block that the state might select. These facts must be given proper consideration when balancing values for exchange.

There are only two National forest blocks now located which seem to fulfill the state land value requirements, and at the same time tie into our present state forests for blocking up. One is situated to the north of the Swan River State forest, and comprises about 25,000 acres. State lands have already been offered for about 15,000 acres of this block, and the balance of the area will be examined for exchange at an early date. The other Federal block is contiguous to the Sula State forest, on the east and west forks of the Bitterroot



river. Since only a preliminary survey of this area has been made, the exact extent of the block is not known. However, there is every indication that an area of considerable size in this drainage would be acceptable to the state in exchange.

If these indemnity blocks can be secured from the Federal government, it is not likely that much over half of our available timbered base lands will be used in acquiring them. Also this will still leave our other state forests unconsolidated. Therefore, the outlook for a complete and satisfactory blocking up of state lands, under our present laws, is not promising.

We now have a Federal law authorizing the state to exchange its cutover lands for similar privately owned lands. It is very doubtful that a similar state law would be of any assistance in consolidating land ownership. Most of the private owners are not interested in holding cutover lands, and would receive very little encouragement to do so by a blocking up exchange.

If Federal and state legislative authority were given for the exchange of merchantable timber lands between the state and private owners, the problem of consolidating lands would be promptly solved. The private and state lands being, for the most part, intermingled and containing similar relative values, would greatly simplify an equitable exchange.

In view of the fact that all of the large timber owners have their holdings more or less unsatisfactorily scattered, it is only reasonable to assume that these owners would welcome any opportunity to block up by a fair exchange of property.

There would be three important advantages to the state in such an exchange. First, it would assure a complete and rapid blocking of the state's timber holdings, including some of the most desirable timbered areas to be found within the state. This in itself, with the more economic administration which would follow, would be sufficient reason for requesting this exchange authority. Second it would promote higher stumpage values on state timber through competitive bidding on more attractive, independent logging blocks. At the present time most state timber is dependent for marketing upon the one operator who is logging adjacent timber stands. He demands a minimum stumpage rate, or leaves the state timber. Third, it would eliminate the past and present wasteful prac-

tice of leaving isolated areas of merchantable state timber in the various cutover logging units. The state's minimum stumpage rate is largely responsible for the fact that such bodies of timber are not cut during the process of logging adjacent timber stands. In times of depression, or if the area is not suitably located, the operator does not feel justified in paying \$3.00 per thousand, minimum stumpage rate. As a result millions of feet of merchantable timber have been left standing after the completion of logging surrounding lands.

The prospects are that much of the present merchantable crop of these isolated timber stands will never bring the state one dollar in revenue. This condition could, and should, have been prevented by the authority to exchange such tracts. In this manner, the operator could have removed the timber profitably, and the state would have received its equivalent in value, located within one of the state forests.

The state has no legalized program of forest land acquisition, and probably needs none for the present. It is known that a small per cent of the cutover lands in western Montana is reverting to the counties each year for taxes. A survey of this situation, conducted by the United States Forest Service in 1927, disclosed the fact that approximately 90,000 acres of cutover land, formerly held by small owners, had become tax delinquent.

Practically all of the cutover and second-growth timber land is for sale, but only a very small per cent of the best of it can be marketed. Taxes and fire protection assessments are invariably in excess of any present income from the land unless it is suitable for agriculture. Therefore, it seems evident that the bulk of these lands must ultimately pass from private to public ownership. At the present time the United States Forest Service is the only public agency in the market for this type of land. Through congressional authority this branch of the Federal government is permitted to use a certain per cent of its gross receipts within the state for the purchase of timber lands within and adjacent to National forest boundaries. The present rate of acquisition by the Federal government amounts to about 25,000 acres each year. For a limited period this will probably equal the tax reversion on timber lands. But it is only a question of time when a more

wholesale unloading of these lands will challenge the resources of all public agencies.

Based on the present tax delinquent rate, this statement is not justified, but it seems to be fully supported by the following facts: Approximately 50% of the 2,900,000 acres of privately owned timber land in western Montana is now either cutover, or non-merchantable. It would be unreasonable to expect that the bulk of this unprofitable acreage could be kept on the tax rolls. That such lands are now paying taxes is largely due to the fact that they are in the hands of large, or moderately large, owners who cannot let them go without expecting proportionate tax increases on their remaining valuable properties.

Consequently, it will not be surprising to find that most of these lands will become delinquent just as soon as the owners complete the removal of the merchantable timber on their respective holdings. About the best that we can hope for is that the process of unloading these lands will be at a rate consistent with the ability of county, state and Federal government agencies to prevent any serious economic disturbance. So, while the attitude of the state is now one of watchful waiting, it can do no harm to keep in close touch with officials of the various timbered counties and cooperate with them on remedial measures applying to tax delinquent timber lands.

