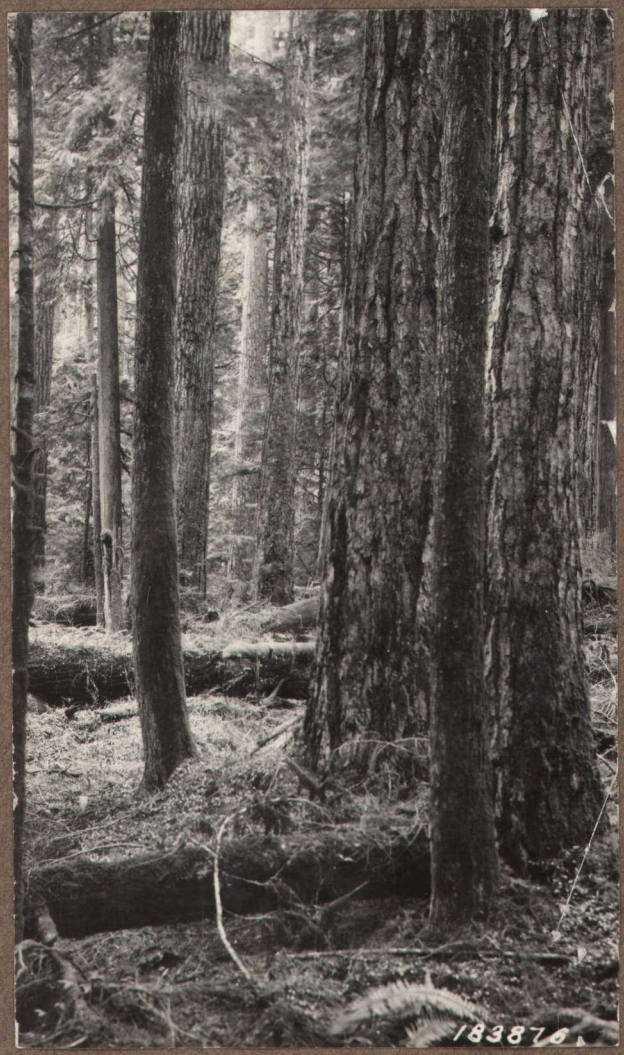
UNITED STATES DEPARTMENT OF AGRICULTURE

FOREST SERVICE

A FEW FOREST FACTS

NORTH PACIFIC DISTRICT

District No. 6. August 17, 1929



GOVERNMENT PRINTING OFFICE

8—5156

Prepared for Congressional Sub-Committee on Agriculture of House Approp. Committee.

(Ericson did much of the got- and a much excellent one, with Henry White and others collaborating. ER gave it night & day, & did fine work in preparation of graphs, etc.)

North Pacific District

Nat. Forest Statistics

Gross Area	26,937,036 acres
Alienations	3,919,529 "
Net National Forest	23,017,507 "
Outside Area which should be included (Includes 1,784,248 acres Public Domain)	10,531,506 acres
ULTIMATE AREA OF NATIONAL FORESTS	37,049,013 acres

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Classification of Net National Forest Area 1923

Merchantable timber	13,275,941 acres
Young growth	2,543,527 "
Deforested burns	497,847 "
Subalpine and Protection Forest	3,175,244 "
Grazing and other Non-forest	3,524,948 "
Total	23,017,507 acres

TIMBER STAND

	Stand in Million Feet Board Measure						
	Douglas Fir	Western Yellow Pine	Western Hemlock	Western Red Cedar	Western Larch	Other Species	Total
Oregon	74,289	30,341	8,424	1,594	3,108	20,728	138,484
Washington	26,030	4,061	19,873	6,082	1,518	18,561	76,125
*California	2,668	147				321	3,136
Total	102,987	34,549	28,297	7,676	4,626	39,610	217,745

* Siskiyou Forest in California administered by the North Pacific District.

Pacific Northwest District Organization

Yearlong positions - District Office	Number of Employees	
District Forester	1	
Assistant District Foresters	6	
District Engineer	1	
Field Specialists	20	
Other D. O. office men (includes 7 draftsmen)	16	
Clerks, messengers, warehousemen, etc.	35	
Total		79

Yearlong positions - Supervisors' Offices		
Forest Supervisors	22	
Assistants to Supervisors:		
Assistant supervisors	14	
Central dispatchers	15	
Road superintendents	11	
Technical assistants	17	
District Rangers	102	
Timber sale men(Lumbermen and rangers)	49	
Asst, rangers and other rangers	11	
Clerks	49	
Total		290
Total yearlong force		369

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Short-Term Force	
Clerks	12
Asst. rangers for timber sales and general administration	15
Fire protective force	875
Laborers on road and trail and other improvement work (approx.)	1400

Pacific Northwest District

Net Receipts by Activities - Fiscal Year 1929

Timber sales	$ 1,429,185.21
Timber settlement	16,823.52
Timber trespass	5,487.49
Grazing - Cattle and horses	76,956.40
Grazing - Sheep and goats	122,767.18
Grazing trespass	274.96
Special uses	27,204.73
Water power	11,402.70
Fire trespass	3,541.63
Total	1,693,643.82

Operating Costs, Fiscal Year 1928*

Fire Prevention and Presuppression	472,095.56
Fire Suppression	389,481.39
Maintenance - Roads & Trails	292,335.74
Maintenance - Other Improvements	114,797.53
Timber sales	169,630.59
Timber Surveys	40,782.10
Free Use	1,404.93
Timber Stand Improvements & Protection Other than Fire(Bugs, Rodents, etc.)	13,832.30
Research (Silvical and products)	6,362.74
Grazing Administration	88,301.85
Grazing Reconnaissance	4,195.53
Grazing Investigations	2,653.54
Fish and Game	2,743.61
Land Adjustment	7,049.03
Special Uses and Rights of Way	18,155.40
General Surveys and Maps	19,453.08
Recreation	12,628.96
Total	1,655,903.88

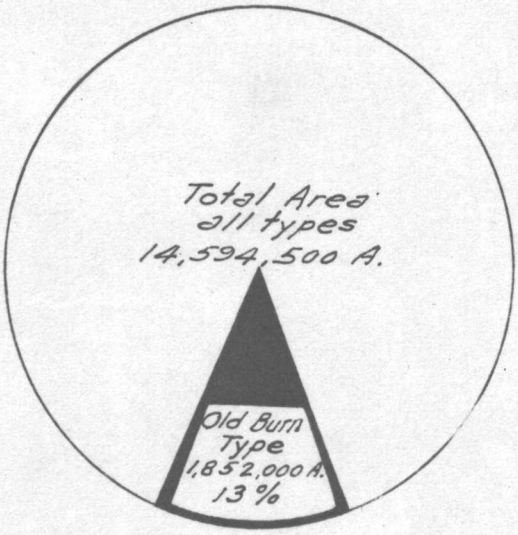
*Excludes costs of construction of Forest roads, trails and other improvements, reforestation and nurseries, Forestry Extension, Fire Co-op. funds, and Acquisition and Land Exchange. The total of these activities was $919,024.55. Also excludes cost of construction and maintenance of Forest Highways, a total of $1,232,822.48.

THE FUTURE FOREST. IT MUST BE PROTECTED.

Fire destroyed 20,000 acres of young growth like this on the Columbia Forest in 1927.

RELATIVE HAZARD IN OLD BURN AND OTHER TYPES
West of Cascades in Oregon and Washington

No. 1.



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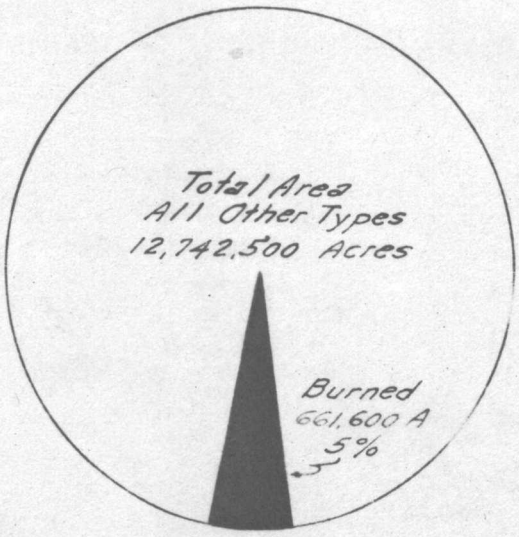


No. 4.

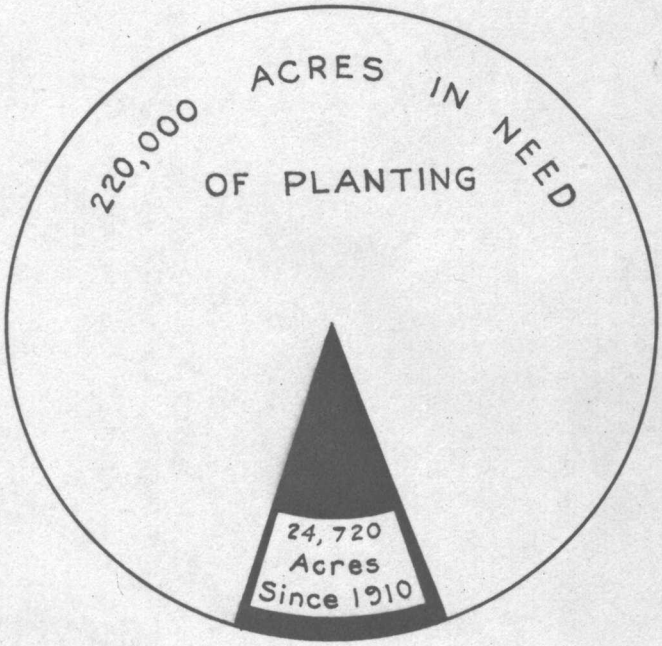
PLANTING

The District receives approximately $30,000 a year for planting, permitting the planting of less than 2,000 acres a year. At this rate it will take 110 years to plant the denuded acreage that has already accumulated on the National Forests of Oregon and Washington.

The planting program should be expanded with the objective of completing 75,000 acres within the next 20 years. This will require a gradual increase in the allotment to a total of $98,000 towards the end of that period.

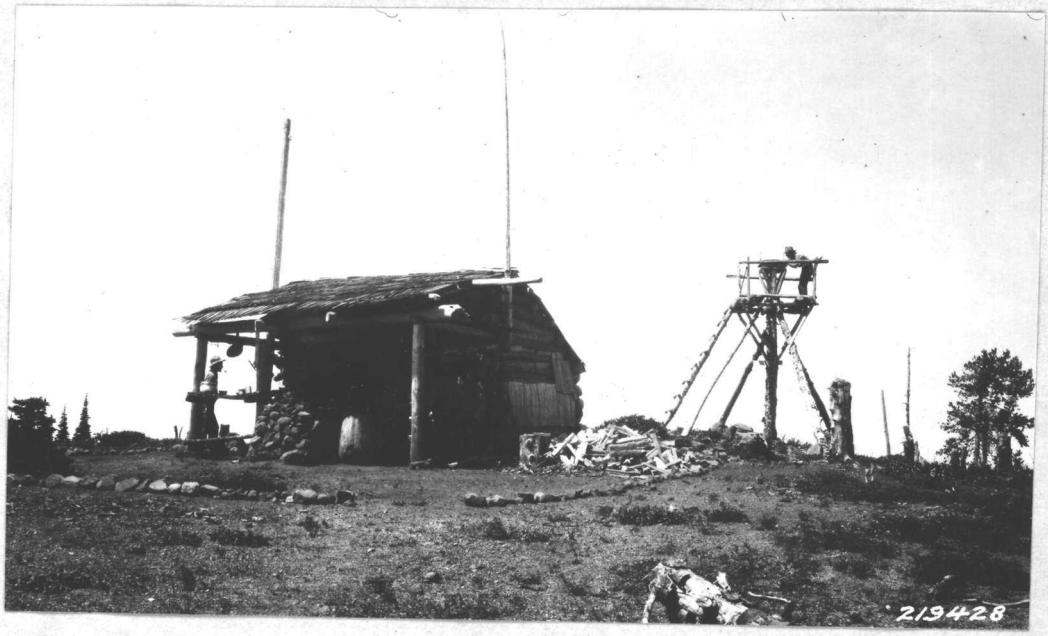
Mt. Hebo Plantation - Siuslaw National Forest. An excellent stand of Douglas fir planted in the spring of 1916.

PROGRESS IN PLANTING DENUDED AREAS
DISTRICT SIX



Record of Planting

YEAR	ACREAGE	YEAR	ACREAGE
1920	1,827	1925	1,997
1921	817	1926	1,832
1922	1,237	1927	1,820
1923	1,615	1928	2,080
1924	1,908		

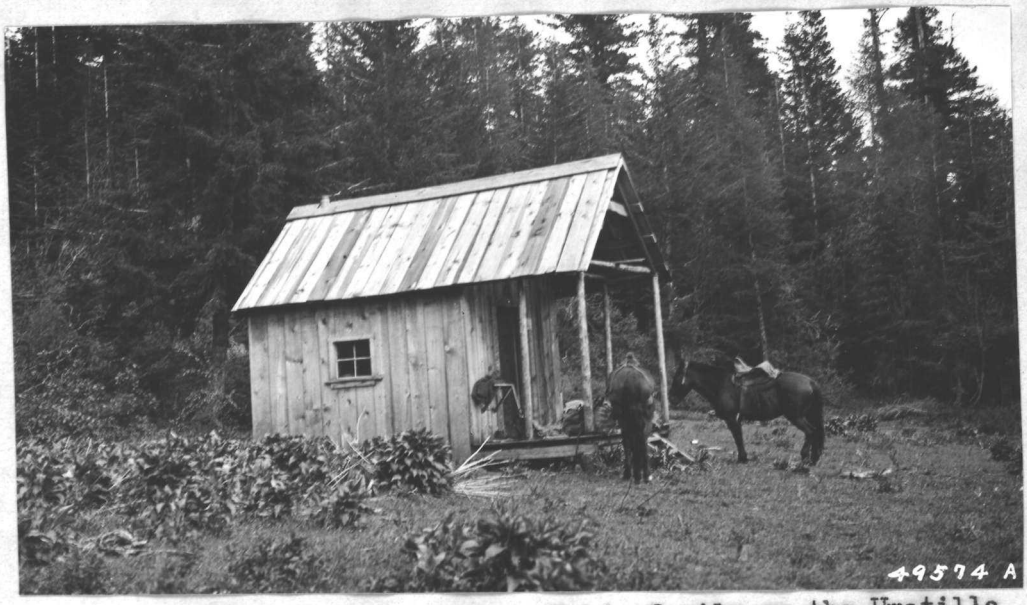


Makeshift lookout house, Umpqua N. F. Living quarters consist of open shed, offering but little protection from strong winds and storms. Fire finder in open and continuous observations impracticable.

An adequate lookout house, comprising living quarters and observatory. Lookout can render efficient services by not being exposed to elements. Protection from lightning is given through cables and lightning rods.

Makeshift arrangement for a lookout tower on one of the lower lookout points on the Fremont N. F. Lookout man exposed to intense sun, wind, and to lightning, which is common in this region. Continuous service in fire detection not Practicable.

Steel lookout tower, Whitman N. F. An adequate, well-constructed tower, Lookout man is protected from elements and can devote his entire attention to scanning surrounding region for fires, the job for which he is hired.



Cabin occupied by fireman and his family on the Umatilla N. F. The cabin with adjoining structures was constructed years ago by a homesteader, who abandoned the tract. Buildings of this kind, of which there are far too many, can not be provided with protection against flies, rats and chipmunks, and are unsanitary and unfit for human abode.

A comfortable yet relatively inexpensive fireman's cabin on the Santiam N. F. In such quarters a man and his family can live decently and be better fitted physically and mentally to do his work. Such a cabin costs about $350, depending on location. Three hundred more are needed.

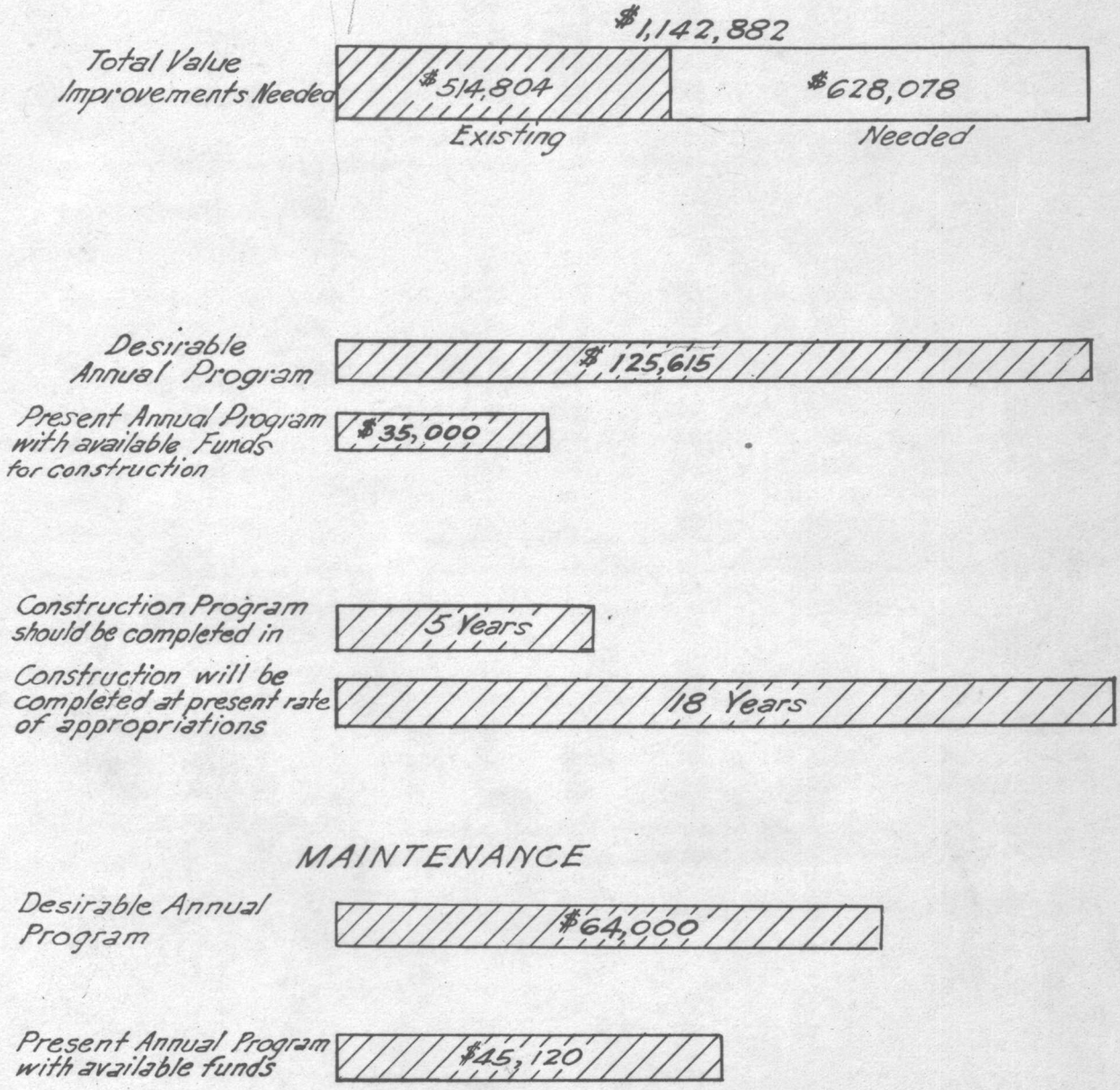
5-Year Program of Administrative and
Protective Improvement Needs
D-6

Improvements Needed for Fire Protection	Needed 6-30 1932	Existing 6-30 1927	Balance New Const.	Cost New Const.	Cost Replacements	Total Needed
Tel.Lines (miles)	13,195	9,543	3,652	212,550	110,000	322,550
L.O.House(glass-ribbed)	260	127	133	82,205	15,000	97,205
Towers & observatories	98	56	42	37,025	10,500	47,525
Cabins for firemen	579	275	304	90,300	15,000	105,300
Barns	160	52	108	13,900	1,250	15,150
Other structures	769	338	431	12,555	1,050	13,605
Fences (miles)	402	204.5	197.5	17,338	3,400	20,738
Water Development	149	61	88	5,230	775	6,005
Pasture "	-	-	-	-	-	-
TOTAL				471,103	156,975	628,078
Improvements Needed at Ranger Headquarters						
Dwellings,4-R. or more	103	73	30	33,458	10,000	43,458
Dwellings,3-R.or less	42	22	20	9,000	1,800	10,800
Barns	105	73	32	7,334	7,000	14,334
Ranger Offices	65	30	35	23,060	1,550	24,610
Other Structures	416	258	158	35,087	9,400	44,487
Fences (miles)	151	120.4	30.6	7,245	5,524	12,769
Water Development	104	70	34	11,402	1,900	13,302
Pasture "	-	-	-	-	-	-
Purchase of Sites	21	-	21	6,000	-	6,000
TOTAL				132,586	37,174	169,760
Other Administration						
Cabins	97	64	33	14,800	-	14,800
Barns	47	30	17	1,925	3,000	4,925
Other structures	137	82	55	3,200	1,875	5,075
Fences (miles)	59	43.9	15.1	3,245	2,600	5,845
Water Development	50	32	18	2,100	680	2,780
Pasture Development	-	-	-	-	-	-
TOTAL				25,270	8,155	33,425
TOTAL COST				629,959	202,304	832,263

FIVE YEAR PROGRAM

PROTECTION IMPROVEMENT NEEDS

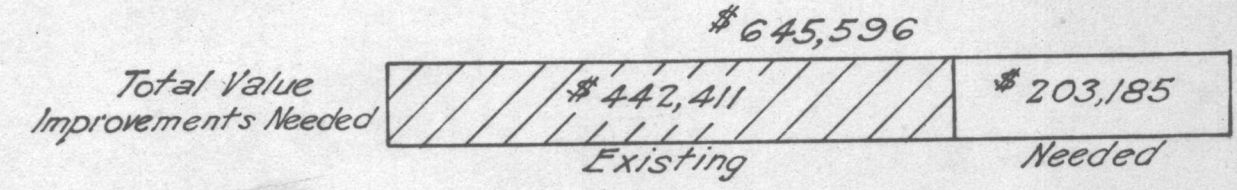
DISTRICT - 6

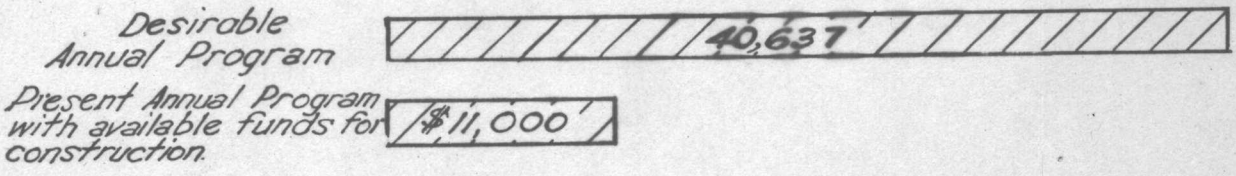


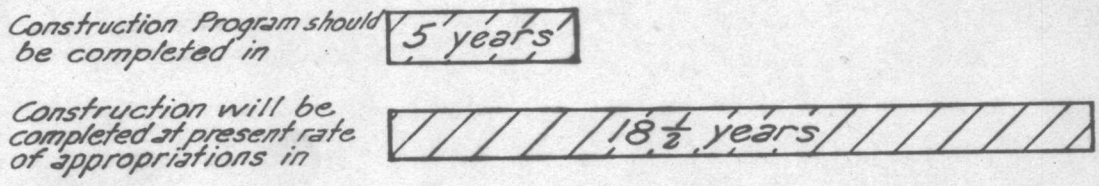
FIVE YEAR PROGRAM

ADMINISTRATIVE IMPROVEMENT NEEDS

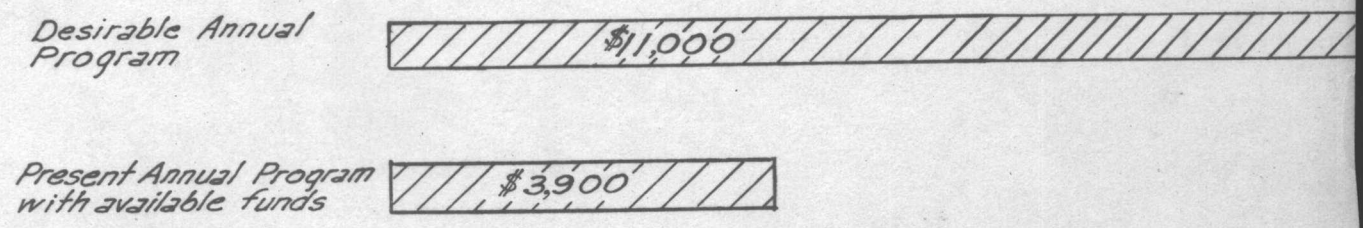
DISTRICT - 6





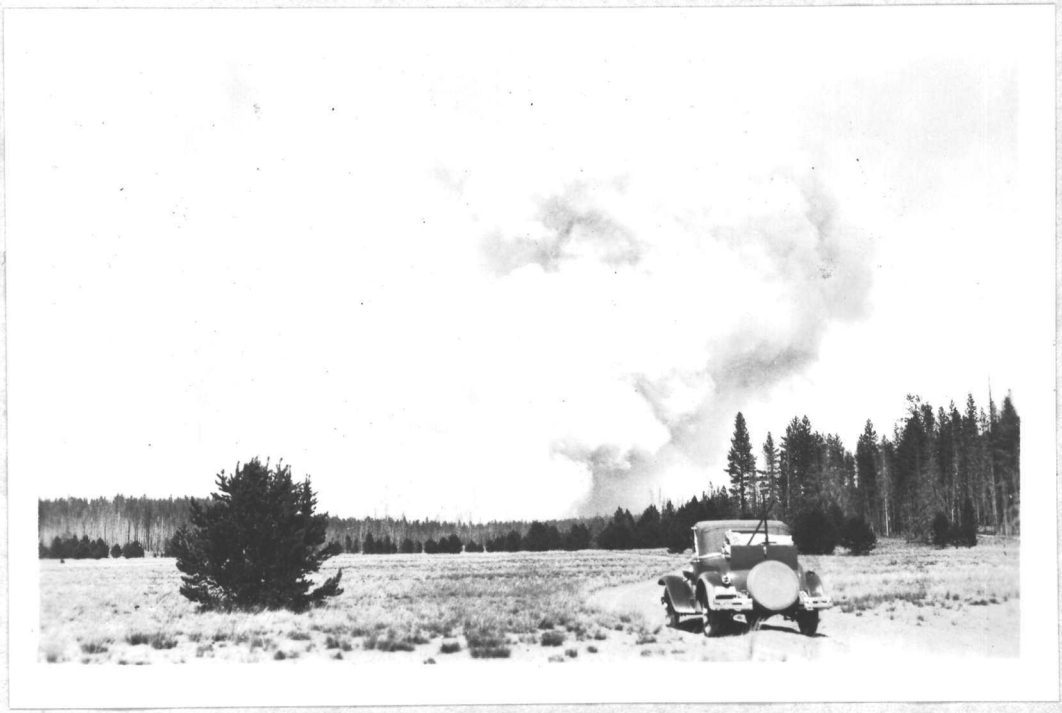


MAINTENANCE



At the Fox Butte fire in the Deschutes National Forest August 3, 1929, tractor-drawn plows equipped with lights made 4½ miles of fire trench at night and the next morning the fire was entirely safe, the final area being 500 acres, the cost $1,100, and the timber damage $12,000. On August 12, 1926, a fire started in about the same place under similar conditions, burned 10,000 acres, cost $9,300, and damaged timber valued at $250,000. Initial action was just as good on one fire as the other, but in 1926 power machinery was not available and trench building by hand was too slow.

There should be 50 additional tractor-drawn plows in the National Forests of Oregon and Washington. Cost, $25,000.



Fox Butte Fire, Deschutes N. F., August 3, 1929.

This is the age of machinery. Tractor-drawn plows can be used on many National Forest areas. One of them can make fire trench as fast as 50 to 100 men. In the tinder-dry yellow pine forests, particularly, speed saves the day.

Building fire line - no water available.

Stopping a fire with water.

Where water is available, portable power pumps and hose save many times their cost in controlling a fire and totally extinguishing it quickly so that the crew can be discharged.

For the 22 Forests in Oregon and Washington 90 additional pumps and 135,000 feet of hose are needed. Estimated cost, $66,000.

Men travel 2 or 3 miles an hour on trail or road and are tired when they reach the fire. Where roads are available, men can be transported at 15 to 35 miles an hour and they will be fresh and ready for work when they reach the fire. A two-ton truck will carry 20 to 30 men. Quick, effective action requires more roads and more trucks.

Pack horses travel 2 to 3 miles per hour; a truck travels 15 to 35 miles per hour. The way to prevent large fires is to get men and equipment to the small ones quickly.

It takes 25 pack horses to carry the normal load of one two-ton truck and many needed articles are difficult or impossible to pack.

With the present road system the National Forests in Oregon and Washington need 40 additional trucks, costing $84,000.

Summary of Additional Fire Control Equipment Needed in Oregon and Washington

90 Portable power pumps, with hose & accessories	$ 66,000
40 Two-ton fire trucks	84,000
50 Tractor-drawn plows	25,000
Other equipment - hand tools, waterbags, knapsacks, pack horses and outfits, lights, mess outfits, tentage, telephone instruments, emergency wire, lookout and fireman station equipment, compasses, etc.	50,000
Total	$225,000

For quick effective action an adequate supply of all kinds of equipment must be kept at strategic locations on the Forests, and a reserve supply at central depots.

With present appropriations for fire control, not more than $15,000 a year can be allotted for additional equipment. At that rate it will take 15 years to bring the stock up to a reasonable standard.

Emergency Guards

Prior to 1928 the wording of the Agricultural Appropriation Act was such that the cost of emergency guards could be charged against the Fire Fighting Appropriation. Now, District 6 has an allotment of $16,000 annually for this purpose from the regular appropriation for general expense.

The need for emergency guards varies widely and cannot be anticipated. Some years $16,000 will be adequate; other years very inadequate. In 1927 the total cost was $48,600; in 1928 $19,500. To set up a fixed amount annually is not practical. The Fire Fighting Appropriation should be available for emergency guards, as it was prior to 1928.

Need For Emergency Guards

1. For protection in abnormal periods in spring and fall. The normal fire season extends from June 15 to September 10, and the regular protective force is employed on that basis. But bad fire periods may occur any time after April 15 and as late as November 1.

2. To expand the regular force during extremely bad periods during the fire season. There may be three or four such periods, requiring a tremendous expansion of the organization for a few days at a time.

Conditions Creating An Emergency

1. A severe lightning storm starting numerous fires. It may be localized, but more often extends over a majority of the Forests.

2. An unexpected heavy influx of campers, or other sudden expansion of public use.

3. A sudden outbreak of incendiarism. This may happen at any time in southwestern Oregon.

4. A period of extremely low visibility caused by smoke from going fires, making the lookouts ineffective.

5. Extremely high temperature and low relative humidity, greatly facilitating the spread of any fires that start.

Sources of Emergency Guards

1. On every Forest there are road and trail crews, paid normally from special appropriations, who can be assigned quickly to fire duty.

2. Dependable men living in and near the Forests are selected in advance and arrangements made for their employment in case of need.

Every Forest has an emergency plan, showing where emergency

guards are to be obtained and what position each man is to occupy when the emergency comes. Every man is trained and instructed as to his part in the plan.

How Emergency Guards Function

1. Detection. Each Forest has a number of lookouts and patrolmen, who are watching for fires at all times. But under emergency conditions these are not sufficient. On the approach of a thunderstorm it is essential that numerous supplemental points be occupied. Lightning fires may smoulder for days without sending up enough smoke to be seen, and then break out on a bad day. All the country must be directly seen so that fires can be detected when the bolts strike. In smoky weather or when there is a large number of campers, it takes more men to discover all the fires quickly.

2. Fire-chasing. When conditions are extremely dangerous, particularly in the face of an impending thunderstorm, it is necessary to hold construction crews in camp, or send them and selected settlers to strategic locations throughout the Forest, so that if numerous fires start all of them can be reached quickly by an adequate number of men. Only in this way can large fires be avoided. One man at a given station may be enough under normal conditions, but in an emergency it may be good business to put half a dozen at that place.

Effective Use of Emergency Guards in 1927

In 1927 a series of lightning storms occurred over the Forests in Washington and some Forests in Oregon. On many of these Forests the regular organization was taxed to the utmost during August and the emergency organization was fully used. The following tabulation shows the part played by emergency guards on a few of the Forests that were hit hardest:

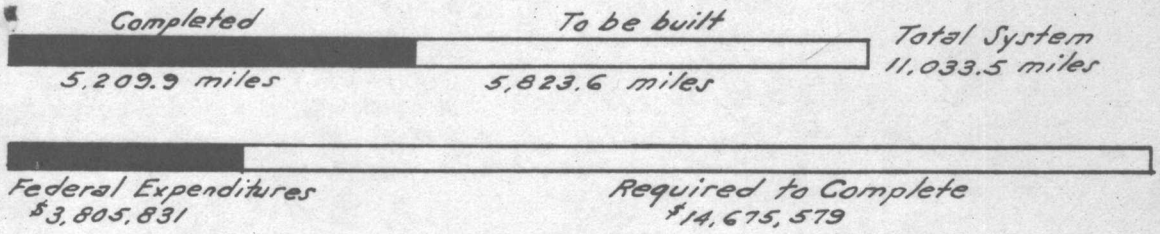
Forest	Number of Recorded Lightning Fires	Fires handled or worked on by Emergency Guards	Fires Discovered by Emergency Guards
Chelan	108	34	7
Columbia	64	21	0
Mt. Hood	45	8	8
Olympic	27	5	3
Rainier	94	34	1
Umpqua	48	25	2
Wenatchee	159	37	27
Total	545	164	48

On all these Forests, except the Columbia, all lightning fires were found and put out while small. It was quite apparent to the men on the ground that the emergency guards prevented a number of serious fires. The expenditure of much more than $48,600 had it been necessary to man the Forests adequately in the 1927 emergency, would have been justified by the saving in fire fighting costs.

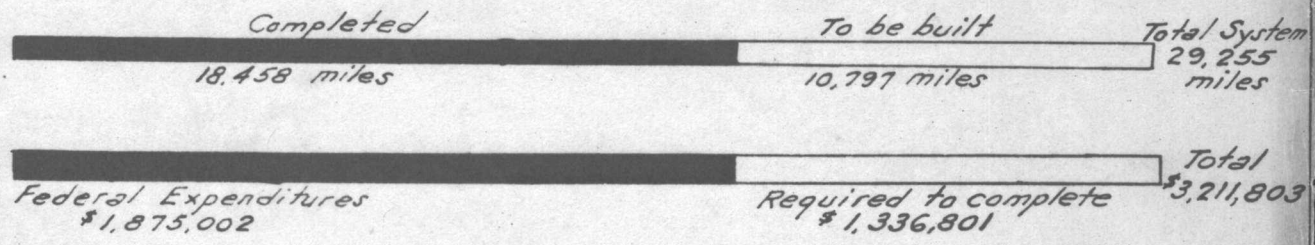
ADMINISTRATION AND PROTECTION ROADS AND TRAILS

DISTRICT SIX

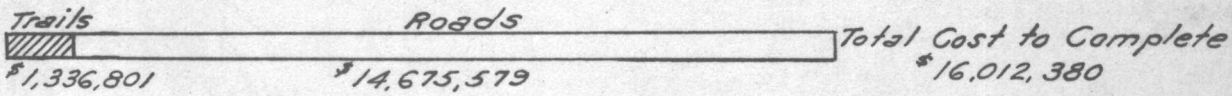
ROADS



PROTECTION TRAILS

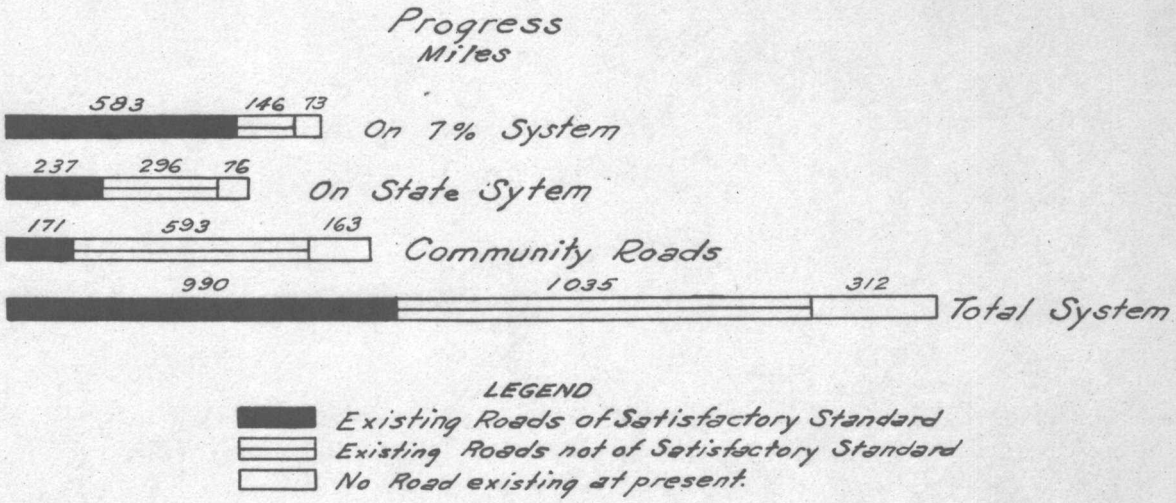


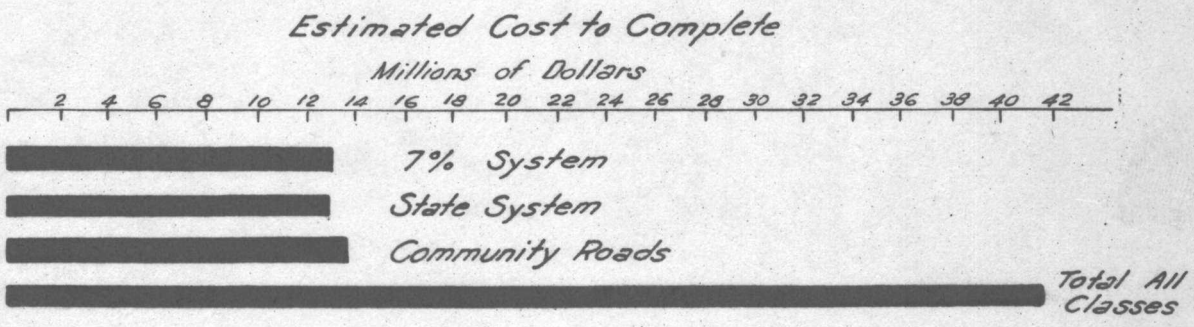
Cost to Complete Road and Trail System



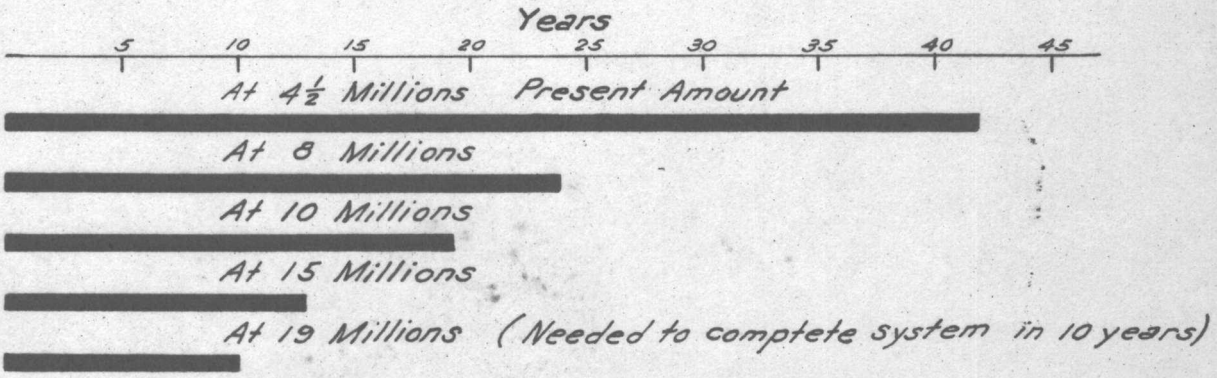
It is estimated that it would require 28 1/2 years to complete the Forest Developement Road and Trail system in District 6, on the basis of the present $3,000,000 FRD appropriations, plus estimated available 10% funds. This is figured at the rate of $560,000 per year for construction work. For F.Y. 1930 it is estimated that out of the $699,858 FRD apportionment for District 6, plus $150,000 10% funds, we shall spend approximately $569,000 for construction.

FOREST HIGHWAY DATA
DISTRICT SIX





Time Required to Complete Forest Highway System in Dist. 6 at present rate of apportionment with various general appropriations per annum. Net available to D-6 for construction from 4½ Millions, $959,000.

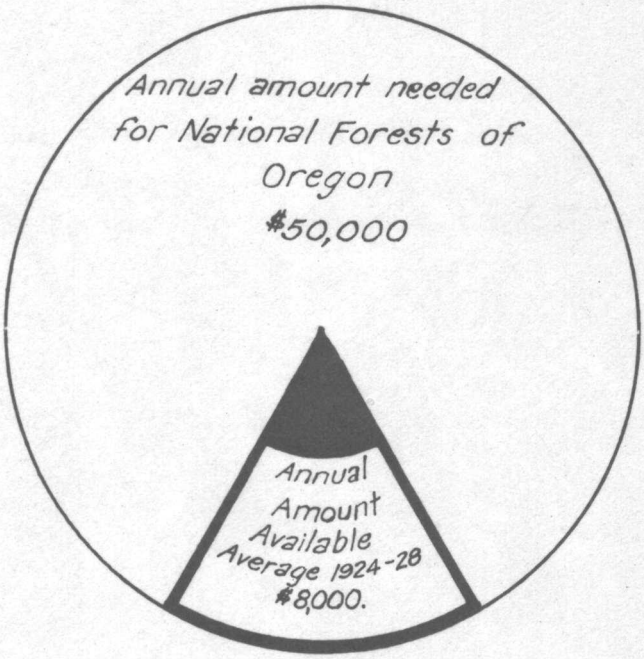


PINE BEETLE SITUATION
IN
WESTERN YELLOW PINE
ON THE
NATIONAL FORESTS OF OREGON

*Annual Pine Beetle Damage**

Pine killed — 180,000 M Board feet
Value — — $630,000
Equivalent to complete destruction of 18,000 acres yellow pine every year.

Annual Beetle Control Program



Explanatory Note.

Annual appropriation $50,000 will cut beetle loss one-half. Remainder of loss largely unavoidable with present control methods and timber values. Inadequacy of Forest Service appropriations often seriously jeopardizes success of control work on intermingled private timber. About $25,000 needed to combat preventable loss of nearly fifty million feet annually on other federal yellow pine in Oregon. Expansion of research by Bureau of Entomology needed for improvement existing control methods.

Private Land Loss — On the privately owned yellow pine land in Oregon the annual beetle loss amounts to 150,000 M. bd. ft. valued at $600,000

**Average annual loss for National Forests of Oregon during period 1924-1928*

Portland Ore. Aug. 1929 Y.A.B.

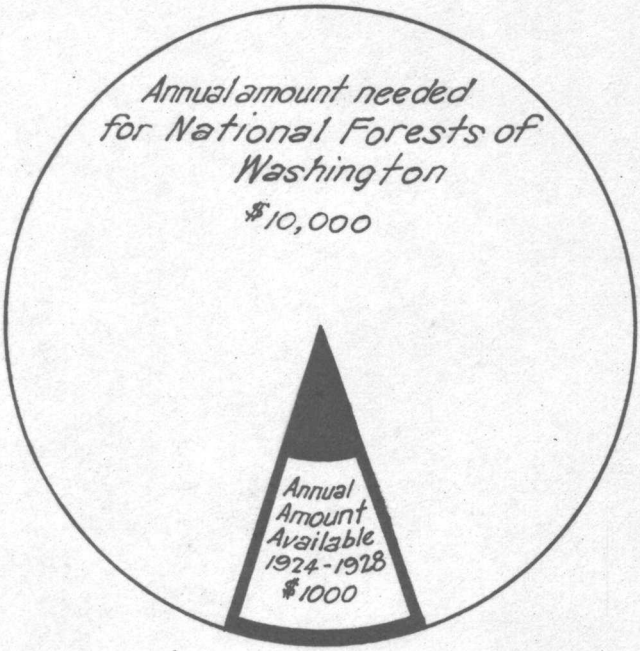
PINE BEETLE SITUATION
IN
WESTERN YELLOW PINE
ON THE
NATIONAL FORESTS OF WASHINGTON

Annual Pine Beetle Damage*

Pine killed - 29,000 M board feet

Value $80,000

Annual Beetle Control Program



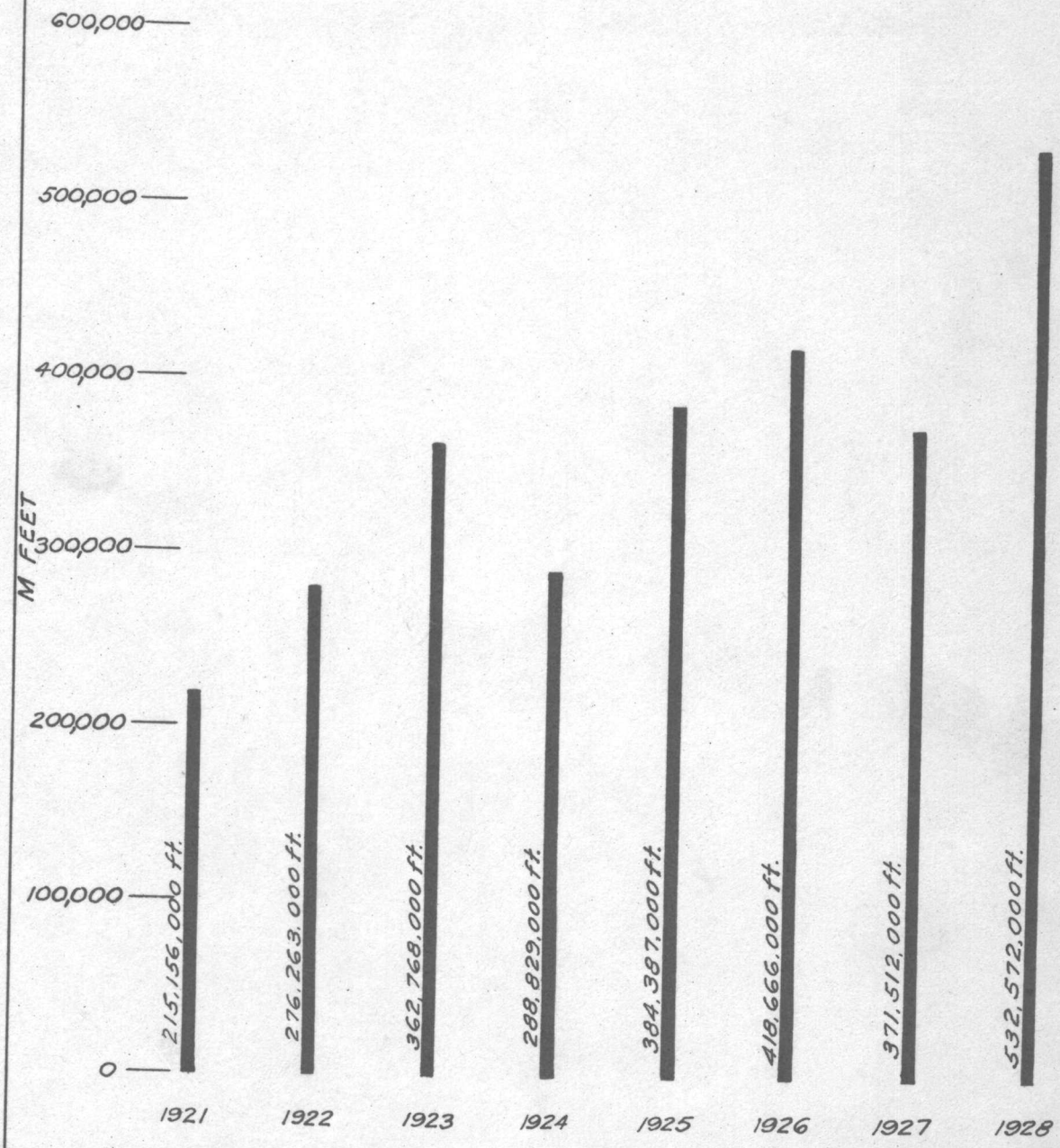
Annual appropriation of $10,000 will cut beetle loss one-half. Remainder of loss unavoidable with present control methods and timber values.

Private Land Losses – On the privately owned yellow pine land in Washington, the annual beetle loss amounts to 20,000 M. bd.ft. valued at $60,000

*Average annual loss for National Forests of Washington during period 1924 - 1928

NATIONAL FORESTS
DISTRICT SIX
TIMBER CUT BY CALENDAR YEARS

148% increase from 1921 to 1928



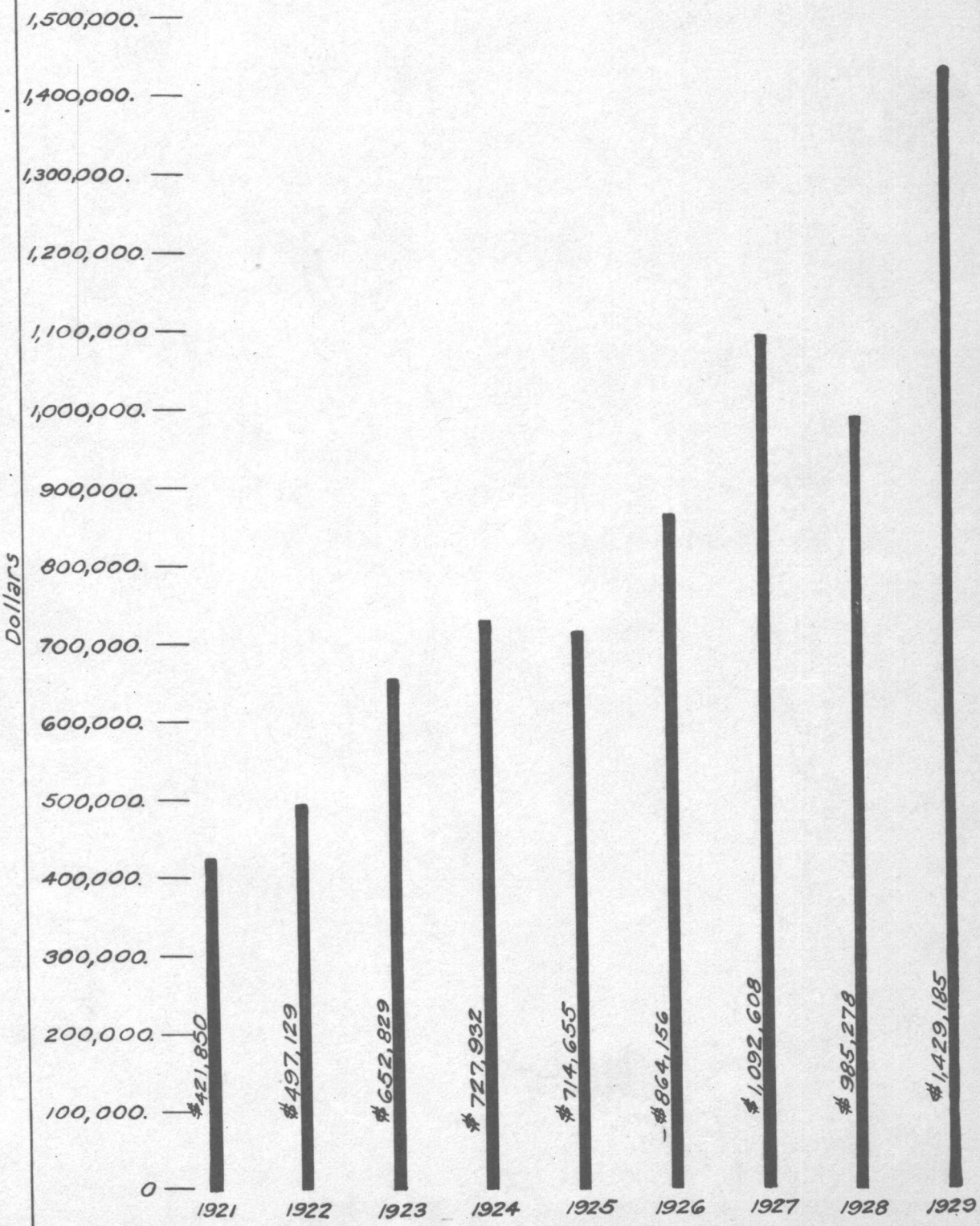
Portland, Ore. Aug. 1929 V.A.B.

NATIONAL FORESTS

DISTRICT SIX

RECEIPTS FROM TIMBER SALES BY FISCAL YEARS

238 per cent increase from 1921-1929

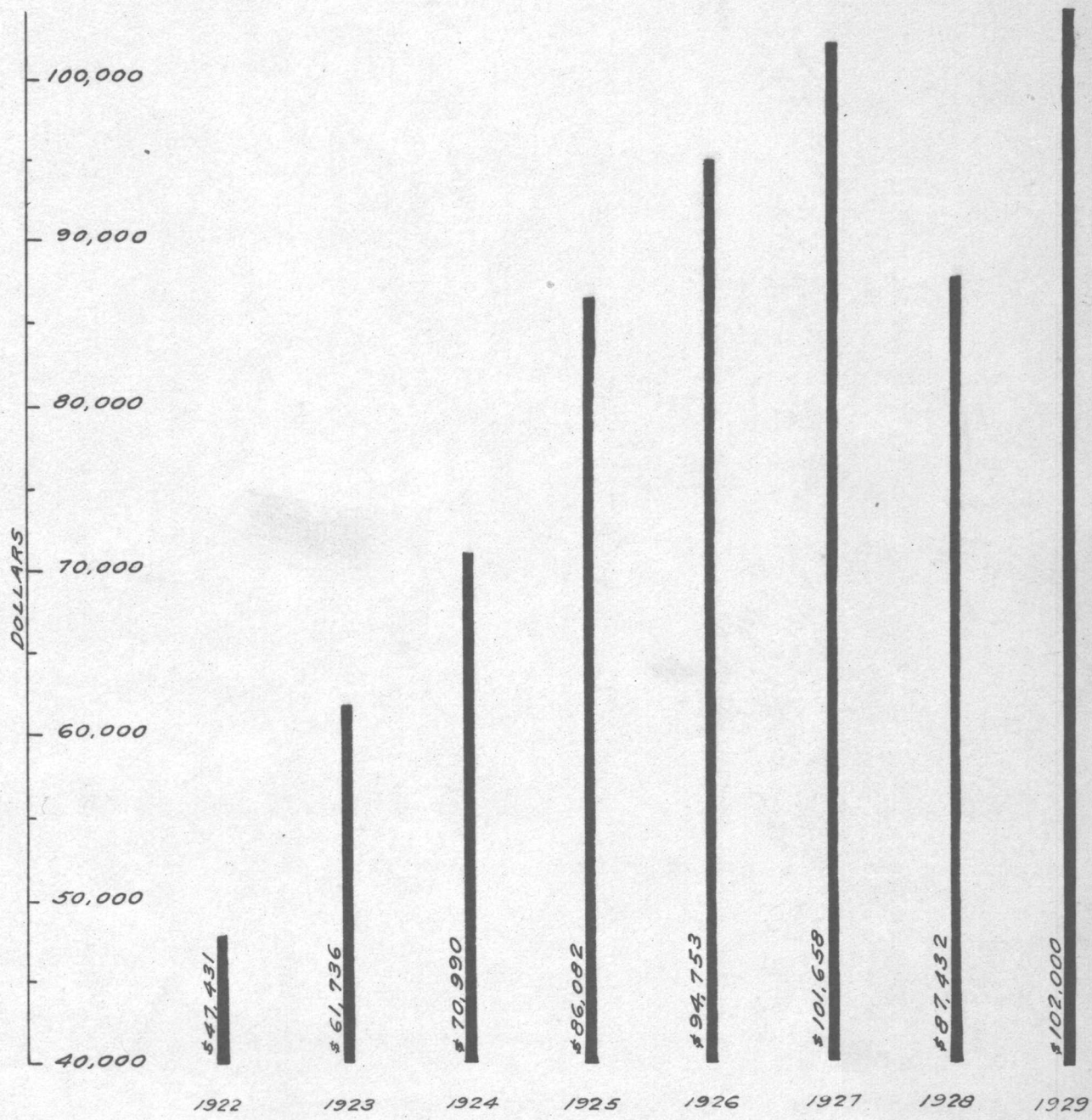


Portland. Ore. Aug. 1929 V.A.B.

NATIONAL FOREST

DISTRICT SIX

TIMBER SALES - TOTAL DIRECT COST BY FISCAL YEARS



At the present rate of increase in Expenditures the average increase in appropriations for the next 10 year period should be at least $10,000 annually.

GRAZING

Area of usable National Forest(further development needed)	10,965,456 Acres
Area closed for recreation - game, watersheds, young timber protection	470,777 "
Area not now usable, part of which could be used for grazing if developed by improvements	11,436,233 "
Total National Forest Acreage, District 6	23,017,507 "

Grazing Use - Season of 1928

No. of cattle permittees - 1,391 No. of cattle grazed - 102,721

No. of sheep permittees - 605. No. of sheep grazed - 851,622
1,996 954,343

Nearly 400,000 sheep get some feed while crossing over the Forests to reach privately owned or leased lands within or adjoining the Forests.

Full estimated grazing capacity if range fully improved and developed; 200,000 cattle and horses and 1,000,000 sheep.

The demand for summer range necessary to round out the yearlong operations of livestock producers is far in excess of the supply on the forests in their present largely unimproved condition. Government funds aggregating $218,000 in addition to $75,000 that can be obtained from the stockmen will be necessary to fully improve and develop the National Forest ranges.

There is a very real need from an agricultural as well as a forestry standpoint for scientific study of the forage resources to secure proper economic balance. Funds for such work are wholly lacking.

RANGE MANAGEMENT

DISTRICT SIX

PRESENT AND ESTIMATED GRAZING CAPACITY OF NATIONAL FOREST RANGES

102,721 No. of Cattle grazed calendar year 1928

200,000 Estimated capacity if ranges fully improved

851,622 No. of Sheep grazed calendar year 1928

1,000,000 Estimated capacity if ranges fully improved

FINANCIAL SITUATION RELATING TO RANGE MANAGEMENT

$ 284,394.42 Estimated annual grazing receipts if all ranges fully developed and improved

$ 199,998.54 Grazing receipts F.Y. 1929

$ 218,000.00 Estimated cost to fully develop and improve the ranges

$10,000.00 Present annual allotment

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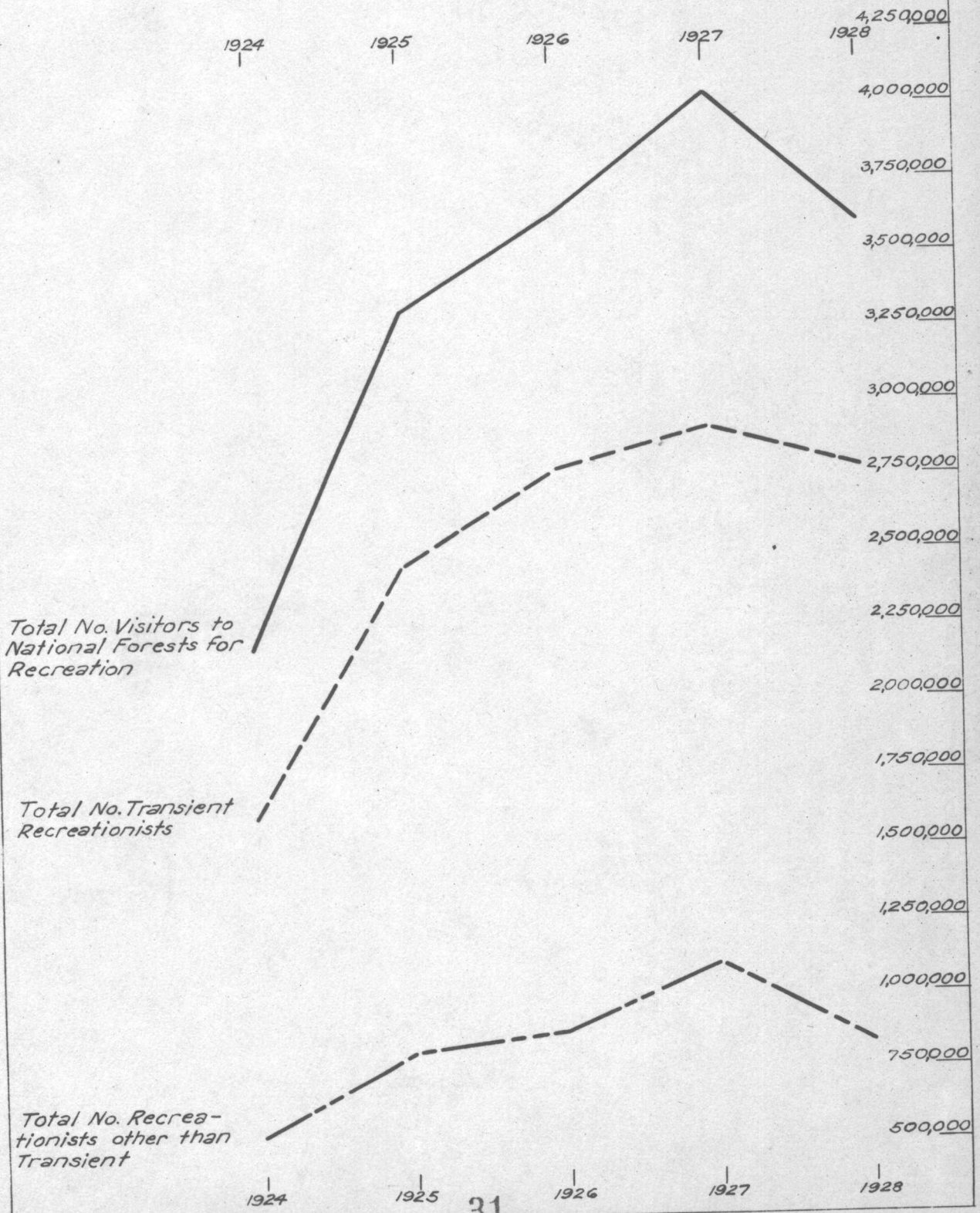
RECREATIONAL USE

NUMBER OF PEOPLE USING NATIONAL FORESTS OF DISTRICT SIX

65% increase in 5 years from 1924 to 1928



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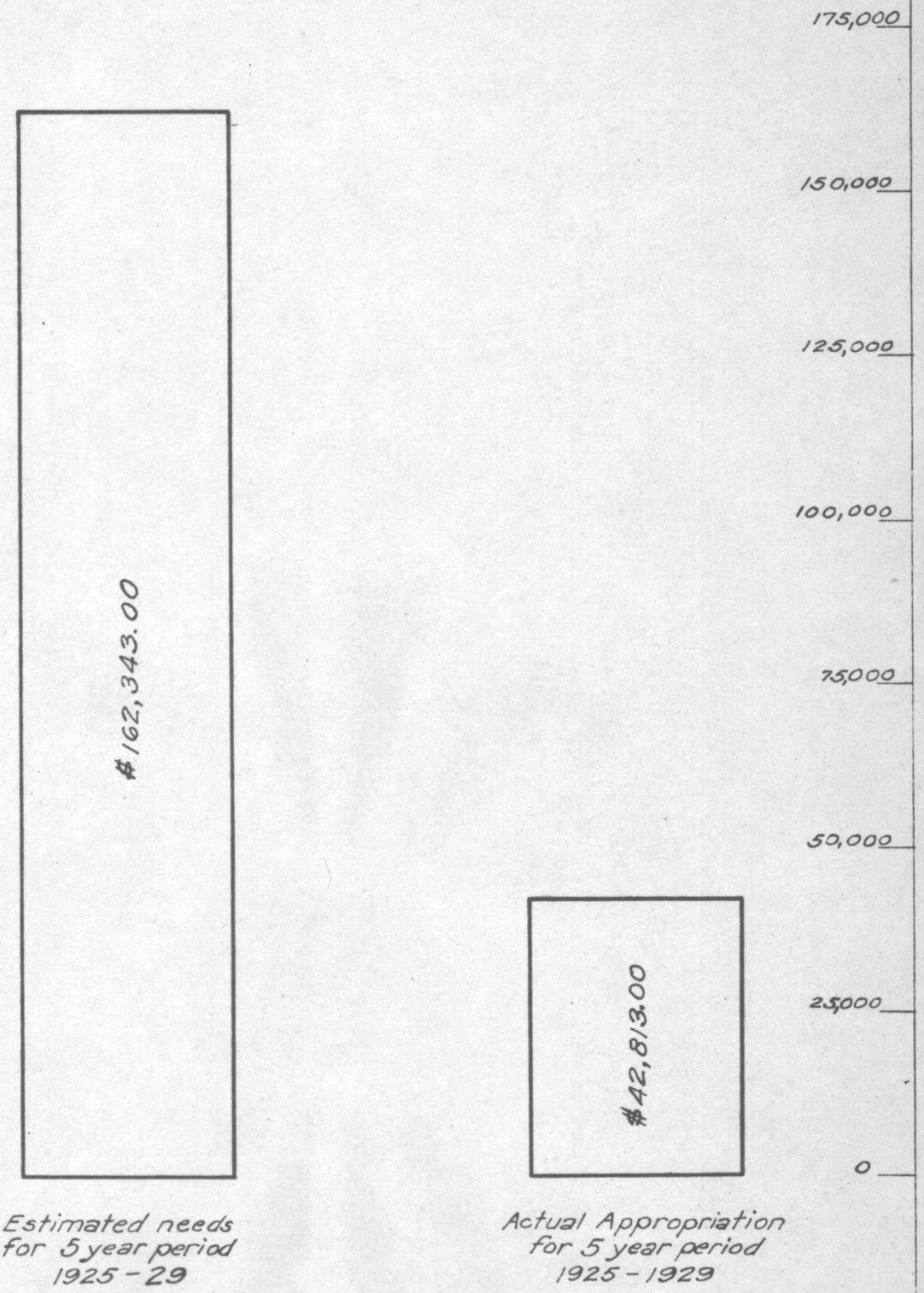
SANITATION AND FIRE PREVENTION ON CAMP GROUNDS



At present rate of expenditures it will require 19 years to complete the present day needs

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A C Q U I S I T I O N

Program for Rounding Out National Forest Properties

District 6

Alienated acreage within National Forests		3,919,529
Acreage ultimately desirable to acquire within present boundaries, approximately		3,500,000
Acreage probably desirable to acquire outside		10,531,506
(Public domain	1,784,248)	
(Other ownership	8,747,258)	
Probable ultimate acreage desirable to cede in exchanges, approximately		300,000
ULTIMATE NET ACREAGE OF DISTRICT SIX		37,049,013

Progress to Date

Acreage acquired through exchange, plus acreage in approved exchange cases going through legal formalities to consummation	188,639
Appraised value of foregoing	$ 970,061
Acreage public domain, added to National Forests since Clarke-McNary Act by congressional action	86,673
Approximate appraised value of such additions	$ 817,385
Net acreage desirable to acquire - - -	11,031,506
Acquired to date from all sources in 7 years	275,312

State and Private Fire Protection

Protection Force - - - Washington

State Supervisor of Forestry - - - - - - - - -	1
Chief Warden - - - - - - - - - - - - - - -	1
Deputy - - - - - - - - - - - - - - - - -	1
Wardens - - - - - - - - - - - - - - - - -	40
Patrolmen - - - - - - - - - - - - - - - -	335
Lookouts - - - - - - - - - - - - - - - - -	10
Inspectors - - - - - - - - - - - - - - - - -	10
Special Law Enforcement Officers - - - - - -	4
	402

Area patrolled 12,000,000 acres or 30,000 acres per man. Prevention cost, including overhead, $342,789, or 2.8¢ per acre. Suppression, about 2¢ per acre, including costs of logging companies in fire suppression.

Oregon

State Forester, Deputy, 2 inspectors - - - -	4
District Wardens - - - - - - - - - - - - -	20
Publicity Director - - - - - - - - - - - -	1
Law Enforcement Officers - - - - - - - - - -	10
Patrolmen, Smoke chasers, Lookouts, etc. - -	400
	435

Area patrolled 10,684,883 acres, or 24,560 acres per man. Prevention cost, including overhead, $331,988, or 3.3¢ per acre.

Amount spent in fiscal year 1929 for fire suppression about 0.8¢ per acre.

MT. HOOD NATIONAL FOREST ORGANIZATION

Position	No. Employees
Supervisor	1
Assistant Supervisor	1
Staff Assistants	4
District Rangers	6
Assistant Rangers and Timber Sale men	7
Clerks	2
Total	21

Total short-term men on protection, improvements, timber sales, brush disposal	260
Average Size of Ranger District	193,000 acres
Average Area per Protection Guard	17,500 acres

MOUNT HOOD NATIONAL FOREST

Net Receipts by Activities - F. Y. 1929

Timber sales	$ 22,471.98
Timber settlement	303.24
Timber trespass	2,233.23
Grazing - cattle and horses	1,408.87
Grazing - sheep and goats	3,814.85
Special uses	6,270.42
Total	$ 36,502.59

Operating Costs * F. Y. 1928

Fire Prevention & Presuppression	43,169.81
Fire Suppression	25,031.54
Maintenance - roads and trails	18,896.70
Maintenance - other improvements	5,812.58
Timber sales	5,568.48
Timber survey	2,170.48
Free use	28.50
Timber stand improvement and protection other than fire	1.50
Research (silvical)	126.60
Grazing administration	1,589.40
Grazing Reconnaissance	4.90
Grazing Investigations	52.71
Fish and Game	210.58
Land Adjustment	134.65
Special Uses and Rights of Way	1,959.56
Gen'l Surveys and Maps	952.31
Recreation	1,956.04
Total	$107,566.34

* Excludes cost of construction of Forest roads, trails and other improvements, reforestation, forestry extension, and acquisition and exchange - the total of these activities was $97,960.47. Of this amount $78,803.89 represents the cost of construction of forest roads and trails.

5-Year Program of Administrative and
Protective Improvement Needs

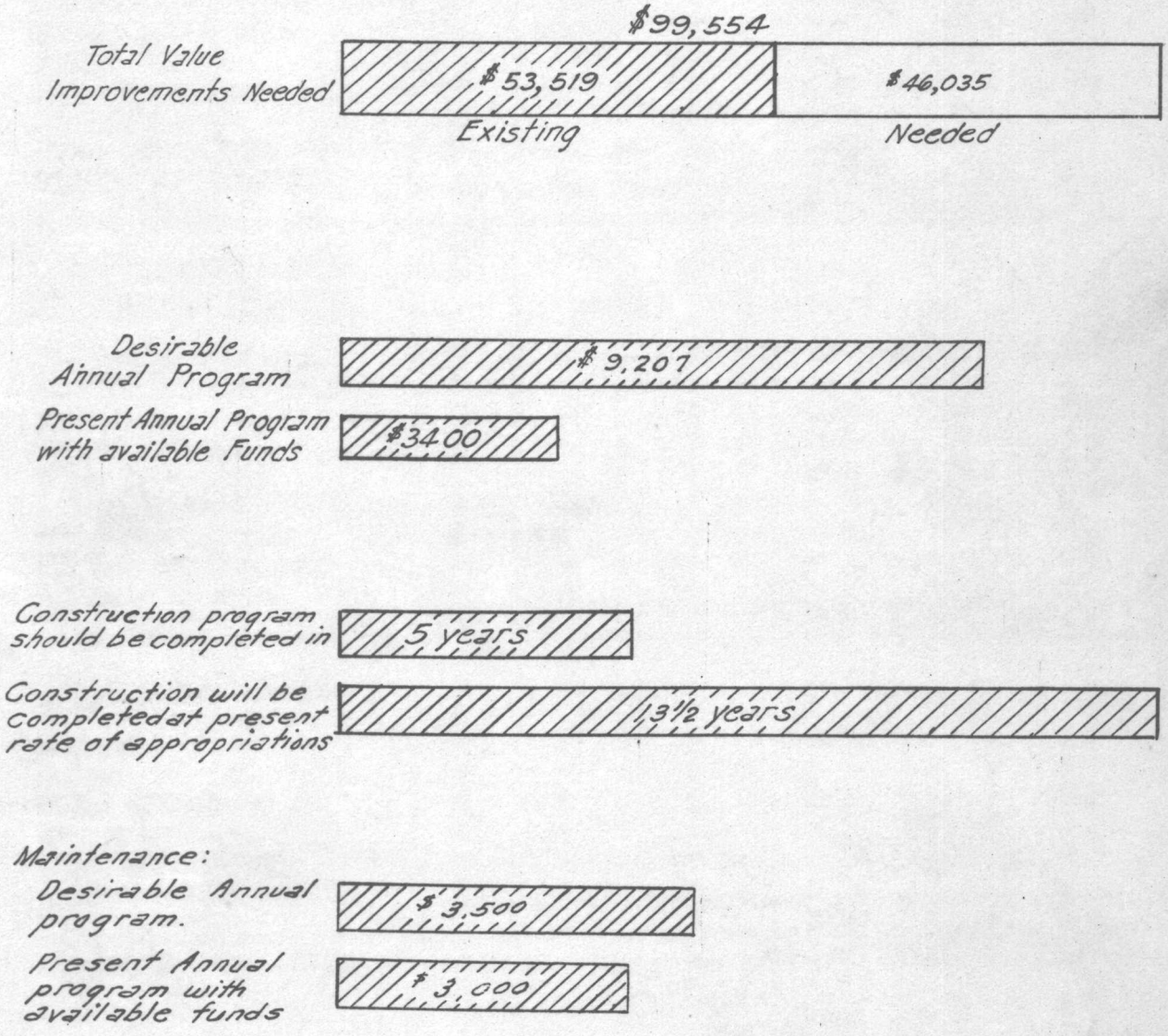
MOUNT HOOD N. F.

Improvements Needed for Fire Protection	Needed 6-30 1932	Existing 6-30 1927	Balance New Const.	Cost New Const.	Cost Replacements	Total Needed
Tel. Lines (miles)	735.	579.	156.	7,800	2,380	10,180
L.O.House (glass-ribbed)	21.	10.	11.	6,050	4,700	10,750
Towers & observatories	15.	8.	7.	5,250	5,300	10,550
Cabins for firemen	58.	33.	25.	4,125	4,810	8,935
Barns	19.	5.	14.	1,050	150	1,200
Other Structures	33.	11.	22.	2,200	-	2,200
Fences(miles)	60.75	21.75	39.0	1,170	50	1,220
Water Development	4.	2.	2.	1,000	-	1,000
Pasture Development	-	-	-	-	-	-
TOTAL				28,645	17,390	46,035
Improvements Needed at Ranger Headquarters						
Dwellings,4-R.or more	9	5	4	6,000	2,200	8,200
Dwellings,3-R.or less	-	-	-	-	-	-
Barns	8	4	4	800	400	1,200
Ranger Offices	6	1	5	1,500	50	1,550
Other structures	21	19	2	600	1,800	2,400
Fences (miles)	5,83	5.83	-	-	275	275
Water Development	5	3	2	700	50	750
Pasture Development	-	-	-	-	-	-
Purchase of Sites	-	-	-	-	-	-
TOTAL				9,600	4,775	14,375
Other Administration						
Cabins	6	4	2	600	-	600
Barns	-	-	-	-	-	-
Other structures	6	2	4	300	-	300
Fences (miles)	-	-	-	-	-	-
Water Development	-	-	-	-	-	-
Pasture Development	-	-	-	-	-	-
TOTAL				900	-	900
TOTAL COST				39,145	22,165	61,310

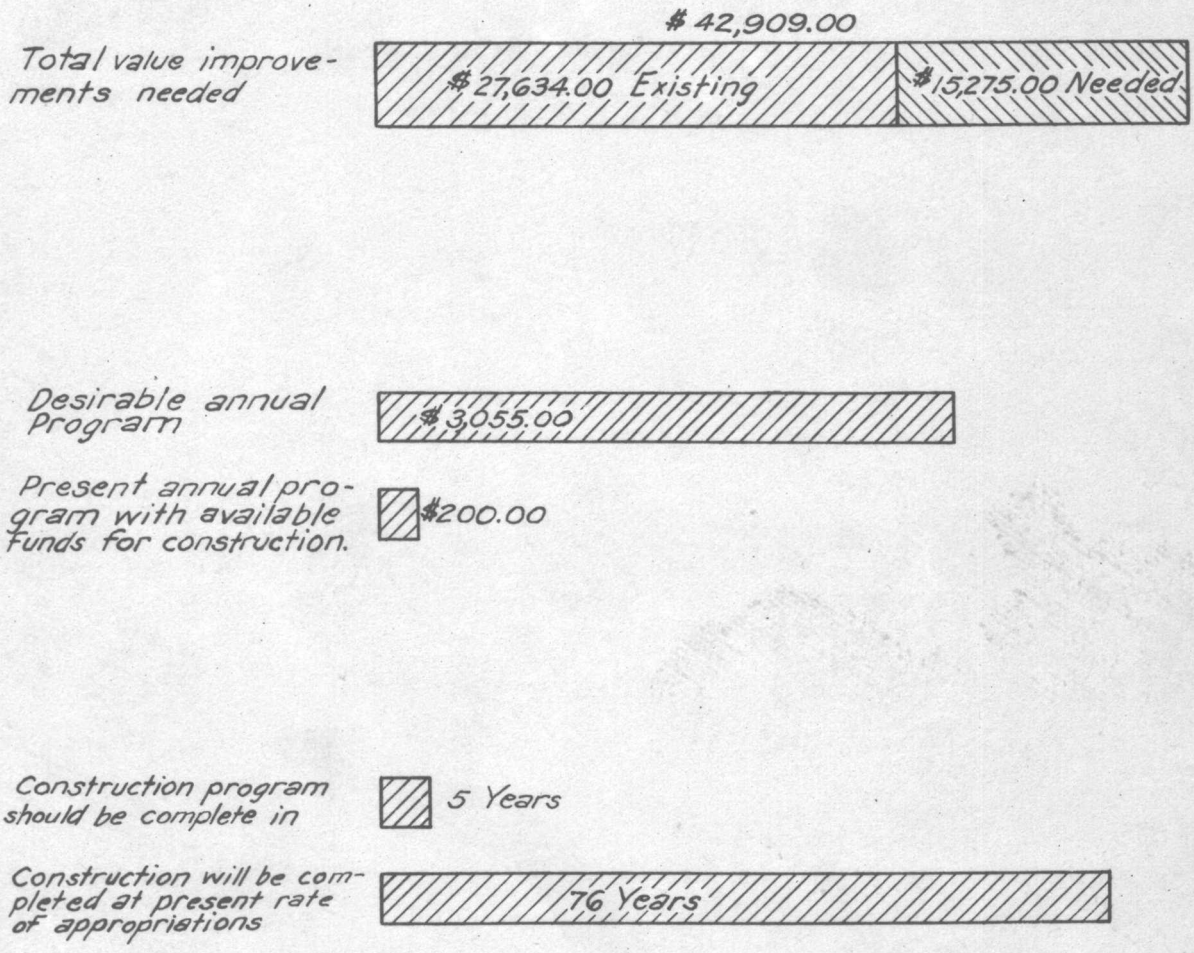
FIVE YEAR PROGRAM

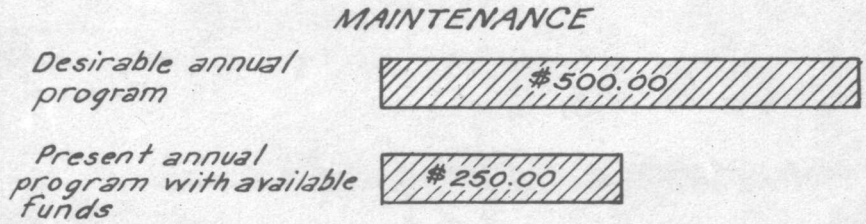
PROTECTIVE IMPROVEMENT NEEDS

MT. HOOD NAT'L FOREST



FIVE YEAR PROGRAM
ADMINISTRATIVE IMPROVEMENT NEEDS
MOUNT HOOD NAT'L. FOREST





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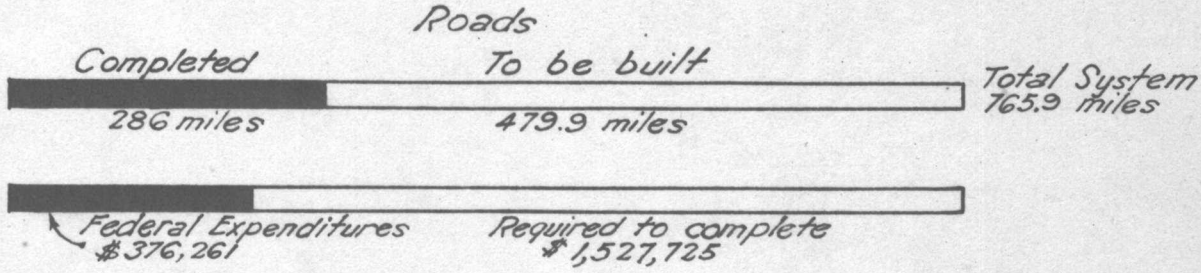
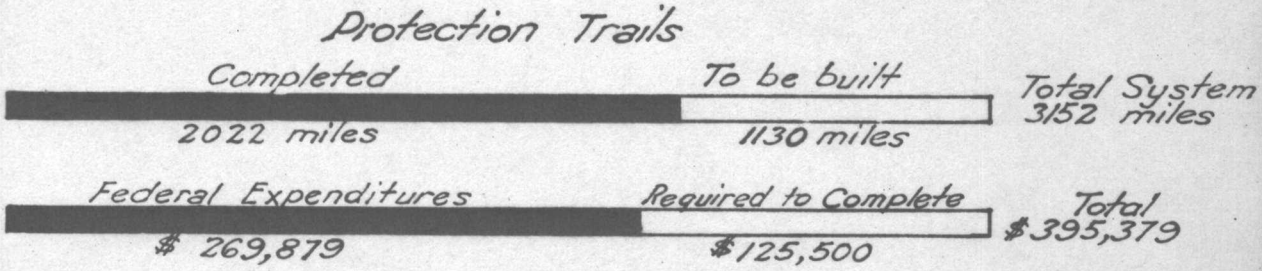
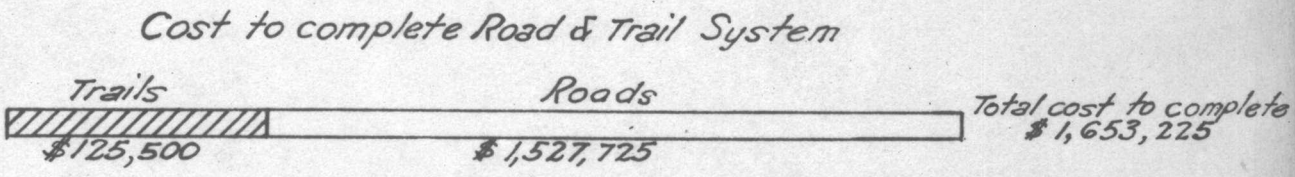
ADMINISTRATION AND PROTECTION ROADS AND TRAILS

MOUNT HOOD NAT'L. FOREST







Time required to complete Road and Trail System on Mt. Hood Nat'l. Forest on basis of present annual allotment for construction - 16 ½ years.