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F 768M

WOOD WATER WILDLIFE



1957 HIGHLIGHTS

Pacific Northwest Region

U.S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE



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REGIONAL OFFICE DIVISIONS AND FORESTS

R-6

Regional Forester

J. Herbert Stone

Box 4137, Portland 8, Oregon

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UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE

PACIFIC NORTHWEST REGION



ADDRESS REPLY TO
REGIONAL FORESTER
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P.O. BOX 4137
PORTLAND 8, OREGON

I
INFORMATION
General

February 1, 1958

Dear National Forest Stockholder:

This is our 1957 annual review of the activities of the U. S. Forest Service, Pacific Northwest Region. It includes national forest administration and state and private forestry cooperation. Our accomplishments and some of our management problems are discussed under headings corresponding to our administrative divisions of work.

Our population is increasing. Demands upon the forest resources have correspondingly increased. The Forest Service fully recognizes the importance of national forest wood, water, wildlife habitat, recreation and forage to the economic and spiritual needs of the people in our two States. We know that the economy in some communities is dependent to a major extent upon national forest resources.

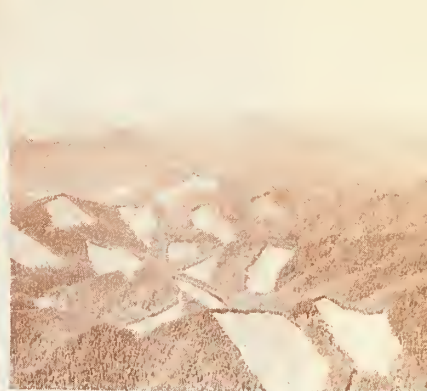
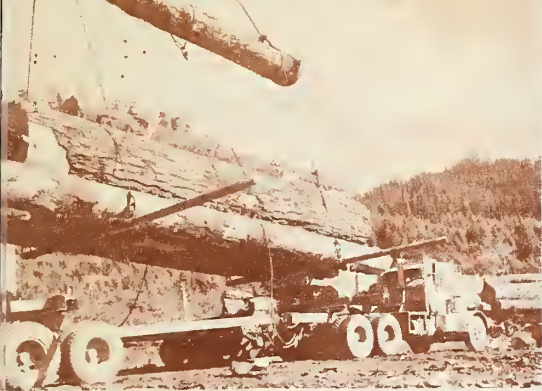
The goal of the Forest Service is to plan and coordinate the management of the national forests entrusted to its care. We seek to make all areas produce the maximum tangible and intangible values to the welfare of the communities, the states and the Nation. We strive to do this in such a way that all present and future competitive needs will be fairly weighed in relation to the managed capacity and condition of the land.

To better accomplish this we need and appreciate the counsel and cooperation of many people. This has been given on a friendly basis in good measure in the past. Any comments you wish to make on this report or our work will be welcome.

Sincerely yours,

A handwritten signature in cursive script that reads "J. Herbert Stone".

J. HERBERT STONE
Regional Forester



Large equipment handles the big logs from old growth timber stands. They are converted to managed forests by the typical cutting pattern shown at the right.

TIMBER MANAGEMENT

Timber Sales - Calendar Year

The timber cut on the national forests of this region in 1957 was 75 percent of the allowable annual cut based on inventory data existing at the start of the year. Both the amount of timber cut and timber sold during the calendar year was down slightly from 1956. Additional timber sale funds provided for the fiscal year beginning July 1 were partially withheld as a budgetary reserve but released near the end of the calendar year. Immediately following the release, plans were laid to increase the amount of timber to be sold. During 1958 the additional amount of sales should bring the amount sold up to, or in excess of, the full allowable cut of 3.6 billion board feet. This will permit - but doesn't guarantee - that the amount cut will also reach this amount. Some lumbering operations were curtailed and some suspended because of the market conditions. This resulted in a decrease in the amount of timber cut. The tabulation below shows a comparison of volume and value of timber cut and sold during the past three-year period.

Calendar Yr. :	<u>Sold</u>		<u>Cut</u>	
	Volume (MBF) :	Value (\$)	Volume (MBF) :	Value (\$)
1957	: 2,708,171	: 48,854,143	:: 2,510,106	: 55,374,395
1956	: 2,866,708	: 73,572,685	:: 2,734,073	: 63,334,681
1955	: 2,860,450	: 75,386,713	:: 2,729,885	: 44,542,518
:	:	:	::	:

A major accomplishment in the field of utilization was the cutting of 6,000 cords of lodgepole pine on the sale of 450,000 cords in southern Oregon. For many years this was considered a non-commercial species and the sale involved the building of a large mill in the vicinity of Klamath Falls.

During the year a change was made in the manner of appraising the Douglas-fir for sale. It is now appraised on the basis of the plywood, lumber or other finished products it will produce rather than on the traditional log-market-value basis.

Planting and Stand Improvement

Approximately 16-1/2 million trees were planted on 31,640 acres of national forest land in fiscal year 1957. Fourteen and one-half million of these little trees were produced in our two nurseries at Wind River and Bend. Seeding was done on an additional 680 acres and 3,350 acres were treated so that they would reforest naturally with seed falling from adjacent timbered areas. Knutson-Vandenberg Law funds were used to finance the work on 31,510 acres that were in sale areas. (The Knutson-Vandenberg Law has been in effect since 1930. It provides that the purchasers of national forest timber may be required to deposit money for reforestation and other specific stand improvement work on areas cut over in the course of a sale.) The remainder of the work was done with money appropriated by Congress. This year's accomplishment boosted the cumulative total area of national forest land successfully reforested in the region to 232,000 acres.

Besides the reforestation work we have just mentioned, other timber stand improvement work was done as follows:

Non-commercial thinnings	7,900 acres
Tree pruning	21,000 acres
Misc. other improvements	1,300 acres

Besides this, an undetermined but significant acreage of thrifty young growth stands were thinned to improve yield and quality. The trees removed were sold under the regular sale procedure.

Porcupines have continued to kill and damage a large amount of timber trees but porcupine control activities accounted for a known kill of 38,800 of these destructive rodents.

Forest Insects and Diseases

Chermes: The infestation by the tiny "balsam woolly aphid" was reported last year as the top insect problem in the region. It continues to be extremely serious. In 1957 infestations covered 599,000 acres, an increase of 243,000 acres. As fast as possible, sales are being made to salvage the timber. A survey of the damage was made during the year on 202,000 acres of the Gifford Pinchot National Forest and adjacent areas. The project was done in cooperation with the Weyerhaeuser Timber Company, Harbor Plywood Corporation, Northern Pacific Railway Co., and the State of Washington. Aerial photo plots and ground check plots for correlation was the survey method used. Within the main infestation area it was found that approximately 6 million board feet of true firs were about one-third dead or heavily damaged, one-third lightly damaged, and the remainder undamaged.

Bark beetles: Timber losses from bark beetles remain at low levels. The western pine beetle, a threat to ponderosa pine, has made a slight increase. Although it is not now a major threat, it must be watched.

Spruce budworm:

From 1949 to 1955 3,840,000 acres were aerially sprayed to control spruce budworm infestations. No spraying was needed in 1956 or 1957, but areas were carefully watched. Infestation increased from 536,000 acres in 1956 to 831,000 acres in 1957. The major part of the infested stands are in the Malheur, Umatilla and Wallowa-Whitman forests where no previous spraying was done. Control by aerial spraying is now planned on 812,000 acres during 1958.



Timber stands infested with spruce budworm are sprayed with DDT mixed with fuel oil. The operation must be completed in a few weeks in June and July just after the larvae of the insect emerge and start feeding on the foliage.

Black-headed budworm: A serious infestation of the black-headed budworm has developed on about 253,000 acres of hemlock, Douglas-fir and true fir timber on the Snoqualmie and Mt. Baker forests and adjacent lands. Previous epidemics have subsided rather rapidly and surveys indicate that this one may do so. Therefore, no control measures are planned for 1958, but the trend will be observed closely.

Diseases: During 1957, 6,730 acres of white and sugar pine on the Rogue River and Umpqua National Forests were treated to protect the timber from blister rust. Surveys were made on 35,000 acres of the Siskiyou and Gifford Pinchot National Forests to determine the amount of white and sugar pine values and the extent of damage caused by the rust. Nineteen rust-resistant sugar pine trees were located. Tests will be made to see if this trait will be inherited by the next generation. The work on producing rust-resistant strains of white and sugar pine will be increased in 1958. The Forest Service continued to provide technical direction to the Bureau of Land Management and the National Park Service in conducting their blister rust control programs.

Foliage Diseases: The foliage diseases (needle blights) increased in extent during 1957. The principal ones are Elytroderma deformans, on ponderosa pine, Hypodermella laricis on western larch and what is probably Coryneum cinereum on lodgepole pine. The blights have caused extensive defoliation and retarded growth but have killed few trees. No control measures are known.

As a result of new inventories followed by new calculations of allowable cutting rates (some called interim cuts because based upon data not finally verified), the allowable cut for all 19 national forests as of December 31, 1957 was 3.6 billion board feet of timber. This means that the allowable cut has increased one billion board feet over what it was six years ago.

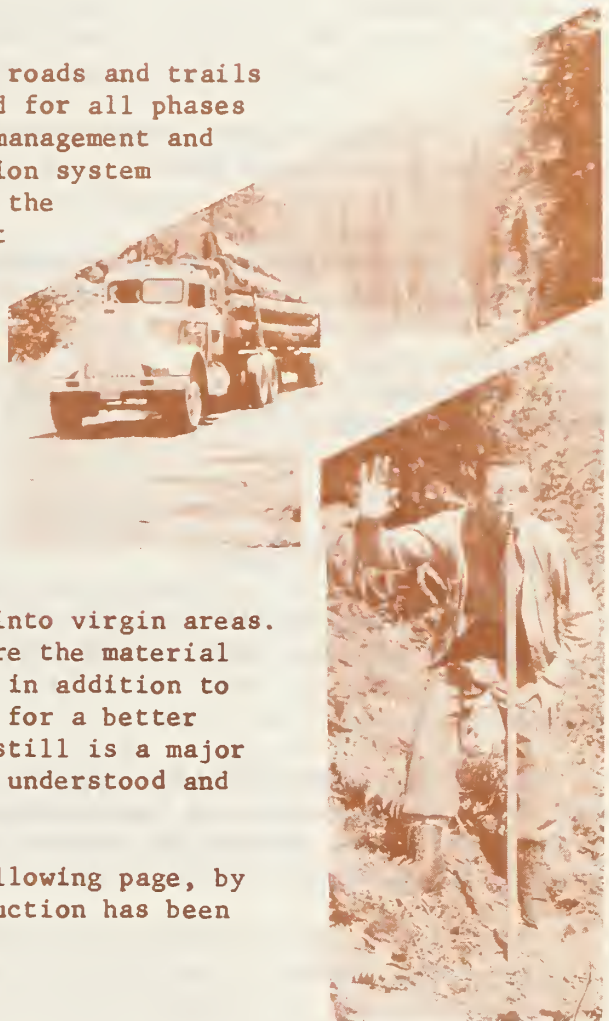
Inventory procedure was substantially changed by trying a new system for establishment of permanent plots located on a systematic grid. Standardized plot cards were prepared. If they become widely used by others, and this is hoped, data obtained by the Forest Service, Bureau of Land Management, and participating private companies would be interchangeable. Using this system, field plots were completed on nine working circles and work begun on seven others. Of the 68 working circles in the region, 16 remain to be done. Electronic computers will summarize the work.

ENGINEERING

Roads and Trails

An adequate system of permanent roads and trails throughout our forest areas is needed for all phases of coordinated land management. As management and uses become greater, the transportation system advances from the custodial phase to the higher requirements brought about not only by competitive public demands upon all of the forest resources but the resulting need for forest personnel to have access to do a more intensive job of resource management. The need to salvage timber damaged by windthrow, fire, insects and disease is but one of the reasons why most roads already built for initial harvest must be maintained and why the transportation network needs to be extended into virgin areas. Timber salvage needs to be done before the material becomes unusable, and usually can be in addition to the allowable annual cut. Necessity for a better transportation network has been and still is a major problem. It is becoming more widely understood and there is more evidence of support.

As shown on the table on the following page, by far the greater share of road construction has been done by timber purchasers.



Accomplishments on the transportation system for F. Y. 1957 were as follows:

Work Done With Federal Funds

New bridges	24	\$ 683,352
Temporary bridges replaced with bridges	28	794,985
Temporary bridges replaced with culverts	25	121,335
Timber access roads, new	41.8	1,714,138
Timber access roads, reconstructed	15.4	202,113
Other roads constructed	7.6	216,732
Other roads reconstructed	33.4	145,583

Work Done Through Timber Sale Contracts

Engineering on timber sale contracts	595 miles	\$ 318,887
Bridge construction and replacement	17 "	172,011
Road construction, new	1,140.4 "	17,358,502
Road reconstruction	242.2 "	2,495,879
Road maintenance	7,272.7 "	2,403,716

Other Accomplishments With Government Funds

Surveys and plans, timber access roads.	978.9 miles	\$ 1,446,999
Surveys and plans other roads	56.2 "	47,278
Construction staking and inspection on purchaser roads	1,171.5 "	369,929
Expense supplementing timber purchaser roads		233,412
Trail construction	23.1 "	36,922
Trail reconstruction	62.0 "	83,014
Roads maintained	11,606.1 "	708,727
Roads restored	126.5 "	539,828
Trail maintenance	12,598.9 "	361,075
Trail restoration	161.4 "	71,413
Landing fields	1 "	9,702

Equipment Fleet Management

Vehicles in the Portland, Vancouver, and Seattle areas are handled through a motor pool under the General Services Administration.

Architecture

The Architecture Section provided plans, specifications and architectural services for: 34 new 3-bedroom dwellings and 4 new offices, 3 crewhouses, 1 ski shelter, 20 lookout houses, and renovation or remodeling of 19 structures.

The Section also revised and replanned 38 site plans.

Forest Highways

During 1957, the Bureau of Public Roads awarded contracts amounting to \$5,037,341 covering 53.4 miles of forest highway construction. Forest highways are designated portions of State or county highways within or adjacent to national forests. The program of construction is prepared jointly by the States, Forest Service, and Bureau of Public Roads.

Cartography

Approximately 5,000 square miles of planimetric mapping was completed in 1957. This brings the total to 66,000 square miles completed to date. Approximately 9,000 square miles remains to be done. It is anticipated that the entire regional program will be completed by the end of 1958 except for certain areas dependent upon the Geological Survey program and possibly some field editing and accuracy checks. In addition to serving a variety of needs of the Forest Service, these maps are continuing to be in great demand by other Federal, State and private agencies.

New forest series maps of three national forests on a scale of 1/2 inch to the mile were completed in 1957, and four more are scheduled for completion during 1958.

Recreation folder maps were revised for the Gifford Pinchot, Umpqua, and Umatilla National Forests. Three others - Willamette, Snoqualmie, and Wenatchee are underway.

A complete set of Forest Transportation System maps, on a scale of 1 inch to the mile, was completed. This project required 110 maps, one for each ranger district.

The road inventory records were set up during the year for electronic machine processing. This entailed tabulating 12,437 road projects totaling 53,780 miles.

WATERSHED MANAGEMENT

Increased use of forest and range for production of wood, water, forage, wildlife and recreation has developed extremely complex situations and problems. It has become increasingly apparent that soils, water and soil-plant-water relationships are of great importance in integrated land management. During the year action was taken to strengthen our work in this important field by the establishment of a Division of Watershed Management in the regional office. Through assistance on and inspection of immediate and long-range studies, plans, and programs the objective is to bring about the best possible management of soil and water. The division has three sections: Soil and Watershed Management, Hydrology, and Small Watershed Projects.

Work in watershed management should be further strengthened by the addition of a soil surveyor and a hydrologic engineer in the near future.



Contour trenching is tried on one of our small watershed projects to protect the soil and water values so important to communities below.



Streams originating on our national forests vitally affect many people-- including this one which supplies water to Oregon City and West Linn.

During 1957 an analysis was completed of the impacts on forest resources and management of 11 projects included in the Corps of Engineers 308 Report Review which covers development of the Columbia River and its tributaries. Preliminary examinations for two small watershed projects in Washington were made under Public Law 566. Work planning is underway for one small watershed project in Washington and one in Oregon. Continued channel clearing, contour furrowing, and seeding for erosion control on the Mission Creek Watershed Demonstration Project, Wenatchee National Forest, was carried on. Assistance was given the Forest Soils Committee of the Douglas-fir Region in publishing its book "Introduction to Forest Soils of the Douglas-fir Region of the Pacific Northwest". Activities were continued on erosion control, seeding and dune stabilization work on several soil and water conservation projects in Oregon and Washington. Help was given to several subcommittees of the Columbia Basin Inter-agency Committee. A pilot forest vegetation survey in the south Umpqua River drainage was started. In cooperation with Washington State College, work was continued on soil survey field work and soils map interpretation on the Olympic National Forest. Action to analyze the impacts of water impoundment developments was started on two Bureau of Reclamation projects. A report on Federal Power Commission cases is expected to be completed in early 1958.

RECREATION AND LANDS

Wilderness and Wild Areas

Creation of the Three Sisters Wilderness Area and the Mt. Washington and Diamond Peak Wild Areas in Oregon was announced February 8 by the Department of Agriculture. These three, added to the seven already established, provided some 747,983 acres devoted to wilderness in Oregon. The decision directed that a careful multiple-use management plan be prepared for the 53,000 acres formerly in the Primitive Area west of Horse Creek, that the plan provide full protection to the adjacent wilderness area, that sections of special botanical and geological significance be preserved, and that camping and picnicking facilities for family recreation be established. We have been gathering basic data for the plan which should be completed in 1958.

On February 7 we distributed the Glacier Peak Land Management Study, which discusses a preliminary proposal for creating a Glacier Peak Wilderness Area. Organized groups and individuals responded generously setting forth suggestions and opinions on the proposal. During the 1957 field season we have checked data secured in the preliminary study and are revising the original proposal in light of new information. We plan to send our proposal to the Chief of the Forest Service early in 1958. If he decides a public hearing is needed, judged on the basis of expressed public interest, it will be widely advertised for a period of at least ninety days. At a hearing the public is invited to present either oral or written statements.

The Waldo Lake Limited Area has been studied in 1957 with the view of preparing a management plan for it in 1958.

Land Management Planning

A program of land management planning was started in 1956 and received increased emphasis in 1957. The goal of having such plans for every ranger district is well underway. Such a plan sets forth patterns of present and possible future use of the various resources. Special local conditions such as soil structure, soil stability and topography are considered. The plan points out limiting factors, areas of competition with respect to occupancy and use and harvesting of the resources. It specifies which uses should be favored and how competitive uses may be reconciled by special management practices.

Winter Recreation

Winter recreation continued to be a major attraction. A total of 665,000 visits were recorded. This is a little less than for 1956, but still represents a substantial contribution to the economy of communities and cities near such areas. If one assumes that each visit represents an expenditure of at least five dollars, winter recreation is a multi-million dollar industry.

Improvements of facilities have included the following at Heather Meadows Winter Sports area, Mt. Baker National Forest: warming hut and ski patrol building at the lower terminus of the ski lift, costing \$40,000; a warming hut at the upper terminus, costing \$20,000; and a new water system.

Summer Recreation

The recreation phase, Part I of Operation Outdoors, 5-year program of the Forest Service, was announced in 1956.



New tables are just one of rehabilitation items made possible under Operation Outdoors.

Operation Outdoors is progressing rapidly, with the present major emphasis on maintenance and rehabilitation. As our recreation developments are brought to standard, the expansion phase of the program will be accelerated. Thirty new campgrounds were added in 1957. This will expand the capacity of the Forest Service facilities to accommodate the rapidly increasing use. Additional funds made available through the Operation Outdoors program make this possible.

Recreation use jumped to a record high of over 6-1/2 million visits last year. The largest gain was in the use of Timberline Lodge, which increased nearly 100%.

Mineral Resources

A 10-year plan for Determination of Surface Rights of mining claims proposes coverage by 1965 of 7,720,000 acres of national forest land in the region under Public Law 167 proceedings.

Progress to date under this program:

State	Acres Examined	Acres Published
Oregon	612,182	514,432
Washington	881,815	719,865
TOTAL for Region 6	1,493,697	1,234,297

A total of 175 verified statements have been filed by claimants as an assertion to maintain their surface rights on 1,458 claims. Although a number of hearings have been scheduled under Public Law 167, to date none have actually gone to contest because in each case the claimant executed a waiver just before the hearing date. Waivers were obtained on 36 claims.

In connection with patent applications, one claim was clear-listed. Nineteen claims were protested by the Forest Service and were declared invalid through hearings held by the Bureau of Land Management, Department of Interior.

Land Exchange

Nine land-for-land exchanges were consummated during the year. These exchanges filled gaps in national forest ownership to foster more economical administration. Two thousand, ninety-two acres of scattered exterior national forest tracts were traded for 6,360 acres of privately owned lands located inside national forest boundaries.

RANGE AND WILDLIFE MANAGEMENT

Our overall planning and accomplishment in range and wildlife management improved this year as a result of intensified training and a slight increase in funds. Cooperation from other agencies, the States, sportsmen and stockmen has been excellent. An expanded program in both range and wildlife work is needed to meet reasonable goals and objectives of national forest management. We are now in a sound position to develop such a program.

Range Management

Although livestock forage conditions were generally better than average, numbers of livestock grazed were down slightly from 1956. Some permittees kept their livestock on their home ranch or other private land this year instead of taking them on the national forests. Actual numbers grazed on the forests in 1957 were:

Cattle	86,898
Sheep	145,593

Livestock prices directly affect the amount of grazing fees. Livestock prices were still down in 1956. This was reflected in slightly lower grazing fees in 1957. Grazing receipts for the region in 1957 amounted to \$206,151.78.

Due to numerous changes in personnel on the forests, the region strengthened its training to develop and improve employee competence in range work. Fifty-five forest officers were given intensive training either in range condition and trend measurement or range analysis and management planning.

Forest officers from the regional headquarters in Portland and from a number of the forests accompanied members of both the Oregon and the Washington Livestock Advisory Boards on range "rides" on the Malheur forest in Oregon and the Umatilla forest in Washington. Interest and cooperation of livestock permittees in management and development of our ranges is excellent, with the permittees contributing a good share of the total cost of constructing and maintaining range improvements on the national forests.

Following is a resume of the range analysis, revegetation and range improvement programs for the region for 1957:

Range Analysis

The range analysis program in this region gathered considerable momentum in 1957. With additional financing and more trained manpower available, the program was expanded to include three additional forests. One hundred livestock range allotments were analyzed on ten national forests. A total of 1,900,000 acres will have been completed by July 1, 1958. Game range and livestock range analysis were done simultaneously on approximately 568,000 acres within the livestock allotments. In addition, mapping was completed on one 60,000 acre unit of exclusively big game range. The range analysis project is about 29% complete. If additional funds become available, the program should be accelerated to reach our goal of completing the analysis job on all Oregon and Washington forests in three more years.

Revegetation

During 1957 the seeding of depleted range was doubled in acreage over the previous year. Revegetation treatment for this year consisted of:

Seeding depleted ranges	5,462 acres
Spraying sagebrush	3,870 "
Removing lodgepole from meadows	475 "
Spreading water on dry meadows	580 "
Drainage of swampy areas	<u>104 "</u>
Total acres treated	10,491 acres

In addition, 10,785 acres of logging-disturbed areas, skid trails, landings, and cut and fill slopes of new roads were seeded to grass to protect soil and prevent erosion.

An estimated 345,000 acres of land on Washington and Oregon national forests are still in need of revegetative treatment of one kind or another. Noxious farm weeds were controlled on 976 acres of national forest land mainly adjacent to agricultural lands. Such weeds as bind weed, Canadian thistle, knapp weed, tansy ragwort and water hemlock were controlled.

Range Improvements

Range improvements include any structural development that contributes to the protection or betterment of the range. During the past year \$115,690 were spent on construction of new range improvements. Of this the livestock permittees contributed \$59,808 or about 51% of the total cost. In addition to the construction of new improvements, existing developments were maintained at a cost of \$115,330. Of this the permittees contributed \$69,394 in cash, labor or materials, or about 60% of the total.

The range construction and maintenance program consisted of:

	<u>Construction</u>	<u>Maintenance</u>
1. Range fences	178 miles	2,439 miles
2. Water developments	114	778
3. Stock ponds	106	118
4. Corrals	8	11
5. Stock driveways	11 miles	527 miles
6. Ditches and pipelines	10 miles	15 miles
7. Fenced observation plots	18	49
8. Stock bridges	0	4

At the present time the Government has invested a total of \$1,210,663 in range improvements in the Pacific Northwest Region. This investment includes 2,408 miles of range division and boundary fences, 280 miles of livestock driveways, 1,759 range water developments and numerous corrals, cattle guards and other stock handling facilities. To protect and manage properly the national forest ranges in this region, an additional investment of approximately \$7,250,000 is needed for 4,083 miles of range fence, 3,952 water developments and 1,362 stock handling facilities, plus other water-spreading and drainage improvements. A good share of these future improvements will be financed and installed in cooperation with the permittee users of national forest ranges.

Wildlife Management

The 1957 harvest of big game from national forest land in Oregon and Washington continued at a relatively high level. Both States are developing good harvest programs to try to keep big game numbers in balance with available forage, both summer and winter. Despite the fact that Oregon still leads the nation in number of deer harvested (125,800 in 1956), significantly, deer numbers reported on national forests in the region in 1957 were about 95,000 greater than reported in 1940. The region's forests report that a total of 326,340 deer and 55,345 elk live partly or wholly on the national forests and intermingled private lands.

The Forest Service manages the wildlife habitat. The States regulate the harvest. Keeping the population in balance with available forage is vital.



Other species such as Rocky Mountain goats have built up to a level where hunting them is now possible. Four hundred permits for goats were issued in Washington's Cascade Range in 1956. As a result 302 animals were harvested from an estimated 6,000 goats on national forests in the area. A number of big game administrative study exclosures were constructed during the year. Big game range analysis and livestock range-allotment analysis are proceeding together.

A special hunt was cooperatively conducted on the Corvallis City watershed, Siuslaw National Forest, (Marys Peak area) to keep deer numbers in balance with range capacity and eliminate damage to the watershed and planted tree seedlings. Ninety-three and one-half percent of the 185 hunters were successful in getting 74 bucks and 89 does.

The region recently completed an extensive report of national forest wildlife management, habitat and improvement needs for the next 20 years. This report supplied information, secured in cooperation with State game agencies, for use by the Department of Agriculture in planning the Part II, Wildlife Section, of Operation Outdoors. If adopted, such a long-range program, developed in cooperation with other Federal and State agencies, could provide much better management, production, and eventual harvest of our wildlife and fishing resources.

FIRE CONTROL

Gradual progress continued toward solution of fire control problems. More efficient methods of controlling wildfires are constantly being sought. Safer and better methods of using fire as a management tool are being given time and study. Despite continued effort on forest fire prevention, numbers of man-caused fires increased this year. But acreage burned from all fires was at an alltime low.

Forest fire statistics are as follows:

<u>All Causes</u>	<u>1957</u>	<u>1956</u>	<u>1952-1956 Average</u>
No. of fires	926	1806	1258
Acreage burned	1147	1537	6491

Numbers of lightning fires were low with a total of 479 in 1957. Man-caused fires increased from 408 in 1956 to 447 this year. Campfires started 139 forest fires and smokers caused 135 this year. The number of hunter fires was the lowest since 1947; however, general rains on opening day of deer season probably contributed greatly to the reduction in number of hunter fires.

Slash Burning

Although weather conditions were somewhat adverse for fall slash burning, an estimated 25,000 acres of logging slash was burned. Even under the best conditions this is a hazardous operation, but such disposal of logging debris is a necessary part of coordinated land management.

Aerial Program

Smokeyjumpers based on the Siskiyou and Okanogan National Forests made 149 jumps to fires this year. This is somewhat lower than in 1956, due to fewer lightning fires which often occur in remote areas. Helicopters were used on three national forests.

Air tankers were used for the first time in the Pacific Northwest Region. An experimental air tanker unit was established at Wenatchee and used with excellent results on seven fast-spreading fires. The tanker application of sodium-calcium-borate, mixed with water, reduces the heat and rate of spread and permits ground crews to complete fire lines and established control of the fire. Continued and expanded use of air tankers is predicted.

New Equipment and Improvements

Modernization of equipment and improvements continues. Two new Oliver tractor-plov units and four new 4-ton tiltbed trucks were added to the fleet. These units are radio equipped and have trained operators. New standard tractor headlight kits for rented tractors were developed by this region. New standard water mopup kits which provide all accessories to take six lateral hose lines from a 1-1/2 inch main line have been developed. This permits the spreading of water quickly over a wider area for more efficient water use.

The most recent development is a combination diesel oil-propane flame-thrower unit for firing slash and debris under wet conditions.

Cooperation

Good cooperation has been given by industry, State organizations, private protective agencies, other regions of the Forest Service and individuals. This has been an important factor in protecting forest values from fire.



Smokeyjumpers parachute to forest fires in remote areas. Speedy attack prevents many fires from becoming large.

Weather

Severity of fire weather was near average but slightly more severe than in 1956. September was warmer and drier than normal. It was the season's most severe fire weather, particularly in southern and eastern Oregon where conditions were critical. Lightning storms were more numerous than average, but caused a much below average number of fires.

OPERATION

Housing

Inadequate housing has been previously reported as a regionwide problem in reaching our objectives in coordinated land management. This is still true, but special funds were appropriated for fiscal year 1958. This is the second consecutive year that Congress has recognized the importance of providing additional housing.



One of the new offices constructed under the expanded housing program.

Since July contracts have been awarded for 34 new three-bedroom dwellings and 4 district ranger offices. Bid invitations are being issued for 7 more dwellings, 3 offices, a warehouse and 4 crew houses. Six ranger station water systems were being improved at the close of the calendar year. Several residences and 2 offices have been remodeled; 20 lookout houses, many of them on towers, were being replaced by the end of December 1957. Five crew-quarters buildings are being constructed by Forest Service personnel.

Ranger District Workloads

Work performance on ranger districts is recognized as a key to good on-the-ground resource management. Continued effort is made to control a ranger's workload so that he can adequately plan, direct, supervise and participate in managing the resources. We have continued studying this problem and made adjustments as necessary at selected places in the region. This has helped to maintain a balanced ranger district workload in our integrated land use management.

Communications

Major progress was accomplished in improved radio communications. Revised communications plans were completed for 6 national forests during the year. New radio sets purchased and placed in service numbered 185. Design and specifications were prepared for 5 special radio relays needed in locations where communication has been difficult. The problem of radio interference from military bases in the Arctic has been identified and reduced. New radio frequencies have been worked out and assigned to 4 of the forests. At least 25% of all of our radios have had frequency conversions. Our radio technicians rendered maintenance assistance to the Forest Service in the Alaska Region. Cooperative assistance has also been provided several other Government agencies having related radio problems. Several pieces of special radio gear were designed and built in our radio shop to meet special needs on our own national forests. Training of forest technicians has been emphasized this year to keep up with the demands for increased communication.

General Operation Items

Improved budgeting procedures were put in effect this year. Additional controls were set up through detailed apportionment by four-month periods and by a division of funds between personal services and other expenditures. During the year we began using electronic machines for book-keeping and payrolling.

A total of 177 employee work-improvement suggestions were received (with 68 carried over from 1956). Of these, 96 were approved and 83 disapproved during the year. Cash awards were made for 57 suggestions, and 12 other awards were made for outstanding performance. The total amount paid under both phases of the awards program was \$3,380. We continued to intensify our forms management program to insure that regional and field forms are created with guide lines, control, and coordination.

PERSONNEL MANAGEMENT

Manpower Needs, Recruitment and Training

More local, short-term or summer seasonal employees were available for employment in 1957 than in 1956. All short-term positions were quite readily filled. However, acute shortages continued in the engineering and professional forester groups. At the end of the field season in late November a substantial number of positions in the above groups were not filled.

College-student employment reached a total of 424 students. This includes a substantial number of students majoring in engineering. Many requisitions sent to forestry schools were returned unfilled indicating a plentiful supply of summer jobs existed for students in 1957.

As in the past years numerous training conferences were held and two orientation programs completed for new employees.

Losses of personnel during the year reached a low level reflecting a change in employment in other industries and the stabilizing effect of salary adjustment late in 1956.

Safety

Forest Service administrators and employees recognize that safety is a cooperative responsibility -- cooperative to the extent that every person in the organization, from the highest to the lowest, has a co-responsibility for safety.

Substantial progress was made during the year in reducing accidents. Twenty-seven lost-time accidents occurred with a frequency rate of 4.69, the lowest of any Forest Service region. In 1957 6,155,899 man hours were worked. (Accident frequency rate is number of disabling injuries times 1 million divided by number of man hours worked.)

The region is an active participant with the National Safety Council in accident prevention programs; posters and other materials are extensively used to remind employees of their duty to work safely.

A driver testing program was organized for the region and Pacific Northwest Forest and Range Experiment Station. Approximately 2000 employees were examined in accordance with Civil Service Commission regulations and were issued "Operator's Identification Cards".

STATE AND PRIVATE FORESTRY

State, private and other non-Federal forest lands are vital to the forest economy of the region and the Nation. Congress has recognized this by having passed a number of "enabling acts" providing Federal cooperation with States and private landowners for keeping the lands protected and fully productive. Financial and technical assistance is being provided to forest landowners both large and small. These Federal-State cooperative programs are commonly referred to as: cooperative forest protection, cooperative tree planting, farm forestry, general forestry assistance, agricultural conservation and soil bank programs.

Cooperative Forest Protection

Approximately 24 million acres of State, private and other non-Federal forest lands are protected from fire by the State forestry organizations in Oregon and Washington. Timber values and the annual value of forest products thus protected are estimated to be over 13 billion dollars. Federal funds allotted under the cooperative Clarke-McNary Act for the protection of these lands for fiscal year 1957 were: \$581,600 for Oregon and \$587,300 for Washington. This is approximately 25% of the total funds spent by the two States for the protection of these valuable forest lands.

A national study is now being made by the Forest Service and cooperating States to determine the total value of the resources of State and private lands, the degree of protection needed, and how much of the cost should be financed by the Federal government, the States, and private landowners. The study is being conducted through the Battelle Memorial Institute, a non-profit research organization.

Statewide rural fire defense plans were completed during the year. The plans provide for the protection of all forest lands from fire in the event of national emergency, or enemy attack. Practical tests of the plans were made during the Civil Defense "Operation Alert" exercise.

General Forestry Assistance

One family in ten owns a small forest. Information about these small owners has been assembled in booklet form, titled: "Small Forest Land Ownerships - Oregon and Washington" The following summary from page two of this booklet provides some interesting comparisons.

<u>Size of Holding</u>	<u>Ownerships</u>		<u>Acres of Commercial Forest Land Represented</u>	
	<u>Number</u>	<u>Percent</u>	<u>M Acres</u>	<u>Percent</u>
10 - 99 acres	59,743	71	2,022	21
100 - 499 "	20,910	25	4,346	44
500 - 1,999 "	2,741	3	2,512	25
2,000 - 4,999 "	302	1	974	10
	<u>83,696</u>	<u>100</u>	<u>9,854</u>	<u>100</u>

General forestry assistance was provided to the following organizations: U. S. Navy at Tongue Point, near Astoria, Oregon, and Fort Warden at Port Townsend, Washington; U. S. Army at Camp Bonneville near Vancouver, Washington; Vocational Agricultural Instructors at Chehalis, Washington; Northwest Christmas Tree Association in preparation of the pamphlet "Suggested Standards for Douglas-fir Christmas Trees".

Farm Forestry

Farm forestry projects, a cooperative Federal-State program, are under the direct supervision of the State Foresters. To advise farmers, the States employ professional foresters, 4 in Oregon and 10 in Washington. In 1957 these foresters advised 2,319 people about the management of their forest lands which produced an income of \$1,439,000. Federal aid for this program during fiscal year 1958 amounted to \$16,162 for Oregon and \$19,765 for Washington. This is approximately 33% of the total budget for this purpose for the two States.

The farm foresters have stimulated several counties into selecting an outstanding woodlot owner as "Woodland Owner of the Year"; also the formation of a Woodland Council in central Washington.

Cooperative Tree Planting

The Forest Service provides financial and technical assistance in the growth and distribution annually of about 7 million forest tree seedlings in the region produced in state nurseries now being enlarged. Total budget for nursery production for current fiscal year is \$108,250 of which the Federal share is \$15,525.

Agricultural Act of 1956

Under this Act are two Federal-State cooperative programs aimed at long-range forest development and conservation. They are: (1) Soil Bank (Conservation Reserve) Program and (2) Title IV. Conservation Reserve is designed to reduce surpluses of agricultural crops by shifting croplands to long-range conservation use. To provide trees, the Forest Service assisted technically and financially in setting up two State tree nurseries: one near Elkton, Oregon, and the other near Tumwater, Washington. Now in production, each one is designed to produce annually approximately 15 million trees. A total of more than \$500,000 of Federal funds were made available for these nurseries. Title IV plantings are not limited to agricultural lands as under Conservation Reserve. Title IV was designed to build up and maintain a high level of timber growing stocks to meet the Nation's needs. Under it the State of Washington has a plan for accelerated planting of approximately 100,000 acres of State land in the next ten years at a total cost of about \$2,500,000 - about half to be Federal money. The State of Oregon is considering a similar plan. Oregon's program in 1957 totalled 6,200 acres at a cost of about \$100,000.



These trees are being raised for planting under "Conservation Reserve"

Agricultural Conservation Program (ACP)

The forestry portion of ACP is designed to encourage the development of sound forest conservation practices on non-Federal lands. Jointly developed by the Forest Service, Soil Conservation Service, and State Agricultural Stabilization and Conservation offices, the landowner is given financial assistance in carrying out good forest practices on his land - such as planting trees, thinning, and pruning stands. Local Forest Service personnel assist the ACP County Committees who administer the ACP. State forestry representatives give technical advice and determine compliance.

Rural Development

This program is designed to encourage local people on low income rural land to improve their standards of living. The Forest Service is assisting in

studies designed to stimulate more forest industries and better forest utilization in these places. Lincoln County, Oregon has been selected as a pilot county in the West because of its large area of forest land. No direct Federal financing is involved in this self-help program.

INFORMATION AND EDUCATION

Requests from individuals and groups for information and education items and services have continued to mount. Perhaps one of the most requested items are maps of the national forest areas. The directories of our national forest camps were in great demand. Brochures and leaflets about various phases of conservation and national forest activities have been requested by many individuals and groups. Illustrated talks, assistance to writers, news releases, and exhibits at fairs, conventions, and special occasions have been substantial activities.

The Forest Service in this region has 213 prints of 27 motion pictures produced by the Forest Service. During fiscal year 1957 they were viewed 2,136 times by a total audience of 151,353 people representing all ages. In addition to this, the region has one or more prints of six other films bearing on some phase of conservation.

We were active participants again in "Conservation and Outdoor Education" workshops for teachers in both States. Through these very worthwhile workshops approximately 175 teachers have received field instruction from professional resource people. Commendable results are seen in added knowledge and interest of school students in the natural resources fields.

RESEARCH

Forest Service research is the responsibility of the Pacific Northwest Forest and Range Experiment Station. The Station issues a separate report. It is now being compiled. When issued it may be secured by writing to the Director, Pacific Northwest Forest and Range Experiment Station, P. O. Box 4059, Portland 8, Oregon.

RECEIPTS AND EXPENDITURES - FISCAL YEAR 1957

Region 6

NATIONAL FOREST PROGRAMS

	<u>EXPENDITURES</u>	
	<u>Operating</u>	<u>Investments</u>
National Forest Protection and Management & L.U. Projects	\$ 7,464,010	\$ 1,008,653
Fighting Forest Fires	850,391	
Blister Rust Control	70,194	
Forest Pest Control	13,639	
Cooperative Range Improvements	33,364	15,198
Road & Trail System - Construction & Maintenance	1,707,584	6,310,456
Watershed Protection		62,600
Cooperative Deposits (Including timber deposits for stand improvement)		
Operating	29,504	
Investment	1,184,133	
	\$ 1,213,637	32,824
National Forest & L.U. Area Receipts		1,571,020
Forest Reserve Fund	56,591,597	
Ore. & Cal. Lands (National Forest)	3,561,732	
Ore. & Cal. Lands (B.L.M.)	528,143	
Warm Springs Indian Lands	319,687	
Other Miscellaneous Receipts	119,314	
	<hr/>	
Totals	\$61,120,473	* \$10,172,006
Less Cooperative Deposits Investment Receipts	1,184,133	
	<hr/>	
Total Operating Receipts and Expenditures	\$59,936,340	\$19,139,933

*

- a. Operating Expenditures \$10,172,006
 - b. Estimated annual deprec. on roads, trails & other improvements in place on June 30, 1956
- | | |
|-----------|--------------|
| 5,968,616 | |
| Total | \$16,140,622 |

Amt. by which Receipts exceed operating expend. plus estimated depreciation \$43,695,718

Note: Expenditures are on an obligation basis.

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Payments made to States of Oregon and Washington pursuant to 16 USC 500.

(25% of resource receipts):	Oregon	-	\$9,450,662.51
	Washington	-	\$4,828,290.14

MEMO
FROM
SMOKEY!



Be Careful...
with Matches
with Smokes
with Campfires
with Every Fire!

Remember- Only you can
PREVENT FOREST FIRES!



