

# OUR NATIONAL FORESTS

FOREST SERVICE • U. S. DEPARTMENT OF AGRICULTURE  
AGRICULTURE INFORMATION BULLETIN NO. 49

# OUR NATIONAL FORESTS



Some material in this publication has been  
adapted from the Report of the Chief  
of the Forest Service for 1948

---

UNITED STATES GOVERNMENT PRINTING OFFICE • WASHINGTON : 1951

For sale by the Superintendent of Documents, U. S. Government Printing Office  
Washington 25, D. C. - Price 20 cents

## CONTENTS

	Page
The national-forest system.....	1
Greatest good of the greatest number.....	4
National-forest resources.....	5
Timber.....	5
Forage.....	9
Wildlife.....	14
Recreation.....	21
Water.....	24
Costs and returns.....	26
Development for maximum public service.....	28
A stepped-up program of management and improvement.....	28
Stability for public ownership.....	28
Consolidation and extension.....	30
The national forests' place in the total economy.....	32

# Our National Forests

Establishment of the national forests a half century ago marked the first great step forward in the forest-conservation movement in the United States. The national forests are conservation in practice on the ground. They represent the largest tangible accomplishment in forest conservation in this country.

Our national forests are an important public asset which the Forest Service endeavors to manage in the best interests of its owners, the people of the United States. Now that the national-forest enterprise has passed its first half-century mark, an accounting of Forest Service stewardship seems in order, with a discussion of policies and programs for the years ahead. That is the purpose of this publication.

Administration of the national forests is only one phase of Forest Service responsibility. In the interest of national security and welfare, sound management and wise use of forest resources must be promoted and encouraged not only on the public forest lands but on all other forest lands. The Forest Service is carrying on a number of cooperative programs to this end. It is also conducting a program of research to provide knowledge essential to progress in forestry. Information on these activities is available in other publications of the Department of Agriculture.

## THE NATIONAL-FOREST SYSTEM

In 1891, by act of Congress approved March 3, the President was given power to establish forest reserves within the public domain. On March 30 of that year, President Benjamin Harrison proclaimed the first reserve (now the Shoshone National Forest in Wyoming). Before his term expired, he set aside forest reservations totaling 13,000,000 acres. Presidents Cleveland, McKinley, and Theodore Roosevelt proclaimed many million acres of additional reserves in the Western States.

Congress, however, had provided no plan of operation for the reserves. They were simply closed areas, their resources locked up. Before that, anyone who wanted timber from the public lands had just gone in and taken it. Many public ranges had been seriously injured by unrestricted grazing. Large areas of public-domain timber were being grabbed by speculators through loose handling of the homestead laws or through outright fraud. Publicly owned resources were being rapidly dissipated.

Locking up the newly established reserves put a stop to at least some of that. But closing the forests was far from popular in the West. Their resources were needed by the growing western communities. Something more than mere preservation of resources was called for; the need was for wise, regular use.

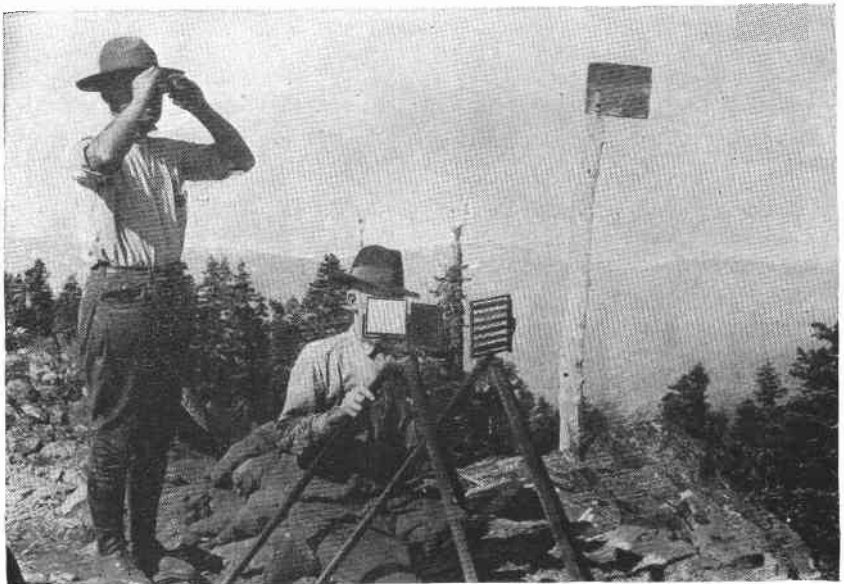
Then Congress passed the act of June 4, 1897, outlining a broad policy for management of the reserves which made it possible to open them for managed use. This act, with later amendments, is the one under which the national forests are still being administered.

*Forest Service Established*

Until 1905, the General Land Office of the Department of the Interior had charge of the reserves. What forestry know-how then existed in the Government was in the Division of Forestry in the Department of Agriculture. Consequently, the General Land Office sought technical aid from the Division of Forestry—which in 1901 became the Bureau of Forestry. Later the Interior Department recommended transfer of the reserves to the Department of Agriculture.

The transfer was made by act of Congress approved February 1, 1905. The Bureau of Forestry became the Forest Service. The name "forest reserves" was changed to "national forests" in 1907. Under Gifford Pinchot, the first Chief of the Forest Service, development of an effective administration for the national forests went ahead rapidly. Regulations for sale of timber under supervised cutting were put into effect. Livestock grazing was placed under permit. Fire protection was tightened.

Because little public domain remained east of the Great Plains, nearly all the early forest reservations had been made in the Western States. In 1911, Congress enacted the Weeks law, authorizing Federal purchase of forest lands for watershed protection. The Clarke-McNary law of 1924 broadened the authorization for the purchase program to include lands chiefly valuable for timber production. Under these laws more than 18,000,000 acres of forest land has been acquired for national forests, mostly in the eastern half of the United States. Other laws provided for acquisition of land for national forests through exchange or donation. Through purchases, land exchanges, donations, and additions by act of Congress, development of the national-forest system is still going forward.

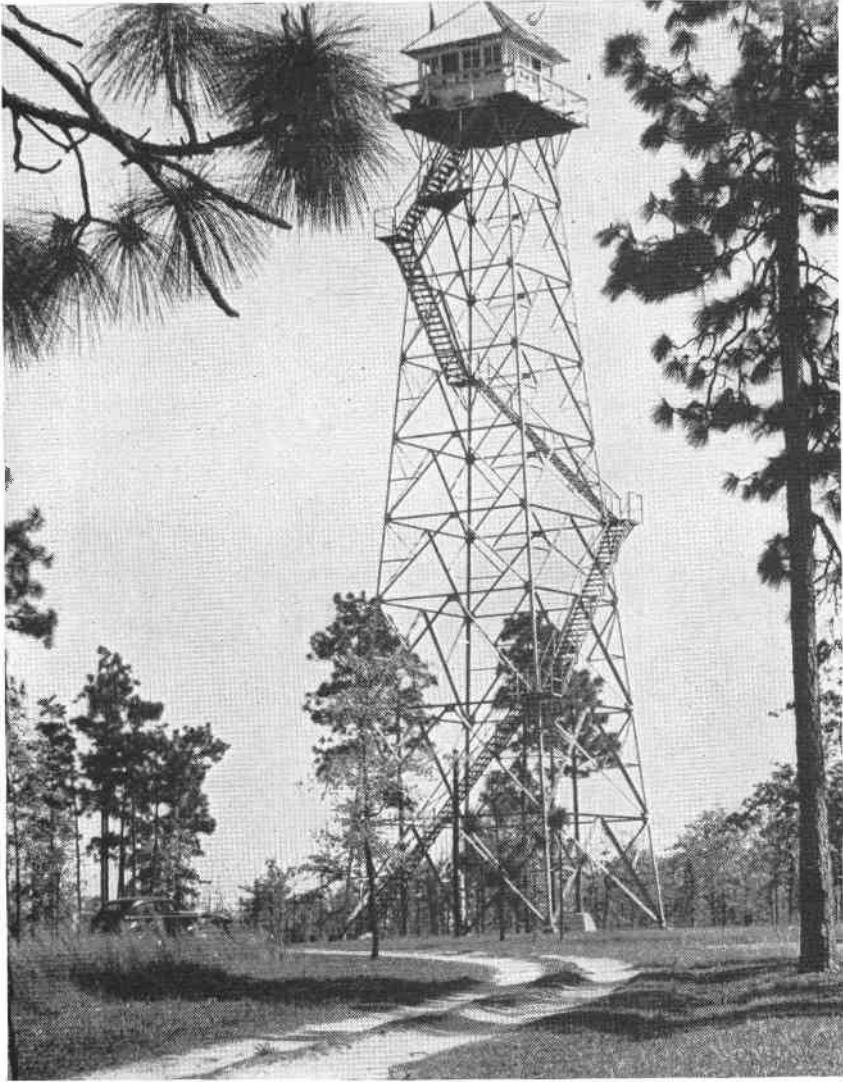


F-178352

When administration of the national forests began there were few facilities for efficient protection and management. Information on fires was sometimes sent by heliograph before telephones and radios came into general use.

*The National-Forest System Today*

Today we have 152 national forests in 36 of the 48 States and in 2 Territories. There are also a number of designated purchase units within which not enough land has yet been acquired for them to be set up as national forests. Within the boundaries of existing national forests and purchase units are some 229,000,000 acres; the net area of Government-owned lands is about 180,000,000 acres.



F-394423

A modern lookout station, where constant watch is kept for fires during periods of fire danger. The tower cabin has cooking and sleeping facilities, so the lookout man can be on the job night and day.

The national forests include areas representative of all the country's major forest types, from the great Douglas-fir stands of the Pacific Northwest to the piney woods and hardwood bottoms of the deep South; from the pine and spruce of New England to the chaparral of southern California. There are national forests also in Alaska and in Puerto Rico. The national forests contain, in the West, large areas of open forest and wildland range suitable for livestock grazing. They include a substantial portion of the relatively little virgin or old-growth timber still standing. They also include large areas where extensive rehabilitation work is necessary to restore forest growth depleted by fire, or by destructive cutting, before the Government acquired the land.

## GREATEST GOOD OF THE GREATEST NUMBER

The national forests are dedicated to the proposition that conservation is wise use. The policy under which the public forests were to be administered was stated in Secretary of Agriculture James Wilson's letter of February 1, 1905, to the Chief Forester:

In the administration of the forest reserves it must be clearly borne in mind that all land is to be devoted to its most productive use for the permanent good of the whole people and not for the temporary benefit of individuals or companies. All the resources of forest reserves are for use, and this use must be brought about in a thoroughly prompt and businesslike manner, under such restrictions only as will insure the permanence of these resources \* \* \*. The continued prosperity of the agricultural, lumbering, mining, and livestock interests is directly dependent upon a permanent and accessible supply of water, wood, and forage, as well as upon the present and future use of these resources under businesslike regulations, enforced with promptness, effectiveness, and common sense. In the management of each reserve, local questions will be decided upon local grounds; the dominant industry will be considered first, but with as little restriction of minor industries as may be possible; sudden changes in industrial conditions will be avoided by gradual adjustment after due notice; and where conflicting interests must be reconciled, the question will always be decided from the standpoint of the greatest good of the greatest number in the long run.

These have been the guiding principles of national-forest administration ever since.

### *Two Basic Principles*

In line with the primary objective of the greatest good of the greatest number in the long run, the Forest Service applies two basic principles in the management of national-forest resources.

One is the principle of sustained yield. Sustained-yield management of timber means that the forest is managed for maximum *continuous* production of timber of desirable kinds. The techniques of sustained-yield management vary greatly with different forest types, but the objective is always the same—continuous renewal of timber crops to replace those harvested. The sustained-yield principle applies not only to timber, but also to forage grazed by livestock, to wildlife, and to other renewable resources.

The other basic principle is called multiple use. A given unit of forest land may at the same time produce timber, forage for livestock, and big-game range. Most of the land may be important watershed. There may be choice recreation spots; there may be mineral deposits or water-power sites; there may be outstanding scenic values. Under the control of someone interested primarily in just one of those uses, the whole area might

be set aside for that one use to the exclusion of all others—perhaps for timber production, for grazing, or for recreation. Multiple-use management, however, looks to the coordinated development and use of all the resources and values of the land. A combination of several uses is generally possible on the same area. Conflicts between uses are adjusted under over-all management plans.

### *Advisory Council and Board of Appeals*

A National Forest Board of Review was established by the Secretary of Agriculture in 1948 to advise him on questions of general policy and the solution of major problems in national-forest administration. This Board was renamed the National Forest Advisory Council in 1950. The Council is composed of three citizens, selected on the basis of personal competence and not as representatives of any group or organization interested in the use of nation-forest land. It meets at the call of the Secretary whenever a question arises on which its disinterested consideration is desirable. It also makes field studies of special problems at the request of the Secretary.

The Secretary also has a National Forest Advisory Board of Appeals to study and advise on appeals from decisions of the Chief of the Forest Service involving the public use of the national forests. The Board consists of five members of the Department of Agriculture selected from agencies other than the Forest Service.

## NATIONAL-FOREST RESOURCES

### Timber

National-forest timber is for sale. Unless the value involved is small, timber is sold through public advertisement to the highest qualified bidder. Small sales may be made at cost to homestead settlers and farmers for domestic use; and settlers, miners, prospectors, and other residents in a national-forest community may obtain free timber for their own use where its removal aids in the protection or improvement of the forest. The thousands of small timber sales made each year furnish a means of full or part-time livelihood for small operators.

In every timber sale the purchaser must agree to cut according to specifications prescribed by the Forest Service. Cutting methods required are such as to insure the cut-over areas being left in good condition for future growth. No cutting is permitted that would seriously injure watershed or recreational areas. Scenic and recreation values are the dominant considerations along main roads and highways and in water-front zones.

### *Sustained-Yield Units*

The Sustained-Yield Unit Act, passed by Congress in 1944, authorized the Forest Service to enter into long-term agreements with owners of private timberland for the joint management of both private and public timber under sustained yield. In such a case, a designated tract of national-forest timber and the adjacent or intermingled private timberland will be handled as a unit. Local industry and communities dependent on raw materials from those timberlands are thus assured of continuous operation. The assurance of a continuous supply of timber permits the industry and community to plan for permanency and to develop maximum utilization of





F-37876

Forester marking tree for cutting in timber sale. Plumas National Forest, Calif.

the available timber resource. This helps to insure both continuity and maximum volume of employment.

Federal sustained-yield units also may be set up, involving only national forest lands. In such a case, the Forest Service requires that primary processing of the timber be done in the locality, as well as such remanufacture as may be practicable, in order to promote local employment and community stability.

### *Timber Yield*

The timber output from the national forests increased rapidly during and following World War II. The total cut of about 4 billion board feet in 1950 was almost treble that of 10 years earlier.

The yearly cut can be increased still more. Production is not yet up to full sustained-yield capacity on many national forests. Substantial areas of mature and overmature timber in the West are still inaccessible and cannot be harvested until access roads are built. In the overmature stands little new growth accrues because growth is largely offset by losses from decay and other natural causes. With proper cutting practices, harvesting the mature and overmature timber will make room for new growth of thrifty younger trees; instead of remaining in a near-stagnant condition, the stand will once more be growing timber.

On other national-forest areas, timber growth is being brought back on lands denuded in the past. But it will be some years before the timber is big enough to cut. And in many places where timber is accessible, mature, and ready to cut the Forest Service has been unable to prepare timber sales fast enough to meet the demand. Preliminary work is needed in many national-forest areas to determine how much timber can be cut annually, what areas are most in need of cutting, and what transportation system will insure the most economical harvesting and continuous management. Before a sale can be made, there must be a detailed examination of the area, the supplementary road system to be constructed by the purchaser must be laid out, a determination must be made as to how the timber is to be cut, and an appraisal, contract, and advertisement must be prepared.

It is good business for the United States to provide the needed access roads and to speed up national-forest timber-sale work. It will help in meeting the Nation's present heavy timber requirements; and each dollar spent for national-forest timber sales brings back several dollars to the National Treasury.



F-437879

Logs from a national forest being loaded on truck with a "jammer."

*Greater Output Possible*

With access roads to open up the remaining large inaccessible stands, and with more personnel to prepare and supervise timber sales, it is estimated that the sustained output of timber from the national forests can be increased more than 50 percent within a few years—from the present cut of under 4,000,000,000 board feet a year to at least 6,000,000,000 feet.



F-401474

Mixed hardwood stand 2 years after an improvement cut made by timber sale. Nicolet National Forest, Wis. An average of 1,200 board feet per acre was removed; the remaining stand 2 years later averaged 3,500 board feet per acre.

Achievement of maximum sustained timber production will require adequate control of fires, insects, and diseases. It will require timber-stand-improvement work to speed growth and improve quality. It will require reforestation of denuded lands. Some 4,110,000 acres of national-forest lands require planting to bring them back to productivity.

The national forests can serve as demonstration areas of good forestry practice. In handling their timber resources, the Forest Service is working toward intensive management for maximum continuous production. Intensive management includes systematic harvesting of mature timber. It includes close utilization to get as much usable wood as possible from the trees cut, and to avoid waste. It includes use of management practices and cutting methods that safeguard immature trees and assure the start of new growth. It includes silvicultural treatment of young stands—such as thinning and “weeding”—to speed the growth of desirable trees. Demand for such materials as posts, poles, and pulpwood is now making possible some thinning and stand-improvement work through commercial sales. Where this can be done, faster and better timber growth is obtained, and the work pays for itself besides. But stand-improvement work on many forest areas would be a good investment for the future in any event.

Large structural timbers, highest quality lumber, some kinds of veneers and plywoods, and other specialty products can be made only from large sound trees. As the old-growth forests are used up, high-quality timber for the special products will become scarcer. It takes a long time to grow high-quality timber, and the national forests can do a special service in assuming a substantial part of the country's future production of big timber and high-quality material.

### *A Never-Ending Timber Source*

Of the 461,000,000 acres in all ownerships classed as commercial forest land in the United States, 73,000,000 acres, or about 16 percent, is in the national forests. But the national forests now contain more than 30 percent of the Nation's total volume of standing saw timber. The national-forest timber is thus becoming more and more important in meeting the country's needs for forest products. Many sawmills that formerly had supplies of private timber are now largely dependent on national-forest timber to keep going.

With only 16 percent of the country's commercial timberland, the national forests cannot by any means meet all of the Nation's requirements for wood. We must look to forest lands in all ownerships, and mainly to those in private ownerships.

But the national forests will be a big help toward meeting the demand until the country's total saw-timber growth can be built up. Managed for sustained yield, the national-forest timberlands will be a never-ending source of timber and a permanent support for many local industries and the communities dependent upon them.

### **Forage**

In the national forests of the Western States are many mountain meadows, stringers and pockets of grassland in the timber, open woodlands



F-156981

Forest ranger inspecting cattle range with grazing permittee. Gifford Pinchot National Forest, Wash.

where grass or browse plants grow between the scattered trees, and other areas that are used for the grazing of livestock. In the Southeast many piney-woods areas in the national forests can be grazed.

All told, some 80,000,000 acres of national-forest lands are suitable for grazing. Most of the national-forest grazing lands are in the West. They are only a rather small part of the 728,000,000 acres of western range, but they play an important part in the western livestock economy. Generally at the higher elevations, the national-forest ranges provide green forage during the summer, when other suitable range is limited. They thus help to carry many livestock herds through the summer and produce grass-fat stock for the fall markets. In the Southwest, some national-forest ranges can be grazed year long.

Adjoining or surrounding many of the western national forests are public-domain lands that are administered as grazing districts by the Bureau of Land Management of the Department of the Interior. The national-forest ranges, the grazing districts, and the private ranches in the vicinity supplement one another; they are interrelated parts of the western livestock picture. A rancher may run his cattle or sheep under permit on national-forest range during the summer and carry them through the winter on grazing-district land or on pasture or feed lot on his own ranch.

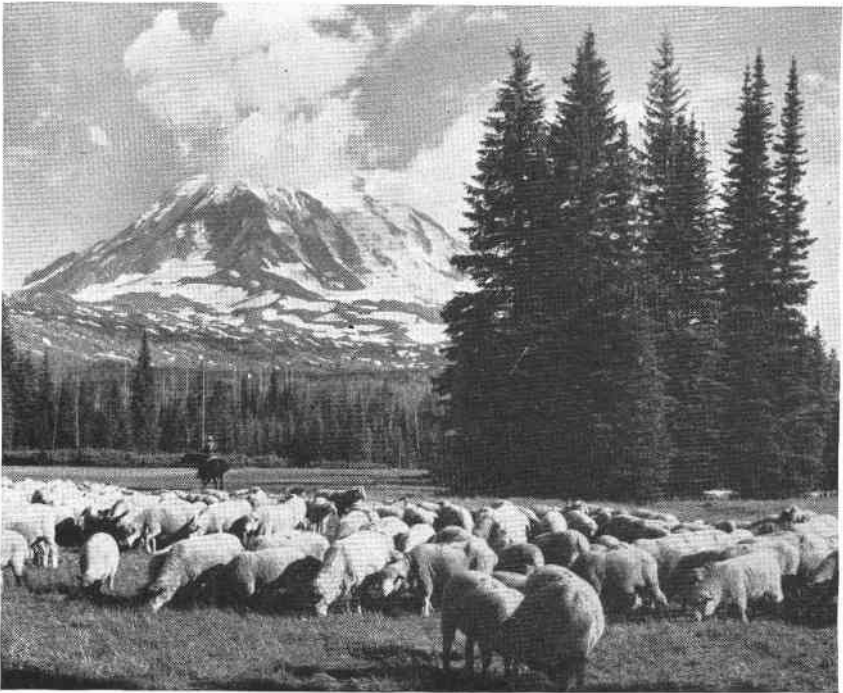
### *Grazing Policies*

When the Forest Service was assigned responsibility for administration of the national forests one of the toughest problems it took on was the grazing use. Previously grazing had been unrestricted; there has been constant conflict between users of the range; too many arguments over range had been settled by the six-shooter; far too many cattle and sheep

were running in the forests; and many ranges were already badly overgrazed. The Forest Service undertook to bring order out of this chaos, to set up an equitable system of allotment of grazing privileges, and to bring grazing use into balance with sustained forage growth.

National-forest grazing policies are clearly defined. The local settler or home builder is given preference in grazing privileges over the itinerant stockman or speculator. Stability of livestock operations is promoted through long-term permits and renewal preferences to established permittees. Economic units—livestock operations large enough to enable the rancher to make a good living but not so large as to create monopoly—are encouraged. Grazing fees are adjusted yearly in relation to livestock market prices, according to a formula worked out in cooperation with the livestockmen's associations. Where substantial adjustments in permitted numbers of stock must be made, they are made gradually to avoid sudden or drastic upsets in the permittee's operations.

Hundreds of local associations of grazing permittees work with Forest officers in the management of national-forest ranges. The Forest Service has encouraged the organization and operation of the local grazing associations and advisory boards for many years. Their advice is solicited and carefully considered on all important questions involving the permittees' interests. Local advisory grazing boards were given specific statutory recognition in an act passed by Congress in 1950.



F-456975

Good forage for sheep provided by a mountain meadow. Gifford Pinchot National Forest, Wash. Mount Adams in background.

*Where Range Deterioration Exists*

At least half of all national-forest rangeland allotments are now considered to be in good condition. On the remainder further improvement or adjustment is needed. At present (1951) many ranges are still overstocked. On them the Forest Service program of adjustments often has not moved fast enough to prevent progressive deterioration. This may have been because the grazing capacity of the range was overestimated, or because the Forest Service leaned over backward to avoid causing hardship to permittees dependent upon the ranges. But, in any event, where serious problems of range deterioration exist, decisive action must be taken to save the range.

When a cow has to walk several yards from one bite of grass to the next, she does not put on weight very fast. On some overgrazed ranges it now takes 50 to 100 acres or more to support one cow through a grazing season. Bringing such ranges back so that two cows—or five or ten cows—can graze where one grazed before would benefit the livestock industry, as well as people who like to eat meat.

*For Permanent Productivity*

Most western national-forest ranges are important watershed lands. Other people of the West, therefore, also have a vital stake in these lands—



F-417943

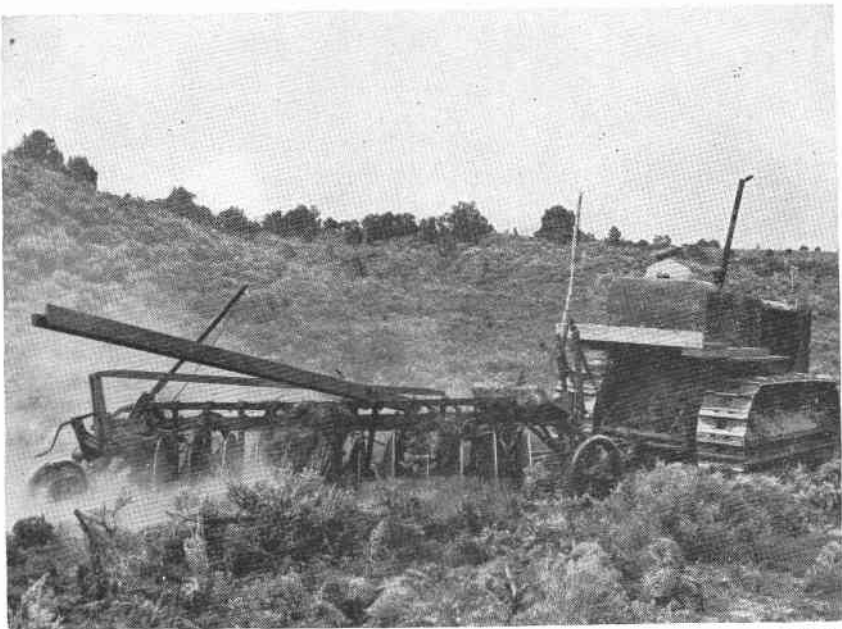
Contrast between protected and overgrazed range. The area beyond the fence is being brought back to grass through managed grazing. Tonto National Forest, Ariz.



in seeing that the watershed values are protected, that erosion and siltation of reservoirs are prevented, that water is conserved, and flood danger kept to a minimum. Range conditions may affect irrigation farming, water tables, power developments, stream flow, and town and city water supplies over large areas in the Western States.

Many national-forest ranges have recreation and wildlife values. Sportsmen and recreationists therefore have an interest in these lands. In the management of the ranges the Forest Service must consider all these interests—the immediate and long-term interests of the livestock industry, the interest of sportsmen, recreationists, and water users, the welfare of local communities, and the whole economy of the western regions. On all counts the situation calls for keeping the ranges permanently productive where they are already in good condition and for restoring forage growth and good watershed conditions where deterioration is under way.

Forest Service research has developed methods for successfully reseeded certain types of damaged ranges in several western regions. Reseeding depleted ranges and getting them restored to productivity in some cases has increased the grazing capacity 10 times or more. The Forest Service is carrying on reseeded operations on worn-out range as rapidly as funds become available. On many deteriorating ranges a rest period from grazing or a reduction in stocking may allow forage growth to come back naturally. In other cases more fences or development of watering places for stock, to obtain better control and distribution of the stock on the range, may be all that is needed to bring grazing in balance with forage growth.



F-437969

Preparing deteriorated, sagebrush-covered range land for reseeded to grass.  
Fishlake National Forest, Utah.



*Public Interest Comes First*

In colonial days many New England villages set aside a community pasture, or common, where local people could graze their livestock. Range areas in the national forests of the West are in a sense public grazing commons for the western communities. As the manager in charge, the Forest Service endeavors to handle the distribution of grazing privileges there fairly and equitably, and to administer the forest ranges in the best long-term interests of both the grazing users and the public. Where the desires of a single user conflict with the public interest, the public interest, of course, comes first.

In the national forests of the Southeast, grazing use thus far has been a less complex problem. It involves mainly the coordination of grazing with timber growing, and the development of techniques for obtaining best use of forage values.

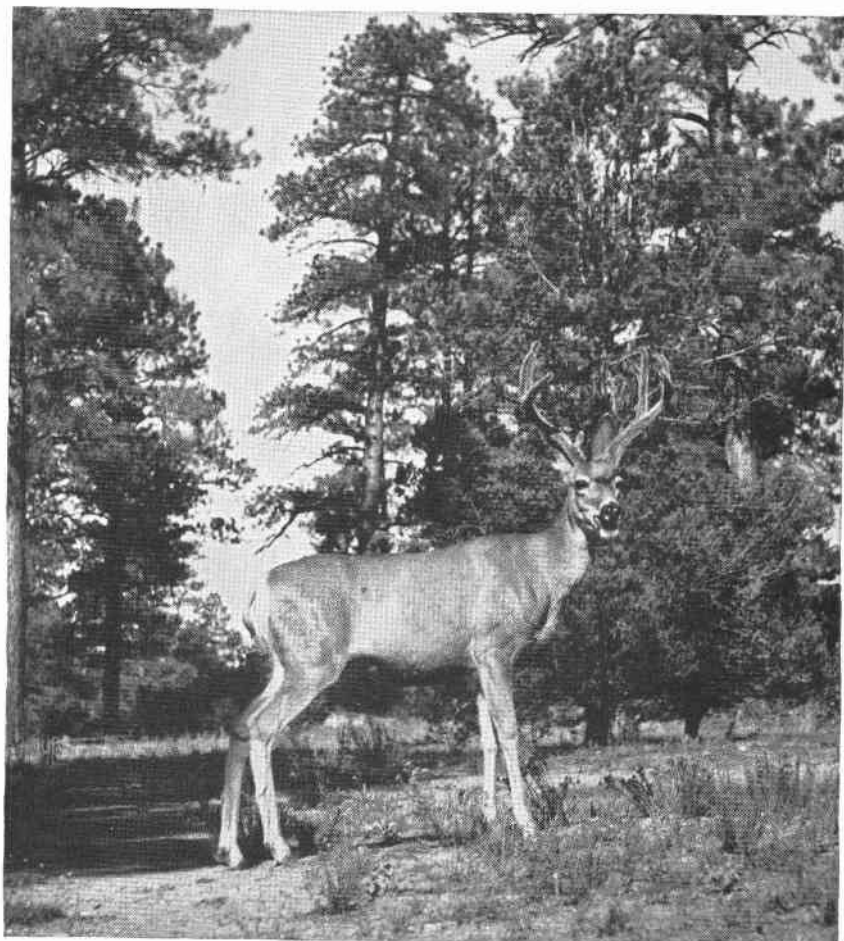
In the multiple-use management of the national forests grazing has an important place. The national-forest forage resource can contribute materially to the Nation's production of meat, wool, and leather. The Forest Service objective is to develop the range resources of the national forests for maximum permanent production and use in the interest of a stable, prosperous livestock industry, with full protection of watershed values and other values and services in the public interest.

## Wildlife

Our national forests are the home of well over 2,000,000 deer, elk, and other big-game animals—about one-third of the Nation's total big-game population. In the Western States about two-thirds of all big game lives part or all of the year in the national forests. The public forests furnish the habitat for countless thousands of small-game animals, upland birds, and fur bearers. Much of the Nation's best trout waters (81,000 miles of unposted streams and 1,650,000 acres of fish-producing lakes) are in the national forests. In the aggregate, our national-forest system constitutes one of the largest areas of public hunting and fishing ground in the United States.

All this represents a wildlife resource of great economic importance, as well as of recreational and scientific value. Each year the national forests are host to about 5 million hunters and fishermen, who spend a total of more than 20 million man-days in the field. Their catch is a considerable contribution to the Nation's food larder. On the average, for each day in the field, each sportsman spends several dollars for equipment, food, gasoline, and other things—money which helps support industries and many local small business enterprises, thus giving employment to and adding to the incomes of many people. The income to a number of States from sale of fish and game licenses is largely based on the hunting and fishing opportunities provided by the national forests.

Management of the wildlife as a permanent resource in the interest of good hunting and good fishing is part of the multiple-use program of national-forest administration. The Forest Service aim is to produce the maximum amount of wildlife consistent with the needs for other essential resources and the requirements of watershed protection.



F-451938

A mule deer with antlers in velvet. Kaibab National Forest, Ariz.

### *Three-Way Cooperation*

The Forest Service cooperates with the States on matters pertaining to wildlife on the national forests. The State fish and game or conservation departments are responsible for protection and utilization of the resource and may also conduct research on forest wildlife. State regulations as to licenses, seasons, and bag limits apply on national-forest lands. In many forests State authorities and the Forest Service cooperate in special wildlife-management projects.

The Fish and Wildlife Service of the Department of the Interior takes Federal leadership in fundamental research to determine the principles upon which wildlife-management plans may be based. That agency also may act in an advisory capacity to the Forest Service in carrying out such plans and principles.



The Forest Service works with the States on management and utilization activities. Many national-forest rangers are deputized as State wardens and aid in the enforcement of State game laws on national-forest lands. Forest officers keep track of trends in wildlife populations, make habitat surveys, and advise with the State authorities as to proper seasons and bag limits. Forest Service research in forest and range management often has a direct bearing on wildlife-management practices. The main task of the Forest Service, however, is to provide and maintain a favorable habitat upon which wildlife can be produced.

Thus the Forest Service, the Fish and Wildlife Service, and the State fish and game departments all have distinct and important roles. Through carefully arranged and coordinated cooperative procedures, their programs are made complementary to one another, with little or no overlap or duplication.

### *Integration With Other Uses*

In creating and maintaining a good wildlife habitat, the Forest Service must develop ways to integrate wildlife use with other forest uses, so that the forests and ranges are kept productive. Plans are necessary, for instance, to insure, on the one hand, that wildlife food and cover are not destroyed during timber-stand improvement or logging operations, and, on the other hand, that excessive game populations do not destroy important timber values. In general, orderly, sustained-yield logging of timber fits in well with wildlife management. It provides a large aggregate of open spaces and forest edge, where the choice game food plants grow. Dense, unbroken timber stands support relatively little game.

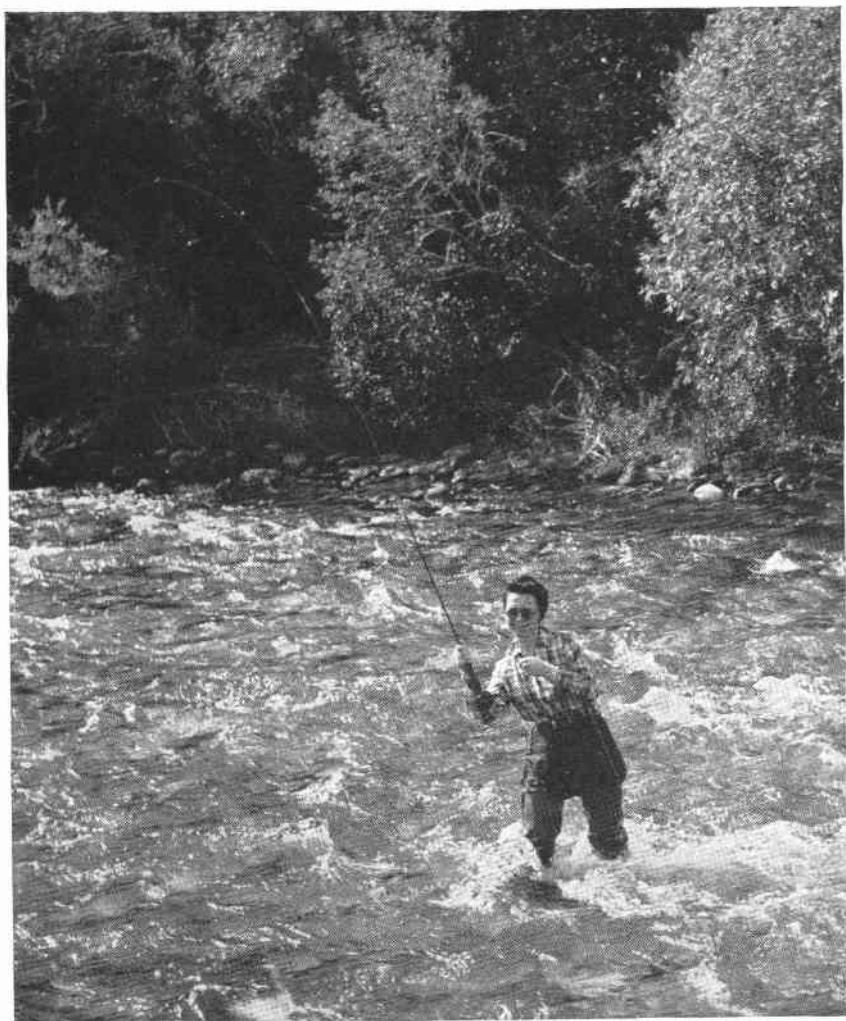
On livestock ranges use of forage by domestic animals must be balanced with use by game. There is less conflict between the two than might be expected, however; and where there are conflicts it is usually a case of overstocking, either with livestock or big game, or both, in relation to natural food supply.

The Forest Service can carry out certain practices aimed directly at habitat improvement and maintenance. It can improve food and cover conditions by such means as selective thinning of timber, creation of openings in dense stands, planting of food trees and shrubs, and development of watering places. For maintenance of sport fishing it must frequently improve streams and lakes and stabilize banks and shores.

The Forest Service recognizes the interests of the scientist, the photographer, and the naturalist, as well as those of the sportsman, in national-forest wildlife. Hunting may be restricted in picnicking and other special recreation areas. There is provision for setting aside certain areas to safeguard rare or vanishing species. A special area has been set aside in California, for instance, to protect the nesting sites of the nearly extinct California condor, largest of North American birds.

### *Rapid Increase of Big Game*

When the Forest Service began administration of the national forests, game populations in most places had been seriously reduced. Many States had no modern game laws, and there was little control of poaching in many of those that did. The Forest Service encouraged the establishment of nonpolitical game commissions in the States and the enactment of sound game laws. In cooperation with the States, many transplants of deer, elk,



Fishing in Big Lost River, Challis National Forest, Idaho.

beaver, and other species were made to restock depleted areas. Since 1921, when the first country-wide national-forest estimate of game population was made, big-game numbers have nearly quadrupled. The greatest increases have been in deer and elk. Moose, bear, and mountain goat have shown more moderate increases. Only bighorn sheep, among the principal big-game species, have declined, but these now seem to be holding their own.

Until recently the national-forest deer population was doubling itself every 10 years. During the past few years, however, it has become apparent that the era of big annual increases is about over. Many big-game ranges are now fully stocked—some are overstocked—and a leveling off in numbers is to be expected. Problems of overpopulation have arisen in some areas, although there are still opportunities elsewhere for increases in game.



F-397112

Hunters checking in for a special deer hunt conducted cooperatively by the Forest Service and State game commission. Pisgah National Forest, N. C. Red shawls and numbers were furnished each hunter as additional safety measures.

Nature might eventually correct overpopulation, but only in a cruel way, and wastefully. The deer or elk would eat up their natural food supply; then the herds would be decimated by starvation and disease. The range would be so depleted that it could support little game for years to come. The Forest Service believes that a better way to solve problems of overpopulation is to bring game numbers into balance with their range by carefully regulated hunting. In cooperation with the States, the Forest Service is improving conditions on a number of areas of overconcentration. But on the overstocked areas where herds have not yet been reduced, as well as on many areas where reductions have recently been made, there is still much deteriorated range that is in urgent need of rehabilitation.

### *Backlog of Work*

The Forest Service is faced with an increasing demand for hunting on the national forests. This use has increased to unprecedented totals since World War II, and indications are that it will continue to increase for some time. The Forest Service must determine the legitimate demands for game in relation to other resources, and grazing capacity available to it, and then work closely with the States in seeing that carrying capacity and game numbers are kept in proper balance.

During World War II, when efforts had to be concentrated on other activities, the Forest Service discontinued practically all wildlife opera-

tional projects. A big backlog of needed work and of critical maintenance of prewar developments piled up and continued to grow for several years after the war.

The Forest Service will continue its efforts for full development and maintenance of the wildlife resource, in relation to other resources, on the national forests, for its scientific and recreational values, for good hunting and fishing, and as a continuing contribution to the economic support of local communities.

### Recreation

Practically all national-forest lands are open for recreation. A visitor may go anywhere and stay as long as he wishes. The only exceptions are certain small areas within the forests that may be restricted for special purposes, or areas of high fire hazard that may be closed to entry during periods of fire danger. In some heavily used areas a camper's stay at any one camp ground may be limited to a week or two so as to give others a chance.



F-351560

Hikers cooking lunch at a trail shelter in the Green Mountain National Forest, Vt.

Within the national forests are many scenic attractions and places of interest which attract the tourist-sightseer visitor. The bulk of the recreational use, however, is by those who come to the national forests for recreation in the truest sense—for rest and play, for the enjoyment of outings in the forest.

### *Recreational Facilities*

Many facilities have been provided for recreation in the national forests. They include 4,500 camping and picnicking areas, where tables and benches, fireplaces, safe water supplies, toilets, and garbage-disposal facilities are available. Trailer parking sites are available in many places. Hundreds of swimming holes and beaches have been improved.

The 230 winter-sports areas that have been developed on the national forests include many of the most popular skiing places in the country. The higher western ranges provide the terrain, snow conditions, and climate which are helping to make skiing a national sport. The Forest Service develops the public-use areas and some public shelters, and permits private capital to install ski lifts, ski tows, restaurants, and lodges.

There are 400 organization camps, with dormitories or cabins, mess halls, and other facilities for group outings. Some are maintained by the Forest Service and made available to civic and welfare organizations sponsoring low-cost vacations for underprivileged children; others are maintained under permit from the Forest Service by municipal welfare agencies, Boy Scouts, Girl Scouts, and other such groups.



F-410885

Alta Winter Sports Area, Wasatch National Forest, Utah.



More than 50,000 miles of national-forest highways and secondary roads are available to the motorist. Thousands of miles of hiking and horseback trails are sign-posted and maintained.

Numerous commercial resorts and cabin camps operate under special-use permit from the Forest Service. Permits also are issued for the use of sites on national-forest land for operation of stores, restaurants, service stations, ski lifts, horse-rental and boat-rental establishments, and other commercial facilities serving the vacationing public. A number of dude ranches operate within or near national forests and feature trips in the forests for their guests. In some national forests individuals may lease sites where they can put up their own summer cabins.

The Forest Service manages the recreation resource of the national forests with the least possible restriction of public use consistent with the safety of the public and the protection of the forest. It endeavors to provide abundant recreation opportunities for all—for those with slim pocketbooks as well as those with fat pocketbooks. Public recreation facilities have first priority. Private uses, such as summer-cabin sites for individuals, are permitted only where there is no foreseeable need for public use. Preservation of the forest environment is a major objective in all recreation developments. Only such facilities as are necessary for public use, enjoyment, and safety are installed, and these are designed to be in keeping with the forest environment.

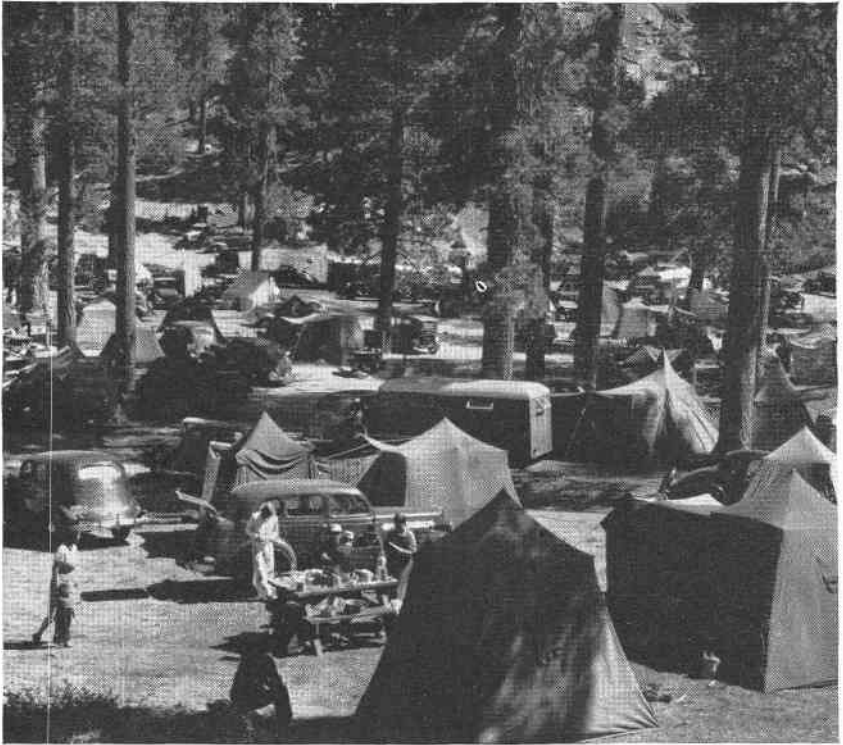
### *Wilderness Areas*

To preserve for all time representative examples of the American wilderness, the Forest Service has set aside 77 wilderness areas, wild areas, and roadless areas within the national forests. These areas total some 14,000,000 acres—an area nearly as large as Connecticut, New Hampshire, and Vermont combined. They are maintained in substantially primitive, unmodified condition. Commercial timber cutting is not permitted. As most of the areas are in high country with low commercial timber values, however, setting them aside has not actually withdrawn any great amount of usable timber from harvesting. Regulated grazing by livestock may be allowed. The areas will be kept roadless, accessible only by trail or water. Many are the homes of fine big-game herds and include excellent fishing waters. Among the last remnants of the wilderness in America, they will continue to provide opportunities for the enjoyment of wilderness recreation—for those who yearn for solitude or who want really to rough it.

### *Increasing Demands*

Recreational use of the national forests has been steadily increasing. The number of recreational visits in recent years has been over 25 million annually. The 25 million visits by recreationists does not include some 50 or 60 million additional visits made by motorists out to enjoy the environment by driving over forest roads.

Most of the recreational use is confined to less than 1 percent of the national-forest area. Improved camp and picnic areas, winter-sports areas, organization camps, summer homes, and resorts occupy only 146,000 acres, but these areas receive about two-thirds of the year's total of recreational visits. The other one-third of the visits are to other forest areas, by hunters, fishermen, and wilderness travelers.



F-370908

Overcrowding, a problem on some of the heavily used national-forest camping areas.

Heavy public use is overtaking many national-forest recreation facilities and making the job of clean-up and maintenance very difficult. Many popular areas are regularly overcrowded during the vacation season. Overcrowding reduces the enjoyment of those using the area. It may also spoil the area for future recreational use. Attractive ground cover is destroyed; dust accumulates; even mature trees are weakened and killed.

## Water

Watershed protection is a basic consideration in all national-forest management programs. "Favorable conditions of water flows" was one of the objectives stated in the 1897 act, which provided for administration of the forest reservations. Public concern about floods was largely what led to enactment of the Weeks law of 1911, authorizing Federal purchase of watershed lands.

In the West, national forests are at the headwaters of most of the major streams. National-forest lands are the source of water supply for hundreds of towns and cities, for many of the industrial plants, power projects, and irrigation developments on which the economy of the Western States largely depends. East of the Great Plains, where national forests are fewer and farther between, they do not bulk so large in the total water-supply



F-448001.

**Irrigated orchard, Fresno County, Calif. The water supply comes from national-forest watersheds.**

picture. But the national forests of the Ozarks, the Appalachians, and other important watersheds are of vital significance in local and regional water-supply and flood-control considerations.

Our Nation's water supply is a problem of growing concern. Instances of depleted or reduced ground waters are increasing across the land. Diminished water yields are becoming more apparent each year in a number of areas. Lowered water tables are developing from the Pacific Northwest to southern California, throughout the entire Southwest, in the Plains areas, and eastward into the Allegheny and Blue Ridge flood plains. Salt-water intrusions occur intermittently along the Atlantic, Pacific, and Gulf coasts. Further agricultural, industrial, recreational, and municipal developments in many areas are at an impasse for lack of water. At the same time vast quantities of water are wasted and terrific damage is done by floods each year.

### *Tied in With Other Uses*

Watershed protection must be tied in with timber management, grazing management, recreation, road construction, and other activities on the national forests. In many localities, it is the paramount consideration.

Other uses must be controlled to the extent necessary to protect watershed values. Usually, however, regulated timber harvesting and grazing use can be carried on without serious impairment of watersheds. Research is developing techniques by which timber cutting can be better coordinated with watershed protection; in some cases it can actually be made to improve watershed conditions.

Fire control is extremely important. With increasing realization of the importance of watershed cover and with growing needs for national-forest water, it has become apparent that standards for intensity of protection must be raised in many areas. It may be even more important to protect the "worthless" brush on an area of high watershed value than a stand of choice timber on an area of low watershed influence.

As a result of fires, overgrazing, or other causes, there are still too many watershed sore spots in the national forests. On these critical areas special work is needed—such work as reforestation and revegetation, contour trenching, road stabilization, stream-channel and bank stabilization, and construction of small dams to check erosion gullies.

As rapidly as possible, the Forest Service is making intensive watershed studies on individual national forests. These studies determine actual and potential water yields, soil conditions, cover conditions, and present and prospective water requirements of the tributary communities. The results will provide a sound basis for long-term watershed-management plans aimed at building up and maintaining good watershed conditions and conserving national-forest water resources.

---

These, then, are the major resources of our national forests—water, timber, forage, wildlife, and recreation. There are others. Many forests have deposits of minerals, which, except in certain reserved areas, may be utilized under the provisions of several acts. Gum naval stores, fern hay, peat moss, Christmas greens, and various other products are also available.

The major resources are renewable. Under sustained-yield management they can be produced in perpetuity. Under the multiple-use system of administration, their uses will be coordinated and balanced one with another, for the greatest total return.

## COSTS AND RETURNS

It is always pertinent to ask about costs. What are the costs of national-forest administration in relation to returns?

For operation, management, and protection of the national forests in fiscal year 1950 the Forest Service spent approximately \$37,000,000. In addition, approximately \$13,000,000 was spent for roads and trails and for purchase of land. Part of these expenditures can be classed as capital investments.

The yearly operating costs represent less than one-tenth of 1 cent of the tax dollar. Furthermore, they are offset in large part by national-forest receipts, which in 1950 totaled nearly \$34,500,000. The receipts are increasing much faster than the costs.

Many national forests more than pay their own way—that is, cash income exceeds operating costs, and, in several, both operating costs and investments. On others, especially those containing large areas of cut-over and burned-over land recently acquired, receipts are steadily increasing as new timber growth is built up. A substantial acreage of national-forest land, however, will probably never yield much cash revenue. Areas above timber line and such noncommercial forest lands as, for example, the chaparral forests of southern California are largely of non-revenue-producing character. The costs of protecting some of these areas are nevertheless very high, but vital watershed and other values make protection a necessity, and the benefits exceed the costs many times.

Timber sales, grazing fees, and special uses account for most of the cash receipts. National-forest receipts for the most part go to the United States Treasury. Practically all of the funds for national-forest administration and development must be appropriated by Congress.

Each year, however, an amount equal to 25 percent of the receipts goes to the States for distribution to the counties containing national-forest lands. The law states that each county's share of national-forest receipts is to be used for local roads and schools. An additional 10 percent of receipts is available for expenditure on national-forest roads and trails in the States of origin. Thus the States and counties get the benefit of 35 percent of national-forest gross receipts.

### *Total Returns Are Large*

Although national-forest income has steadily increased and may be expected to increase still more, it may not equal the costs of administration and annual capital investments. Many national-forest activities produce no income. A number of recreation facilities are provided for the public free of charge. Roads and trails are constructed and maintained for the benefit of the public. Wildlife management brings in very little direct return, although the cash spending of more than 4,000,000 hunters and fishermen who use the national forests each year is an important source of income to local business, and the income to many States from sale of fish and game licenses is based largely on the hunting and fishing opportunities provided by the national forests. Watershed-management work likewise produces no direct revenue, but the value to local communities and the Nation in terms of flood control and safeguarding of water supplies is inestimable.

It would be difficult to value all such services in monetary terms. Some of them, however, can be evaluated. According to a recent appraisal of the value of certain nonmonetary returns of the national forests from recreation, wildlife, and water resources, and from increases in net growth, these evaluated returns, plus direct cash receipts to the Government, are now in excess of \$400,000,000 a year.

Against these evaluated returns, the annual costs—including a depreciation charge on roads and other improvements, interest on investments, and payments to the States of 25 percent of all receipts, in addition to all operating expenses—were reckoned at \$58,000,000.

The primary objective of the national-forest enterprise, however, is not financial profit but public service. Undoubtedly the returns in public benefits each year are far greater than the costs.

## DEVELOPMENT FOR MAXIMUM PUBLIC SERVICE

With full development, the benefits of the national forests to the people of the United States can be greatly increased. What is needed for development of the national-forest system for maximum public service?

### A STEPPED-UP PROGRAM OF MANAGEMENT AND IMPROVEMENT

Some major needs for the development of the national forests already have been indicated. They include more intensive timber management, measures to build up ranges, more intensive wildlife management, more recreation developments, and intensified watershed management.

To back up such resource management and development work, many improvements and facilities for general administration and protection are needed: Replacement of unsafe lookout towers; improvement of telephone and radio communication systems; surveying and mapping; more and better housing for national-forest personnel. Roads are needed not only for access to timber stands but for fire protection, recreational use, and management of the forests. Many national-forest roads are important links of main transcontinental highways or of State highway systems. The planned road and trail system for the national forests includes some 37,000 miles of roads and 21,000 miles of trails as yet unconstructed, in addition to 103,000 miles of roads and trails now unsatisfactory.

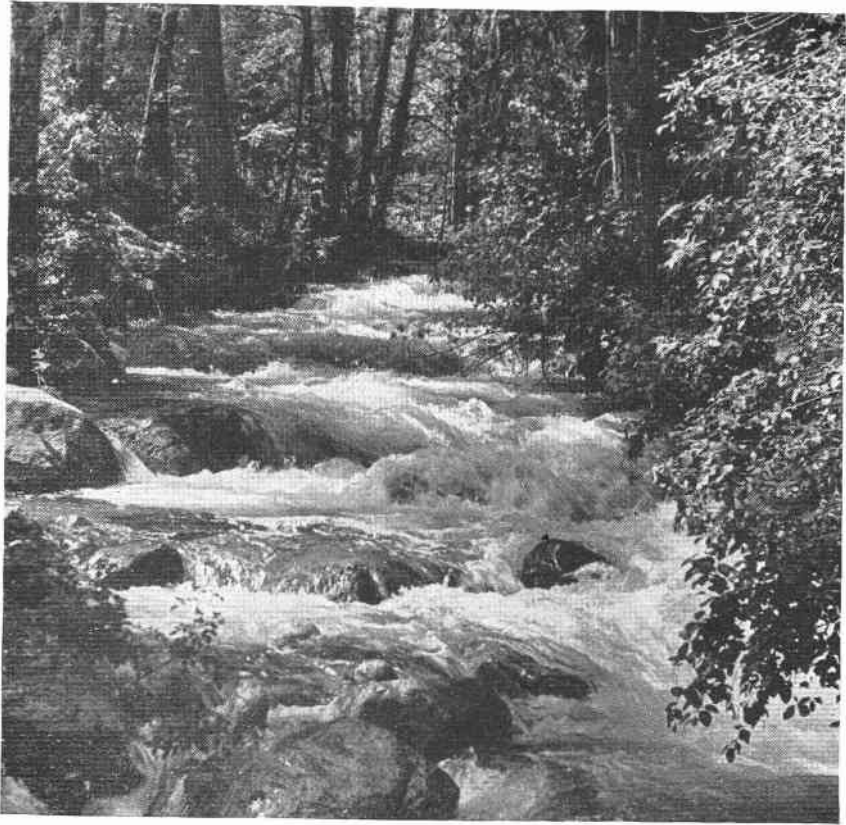
Whether the future brings another terrible war or a lasting peace, productive forest resources are one of the essentials to the progress, security, and welfare of our country. The world situation requires that our country keep itself strong. We are spending billions for national defense and other billions for bolstering the economy of our fellow nations. But we cannot afford to neglect our own basic resources. We cannot keep America strong if our natural resources—the basis of our national strength—are allowed to deteriorate.

### STABILITY FOR PUBLIC OWNERSHIP

About 25 million acres of national-forest land has been acquired by purchase under the Weeks law of 1911 and other acts authorizing purchase of lands for forest production and watershed protection. These lands are reserved for forest conservation; the Secretary of Agriculture has the sole responsibility for their protection and management.

Some 155 million acres of national-forest land from the public domain was reserved for national-forest purposes under the act of March 3, 1891. The status of the public conservation lands is not as secure as it might be. Certain types of use, such as water developments, legitimate and desirable as such, may be authorized on national-forest lands without the consent of the agency in charge of the lands.

Except for the eight minerals covered by the Mineral Leasing Act, the United States mining laws give any individual the right to locate, enter, and patent national-forest land upon discovery of mineral values sufficient to justify development of the claim. The law makes no requirement that mining be done on the land after patent, and it provides no checks on



F-399256

**Abundant, clear water from a protected watershed.**

damage to soil, timber, or water. If, after patent, it becomes evident that the minerals are not commercially valuable, the patentee still retains title to both surface and subsurface land. The law is vulnerable to abuses deplored alike by public-land administrators and miners; and the case histories of many mining claims show that mineral development has not been the end result. There are also examples of mining activities which are decidedly contrary to the public interest. Often the cost to the public far exceeds the gain to the mining operator.

All these things mean a somewhat insecure basis for sustained-yield forest management, and for maintenance of public resources and properties in which millions of dollars have been invested and for protection and development of which millions are being spent each year.

No one wishes to prevent the utilization of mineral or reclamation or hydroelectric-power values needed by the United States. Under the Forest Service policy of the greatest good to the greatest number in the long run, the utilization of valuable mineral resources and the impounding of water for reclamation or power developments will always rank high among

uses of national-forest land. But there should be provision for development in such a way that these resources can be obtained without needless damage to watersheds, timber, or recreation.

Often reasonable restrictions will make possible utilization of a resource without impairment of other values. For example, location of an unrestricted mining claim on the watershed source of a large city's water supply might be disastrous, because the claimant would not be bound to consider the requirements of the city. But the utilization of mineral values, suitably controlled to protect the city's water, might be possible without seriously reducing the profit of the mining enterprise.

### *The Greatest Public Return*

The whole national-forest resource program must be above the exploitation of any single resource. The decision as to whether any one use is of sufficient national importance to justify interference with the over-all national-forest objectives should rest with those responsible by law for carrying out those objectives.

The public interest is the criterion in the disposal of public resources. There are lands in the United States on which mineral utilization or water development is unquestionably the best use of the land; there are others on which other values are undoubtedly higher. The decision as to whether a certain area is more important as a reservoir site for irrigation or power or a mining site, or as public timber, grazing, or recreation land cannot be decided by evaluating only one resource. It calls for a comparison of all present and future public values.

## CONSOLIDATION AND EXTENSION

Within the established boundaries of most national forests are numerous tracts of privately owned land. Indeed, in several of the western national forests the pattern of ownership is like a checkerboard, with each alternate square mile out of public ownership as a result of early land grants to the railroads. In national forests, established through purchase of lands under the Weeks law, Federal ownership is often spotty because the land-purchase program is far from completed.

Such checkerboard ownership creates many problems in national-forest administration and protection. It costs a great deal in time, effort, and money to establish rights-of-way for the movement of national-forest resources and to develop roads, trails, telephone lines, and other requisites of effective forest management. The uses to which intermingled private lands are put often interfere with or nullify watershed protection, sustained-yield timber management, and other national-forest objectives.

The exterior boundaries of existing national forests and purchase units include, all told, some 49,000,000 acres that are in other than Federal ownership. Of such lands, approximately 14,000,000 acres appear to be more suitable for purposes other than public forest and are likely to remain in private ownership. The remaining 35,000,000 acres are generally of the same types and have the same potential uses as the national-forest lands. Acquisition of the intermingled lands and their management as integral parts of the forests are essential for the effective development of the national forests.



There are also areas of land adjoining the present boundaries of national forests that should be included in the public forests. These lands, most of which are now cut over, are logical parts of national-forest watershed or timber-management units; and their present exclusion from the national forests adversely affects the protection, management, and development of the national forests in much the same way as the spotty character of public ownership within the forest boundaries.

### *Land Acquisition*

Land may be acquired for national-forest purposes through exchange of national-forest land or timber for privately owned land, through donation, or through purchase. Land exchanges are effecting many desirable adjustments of ownership between the public and the owners of private property within forest boundaries, to the advantage of both. A number of donations of land from public-spirited citizens are received each year, but though the donated tracts may be of special value for administrative sites or other purposes, they do not usually add up to much acreage. An adequate attack on the problem of needed consolidation of public ownership within the boundaries of the national forests and purchase units will have to be through Federal purchase of lands.

### *Contributions to Local Governments*

State and county governments are sometimes reluctant to see lands purchased for national-forest purposes taken off the local tax rolls, even though much of the land that might be acquired now pays little or nothing in the way of taxes. (Lands in national forests created from the public domain never were subject to tax.) Nevertheless, the Forest Service feels that national-forest lands should contribute a fair share toward the maintenance of local governments. The 25 percent of yearly forest receipts that under present law goes to the States for county road and school funds is likely to fluctuate from year to year, and different national forests vary widely in amount of receipts. Funds received and apportioned may be least when the need of the counties is greatest. Denuded lands acquired for national-forest purposes bring in few receipts during the period of restoration. Some method that would put the Federal financial contribution to local governments on a more stable and equitable basis is desirable. It would help promote stability for local governments, and it would facilitate the purchase program for consolidation and development of the national forests.

### *Expansion Likely*

Our national security and welfare probably will eventually require an expansion of public forest ownership. There are certain lands where acute problems of watershed protection or other vital public interests make public acquisition and management a virtual necessity. There are also some forest lands where the productivity is too low for private owners to be expected to hold them for timber growing. There are forest lands so denuded as to offer no prospect of income for many decades, and with little prospect of rehabilitation by private enterprise. And there are tracts of timberland now subject to destructive exploitation, the liquidation of which would vitally affect the welfare of dependent communities. Measures necessary to maintain or restore the economic values of many such lands are not now



F-353800

**Contour trenching and reseeded to repair a damaged watershed that had been a frequent source of disastrous floods. Davis County, Utah.**

in prospect or reasonably assured; and if these lands are to do their part in meeting the Nation's needs, instead of being carried as dead weight, public ownership may be the only answer.

Some of the forest lands acquired for public ownership may be better suited for management as State or community forests than as national forests. Forest lands acquired for public ownership that are in large tracts, that include watershed areas of interstate importance, or that involve large-scale jobs of restoration usually can most logically be developed as national forests. Other tracts might be made State, county, or municipal forests. National, State, and community forests complement one another; all have a part in our national economy.

## **THE NATIONAL FORESTS' PLACE IN THE TOTAL ECONOMY**

What is the place of our national-forest system in the Nation-wide resource picture? How does it fit into our national economy?

At the foundation of our economy are our natural resources. Upon the soil, water, wood, grass, minerals, and other basic resources, all agriculture, industry, and trade depend. Only as those resources are maintained and wisely used will our Nation progress and prosper. Resources that are non-

renewable must be carefully husbanded; those that are renewable must be continuously renewed.

## A COOPERATIVE ENDEAVOR

Public forests seem to fit well into a democratic society. They are owned by the people and managed for the people. They include resources that may be unsuited for profitable private enterprise but must be properly managed in the interest of the public welfare. Protection of water sources, for instance, is not likely to be a direct money-making activity, but it is vitally necessary to the public interest. Public management of forests may often be the best assurance of stability for communities dependent on the forests. Under public multiple-use management, all values of a forest area can be coordinately developed and managed, whereas the private exploitation of a single resource may be destructive of other resources of public value.

The national-forest enterprise is thus a cooperative endeavor, wholly in line with democratic principles. Each citizen of the United States is a stockholder in our national forests. The citizens' representatives in Congress are the board of directors, which sets up the broad objectives and policies and governs the expenditure of funds. The Forest Service is the manager on the ground. It is responsible to the stockholders for managing the enterprise in their interest and for production of regular dividends in the form of public benefits.

There are some who believe that most forest lands should be in public ownership. And there are some who say that all land should be privately owned. The Forest Service believes that the bulk of the forest land should remain in private ownership. But it also believes there is great need for public forestry. Both public and private forests have a place in our forest economy, and each can supplement the other.

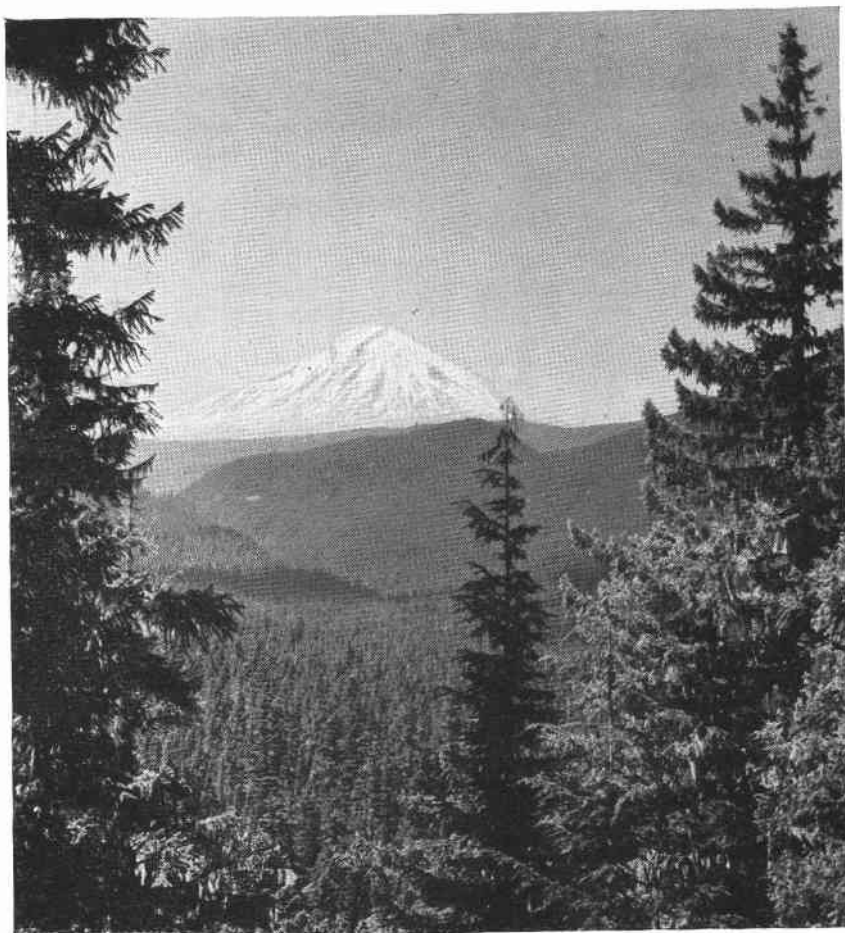
## ALL FOREST LANDS SHOULD DO THEIR PART

With the increasing needs of a growing population for timber and the decline of private supply, and with increasing water problems in many areas, our national forests and other public forests undoubtedly will play an increasingly important part in the Nation's economy.

But even so, the public forests cannot do the whole job alone. Public forests—Federal, State, and community—now comprise only one-fourth of the country's commercial forest lands. The more accessible and more productive forest lands are for the most part in private ownership. We must still rely on private lands for the bulk of our timber supply.

Many lumber companies, pulp and paper companies, and other industrial and individual owners of forest land are doing a good job of forest management. But only 8 percent of all timber-cutting practices on private lands can yet be classed as good; 28 percent is fair; and 64 percent is poor or destructive. Private forest-land resources as a whole are on the down grade. Saw timber is not being grown as fast as it is being used. Millions of acres of forest land is now poorly stocked or nonproductive. Many forest lands are seriously deteriorating as watersheds.

The Forest Service has recommended measures to encourage better forest management on private lands—increased public aid in fire protection and insect and disease control; increased technical advice and assistance for forest-land owners, especially the small owners; public aid in the development of cooperative management and marketing associations of forest



F-456994

Fully developed, protected, and wisely used, the forests can supply timber in abundance and provide all the other benefits of well-managed forests for all time.

owners; provision for long-term, low-interest loans to help finance timber-growing enterprises; and more research on problems of timber growing and forest management.

The Forest Service also has recommended public control of timber cutting and related practices on private forest lands, sufficient to prevent destructive practices and to insure the keeping of forest lands in reasonably productive condition. A plan for regulation by the States, with basic national standards, and with Federal financial assistance, has been proposed.

With adequate safeguards for the public interest in all forest lands, with encouragement to private enterprise in timber growing, and with full development of the public forests, our forest resources can eventually be built up and maintained to supply timber in abundance and to provide all the other benefits of well-managed, productive forests for all time.