A DEVELOPMENT PROGRAM FOR THE NATIONAL FORESTS

UNITED STATES DEPARTMENT OF AGRICULTURE

FOREST SERVICE SEPTEMBER 1961

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PREFACE

In his special messages to the Congress on "Natural Resources" and on "Agriculture" President Kennedy urged the acceleration of all forest development to insure adequate forest resources in the future, including the development of National Forest resources.

The "Development Program for the National Forests" herein presented, covers the resource management and development work needed on the National Forests and National Grasslands to assure that these public lands will meet their full share of present and future public needs.

The major differences between this Program and the previous "Program for the National Forests" submitted to the Congress in March 1959 are the addition of several major needs where these were not previously recognized in full or where subsequent surveys and trends have indicated a higher level of need. The National Forest Recreation Survey completed in 1960 forecasts an estimated 195 million recreation visits to the National Forests by the end of the 10-year period instead of the previously forecast 130 million visits. Also, current trends in timber harvesting indicate a cut of 13 billion board feet annually by 1972 instead of 11 billion board feet. These trends and estimates in turn reflect larger needs in road and trail construction. The specific changes are:

1. Increased estimates for the recreation resource management and development activity to meet revised estimates of public needs.

2. An increase in the timber resource management activity to reflect the greater harvest of 13 billion board feet annually by 1972 and higher standards of timber sale administration.

3. An increased multiple-purpose road and trail construction program to provide particularly for the higher estimates of recreation use and the increased timber harvest.

4. The inclusion of a land purchase program to acquire key tracts of private lands inside the National Forests to facilitate and protect National Forest resource use, particularly of key recreation areas.

5. Research has not been included in this program. It is planned to submit a complete program on research at an early date.

6. Revision of all other cost estimates for 1958 to 1961 operating and development cost elements.

This development program includes all the renewable resources of the National Forest System--water, timber, recreation, forage, and wildlife habitat. It includes both long-term proposals to the year 2000 and specific proposals for the next 10 years. The program provides for the continued, orderly use and development of the renewable resources of the National Forests and National Grasslands in accordance with the basic conservation principles under the "Multiple Use-Sustained Yield Act of June 12, 1960" and others. The accomplishments under this program over the next 10 years will largely determine whether these vastly important public lands will contribute by the year 2000 their fair share to a greatly expanded national economy. The program will be carried out as rapidly as possible within the overall budgetary requirements and financial resources of the Federal Government.

The National Forests belong to all American citizens.

DEVELOPMENT PROGRAM FOR THE NATIONAL FORESTS

There are presented herein long-range objectives and a 10-year conservation program for the National Forests and associated lands. The long-range objectives are related to the year 2000 and the program to what needs to be done in the next 10 years toward meeting current needs and attaining long-range objectives. The program is for the period of Fiscal Years 1963 through 1972.

This program has been developed after much study. The Department of Agriculture completed in 1958 an exhaustive study of the U. S. timber situation entitled "Timber Resources for America's Future." The National Forest Recreation Survey was completed in 1960. Timber inventories, management plans, and other resource development plans have been made. The Forest Service has long maintained a project work inventory for the National Forests. These and other studies are the background for the objectives and program herein developed.

There are general statutory authorities under which substantial portions of the program subsequently outlined could be carried out on the National Forests and associated lands. These include the Multiple Use-Sustained Yield Act of June 12, 1960, which declared that "The National Forests are established and shall be administered for outdoor recreation, range, timber, watershed, and wildlife and fish purposes" and which directed the Secretary of Agriculture "to develop and administer the renewable surface resources of the National Forests for multiple use and sustained yield of the several products and services obtained therefrom." Additional legislation to facilitate carrying out the program will be recommended as needed.

THE NATIONAL FOREST SYSTEM

The National Forests and National Grasslands of the United States are invaluable national assets. These Federal properties, consisting of forest and range lands and high mountain watersheds, occur in 41 States and Puerto Rico. There are 186 million acres in the National Forest System grouped into 155 National Forests and 18 National Grasslands. Eighty-eight percent of National Forests and Grasslands occurs in the western United States. Every citizen owns a share of the National Forest System. It might be said that every man, woman, and child in the United States owns one acre of National Forest land.

The National Forests consist largely of land reserved from the public domain by Presidential proclamation under the Act of March 3, 1891. These lands have always been in Federal ownership. In 1905, the forest reserves were placed under the administration of the Secretary of Agriculture and the Forest Service was created to administer them. Later their name was changed to National Forests to reflect a conservation policy of resource utilization rather than of preservation.

Most of the National Forest land in the East was purchased under the Weeks Law of 1911, as amended in 1924, which authorized purchase of lands to protect the watersheds of navigable streams and for timber production.

Pursuant to the Act of June 4, 1897, the 1911 Act, the Multiple Use-Sustained Yield Act of June 12, 1960, and others, the National Forests have been administered under the dual policies of sustained-yield and multiple-use principles.

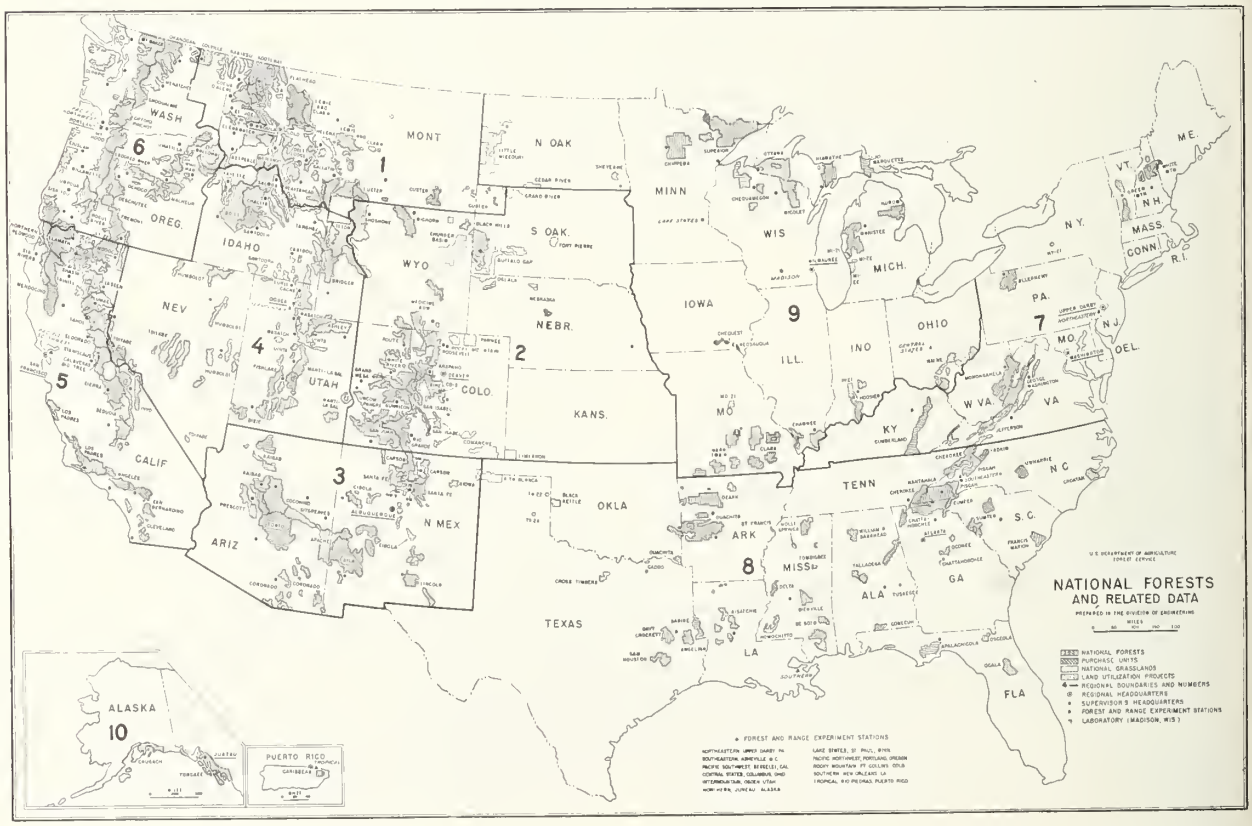
The National Grasslands were created from land utilization projects administered by the Department of Agriculture. By Secretary's Order of June 24, 1960, these lands were named National Grasslands and made a part of the National Forest System. These, and 29 remaining land utilization projects, are largely forest and range lands, submarginal for private ownership, and acquired by the Federal Government during the 1930's for purposes of conservation and rehabilitation. The lands are administered under Title III of the Bankhead-Jones Farm Tenant Act of July 22, 1937, and with the

same general sustained-yield and multiple-use objectives as the National Forests.

The National Forests and Grasslands yield water, timber, forage, recreation, game and other wildlife, and minerals. Western agriculture and industry are dependent on water flowing from National Forest watersheds; hundreds of thousands of people earn their livelihood processing timber grown on National Forests; millions of domestic livestock graze National Forest and Grassland ranges; and many millions of people seek the National Forests for rest, relaxation, and spiritual uplift. All of the renewable resources are to be utilized at a high sustained level of productivity and in harmonious relationship each with the other. This is the basic policy.

Most National Forest resources and services, such as recreation, wildlife habitat, waterflow, and scenery, cannot be evaluated in monetary terms. There is no known way to measure the multiple intangible values and services of the National Forests and Grasslands; but the timber, forage, and land alone are appraised at well over 7 billion dollars.

The National Forests and Grasslands are revenue-producing properties. Twenty-five percent of such revenues is distributed to counties in which these lands are located. In F. Y. 1960, revenues from National Forest and Grassland resources and other lands administered by the Forest Service amounted to 148.2 million dollars. More than a billion dollars has been received in total from the sale of National Forest goods and services. National Forest payments received by the counties, coupled with Federal expenditures for roads and fire control which States or counties would otherwise make, substantially exceed the taxes that the National Forests would pay if subjected to ordinary assessment and levy.



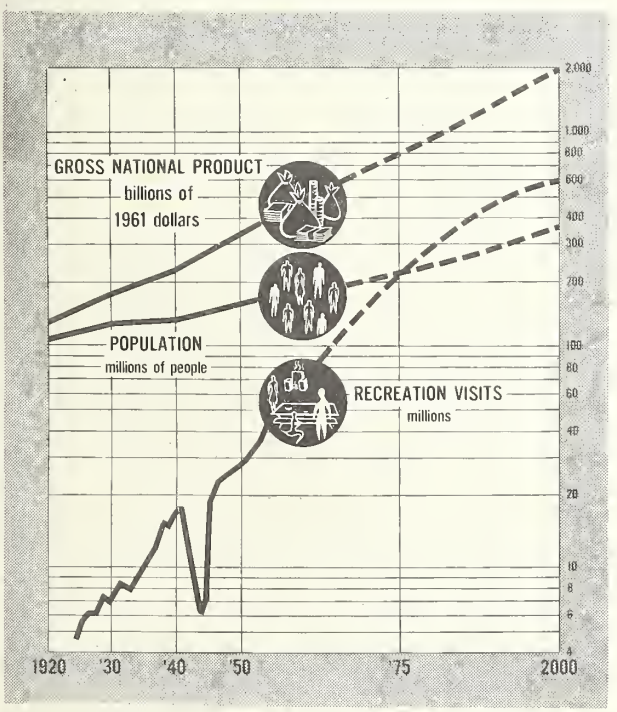
Location of National Forests and National Grasslands

NATIONAL FORESTS IN A CHANGING WORLD

Rapid change in the United States is everywhere evident. Highway construction, housing developments, and expanding urban areas are prevalent throughout the land. The two foremost economic indicators of these and other changes are population and gross national product.

In the 16 years since the end of World War II population in the United States has increased 32 percent. An estimate of 332 million persons by the end of the century is nearly double the 1960 census. The heavy impact of presently large eastern populations on National Forests east of the Mississippi River will be greatly increased by this growth. Furthermore, in the West, where most National Forests and Grasslands are located, population is expected to triple in the last 40 years of the 20th century. In the same 40 years, gross national product is expected to increase about 4 times.

Another indicator of special significance from the standpoint of recreational impact on the National Forests is the increase in leisure time. The average individual today has about 50 percent more leisure time than in 1920. By the turn of the century an individual may have a third more leisure time than he has today.



Recreation use is increasing at a faster rate than either population or gross national product.

The impact of this national growth upon the National Forest System already has been tremendous as evidenced by recent trends in use. The impact will be even greater in the future. No longer are the National Forests the inaccessible and distant hinterlands they were when the system was first established. No longer can the Forest Service be primarily a custodian whose principal function is protection of National Forests from fire. Barriers of time, distance, and inaccessibility have been fast fading, especially in the last two decades. The people have found the National Forests, and the Forests' vast resources are in great demand.

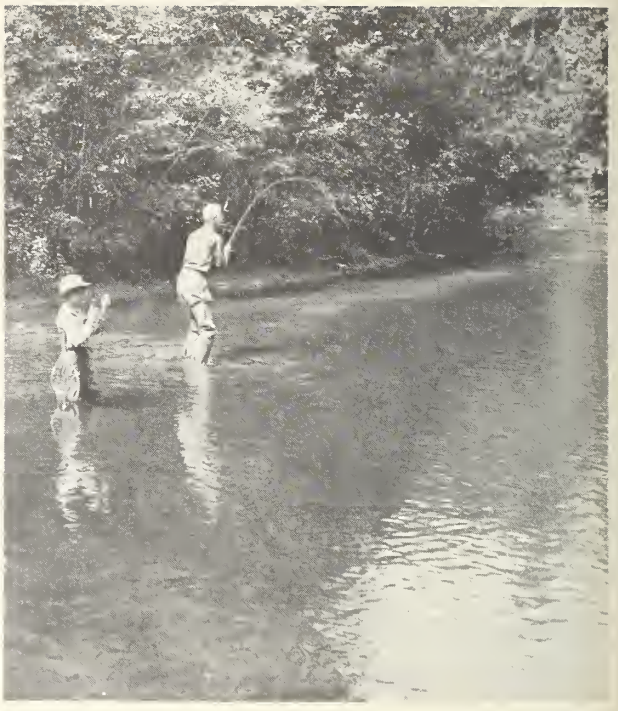
The role of the National Forests and Grasslands in the national economy cannot be discounted. Nearly half of all softwood sawtimber in the Nation and more than half the commercial forest land in the West is found in the National Forests. About one-fourth of the timber cut in the West comes from the National Forests.

National Forests include many of the most important watersheds in the Nation. Nearly one-fifth of the 11 contiguous Western States is National Forest land, and these lands, because of their mountainous character and generally high elevation, receive one-third of the precipitation and furnish over half the streamflow. Eastern National Forests provide high-quality water supplies to many communities and help reduce flood potentials. National Forests are major sources of water for 1,800 towns and cities including such major metropolitan areas as Salt Lake City, Seattle, Portland, San Francisco, Los Angeles, and Phoenix. Over 600 hydroelectrical developments depend on the National Forests for water.

Irrigation accounts for one-half of the Nation's consumption of fresh water. By 1975 daily use of water is expected to nearly double, an increase which would be equivalent to the daily flow of over 13 Colorado rivers. Inevitably, Western National Forests will continue their indispensable role as regulators of the kind and amount of fresh water available to Western people.

Similarly, in recreation the National Forests are of increasing importance because of more leisure time, greater mobility of the average family, increased accessibility of the National Forests, and the

National Forests furnish over half the West's water.



The National Forests are the largest public forest system where everyone is welcome to hunt, fish, and observe wildlife.

relatively low cost of a National Forest vacation.

In the West, over one-fifth of the sheep and one-eighth of the cattle graze National Forest and grassland ranges for a portion of the year. Over one-third of all big game in the Nation is found on the National Forests along with 81 thousand miles of fishing streams and nearly 3 million acres of natural lakes and impounded waters.

NATIONAL FOREST PROGRESS

The "National Forests" in 1905 were largely undeveloped, remote, back-country areas. There were few roads or other facilities for protection and management. For the most part, the forest boundaries were not marked or even surveyed. Today the resources and developments on the National Forests and National Grasslands represent a substantial investment which plays a major part in the Nation's economy.

In Fiscal Year 1960, National Forest timber sales reached an all-time high of 12.2 billion board feet. Receipts from the harvest of this timber were $139.9 million. In the last 10 years National Forest timber harvest has increased 2.7 times and the cash receipts 4.8 times. Thirteen Forest Service nurseries produced and shipped 137 million seedlings and transplants in 1960. 134,000 acres were reforested and 1,154,000 acres of timber stands were improved through weeding, thinning, pruning, sanitation cutting, and similar measures in 1960.

Use of the National Forests for recreation purposes more than tripled since 1950 to a record number of 92.5 million visits in 1960. On the National Forests there are now 5,640 camp and picnic sites; 19,000 summer home residences, 500 resorts, 195 winter sports areas, 220 swimming sites, and 655 organization sites. There are 83 established wilderness, wild, and primitive areas devoted to preserving areas of wilderness environment for their unique and irreplaceable values.

The 60 million acres of rangeland on National Forests, National Grasslands, and

land utilization projects provided forage for 1,306,800 cattle and 2,574,350 sheep in 1960. Range allotment analyses have been completed on one-third of the 11,300 National Forest and National Grassland grazing allotments as the basis for improved management. A total of 1.3 million acres of rangeland has been improved by range revegetation measures. 32,600 miles of fence, 21,200 water developments, and 2,900 miles of driveways have been constructed and maintained to permit better livestock management and more evenly distributed grazing. Many accomplishments are the result of cooperative action taken by forest officers and livestock operators.

In addition to the protection, management, and improvement of National Forest watersheds done in connection with management of the other resources, about 70,000 acres of fire-damaged watershed are being rehabilitated annually by measures such as grass seeding, contour terracing, water diversions, gully plugs, and debris dams. Similar restoration work was undertaken on a backlog of erosion control and watershed rehabilitation projects on more than 100 National Forests in 1960. The forest soils survey program is now under way in all Forest Service regions. These surveys will provide an additional basis for sound resource management.

In 1960, over 2 million hunters used the National Forests and National Grasslands. Hunters bagged 659,000 big-game animals, one-third of the big game taken in the entire country. In addition, these lands provided a large amount of small-game hunting. Nearly 5 million fishermen used National Forest rivers, streams, and lakes in 1960. The ability of these public lands to support wildlife is being continually improved by the proper management of the other resources plus direct improvement by development of wildlife openings, food and cover plantings, water developments, browse regeneration, stream improvement structures, and bank stabilization. In 1960, the States and the Forest Service cooperated in the improvement of 53,500 acres of National Forest land and 53 miles of fishing streams; they constructed 308 small water developments, 1,980 acres of new fishing lakes, and 75 wildlife study enclosures, plus maintaining existing wildlife improvements.

The Forest Service now issues permits for more than 100 different kinds of special uses on the National Forests. Special use permits are issued to individuals, companies, or agencies for such purposes as telephone and powerline rights-of-way, cabins, churches, resorts, schools, landing fields, and many others. More than 58,000 permits are administered on 3.5 million acres. In addition, approximately 11,700 oil, gas, and other mineral leases and permits are administered on 13 million acres of National Forest land. Determination of surface rights on mining claims under the Multiple-Use Mining Act has been completed on 689 areas, totaling 96.5 million acres.

In 1960, 851 miles of road, 142 miles of trail, and 47 bridges were construsted. In addition, 3,840 miles of road were constructed by timber purchasers. 162,400 miles of road and 106,500 miles of trail were maintained. Structural improvements for fire and administrative purposes now include over 700 offices, 1,900 lookouts, 5,400 dwellings and barracks, 6,400 warehouses and utility buildings, 27,000 miles of telephone line, 11,000 radios, and many other related improvements.

There have been many other major conservation accomplishments in the management of the National Forest System since 1905, in new or revised policies, in improved and intensified management, as well as in units of work and investments. This progress and the growth of public use clearly indicate that the National Forests and National Grasslands have national significance in their impact on our people in both their work and their play. Wood and livestock products from these lands enter into the commerce of every State; waters flowing from the National Forests cross State boundaries; and the millions who hunt, fish, camp, picnic, hike, and ski on the National Forests come from every State and every walk of life.

The National Forests and National Grasslands are federally owned and their multiple-use management to produce a sustained yield of services and products is a Federal responsibility. Despite the progress that has been made, these properties with their current assets and enormous potential must be increasingly responsive to national needs. In addition, there are opportunities for development primarily of localized significance in collaboration with non-Federal groups, both public and private. In the East and the South, considerable National Forest land is in or adjacent to underdeveloped rural areas and low-income areas. The resources on these National Forest lands can contrib-

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Water, wood, range, recreation, and wildlife--the renewable National Forest resources.

ute materially to rural area development programs.

Past trends, present use, and future expectations indicate clearly the need for a planned program of development and use. Resource development is a long-time proposition. What is done in the next 10 years will largely determine the heritage that our children and their children will receive from the National Forest System.

A NATIONAL FOREST DEVELOPMENT PROGRAM

The program presented herein is geared to meeting the needs of the next 10 years and to preparing the National Forest System to contribute its fair share to the national well-being at the end of the century.

The program is described in terms of both long-range resource objectives to be accomplished by the year 2000 and the specific work which will need to be done in the 10-year period to attain these objectives.

Resource Development and Management

The basic renewable natural resources of the National Forest System upon which the Nation will rely to an increasing extent in the years to come are water, timber,

range, and recreation and wildlife habitat. Their intensive development and management is truly a conservation program of great significance to the continued development, prosperity, and welfare of the Nation.

Water Resources

In continuing their role as regulator of waterflows, National Forest watersheds will continue to be managed in accord with two principal long-range objectives: (a) protection of the watershed by stabilizing the soil and thereby preserving and improving water quality; and (b) management of the area to increase the quantity of water.

Protection of the watershed and water quality will continue to be a primary objective. Quantity of water yielded will receive major consideration in the multiple-use management of National Forests.

To accomplish these objectives, an accelerated program of watershed management, rehabilitation, and protection will need to be carried out, including the application of new methods and practices as they are developed and proved.

Program proposals for the 10-year period include:

1. More intensive management activities to assure full protection of the hydrologic condition of watersheds in the management and use of other resources. Management plans for other resources that involve manipulation of plant cover will adequately consider watershed management needs.

2. Reasonable protection to, and minimizing damage from the greatly increasing number of water development projects in and adjacent to the National Forest System.

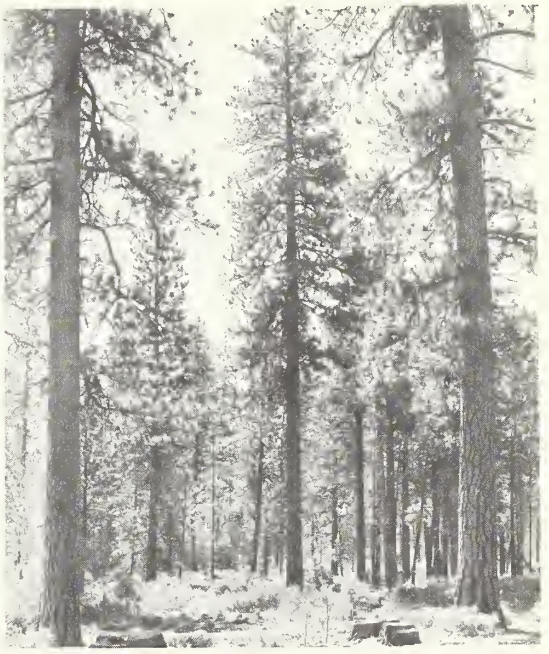
3. Preparing and maintaining watershed management plans for areas which are the sole or major source of municipal water supplies.

4. Initiating field inventories of water supplies and yield with comparative data as to effects on water yield and quality of range, timber, and other uses and management practices.

5. Completing soil surveys on about 29 million acres, or 20 percent of the total area in need of survey.

6. Watershed rehabilitation measures to stabilize gullies and channels, control sheet erosion, stabilize dunes and earth slides, control erosion on roads and trails, and accomplish water spreading will be done in varying degrees ranging from one-tenth to one-third of the total work needed. Work scheduled includes 9,000 miles of gully and channel stabilization; 1.3 million acres of sheet erosion control; 10,000 acres of dune and blowout stabilization; erosion control

An increased program of watershed management, including rehabilitation and protection, needs to be carried out.



By the year 2000 the annual harvest of sawtimber will reach 21.1 billion board feet.

To maintain forest-land productivity, over 4 million acres of land should be restocked.

Livestock use in balance with fully developed range resources will strengthen stability of grazing users and their communities.

on 13,000 miles of substandard roads and trails; 5,600 acres of water spreading; 410 structures for flood prevention; and 160 stream pollution control projects.

Timber Resources

The long-range timber goal for the National Forest System is an annual harvest on a sustained-yield basis of 21.1 billion board feet of sawtimber by the year 2000. This goal is more than double the 1960 timber cut. Total sawtimber growth estimated to be needed in the year 2000 to meet national demands is 105.4 billion board feet. The National Forest goal is that portion of the national need which the National Forests could reasonably be expected to produce under intensified management.

The objective is to reach this goal by (a) intensifying the management of existing stands, including measures to assure stand improvement and regeneration; (b) growing more and better trees and high-quality sawtimber on the lands that are not producing their full capacity today; (c) reducing losses from disease, insects, and fire; and (d) improving utilization. The 10-year program steps to further items (c) and (d) are covered later under the heading of Protection.

The program proposals for the 10-year period are:

1. Harvesting will be increased toward the goal of full sustained-yield cut on all working circles so that annual cut will reach 13 billion board feet by 1972.

2. Harvesting will be developed in a manner that will, to the extent possible, (a) accelerate cutting of stagnant stands, release advance reproduction by removing overstory of old growth, and increase the salvage of dead, dying, and diseased trees; and (b) encourage reasonable distribution of sales among small, medium, and larger operators.

3. Higher standards of regeneration, hazard reduction, salvage, and erosion control will be developed and applied on sale areas.

4. Higher standards of sale preparation and sale administration to coordinate timber harvest activities with recreation uses, wildlife habitat management, and watershed management will be developed and put into practice.

5. Up-to-date inventories will be obtained for all commercial forest lands and timber management plans will be completed for all working circles. When completed, they will be maintained by periodic reinventories and revisions.

6. Approximately three-fourths of the 4.4 million acres of nonstocked and poorly stocked plantable lands will be seeded or planted. Expand and improve tree nurseries, seed production, and storage facilities required to produce the seed and trees for the enlarged reforestation program.

7. The productive condition of over 11 million of the 30 million acres of less than saw-log-size stands will be substantially improved by plantation care, pruning, weeding, thinning, release cutting, reinforcement planting of lightly stocked areas, and planting new burns in these stands.

Range Resources

The development and management of the 60 million acres of rangeland in the National Forest System has two major long-range objectives:

(a) Proper stocking and improvement of the range resource to achieve desirable watershed conditions and sustained high-level production of forage. Over many years the Forest Service has attempted to bring livestock numbers into balance with available forage. This is being done by building up forage production through reseeding, other range-improvement measures, and better management. Where this is not sufficient, necessary adjustments to grazing capacity have been made in either numbers of permitted livestock or season of use.

(b) Making lands suitable for livestock grazing available for use under conditions that promote stability for communities and individuals, and encouraging full development of the range resource with due regard to other resources and uses.

These policies can be furthered by intensifying management of all range allotments; obtaining and maintaining desirable forage to high capacity; constructing, rehabilitating, and maintaining range improvements needed to attain intensive management on all ranges; and making adjustments in numbers of livestock or seasons of use when necessary.

In order to make substantial progress toward the long-range objectives, the 10-year program proposals are:

1. Complete and thereafter keep current range inventories and management plans on all range allotments.

2. Where stocking adjustments are necessary to balance utilization and available forage, these will be carried out as rapidly as practicable bearing in mind the needs of the range and other factors.

3. Separation of cattle and sheep grazing on common use areas, and substantial reduction of livestock trespass.

4. Properly coordinate all range use with other resource use.

5. Revegetation and control of noxious or poisonous range plants and farm weeds will be undertaken on about 4.0 million acres of rangelands needing one or both treatments.

6. Reconstruction or rehabilitation of presently deteriorated range improvements will be completed; other improvements will be maintained.

7. Construct 16,000 miles of fences and 8,100 water developments to initiate programs of intensive range management for control of livestock and more efficient use of forage.

Recreation Resources

As previously described, the growth and development of the Nation already has had a terrific impact on the National Forests in increased use of the recreation resources. It is estimated that this use will rise from the 92.5 million recreation visits of 1960 to 195 million visits by 1972, with a continued rapid annual increase to a possible 635 million visits by the year 2000. This expected increase to more than double the present use by 1972 and about seven times the present use by the year 2000 is far in excess of the expected rate of increase in population.

The long-range objective is that National Forest recreation resources will be so developed and managed that the kind, quality, and quantity of their development and maintenance will be sufficient to keep abreast of this tremendously increased demand.

The recreation resource management program proposals for the 10-year period are:

1. Provide adequate sanitation, cleanup, safe water, fire prevention, and public safety at all developed recreation sites and in heavily used unimproved areas.

2. Prepare complete recreation management plans for all administrative units and thereafter keep them current.

3. Complete the reconstruction and rehabilitation of 2,160 camp grounds, picnic,

and other recreation sites, containing 16,400 family camp and picnic units remaining from "Operation Outdoors, Part 1." This was a 5-year program, initiated in 1957, to modernize the then existing recreation facilities, construct new ones, and adequately maintain and service all facilities to meet the current and predicted recreation demand.

4. Prepare and execute development plans on (a) 28,000 new campgrounds and picnic sites containing 283,000 family units, and (b) 4,000 other recreation sites, including swimming, boating, winter sports, wilderness, and public service sites.

5. Repair and reconstruct recreation dams and spillways as necessary in order to place them in a safe condition for recreation use.

6. Provide information facilities and services at 180 major recreation centers in addition to the development of demonstration areas, museums, exhibits, nature trails, outdoor amphitheaters, and scenic vistas to meet public educational needs.

7. Protect and manage wilderness-type, roadside, and other special areas.

8. Review at least 30 of the remaining 39 primitive areas as to their wilderness characteristics and reclassify them accordingly. Prepare management plans for the 83 existing wilderness-type areas and for new ones as they are stablished. Intensify management and care of wilderness-type areas to protect and preserve them to meet growing public use.

9. Prepare plans and develop facilities for handling large concentrations of visitors at recreational areas of special significance. This will involve provision for installation and concessionaire operation of the full complement of public facilities, including resorts and other commercial services.

Wildlife Habitat Resources

In 1960 one-quarter of the 92.5 million recreation visits to the National Forests and Grasslands were for the primary purpose of hunting and fishing. Hunter and fisherman visits since 1949 have increased 8 times faster than the nationwide sale of hunting and fishing licenses. This use is expected to increase to about 50 million visits by 1972. The long-range objective of habitat management is to make it fully productive to support fish and game populations to contribute to the need for public use and enjoyment.

The wildlife habitat management proposals for the 10-year period are:

1. Revise and complete wildlife habitat management and improvement plans for all administrative units, assuring proper coordination between wildlife habitat management and other resources.

2. Inventory and evaluate wildlife habitat resources in cooperation with other Federal agencies and with the States in which National Forests and Grasslands are located, as a basis for orderly development of wildlife habitat improvement and coordination programs, including (a) big-game, gamebird, and small-game habitat surveys and investigations on the 186 million acres of National Forest and Grasslands, (b) fishery habitat surveys and investigations on the 81,000 miles of National Forest fishing streams and nearly 3 million acres of lakes and impoundments, and (c) participation in planning, inspection, and control phases of all habitat improvement, land- and water-use projects conducted on National Forest lands by States, other Federal agencies, and private groups to assure that projects will benefit wildlife and be in harmony with other resource values.

3. Improve food and cover on 1.5 million acres of key wildlife areas.

4. Develop wildlife openings, food patches, and game ways in dense vegetation by clearing or controlled burning on 400,000 acres.

5. Improve 7,000 miles of fishing streams and 56,000 acres of lakes by stabilizing banks, planting streamside cover, and constructing channel improvements.

Protection

The total adverse impact of disease, insects, fire, weather, destructive animals, and other forces on the uses and values of forest resources is not generally recognized. They kill and destroy, retard or prevent reproduction and growth, impair and damage values, and disrupt uses.

The loss in growth of sawtimber because of damage by destructive agencies in the United States in 1952 was estimated to be about 44 billion board feet. If it were not for the effect of destructive agencies, sawtimber growth, instead of being 47 billion board feet in 1952 would have been nearly twice as great. About 45 percent of the loss

in growth was attributable to disease, 20 percent to insects, 17 percent to fire, and 18 percent to weather, animals, and various other causes.

These destructive forces also have a seriously adverse effect upon the watersheds and their life-supporting waterflows, and upon the other renewable forest resources.

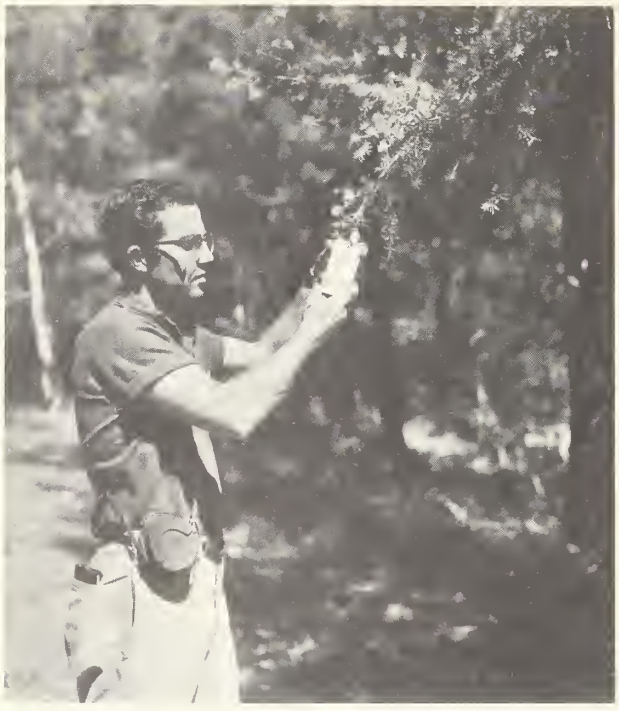
The long-range objective is to hold the damage from destructive agencies below the level which would seriously interfere with intensive management of the National Forest System under principles of multiple use and high-level sustained yield of products and services. This can be accomplished substantially by a continued trend toward better facilities and techniques for fire control and more resources to cope with critical fire periods, and a more intensive application of a program of prevention, detection, and control of insect and disease infestations. In addition to direct protection measures, more intensive management of timber resources will result in reduction of losses from insects and disease.

Protection From Insects and Disease

In the 10-year period, it is proposed that insect and disease control on the National Forest System be stepped up to a level of prevention, detection, and control of insect and disease infestations that will substantially reduce the occurrence of large infestations toward the end of the initial period. This will require about a 40 percent increase over the present level of protection. The work will consist of:

1. Intensification of present activities through (a) quicker, more extensive, and more thorough surveys to detect incipient outbreaks; (b) more reliable evaluation of

Improvement of habitat for fish and game on the National Forests is needed.



Serious losses from insects and disease can be reduced by early prevention, detection, and control.

Develop modern techniques to suppress more fires while small.

the potential of initial outbreaks to cause widespread damage; (c) quicker and more effective control action in the initial stages to prevent a large-scale epidemic. The initial suppression activities would cover about twice the acreage currently being treated.

2. Continuation of present blister rust control work plus extension of control of 250,000 acres not now protected but which should be managed for white pine production. The objective is to achieve sufficient effectiveness of control on all of the area now under treatment plus the additional acres so that after the initial period only maintenance control will be needed.

3. Initiating a program to control dwarf-mistletoe on several hundred thousand acres of selected better stands of young softwood sawtimber on better growing sites.

4. Coordination of pest control objectives with timber management activities to reduce losses.

Protection From Fire

It is proposed that in 10 years all commercial timberlands, all critical watershed, and other lands in the National Forest System developed or proposed for intensive use will be given protection from fire adequate to meet the fire situation in worst years and under serious peak loads. This will include 125 million acres compared with 23 million acres now receiving such protection. An additional 15 million acres will be given a lesser degree of protection but adequate to meet the average fire situation.

Meeting these levels of protection from fire calls for:

1. Expansion, modernization, and development of fire control to a proficiency and strength of force which will prevent as many fires as possible and suppress fires before they spread beyond permitted standards. This is to be accomplished by nearly doubling the present level of preventive effort, detection, skilled fire-fighting crews, and equipment use. This will include a stepped-up program of training and development of personnel.

2. Adoption and use of new and modern techniques being developed for prevention, for suppression of fires while small, and for stopping large fires while running and burning intensely.

3. Reduction of hazardous fuel conditions to minimize the chances of large fires developing and spreading to high-value areas. This work will cover the most serious one-fourth of all land needing such

treatment, and will consist of burning 250,000 acres of highly hazardous debris concentration, felling snags on 350,000 acres of high lighting-occurrence areas, prescribed burning on 3.5 million acres, removing roadside fuel on 39,000 acres, and clearing and maintaining 11,000 miles of firebreaks.

Protection From Other Damage

Rodent control work for the 10-year period will be aimed at control of the most serious infestations of harmful rodents, such as porcupines and mice, on high-value areas of forage and commercial timberlands. These areas comprise about half of the total area of rodent infestation on the National Forests. Approximately 1.8 million acres of rangelands and 9.4 million acres of timberlands would be treated in this period. Control would be limited to those rodents for which economical means of control are known.

Roads and Trails

The transportation system which serves the National Forests is a complex of highways and access roads and trails under various ownerships and jurisdictions. This system is divided into a forest highway system, administered by the Secretary of Commerce, and a forest development road and trail system, administered by the Secretary of Agriculture. Both of these systems are essential for the production, development, and use of the National Forests.

In the forest highway system, there are now 24,400 miles of public roads. These are mostly through highways that carry traffic going from one destination to another. Because administration of the forest highway system is a responsibility of the Secretary of Commerce with maintenance provided by the States and counties, this Development Program for the National Forests does not include estimates of the funds needed to maintain the forest highway system nor to construct the additions to it that are needed. It is estimated that about 70,000 miles of forest highways will eventually be needed to fully serve the National Forests.

In the forest development road and trail system, there are now 162,400 miles of roads and 106,500 miles of supplemental foot and horse trails. These roads are largely of less than highway standards, and usually carry traffic which is related to use of the National Forests. Construction and maintenance of this system is a responsibility of the Secretary of Agriculture. It is estimated that about 542,250 miles of forest development roads, and 80,000 miles of trails, constitute the system that will eventually be needed to obtain the maximum practicable yield and use of the wood, water, forage, and wildlife and recreation resources of the National Forests on a continuing basis.

The ultimate trail system will be of value primarily for recreation and wildlife utilization and fire protection. It will be carefully planned to maintain optimum service to these important resources and watersheds.

The presence or lack of access by road or trail has a direct and controlling influence on all phases of forest management and utilization such as:

(a) the protection of forage, timber, and wildlife resources from fire, insects, and disease;
(b) the balanced use of recreation, hunting, and fishing areas;
(c) the volume of timber that can be marketed, especially for small sales and the support of dependent communities and small business enterprises;
(d) the level of salvage cutting in dead and dying timber stands and the opportunity to promptly salvage losses resulting from fire, windstorm, insects and disease;
(e) the protection of watershed lands from erosion and overgrazing by animals.

The existence of road systems permits an intensity of management and use for all National Forest purposes that is not otherwise possible. In addition roads that give access to National Forest timber are investments which pay their own way over a period of years. Use of these roads by the public results in substantial benefits to the localities the roads serve.

The long-range objective of this Department is to provide and maintain a system of forest development roads and trails which will adequately service the National Forest System at the levels needed to meet expected needs and optimum production of products and services. For the year 2000 this means servicing (a) the protection requirements of a watershed producing at least 200 million acre-feet of water each year, (b) recreation and wildlife resources

A road and trail system to provide for optimum production of products and services.

used each year by 635 million visitors, (c) a timber resource supporting an annual cut of 21 billion board feet, and (d) 60 million acres of rangelands.

Service at these levels of production and utilization will eventually require the construction of about 379,900 miles of new roads and 6,000 miles of new trails, along with the reconstruction to higher standards of about 105,000 miles of roads and 10,500 miles of trails. About 26,500 miles of existing trails will be replaced in service by the construction of new roads. About 80 percent of these long-range requirements should be met by the year 2000.

Program proposals for forest development roads and trails for the 10-year period 1963-1972 are as follows:

1. Complete the construction and reconstruction of about 79,400 miles of multiple-purpose roads and 8,000 miles of trails. This constitutes about 17 percent of the long-range requirements for these facilities.

Approximately 40 percent of the value of the work on roads for access to timber which are planned for this period will be constructed by purchasers of National Forest timber, but paid for by the Government through adjustment of stumpage prices.

2. Provide maintenance to full standards on the 268,900 miles of existing access roads and trails and on the new roads and trails constructed during the period.

Land Adjustment, Land Purchase, Land Use

Within the units in the National Forest System the pattern of land ownership is quite irregular. In some units, National Forest ownership is well blocked together.

In many others, the previous patenting of land under the public land laws, or the way in which land was available for purchase, resulted in a scattered pattern of ownership. Within exterior boundaries of National Forests and National Grasslands, there are about 40,000,000 acres in non-Federal ownership. One consequence is the occurrence of occasional conflicts because private owners of some inholdings object to public programs of use on neighboring National Forest or other Federal land, or because such ownerships are developed for uses that are not compatible with use for the public of neighboring National Forest land. Some privately held inholdings are a source of direct damage to these Federal lands. And some, which are suitable for tree growing and for other National Forest purposes, are unmanaged or in need of expensive rehabilitation, and are contributing nothing to the economy; there are no reasonable prospects that these conditions will be corrected or changed. Lands in this last category are situated largely in the mountainous portions of the Eastern States.

The long-range objective is to bring about consolidation of ownership through use of land exchange authority and through purchase on a moderate scale of inholdings which comprise key tracts for recognized National Forest programs such as recreation development, or which are a source of damage to lands in National Forests and National Grasslands. In a lower priority for purchase, but also constituting an integral part of the long-range purchase objective, are inholdings that are in need of rehabilitation and for which there is little prospect that the required capital will be invested as a result of any other programs of land management and land rehabilitation.

The long-range objective is to acquire by exchange or purchase about 720,000 acres in key tracts needed to facilitate public recreation use of National Forest land. Inholdings that should be similarly acquired as part of the long-range program for the other indicated purposes, including land rehabilitation and the bringing of land management to suitable forest land which otherwise will remain unmanaged, total about 7,000,000 acres, primarily in the East.

In the 10-year period, about 1,500,000 acres of Federal land in National Forests and National Grasslands should be exchanged for suitable private land to consolidate ownership. During this same time, about 500,000 acres which are important for recreational development and use, and about 950,000 acres of inholdings important for other purposes should be purchased. The recreational lands are needed to provide access to lakes, streams, and reservoirs; to provide sites for improved recreation areas or the protection zones around them; and to consolidate National Forest ownership in wilderness and wilderness-like areas. The other category of lands includes key tracts for other National Forest programs such as watershed management, wildlife or range management, and fire protection, as well as land management and land rehabilitation. During this period the consolidation of land ownership within the Boundary Waters Canoe Area in Minnesota will be completed.

This statement of objectives does not attempt to estimate the acreage which, at the urging of local interests, might properly be included in new National Forest units. The acreage that might be so involved in any such developments would be in addition to the figures set forth here.

There must also be accomplished in the 10-year period (a) development of an improved and more adequate land status record system with provision for continqous maintenance and (b) establishment and marking of public property corners and the surveying and posting of over 200,000 miles of property lines between National Forest and other lands which now are inadequately located and marked.

The uses of National Forest lands for many special purposes, including the extraction of mineral resources, will continue to increase at a rapid rate. The supervision of these uses will need to keep pace in order that such uses can be properly correlated into multiple-use management of the National Forest System, and to prevent unauthorized use. The program for the determination of surface rights which has been under way since the approval of the Act of July 23, 1955, will be completed.

Administrative Structures and Equipment

To facilitate the resource management and development work, construction and maintenance of administrative and fire control improvements will need to be provided at an increased rate in the short-term

period. This will consist of completing the present backlog of housing needs for field officers and of administrative and fire improvements, and the construction of additional housing and improvements. New construction needs include 2,640 dwellings and related improvements, 2,500 service buildings, and 455 lookout structures. Completion of the communications system needed for protection and management of the National Forests will require 2,000 additional radios and replacement of 9,000 radios and 3,000 miles of telephone lines. The increasing use of aircraft as an efficient and economical means of transportation for protection and management of wild lands will require an additional 25 landing fields, reconstruction of 37 existing fields, and construction of 1,820 heliports and helispots.

Program Benefits

Under the proposed program, management and utilization of National Forest resources will keep pace with population growth and national economic development and needs.

Many of the benefits from the program for the 10-year period will carry over or will be delayed until after the end of the period. Investments in such measures as roadbuilding, tree planting, range reseeding, water conservation, recreation, and other improvements proposed in the initial period are geared not only to short-term needs, but also to the longer range objectives of meeting expected demands on the National Forest System during the remainder of the century.

Adequate housing and service facilities for field personnel.

Benefits include direct financial revenues, secondary benefits, and intangible values.

Direct financial revenues from the National Forest system will rise to about 230 million dollars annually by the time the 10-year conservation program is completed, or nearly double current receipts. These receipts will continue to exceed annual operating expenses of the program. On the current basis of fees for uses and products, over 90 percent of revenues will continue to come from the sale of standing timber. By the year 2000, National Forest timber sales should reach 21 billion board feet of sawtimber worth 350 million dollars at 1960 prices.

Payments from National Forest revenues for county schools and roads will increase correspondingly. These increased payments, coupled with a higher level of National Forest expenditures for roads and fire control, will greatly strengthen the payments and services provided to local governmental units. Any changes in user fees under current consideration by direction of the President might result in higher total income and some shift in proportion from various sources.

The capital value of the timber, forage, and lands of the National Forest System will have increased by about 2 billion dollars as a result of the program.

In addition to direct financial income to the United States as a result of the National Forest development program, there will be both substantial secondary benefits and very real intangible benefits.

Secondary benefits include such things as numbers of people employed directly on the program work and the harvesting of National Forest timber and other products and the value added to those products by manufacture, distribution, and marketing.

Another benefit from the immediate implementation of the program would be the acceleration of the resource development in areas of labor surplus and low rural income. Of the 186 million acres of land under Forest Service administration, approximately 80 million acres are in or adjacent to present areas of labor surplus and low rural incomes. The planned work and the resultant resource development would contribute materially to accelerating the economy of these areas.

The program would provide direct employment in the peak year for approximately 32,750 skilled and unskilled workers. This is based on a 10-year period. However, much of the development work could be compressed in a shorter period to provide a higher level of employment if required by national unemployment situations.

In timber alone, it is estimated that for every dollar of National Forest stumpage sold, the end products will be worth about 20 dollars by the time they reach the ultimate consumer. This means that the annual sale of 13 billion board feet of sawtimber expected to be reached by the end of the short-term period will have a total consumer value of over 4 billion dollars. The estimated employment directly associated with the utilization of timber harvested from the National Forests will amount to about 800,000 man-years annually by 1972. This will be over twice the current level.

Similarly, the value of meat, hides, wool, and other livestock products increases with reprocessing and handling as do the numbers of dependent people.

It is estimated that recreational use of the National Forest System will reach 195 million visits by 1972, in contrast to the 92.5 million visits in 1960, and a probable 635 million by 2000. The recreationists making these 195 million visits will put into trade channels a total of nearly a billion and a half dollars for sporting equipment, transportation, licenses, lodging, and other items.

Most of the truly intangible values of the National Forests are experienced by those millions of people who use the National Forests for reasons other than commercial utilization of resources. No measure of value expresses the true worth of the relaxation, pleasure, rest, spiritual satisfaction, and improvement in health derived from the National Forests.

No realistic dollar value can be placed on water from the National Forests. Water is already the most precious commodity in the West and over half of all waterflow in the West originates on the National Forests. These lands will continue indefinitely to be indispensable regulators of the kind and amount of fresh water available to Western people. The National Forest water conservation program will improve soil stabilization, result in more regular streamflow, and enhance water quality. It will foster infiltration of water in underground storage. These results will lessen the need for construction of surface reservoirs, settling basins, and other water construction works.

Nor can there be any complete assessment in dollars of the lives saved, damage prevented, and resources preserved by improved accessibility, suppression of insect and disease epidemics, fires prevented or controlled when small, and reduction and prevention of floods. All of these are benefits of the conservation program proposed for the National Forests.

Substantial progress has been made. The foundation for progress is in place. This program builds on that foundation. The result will be full development of these extensive and valuable public properties.

PROGRAM COSTS

The program includes costs for both recurrent work (operating costs) and nonrecurrent project work (development and capital investment costs).

Recurrent costs include such work as program administration and supervision, planning, maintenance of all structural facilities, maintenance of roads, protection from pests and fire, and other annually recurring costs. These costs would increase in relation to the increase of public needs and the installation of additional facilities.

National Forest Program - Summary of Work and Costs - F.Y. 1963 Through F.Y. 1972

(Based on Dollar Value as of May 15, 1961)

Item	Recurrent Work Annual Level 10th Year ($1,000)	Nonrecurrent Project Work 10-Year Total ($1,000)	Work Needed
Timber Resource Management	41,229		Complete and keep current inventories and plans for 9.0 million acres. Cut 13 billion bd. ft. annually by 1972.
		417,891	Culturally treat 10 million acres. Plant 3.8 million acres.
Recreation - Public Use	47,376		Complete management and development plans. Maintain facilities and provide sanitation and cleanup for 195 million visits by 1972.
		408,720	Reconstruct and rehabilitate more than 2,000 existing campgrounds. Plan and develop 28,000 new campgrounds and picnic sites. Plan and develop 4,000 other recreation sites including swimming, boating, winter sports, and public service sites. Provide special development and information service for outstanding scenic and recreation features which attract heavy visitor concentrations.
Wildlife Habitat Management	3,810		Administer, supervise, and coordinate wildlife activities and cooperate with States.
		35,280	Improve 1.5 million acres of game range, 7,000 miles of stream, 56,000 acres of lakes. Develop 2,000 wildlife watering facilities, 400,000 acres of wildlife openings, food patches, and game ways. 11 million acres of rodent control.
Range Resource Management	8,327		Manage 13,000 grazing allotments. Maintain existing improvements.
		70,689	Complete analyses and plans on 7,600 allotments. Revegetate 4 million acres. Construct 16,000 miles of fence, and 8,100 water developments.
Soil and Water Management	2,594		Manage and administer soil and water resource. Coordinate with other resources.
		89,718	Erosion control and stabilization on 1.3 million acres, 22,000 miles of gullies and roads. Construct 570 pollution control and flood prevention projects. Conduct soil surveys on 29 million acres. Initiate water yield inventories.
Land Adjustments, Classification, and Uses	6,587		Examine mining claims. Administer mineral leases and special uses. Exchange 1.4 million acres of land. Prepare up-to-date land status records. Conduct land classification work.

National Forest Program - Summary of Work and Costs - F.Y. 1963 Through F.Y. 1972--Continued

Item	Recurrent Work Annual Level 10th Year ($1,000)	Nonrecurrent Project Work 10-Year Total ($1,000)	Work Needed
Land Surveys and Mapping	140		Maintain property line marking.
		58,305	Cadastral surveys of 6,587 corners and 13,200 miles of cadastral survey ties to metes and bounds surveys. Survey and mark 208,000 miles of property lines. Topographic mapping of 355,600 sq. miles.
Land Purchase		66,500	Acquisition of 500,000 acres of land essential for recreation development, use and access, including protection of outstanding scenic areas and wilderness, and 950,000 acres of key inholdings to meet other National Forest access, management, and resource restoration needs.
Forest Fire Protection	32,513		Intensify protection, including increased manpower, equipment, and aerial operations, to approximately 2 times present level.
		71,737	Reduce hazardous fuels on 4 million acres. Construct 11,000 miles of firebreaks.
Insect and Disease Control	[1] 10,350		Intensify and accelerate detection, prevention, and control of forest insects and diseases to reduce current timber losses.
Structural Improvements for Fire & General Purpose	8,098	106,368	Maintain existing structural and communication improvements. Construct 2,640 housing and related improvements, 2,500 service buildings, 455 lookouts, 17 special structures; betterment of existing structures; 2,000 radio installations; replacement of 3,000 miles of telephone line; construction and reconstruction of 62 landing fields; construct 1,820 heliports and helispots.
Forest Roads and Trails	[2] 24,000		Maintain existing transportation system.
		[3] 1,212,484	Construct 79,400 miles of multiple-use purpose roads and 8,000 miles of trails. Provide supplemental work on roads constructed by timber purchasers.
Total	185,024	2,537,682	

[1] Includes National Forest control only. Does not provide for amount of $3.1 million for control on other Federal and State lands.

[2] Timber purchasers will maintain existing purchaser-constructed roads at an estimated additional annual cost of $5 million.

[3] Timber purchasers will construct an estimated 33,000 miles of road costing approximately an additional $474 million.

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