est Service History Series

The Forest Service in the Environmental Era

Forest Service

FS-574

May 1995

United States
Department of
Agriculture

**Forest
Service**

FS-574

Forest Service History Series

The Forest Service in the Environmental Era

by
Dr. Dennis Roth
and
Frank Harmon

History Unit
Public Affairs Office
Washington, DC

Cover photo: Mount Shuksan and Picture Lake from roadway below Mt. Baker Lodge, Mt. Baker-Snoqualmie National Forest. Photo: USDA Forest Service

Foreword

This monograph was written several years ago by former USDA Chief Historian Dennis Roth, who currently works for the USDA Economic Research Service, and Frank Harmon, now retired from the Forest Service history section. The manuscript languished unpublished until now. The purpose of the monograph is not to pretend to be a final "history" of the years between 1960 and 1980, but rather to review some of the major conflicts among the agency, national forest commodity producers (ranchers, miners, and the forest products industry), and recreational users. The Multiple-Use Sustained-Yield Act of 1960 was the independent variable that set into motion appeals, demonstrations, and court cases that incrementally altered the agency forever.

Public involvement in shaping agency management policy began with the battle to pass a Wilderness Act (1964), later escalating around preserving the remaining stands of "old-growth" timber, especially in the Pacific Northwest, using the Endangered Species Act of 1973 as a vehicle.

The changes in natural resource management required by the 1973 Act were monumental for the agency, going beyond just protecting songbirds on a district in leaving snags for nesting sites. It called upon national forests to work to maintain biological diversity. By the early 1990's what began as a plan to protect the spotted owl (along with other species in different regions) culminated in the agency endorsing a policy of ecosystem management. The change in the Forest Service was reflected in the changing composition of the work force as ecologists and wildlife biologists came to the fore, diminishing the agency's domination by foresters.

But I am getting ahead of the story told by Roth and Harmon, who focus on the issues that culminated in the passage of the National Environmental Policy Act (1969), the Forest and Rangeland Renewable Resources Planning Act (1973), and the National Forest Management Act (NFMA, 1976). Dr. Roth argues that NFMA "was the most significant law affecting the management of the national forests since the Organic Act of 1897."

Readers who want to learn about the more recent period not covered here are directed to the works of Forest Service Social Historian Jerry Williams.[1] The present publication is for those readers unfamiliar with the conflicts that beset the agency in the decades of the 1960's and 1970's that led to passage of many of the laws that determine our current policy and practices. Typically, this work reflects the interests of the authors, which means this is not an official history of the agency; instead, it is the authors' personal attempt to summarize a variety of topical material into a narrative "history" of an agency in transition.

Terry West
USDA Forest Service
Historian—Public Affairs Office
Washington, DC

Contents

The passage of the Multiple-Use Sustained Yield Act of 1960 (MUSYA) marked the beginning of a new period in USDA Forest Service history. Before 1960, the agency derived its principal mandate from the so-called "Organic Act of 1897," which stipulated that national forests could not be established "except to improve and protect the forest within the reservation, or for the purpose of securing favorable conditions of water flows, and to furnish a continuous supply of timber for the use and necessities of citizens of the United States. . . ." Over the years, the Forest Service and the Secretary of Agriculture provided for other uses of the national forests through the general use provision of the 1897 Act, as interpreted by the courts.

In 1929, the Forest Service promulgated its L-29 Regnlations, which provided for the creation of a system of primitive areas within the national forests. This was the forerunner of the National Wildemess Preservation System that Congress established on public lands in 1964. In 1939, the agency issued its U Regnlations under which the primitive areas were to be restudied and eventually redesignated as wildemess areas. The latter regnlations were more rigorous and gave wildemess areas more protection than primitive areas. They prohibited timber cutting; road construction; special use permits for hotels, stores, summer homes, organization camps, and hunting and fishing camps; and most motorboat uses or aircraft landings.

The creation of primitive and wildemess areas signaled that the administration of the national forests was becoming more complex. Agency personnel began to use the term "multiple use" to describe their attempts to harmonize the different ways of using the national forests. In general, the Forest Service was able to accommodate different uses without much conflict until about the end of World War II.[2]

After the war, there arose strong opposition to Forest Service control of livestock grazing, particularly in the Rocky Mountain States of Colorado and Wyoming. Congressional hearings were held in the field during which the Forest Service was often vigorously attacked by graziers and their congressional representatives. Stockmen demanded a proprietary right to their range permits and strongly opposed reductions in grazing that were made necessary by range deterioration. However, no legislation embodying their viewpoints was passed and the ruckus subsided. The end of the war also saw a skyrocketing demand for housing as millions of veterans entered the housing market. For the first time, there were heavy demands for national forest timber, as private supplies began to run out. During the 1950's, timber harvests almost tripled, going from about 3 billion board feet in 1950 to almost 9 billion board feet at the end of the decade. During those years, the Sierra Club and the Wildemess Society also started a campaign for a congressionally legislated wildemess system because they feared that tbe Forest Service would diminish its own wildemess system to satisfy tbe demands of tbe timber industry.[3]

By the late 1950's, the Forest Service decided it needed legislation to support its multiple-use and sustained-yield policies. Its efforts to administer the national forests under these policies were increasingly challenged by growing and conflicting demands for forest resources. Moreover, the legal bases for tbese policies were, in many instances, questionable.

MUSYA set forth six major uses of the national forests: wood products, recreation, grazing, watersbed, wildlife, and fish. The Act defines multiple use as the management of all the various renewable surface resources of the national forests so that they are used in the combination that will best meet the needs of tbe American people, and coordinated so that tbey do not impair the productivity of the land. Political scientist Dennis Le Master has commented that the Act was significant because it gave the Forest Service management direction. On the otber hand, be believes that it has been

ineffective as a legal tool in resolving conflicts or as a balancing mechanism between user groups.[4] This view has been confirmed by the passage of congressional legislation governing the management of the national forests in the 1970's. These will be discussed later.

The Kennedy-Johnson Administration

The organizational structure of the Forest Service has remained remarkably stable during the last 40 years. The agency is administered by a chief, associate chief, and deputy chiefs in Washington, DC, and is divided into three principal divisions—the National Forest System, which manages 186 million acres of forest and rangeland; State and Private Forestry, which provides technical and financial assistance to States and private landowners; and Research, which conducts basic and applied forestry research.* In the early 1960's, the agency's budget averaged approximately $375 million, most of which was (and is) spent by the National Forest System. In the 1980's, the budget averaged about $2 billion unadjusted. Receipts from timber sales, grazing, and other fees (which go into the general United States Treasury) have averaged about half the expenditures.[5]

In 1961, the National Forest System was divided into 10 regions headed by regional foresters (7 in the West; 2 in the East, Midwest, and South; and 1 in Alaska). In 1966, the Northeastern Region was abolished and its forests transferred to the Great Lakes Region, which was renamed the Eastern Region. That same year, separate offices called Areas were established in Broomall, PA, and Atlanta, GA, to administer State and Private Forestry programs in the Northeast and Southeast. (In 1982, the separate Southeastern Area was abolished and its operations were merged with those of the National Forest Regional Office in Atlanta.)

It is somewhat arbitrary to divide Forest Service history into political administrations. Its leaders have always been promoted from within and have never been installed at the beginning of a new administration. In fact, Forest Service chiefs follow a tradition of retiring before presidential elections so that their replacements have an opportunity to consolidate their positions before a new administration takes office. On the other hand, the Forest Service follows political direction from the Secretary of Agriculture and The White House, thus somewhat reflecting the character of the administration in power.

Richard McArdle was chief in 1961. He assumed office in 1952 shortly before the election, after a 20-year career as a researcher, experiment station director, and deputy chief. Eisenhower economic policies emphasized free markets and growth. As a result, the Forest Service increased production of many national forest resources, especially timber. In some ways, McArdle's tenure was a high point in Forest Service history. Budgets and personnel increased tremendously, and the agency avoided divisive political conflict.

Senator Hubert Humphrey introduced the first wilderness bill in 1956. The Forest Service and the National Park Service both opposed the bill for at least 2 years. They maintained that they could manage wilderness land without legislation. By 1958, the Forest Service dropped its opposition to the bill, but could not openly support it because it was not endorsed by the Eisenhower administration. Soon after taking office in 1961, President John Kennedy voiced his support of the bill. The Forest Service and other Federal land agencies actively testified on its behalf. The Wilderness Act was not signed into law until September 3, 1964, nearly a year after Kennedy's assassination. Most of the political compromises needed for its passage were made during his administration. Prior to 1964, Congress shaped Forest Service land management policies indirectly through the appropriations process. The Wilderness Act marked the first time Congress became directly involved in designating national forest land for a specific use. The Act placed 9 million acres that the Forest Service had administered as "wilderness" into the National Wilderness

* In 1991, the International Forestry division was established to facilitate cooperative forestry programs with international partners.

Preservation System. It required the agency to study another 5 million acres of "primitive" areas for possible inclusion in the Wilderness System.[6]

Edward Cliff became chief in 1962. In the same year, Rachel Carson's *Silent Spring* was published, a book that many historians believe ushered in the modern environment era. *Silent Spring* was an indictment of Government and industry cooperation in distributing DDT, a pesticide harmful to wildlife. Conservationists of an earlier era had generally viewed the Federal Government as an ally. Environmentalists in the years following *Silent Spring*, on the other hand, often saw it as an adversary. Many environmentalists perceived a so-called "commodity bias" in Forest Service policies, and began to see it as an obstacle in their campaign to preserve wilderness and other natural values.

began to write separate functional resource plans for wildlife, recreation, and other resources. At the same time, it experimented with land use zoning. Both of these types of planning were later incorporated into the integrated land and resource planning required by the National Forest Management Act of 1976 (NFMA).

In 1961, the agency began a two-stage planning process to divide the national forests into management zones. In the first stage, all of the nine regions wrote multiple-use planning guides that gave designations, general definitions, and broad management guidelines for several land zones. The second stage required each district ranger to prepare a district multiple-use management plan classifying all the district's land into zones and suggesting how to coordinate its various resources.

Caterpillar tractor building a road on the Mt. Baker-Snoqualmie National Forest. Photo taken by Donald Stickney in 1957. Photo credit: USDA Forest Service

During the early 1960's, the Forest Service implemented MUSYA. The Act required the agency only to give "equal" consideration to all the resources, not to manage them equally. The Forest Service responded to the rather vague language of the Act by increasing its attention to recreation, wildlife, and watershed through planning. This planning took two forms. The agency

These plans were the agency's first systematic attempt to resolve conflicts about the various uses of national forest land. They helped local land managers decide where logging and other Activities should be located. Unfortunately, most of them had chronically poor inventory data on soil stability, wildlife habitats, and other site-specific conditions. As a result, district

rangers were reluctant to establish plans any more detailed than those contained in regional office guidelines.[7]

Recognizing its need for a variety of information on land and resources in order to deal positively with issues, Congress established the Public Land Law Review Commission (PLLRC) in 1964. This was done at the insistence of Congressman Wayne Aspinall, the powerful chairman of the House Interior Committee, as part of a deal to let the 1964 wilderness bill go to the House floor for a vote. The fourth of similar land commissions (the first was in 1880), it was asked to study and recommend changes or additions to the Nation's land law. The PLLRC was composed of 19 members, including 6 senators, 6 congressmen, 6 presidential appointees, and Chairman Aspinall. It received testimony from over 900 witnesses at 10 regional hearings held between 1966 and 1968.[8] The voluminous Commission report, which took almost 6 years to complete, was summarized in 137 recommendations. Apparently out of touch with the rapidly changing times, its authors criticized the Forest Service for spending too much time and money on managing national forest resources. Such views, coupled with the proposal that "dominant use" replace multiple use, caused the otherwise excellent and certainly valuable compendium to lose much credibility with conservationists. It seemed to many that a dominant-use policy would permit timber demands to displace noncommodity uses such as recreation.

The Commission's recommendations stressed three dominant themes. First, it emphasized Congress' need to reestablish and assert its authority for managing public lands. Second, the Commission concluded that all Federal lands not specifically set aside by Congress for a particular use were eligible for disposition; this meant that national forests and national monuments could be sold, since they were set up by the President and not by Congress. The report suggested that Congress review all such reservations to see which lands should be retained and which should pass into State or private control. This proposal alarmed many people. (A decade later, the Reagan administration proposed a similar idea called "privatization." It received an equally poor reception.)

Finally, the report stressed commodity uses. It urged that timber production be financed from timber sale receipts, and that timber management decisions be made "primarily on the basis of economic factors so as to maximize net returns to the Federal treasury." However, grazing permittees were exempted from paying the market value for public rangeland. The Commission was strongly committed to the concept of dominant use, particularly for timber. The Commission's recommendations were internally incompatible. Many of the specific suggestions conflicted with each other or with the basic goal of the report. The recommendations were not acted on by a Congress busy with environmental issues.[9] This was the last time a major congressional commission issued a report so favorable to the commodity uses of public lands.

Wilderness preservation soon became the dominant issue facing the Forest Service. However, this was not readily apparent to Forest Service personnel. For instance, in late 1964 the agency's director of recreation met with the Wilderness Society, hoping to reach a final agreement on which primitive areas should be recommended for inclusion in the Wilderness System. He was surprised to learn that the Society did not want to negotiate, preferring instead to let the political process determine the ultimate size of the system. The Wilderness Society and the Sierra Club were becoming aware that their strength lay in the commitment of local grassroots organizers to their own favorite wilderness areas. These organizations believed it was to their benefit to avoid political compromises until their local organizers had an opportunity to mobilize public support behind individual wilderness areas.

Within days after the passage of the Wilderness Act, the Forest Service assembled a group of wilderness experts to write guidelines for managing wilderness areas. This group interpreted the language of the act to mean that only pristine, untouched areas could qualify as wilderness, and that once in the Wilderness System, they should be managed strictly to minimize signs of human intrusion.

Anticipating that there would be strong public pressure for wilderness designation, the Forest Service hoped to convince

Congress to limit the amount of wilderness acreage by showing it the "true" costs involved in a "pure" or "strict" constructionist approach to wilderness management. This committee foresaw that the Forest Service would encounter many, perhaps intractable, problems in protecting wilderness if high standards were not used in creating them. It also feared that the agency's longstanding ability to manage the national forests as it thought best would be compromised if too much acreage were put into the Wilderness System.

At one time, many in the environmental movement also subscribed to a version of the "purity doctrine" as it eventually came to be known. In the 1940's, environmentalists had been engaged in a defensive struggle to keep certain activities and structures out of primitive areas so that they could qualify for wilderness status under the Forest Service's U Regulations.

The environmentalists' position began to change after 1964, when they realized that the Forest Service wanted to use the same strict standards to recommend wildernesses as it did to manage them. Their organizations no longer simply tried to preserve the status quo, but attempted to enlarge the Wilderness System. New roles created new perspectives for both the Forest Service and the environmentalists. The Forest Service consciously moved to a purer position when it went on the defensive. The environmentalists underwent a reverse evolution when they took the offensive.

The environmentalists found nothing in the Wilderness Act that required identical standards for management and allocation, nor would they accept the argument that the need to apply certain management techniques justified pure standards. They charged that the purity doctrine was applied selectively when the Forest Service wanted to exclude an area from the Wilderness System, usually for economic reasons.

The first test of the purity doctrine came in 1967–68 on the San Rafael Primitive Area in California. The negotiations between the Forest Service and the Sierra Club went smoothly until they became stuck on 2,200 acres that the Forest Service wanted to use as a firebreak. The agency maintained that a road and an administrative structure on this section of land made it unsuitable for wilderness designation. The environmentalists contended that it was necessary to protect the 2,200 acres as part of the condor flyway. The Forest Service won this round when Congress excluded it from the San Rafael Wilderness.

The next wilderness proposal to be considered was the Mount Jefferson area in Oregon. In that instance, Congress chose to use a more liberal standard for wilderness when it included Marion Lake, which was a semideveloped recreation site for boaters and fishermen containing an administrative site, campground, and boat storage facilities.

In succeeding wilderness bills, Congress strayed even further from the Forest Service's interpretation of the Act. It gradually became clear that wilderness was whatever Congress decided to designate as wilderness.

Two other very important campaigns to preserve wilderness areas began soon after the passage of the San Rafael Wilderness Act. They involved the East Meadow Creek area in Colorado and the Lincoln-Scapegoat area in Montana.

Beginning with the landmark Scenic Hudson Decision of 1965, in which the judge found in favor of local ad hoc conservation organizations opposing a proposed hydroelectric project that was to be licensed by the Federal Power Commission, the courts began to redefine and liberalize the conditions under which the Federal Government could be sued. Before 1965, it was generally accepted legal doctrine that the Federal Government could not be sued without its consent. East Meadow Creek gave wilderness preservationists their first opportunity to enter this new legal terrain.

East Meadow Creek was a largely undeveloped area directly west of the Gore Range-Eagles Nest Primitive Area on the White River National Forest in north-central Colorado. It was about 9 miles north of the ski resort town of Vail, which was built in 1964. In 1962, the Forest Service drew up a plan to log East Meadow Creek, and 2 years later built an access road to the border of the area. In 1968, the Forest Service decided to implement its plan.

Citizens of Vail were especially agitated. They argued that the timber sale had been

planned in 1962, before the establishment of their town, which depended on recreation dollars for its existence. They contacted a lawyer, who filed a motion for a preliminary injunction in April 1969. He based his case on a section of the Wildemess Act that stated that "nothing herein contained shall limit the President in. . . recommending the addition of any contiguous area of national forest lands predominantly of wildemess value." On February 17, 1970, Judge Doyle found in favor of the plaintiffs and permanently enjoined the timber sale.

The agency realized that technically the Parker Decision (as this case is known) only applied to the Tenth Circuit. However, it was clear to many in the Forest Service that they would have to bear the decision in mind whenever they wanted to develop lands contiguous to primitive areas anywhere in the National Forest System.

The primitive area reviews and the Parker Case involved land already protected by the Forest Service or contiguous to such land. But there were millions of undeveloped acres of Forest Service land that were either contiguous to established wildemess areas or detached. Neither were covered by the primitive area reviews or the Parker Decision. Environmentalists called these de facto wildemess, a term that the Forest Service usually avoided because of the implication that de jure status was just around the comer. The Lincoln-Scapegoat area, contiguous to the already established Bob Marshall Wildemess in westem Montana, was such an area.

The Lincoln back country was originally an area of 75,000 acres of undeveloped forest land on the Helena National Forest. Scenically undistinguished from "literally millions of acres in westem Montana," the Lincoln back country was nevertheless an important hunting, fishing, and hiking area for people converging on it from several westem Montana towns.

In 1960, the Forest Service was prepared to build a road into the Lincoln back country in order to harvest timber and construct campgrounds. A small but vocal group of local residents was able to delay these plans until 1963, when the Forest Service appointed a forest supervisor who gradually became sympathetic to the idea of preserving the area as wildemess. The Regional and Washington Offices of the Forest Service continued, however, to support partial development of the area. By 1965, the Wildemess Society and Sierra Club became interested in the Lincoln back country. Three years later, the Senate Interior Committee held hearings in Montana on a bill to place the Lincoln-Scapegoat (local wildemess enthusiasts had expanded their concem to include the Scapegoat Mountains as well) into the Wildemess System. The hearings shed some unwelcome light on Forest Service timber harvesting practices in a region subject to landslides and erosion. The bill's passage, however, was temporarily blocked by the Chairman of the House Interior Committee, Wayne Aspinall. It was signed into law 4 years later, thus creating the first so-called de facto area to become a designated wildemess.[10]

The Republican administration came into office seemingly more disposed towards the idea of developing public lands than the previous Democratic administrations. It left office 8 years later after presiding over the passage of some very important environmental legislation.

The National Environmental Policy Act of 1970 (NEPA) has been the most far-reaching legislation. Before NEPA coordination, land management on the national forests was undertaken mainly in consultation with special interest groups such as the timber industry, graziers, or the Sierra Club. Congress and the general public were not involved as directly in the daily operations of the Forest Service.

Most members of Congress did not appreciate the significance and scope of the Act at the time of its passage. Its most important section provided for the preparation of environmental impact statements (EIS's) on proposed actions by Federal agencies.[11] For the Forest Service, the principal actions were roadbuilding, timber harvesting, and spraying of pesticides and herbicides. The statements were to contain: (1) the environmental impact of the proposed action; (2) any adverse environmental effects that could not be avoided should the proposal be implemented; (3) alternatives to the proposed action; (4) the relationship between local short-term uses of the human environment and the maintenance and enhancement of long-term productivity; and (5) any irreversible and irretrievable commitments of resources that would be involved in the proposed action, should it be implemented.[12]

The amount of litigation brought by environmentalists grew very rapidly, which was not anticipated, and the resulting court decisions effectively expanded NEPA's scope. The Forest Service found itself frequently in court because of lawsuits for noncompliance with NEPA. The agency responded in 1971 by altering its planning and decisionmaking processes, particularly those concerning public participation. In 1974, the Council on Environmental Quality praised the Forest Service for its implementation of NEPA. Nevertheless, the agency's courtroom battles over NEPA persisted all through the 1970's.

Ranger LeRoy Sprague on ground beside logging truck scaler on the Boise National Forest. Photo by Bluford W. Muir. Photo credit: USDA Forest Service

During the last half of the 1960's and most of the 1970's, the Forest Service was deeply involved in a major controversy over clearcutting and the increased level of timber cutting on the national forests. NEPA was the basis for lawsuits directed against Forest Service timber policies. Clearcutting (cutting all trees on a site regardless of size) became the major method of timber harvesting on national forests during this period. The foresters' term for the method was "even-aged management," since it resulted in a timber stand of all the same age. Adoption of the method followed Forest Service field studies, and it applied to hardwoods and softwoods in the East as well as the West. Environmentalists disliked it because it often left an unsightly field of stumps and because runoff from denuded land could pollute streams.

In 1964, the Forest Service announced that it would practice even-aged management on the Monongahela National Forest in West Virginia. The same year, terracing was begun on steep slopes on the Bitterroot National Forest in Montana as a method of site preparation for tree planting after harvesting by clearcutting. About this same time, clearcutting began in the high-altitude forests of Wyoming. In 1965, the Forest Service announced a proposed sale of 8.75 billion board feet of timber covering a million acres in Alaska. A few years later, these actions provoked a controversy that raged for over a decade, starting as separate local protests by individuals and groups. On the Monongahela, the principal protagonist was the West Virginia chapter of the Izaak Walton League. On the Bitterroot, it was the recreation committee of the resource conservation and development program of Ravalli County, Montana. The Sierra Club got involved late in 1968. Newspapers and magazines across the country ran sensational articles that were very critical of the Forest Service. Radio and television stations followed suit.

In 1969, the Forest Service set up its own task forces to study timber management practices on the Monongahela National Forest. Late that year, Senator Lee Metcalf of Montana asked faculty members of the School of Forestry at the University of Montana to study cutting practices on the Bitterroot National Forest. The resulting Bolle Report was very critical of the Forest Service. Early in 1970, the West Virginia House of Delegates set up a Forest Management Practices Commission to study clearcutting on the Monongahela. All four of these studies were issued in 1970. A third Forest Service study, of Wyoming forests, was issued in 1971. All the studies criticized the Forest Service. The agency's Monongahela task force found the application of clearcutting was abused greatly, and its Bitterroot task force found that clearcutting was overused and there was too little consideration of esthetics. The controversy spread to Alaska early in 1970. The Sierra Club, the Sitka Conservation Society, and Karl E. Lane brought suit against the Department of Agriculture over a big timber sale on the Tongass National

Timber cutter using a powersaw to fell a medium-size western hemlock on the Tongass National Forest. Photo taken by Leland J. Prater in 1957. Photo credit: USDA Forest Service

Forest to U.S. Plywood-Champion Papers, Inc. (now Champion International Corp.). Eventually the contract was cancelled.

The Senate Interior Committee's subcommittee on public lands, chaired by Frank Church of Idaho, held 5 days of hearings on clearcutting in 1971. Ninety witnesses testified in an atmosphere of harsh and polarized conflict between environmentalists and the timber industry. The hearings resulted in a 9-page report that was issued in 1972. It contained 12 guidelines in 3 areas: timber harvest levels, use of clearcutting, and the environmental content of timber sale contracts. They were brief and generally well received. The Forest Service promised to follow them, so the controversy temporarily died down.[13]

As a result of all this, Forest Service officials began to reexamine agency policies. In October 1970, Chief Edward Cliff wrote an interoffice memorandum that was circulated to all agency employees. It said, in part: "Our programs are out of balance to meet public needs for the environmental 1970's and we are receiving mounting criticism from all sides. Our direction must be and is being changed. . . The Forest Service is seeking a balanced program with full concern for the quality of the environment." As a token of this new direction, the Forest Service accepted 13 of the 15 recommendations of the West Virginia Commission.

In 1970, the Forest Service attempted to counteract criticism that it was overcommitted to timber management and clearcutting rather than multiple-use management by adopting a document entitled "Framework for the Future." The document defined a broad range of goals and policies for future action, but it was vague and the goals too general to be implemented. More significant, while never quite confessing major management mistakes, the agency reached out to its antagonists in a way that implicitly acknowledged past errors.

Publicly recognizing and responding to critics was the agency's first step to involve the public in its decisions. It represented a significant departure from the view that foresters alone know what is best for the forest. A second publication had a more developed concept of public involvement. "Timber Management in a Quality Environment," published in 1971, went beyond assertions of improved intentions and used a question-and-answer format, photographs, historical narrative, and a brief primer on harvest techniques to raise and respond to many of the issues posed by Forest Service critics. Public involvement was expanded to mean informing people about what was being done and why. These sincere explanatory efforts proved inadequate and simply increased the outrage of many already angered citizens. Activists sought power to influence decisions, not agency show-and-tell programs.

"The Environmental Program for the Future" was the third stage of Forest Service efforts to involve the public. In it, the agency attempted to translate the goals of "Framework for the Future" into specific management programs tied to particular target dates and a 5-year program budget. It was implemented by introducing the unit planning process on the regional, area, and unit levels. The public was encouraged to participate in setting priorities and land use planning rather than simply being educated by agency personnel. This cooperative planning process explicitly attempted to overcome the timber bias of former multiple-use plans by inventorying and planning for all uses at once. The plans began by assessing land use capabilities rather than production requirements. The system emphasized managing the land rather than using it to yield products. The Forest Service described the new approach as "making plans responsive to the economic and social needs of the people involved," including both rural and urban populations, by involving the public in plan formulation and by continually adapting the plans to change. The first step in this new phase was getting public reaction to the "Environmental Program for the Future." The Forest Service spent much time soliciting and compiling public comments on the new program, then prepared a massive volume to publicize the undertaking and its results.[14] Full implementation of the program, however, was prevented by the major NEPA and Resources Planning Act (RPA) legislation that overtook it.

The evolving public involvement and planning developments were recast and redirected by NEPA's passage. The Forest Service's first reaction was that its activities protected or enhanced the environment already. Several rounds of NEPA litigation broadened its applicability and clarified the

requirements of preparing EIS's. The Forest Service responded by incorporating NEPA's rules into its new planning process, providing for a formal analysis of each project—from the building of a fence to a timber sale. This environmental assessment report concludes with a finding that either an EIS is or is not required.[15]

A major Act affecting Forest Service planning was the Forest and Rangeland Renewable Resources Planning Act of 1974, called RPA for short. It provided for a periodic renewable resource situation assessment that would include: (1) a detailed discussion of present and anticipated uses and demand for and supply of these renewable resources, with consideration of the international resource situation; (2) a general inventory of these present and potential renewable resources and opportunities for improving the yield of tangible and intangible goods and services; (3) a description of Forest Service programs and responsibilities in their interrelationships, and the relationship of these programs and responsibilities to public and private activities; and (4) a discussion of important policy considerations, laws, regulations, and other factors expected to significantly influence and affect the use and management of these lands.[16]

A renewable resource program section was included with the aim of guiding management and development of National Forest System cooperative assistance to State and private forest landowners and Forest Service research. It was to be prepared in relation to the findings of the December 31, 1974, assessment, and every 5 years thereafter. The program was to include: (1) an inventory of a full range of specific needs and opportunities for both public and private program investments; (2) specific identification of program outputs, anticipated results, and benefits associated with investments in such a manner that the anticipated costs could be directly compared with the total related benefits and direct and indirect returns to the Federal Government; and (3) a discussion of priorities for accomplishing inventoried needs. The drive behind the bill was a desire to increase congressional control over national forest management and budgetary decisions.[17]

This effort was partially successful. The Forest Service budget is often regarded as being vulnerable to cuts by the President's Office of Management and Budget when annual presidential budget requests are made. One reason for this vulnerability is that 71 percent of the Forest Service budget is controllable, i.e., within the immediate discretionary control of the President and Congress. Budgets are uncontrollable to the extent that they are affected by programs with fixed provisions of law, and outlays are made as a result of prior-year contracts and obligations. Only 26 percent of the Department of Agriculture budget, including the Forest Service, is controllable—mainly because of food stamp and price support programs. Another reason for the vulnerability of Forest Service budgets is that expenditures for forest and range management often are regarded as postponable in the short term. Since the initial costs are substantial and usually several years away, they tend to be looked upon as easily delayed until more urgent business has been completed.

However, by providing Congress with a long-term funding plan, RPA did increase Forest Service appropriations. In 1977, the first year of the 1975 RPA's effect, they increased 47 percent over fiscal year 1976. They had risen 62 percent between 1971 and 1976, but they increased 94 percent between 1976 and 1981. But RPA has not resulted in more balanced funding. Timber sales administration, management, reforestation, and stand improvement received an average of 97 and 82 percent, respectively, of the amounts called for in the 1975 RPA program. The budget for timber may have been even higher had it not been for a recession in timber prices.

In contrast, recreation, wildlife, and fish habitat management; rangeland management; and soil and water management received averages of 74, 64, 62, and 58 percent, respectively, of the amount called for in the 1975 recommended program.[18] (In 1988 and 1989, recreation and wildlife budgets began to increase significantly.)

The National Forest Management Act

The Izaak Walton League brought suit against Forest Service timber harvesting methods in Federal District Court in West Virginia. The 1973 decision stated that the harvesting of timber on the Monongahela National Forest violated the Organic Act of

1897, which provided that "dead, matured, or large growth of trees" could be sold. Since clearcutting was being used, the Forest Service was in violation of the Act. The Fourth Circuit Court of Appeals affirmed the decision in 1975, and said that Congress should resolve the issue. Late in 1975, the Federal District Court for Alaska enjoined clearcutting on the Tongass National Forest, including timber that had already been sold. In response, Congress passed the National Forest Management Act of 1976 (NFMA).

NFMA was basically a bill introduced by Senator Hubert Humphrey (D) of Minnesota. It was an amendment to RPA, which removed the restrictive wording on timber harvesting in the 1897 Organic Act. Legislative action was badly needed because strict application of the Monongahela court decision could have halved national forest timber sales, resulting in reduced supplies of wood products and rapid increases in their prices.[19] NFMA's central purpose was to reform national forest timber management policies. The Act imposed substantive restrictions on timber harvesting in the national forests and became the Forest Service's new organic Act. It established the strongest environmental and silvicultural controls ever imposed by statute legislation dealing with the national forests.[20] But forest management prescriptions were substantially fewer in number and less detailed than in the bill introduced by Senator Jennings Randolph of West Virginia, although some of Randolph's rules were included. The rules are implemented through regulations developed by the Secretary of Agriculture.[21]

NFMA also expanded and refined the forest assessment and planning requirements of RPA. It reaffirmed and further defined the concept of multiple-use sustained yield management, and outlined policies and procedures for land management planning. The Act guaranteed the public full opportunity to participate in land and resource planning for national forests.

The Act states that timber will be harvested from National Forest System lands only where: (1) soil, slope, or other watershed conditions will not be irreversibly damaged; (2) there is assurance that such lands can be adequately restocked within 5 years after harvest; (3) protection is provided for streams, streambanks, shorelines, lakes, wetlands, and other bodies of water from detrimental changes in water temperatures, blockage of water courses, and deposits of sediment, where harvests are likely to seriously and adversely affect water conditions or fish habitat; and (4) the harvesting system to be used is not selected primarily because it will give the greatest dollar return or the greatest unit output of timber.

The Forest Service must ensure that clearcutting, seed tree cutting, shelterwood cutting, and other cuts designed to regenerate an even-aged stand of timber area are used only where: (1) for clearcutting, it is determined to be the optimum method to meet the objectives and requirements of the relevant land management plan; (2) the interdisciplinary review has been completed and the potential environmental, biological, aesthetic, engineering, and economic impacts of each advertised sale have been assessed, as well as the sale's consistency with the multiple use of the general area; (3) cut blocks, patches, or strips are shaped and blended to the extent practicable with the natural terrain; (4) the maximum size limits for areas to be cut in one harvest operation are established according to geographic areas, forest types, or other suitable criteria; and (5) such cuts are carried out in a manner consistent with the protection of soil, watershed, fish, wildlife, recreation, aesthetic resources, and the regeneration of the timber resource.[22]

The core of NFMA is the provision of standards and guidelines for national forest land management planning, which are to be put into effect through regulations developed by the Secretary of Agriculture. The Secretary was directed to appoint a committee of scientists outside the Forest Service to assist in developing the regulations. Seven college professors were chosen. They reviewed the draft regulations at 18 public meetings. The final regulations went into effect November 5, 1979. They were divided into an introduction, a part detailing the planning procedures, and a part on management standards and guidelines for vegetation manipulation, timber harvesting, protection of riparian habitat, conservation of soil and water resources, maintenance of diversity of plant and animal species, and timber harvest scheduling.

The planning process was designed to take place continuously among national, regional, and individual forest levels. Forest plans were required to address the goals, targets, and objectives contained in the regional plan and to give on-the-ground direction. Planning information goals, targets, and objectives were to flow downward, while information on resource inventories and productive capabilities was to flow upward. The technical quality of the regulations was revised again by the Secretary of Agriculture for simplification, but the revisions caused such controversy that they were again expanded, until they were finally issued on September 30, 1982.[23] NFMA was the most significant law affecting the management of the national forests since the Organic Act of 1897. Before, there had been little congressional and judicial action restricting on-the-ground management of the national forests. NFMA pushed deep into the agency's traditional autonomy with substantive restrictions, almost all of which revolve around timber harvesting. Congress accurately perceived that most Forest Service actions flow from its timber program. NFMA required that the Forest Service involve the public more in its decisionmaking and hire people trained in disciplines other than forestry and engineering.

Timber remains very important to the Forest Service. Until 1988, its budget was heavily tilted toward timber. Half of all Forest Service professional employees are foresters. Many of the draft NFMA plans are oriented toward timber production. But during the last several years, NFMA has demanded that national forest staffs vastly expand their knowledge about other resources.

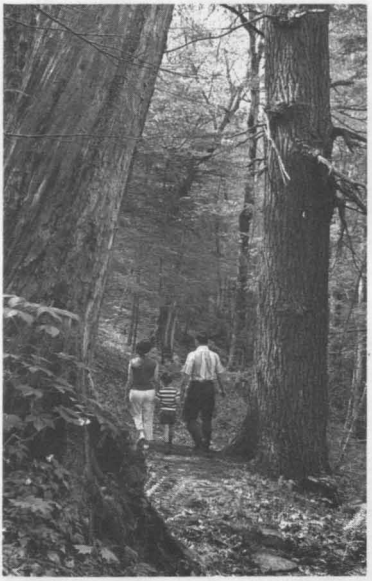
NFMA is one of the most ambitious public land programs ever undertaken. It seeks to preserve the best of traditional practices and procedures that effectively met the needs of fewer people in simpler times.[24]

The environmental movement, of course, has encompassed much more than the issue of timber harvesting. The Federal Environmental Pesticide Control Act of 1972, which amended a 1947 Act, was the first instance of strong Federal control over the application of pesticides. It also placed authority for implementation with the Environmental Protection Agency (EPA), instead of the Department of Agriculture. Amendments passed in 1975 established coordination between the two agencies. A number of pesticides of importance to forest and range managers have been reviewed to determine whether they should be reregistered. These include 2, 4, 5-T, and related herbicides used in plant control and site preparation; endrin, which protects seed from rodent predation in direct seeding operations; and lindane and benzene hexachloride, which are used against woodboring beetles. There are exemptions for Federal and State agencies to use unregistered chemicals in emergencies. In 1973, there was a severe outbreak of Douglas-fir tussock moth in the Pacific Northwest. The Forest Service and the States of Washington and Oregon requested an emergency use permit for DDT, which had been banned in 1972. The EPA granted the permit in 1974, too late to prevent heavy losses of timber. Forest Service policy is now to avoid or postpone the use of problem pesticides, and the Department of Agriculture is committed to developing pest control policies that deemphasize chemical methods.[25]

Two other Acts, the Federal Water Pollution Control Act of 1972 and the Clean Water Act of 1977, have greatly impacted forestry and range management activities, both at the Federal and State levels. The 1972 Act has also illustrated the power of citizen suit provisions in environmental legislation. Sections 208 and 404, which have strong implications for the control of forestry and range activities, both derived their present form from a suit brought by the Natural Resources Defense Council.[26]

Recreation

Recreation encompasses a broad range of activities, including automobile sightseeing, roadside camping, hunting, fishing, hiking, and snowmobiling. The national forests provide 40 percent of all recreational use of Federal lands. One-quarter of the recreational use of national forests is on campgrounds, picnic areas, and similar facilities. Ski resorts, summer homes, and other private facilities in national forests operate under special use permits issued by the Forest Service. These privately operated facilities provide only one-tenth of total recreation use days, yet they contribute over $16 million in receipts.



Family on hiking trail on Pisgah National Forest, Craggy Mountain Scenic Area, in 1966. Photo: USDA Forest Service

Because recreation is a personal and social phenomenon, rather than a physical commodity like water, timber, or forage, planning for it requires different inventory data and management concepts than does planning for other resources. The subjective nature of the recreation experience also makes it more difficult to compare the value produced by recreation management to the value created by commodity resource management.

Recreation was viewed as a secondary, incidental use of the national forests until after World War I. Gifford Pinchot, the founder of the Forest Service, believed that timber production, grazing, and water power took precedence. Congress first recognized recreation as a use of the national forests in 1915, when it authorized the Forest Service to grant permits to build summer homes, stores, and hotels in the national forests. The Forest Service began to give serious consideration to recreation in national forest planning. Recreation visitors tripled in number between 1917 and 1924. In 1919, Pinchot's successor, Henry Graves, suggested modifying timber sales to protect scenic features, roads, camping places, and the like against loss of attractiveness. In 1921, Chief William Greeley declared recreation to be a major use of the national forests. Also in 1921, forester Aldo Leopold published an article urging that developed recreation sites and resource exploitation should be excluded from large areas where wilderness recreation was the highest use.

The Forest Service's departure from its original doctrine met with resistance both from inside and outside of the agency. Congress at first refused to appropriate funds for recreation, claiming that the National Park Service was in charge of recreation on Federal lands. Approval came gradually. By the 1940's, many elements of the Forest Service's current recreation planning system were already in place. They included visual management of highway and water corridors, limitations on motorized recreation, and classification of land areas for various types of recreation use.

After a temporary decline during World War II, use of national forests for recreation increased and diversified rapidly. Although funds increased, they could not keep up with demand. The increase in recreational use provoked conflicts among different recreation interests, as well as between recreationists and commodity interests. Proposals for ski areas and other developed sites encountered resistance from some conservation groups.

In 1960, MUSYA confirmed the Forest Service's authority to regulate recreation use and put outdoor recreation first in its list of multiple uses. In 1964, the Wilderness Act reaffirmed Forest Service wilderness areas and permitted future expansion of the system. In 1965, the Land and Water Conservation Fund Act authorized the Forest Service to purchase recreation lands and to charge user fees. In 1968, the Wild and Scenic Rivers Act gave priority to recreation over water development projects on rivers so classified. The National Trail System Act of 1968 forbade motorized vehicles on certain scenic trails. Also, Congress began to create national recreation areas (NRA's) on national forest lands. Each NRA was established by statute that gave detailed management direction.

The Forest Service undertook a three-part recreation planning effort in the early 1960's. Recreation management plans inventoried and classified all suitable lands

in each national forest. Composite plans gave management direction for specific areas with outstanding recreational features. Multiple-use plans identified visually sensitive areas as travel and water influence zones.

In 1973, the Forest Service began a new landscape management program to broaden consideration of visual resources throughout an entire forest rather than only the most scenic or heavily travelled areas. During the early 1970's, there was controversy over motorized recreation. In 1972, President Nixon issued an executive order requiring the agency to designate specific areas and trails of the national forests where the use of off-road vehicles (ORV's) would be permitted, and other areas where they would be excluded. By 1978, plans had been completed for 150 of the 154 national forests.[27]

Although in most cases the Forest Service recreation program was successful, in one instance it was strongly resisted when it conflicted with wilderness preservation. In December 1965, the Forest Service accepted the proposal of Walt Disney Productions for a large recreational development in Mineral King Valley, part of Sequoia National Forest bordering on Sequoia National Park in the California Sierras. A major part of the plan was for a ski area. In January 1969, the Forest Service accepted Disney's master plan, but before it issued a 30-year permit, the Sierra Club successfully filed suit in a Federal court in San Francisco to stop the project.[28] Finally, in the spring of 1978, Congress made Mineral King Valley a part of Sequoia National Park.

The Forest Service's authority over recreation has been affirmed by a series of court decisions interpreting the Organic Act of 1897 and MUSYA. NFMA regulations specifically require planning for recreation on lands not dedicated by law for any particular purpose. The regulations apply to zoning, visual resources, and ORV's. Zoning of land and water for various recreation uses is a traditional function of Forest Service planning that has become even more important in the NFMA planning process. NFMA regulations require that a broad array of outdoor recreation opportunities be included in national forest plans. The Forest Service has generally met this need through a planning system called Recreation Opportunity Spectrum (ROS). Its basic objective is to provide a diverse set of recreation opportunities to satisfy the wide range of public tastes and preferences. The ROS system divides recreation activities, settings, and experiences into six classes ranging from "primitive" to "urban."

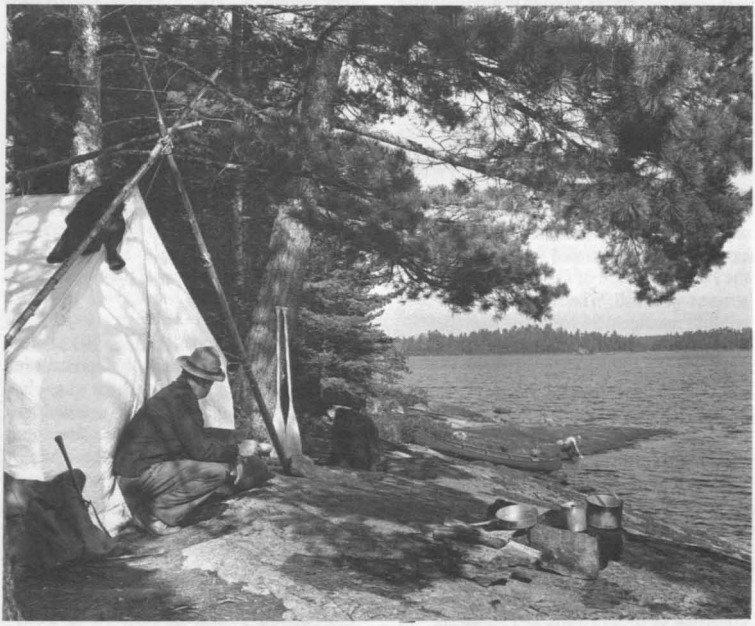
NFMA regulations call for judging the landscape's visual attractiveness and the public's visual expectation. Planners must set visual quality goals for land use zones, ranging from preservation to maximum modification. The Forest Service has broad discretion to set visual quality objectives to control the effect of various uses on visual resources, including ski resorts, mining, and timber harvesting.[29]

ORV use has increased pressure on national forests because it has caused more air, noise, and visual pollution. In particular, noise pollution disrupts wildlife and impairs the enjoyment of other recreationists. The forest plans drawn up under NFMA must minimize: (1) damage to soil, watershed, vegetation, and other resources; (2) harassment of wildlife and disruption of habitat; and (3) conflicts between ORV use and other recreation users.

The national forests encompass many rivers designated as wild, scenic, or recreational rivers by the Wild and Scenic Rivers Act of 1968. This Act requires Federal agencies to study rivers designated by Congress as potential additions to the system. The Act tells the agencies to consider potential Wild and Scenic Rivers in all planning for the use and development of water and related land resources.[30] In 1981, the Forest Service began evaluating such rivers.

Mining

Although not mentioned in MUSYA, minerals are an important resource of the national forests. The Surface Resources or Multiple-Use Mining Act of 1955 was passed to combat widespread abuses of the General Mining Law of 1872. It allowed multiple use of the surface resources of forest land under Forest Service management. Miners locating claims no longer had the right to exclusive possession of the area within their claims. This provision closed off a way often used to gain access to valuable timber stands or recreational lands. During the 1960's, the Forest Service studied the effects of strip and surface



Canoe camp on Superior National Forest, Boundary Waters Canoe Area, in 1961. Photo: USDA Forest Service

mining on the other forest resources and investigated various reclamation methods.

In 1969, American Smelting and Refining Co., applied for a special use permit to build an 8-mile access road into a molybdenum claim, located in a very scenic and remote area of the White Cloud Mountains in Idaho. Conservationists objected because the project posed a threat to wildlife, water quality, and scenic values. The Forest Service held three public hearings on the issue. The company then withdrew its application and suspended work on the claim. Since then, there has been no development on the claim because of its political sensitivity and a declining market for the mineral.[31]

The Forest Service issued new mining regulations in 1974, which were influenced by NEPA. They have greatly strengthened local Forest Service control over mining operations. The hardrock miner must file a notice of intent with the local district ranger for any operation that might cause resource disturbance. If the ranger concludes that it will likely cause significant disturbance, the miner must submit a plan of operations. The final plan must include surface environmental protection and reclamation requirements, as well as a bond to cover costs of damage or unfinished reclamation. The Forest Service can also ask the Bureau of Land Management (BLM) to initiate a challenge to the validity of unpatented (unproven) claims in western national forests.

The Mineral Leasing Act of 1920 governs leasable minerals, particularly oil, gas, oil shale, and coal. The BLM issues the leases in cooperation with the Forest Service. Coal leasing in national forests is subject to the Surface Mining Control and Reclamation Act and coal leasing amendments of 1975. It requires that national forest lands deemed unsuitable by the Forest Service for surface coal mining be withdrawn from entry.[32] The Mining and Minerals Policy Act of 1970 reaffirms the policy of the Federal Government to encourage private enterprise in the development of economically sound and stable domestic mining and mineral industries, as well as the orderly development of domestic mineral resources. The National Materials and Policy Act of 1980 strengthened the 1970 Act. Although neither RPA nor NFMA mention minerals as a resource, the 1979 NFMA regulations

instructed the Forest Service to significantly expand its minerals planning program.[33]

Wildlife

Forest Service wildlife work at first meant killing predators to protect game and domestic livestock. About 1915, the agency closed certain limited range areas to livestock grazing in order to protect game animals and birds from molestation or extinction. It cooperated with States and the Federal Bureau of Fisheries in stocking streams with fish. The major objective of wildlife management (or game management, as it was then called) was to provide good hunting and fishing.

In 1936, the Forest Service created a Division of Wildlife Management in the Washington Office. An area of the Los Padres National Forest was closed to protect a colony of California condors. During World War II, the division was greatly reduced. Several years passed before wildlife management returned to its prewar level. Wildlife habitat management consisted of coordinating and adjusting other resource management and cooperative habitat improvement projects with the States. MUSYA stated for the first time that fish and wildlife management was an important purpose of the national forests. But it maintained state control of wildlife on national forests, with the Forest Service limited to managing habitat.[34]

After 1960, the Forest Service implemented a species richness program in the East and Midwest to maintain viable numbers of many different kinds of animals within a national forest. (Until the late 1970's, this meant mainly game species or threatened and endangered species as covered in the Endangered Species Act of 1973.) The featured species program was applied primarily in the Southeast and was adapted to southerners' interest in specific animals such as deer, squirrels, and turkeys. It accomplished much the same thing. A national forest would be broken up into units, each of which emphasized a different species. The end result was the promotion of several different animal populations within a national forest or group of national forests.

These programs focused on species whose habitat needs could be defined and then meshed with the production of timber or other resources. The concept was ideal for dealing with rare, threatened, or endangered species, particularly those who habitats were threatened by other resource management activities. The system was much more difficult to implement with nonthreatened species. Choosing one particular species might result in management being undertaken that was incompatible with the needs of other species. At that time forest managers were often reluctant to reduce timber production to accommodate wildlife needs, especially if they were nonthreatened.[35]

The Endangered Species Act of 1973 listed required limits on all land use decisions that might adversely affect the habitat of any threatened or endangered species listed by the Secretary of the Interior. For other species, the Forest Service could establish wildlife management priorities in relation to forest resources.[36]

NFMA treats wildlife management in several ways. The provisions dealing with fish habitat are quite specific. National forest planning must "provide for diversity of plant and animal communities based on the suitability and capability of the specific land area in order to meet overall multiple-use objectives."[37] This provision was meant to limit timber management, including the conversion of hardwoods to conifers in eastern national forests. It requires agency planners to treat wildlife as an equal factor in forest management and as a limitation on timber production.

NFMA regulations for wildlife require: (1) that populations of forest vertebrates be maintained and distributed well in each national forest; (2) that certain species be used as indicators of the effects of management on forest ecology; and (3) that regulations limit management practices that result in adverse effects on fish habitat.[38]

Monitoring wildlife populations is one of the major tasks facing Forest Service planners. NFMA regulations provide that "population trends of the management indicator species will be monitored and relationships to habitat changes determined." Monitoring the populations of management indicator species is required to confirm and, if necessary, modify assumptions about the effects of timber harvesting and other management activities on wildlife. In order to meet this

requirement, planners must obtain adequate inventories of wildlife populations and their distribution. NFMA regulations have significantly increased the role of wildlife planning in the Forest Service. Their principal objective is to provide sufficient habitat to sustain viable and well-distributed wildlife populations on all the national forests.

The Forest Service generally has chosen not to test the extent of its organic authority to regulate wildlife. However, in the mid-1920's, it disregarded State game laws and hired hunters to reduce an explosive deer herd on the Kaibab National Forest in Arizona in order to protect the rangelands and young trees from destruction by overgrazing. This power was upheld by the Supreme Court. In 1934, the Secretary of Agriculture issued regulations giving him the authority to set hunting and fishing seasons, set bag and creel limits, and collect fees if he determined a State was not doing an adequate job. These regulations angered the States and were replaced in 1941 by ones that recognized the States' authority to control the taking of most fish and game. These regulations are still in effect.[39]

The Forest Service has cooperated with the States on wildlife matters since 1905. In 1970, the PLLRC recommended that formal cooperative agreements be used to coordinate Federal and State wildlife programs. The Sikes Act Extension of 1974 enacted this recommendation into law. It permits the States and the Forest Service to plan and put into effect wildlife habitat construction and improvement programs. These agreements must include provisions for range rehabilitation, control of ORV's, and protection of species listed as threatened and endangered.[40]

NFMA stipulates coordination of land management planning with the planning processes of State and other Federal agencies. It calls for consultation with State fish and wildlife biologists to coordinate planning. The monitoring of management indicator species is to be done cooperatively with State agencies. The Forest Service obtains most of its inventory data from the States.

Wilderness

From 1972 to the present, the issue of roadless areas (formerly called de facto wilderness) has been at the forefront of wilderness politics. Congress continued to pass individual wilderness bills based primarily on primitive area studies, but they were overshadowed by several "omnibus" wilderness initiatives and the Forest Service's Roadless Area Review and Evaluation (RARE) studies.

In 1967, the Forest Service manual directed regional foresters to review and report by 1969 on roadless areas that might have wilderness potential. Later, that deadline was changed to 1972. The Lincoln-Scapegoat controversy had shown Forest Service officials the growing importance of de facto wilderness and convinced them of the need to conduct national RARE studies.

Associate Chief John McGuire, who was promoted to chief in 1972, recalls that he "sold" the idea to high-level departmental officials by arguing that the recently signed NEPA-required EIS's before roadless areas could be developed and that RARE would constitute a national EIS. But he also remembers that neither he nor most of his Forest Service colleagues foresaw the full implications of NEPA. They thought the Act called for relatively brief impact statements and not the massive, detailed tomes that the courts eventually required in most cases of Federal actions affecting individual sites.

Between the fall of 1971 and the summer of 1972, the Forest Service inventoried and studied 1,449 roadless areas containing 55.9 million acres. The agency held 300 meetings and received more than 50,000 written and oral comments, which, at that time, made RARE the most extensive public involvement effort ever undertaken by the Federal Government. The agency selected a list of 274 areas that could be protected while undergoing further study (the New Wilderness Study Areas). They consisted of 12.3 million acres, of which 4.4 million previously had been committed to study either by the Forest Service or Congress.

The Forest Service's hope that RARE would settle the problem of roadless areas was dashed when the Sierra Club sued it for attempting to log an area in California that had been found unsuitable for further wilderness study. The Circuit Court issued a preliminary injunction in August 1972, but before the case went to trial the Forest

Service Chief issued instructions to comply with NEPA before developing any roadless area. In most cases, this meant writing an EIS before developing an area. The court then dismissed the Sierra Club suit.

At that same time as the Forest Service was preparing for RARE, its employees were discussing alternatives for managing undeveloped areas in national forests east of the 100th meridian. Public pressure for the designation of wilderness areas in the East had developed slowly after the passage of the Wilderness Act, which placed only two such areas into the wilderness system.

In the summer of 1971, the regional foresters in Milwaukee and Atlanta proposed a "Wildwood Heritage System" (soon changed to "Wild Areas") that was to be distinct from the National Wilderness Preservation System. The public first became aware of Forest Service plans when Associate Chief John McGuire spoke before the Sierra Club's Biennial Wilderness Conference in Washington, DC, on September 24, 1971. McGuire told the audience that the Forest Service wanted to provide "primitive outdoor recreation opportunities" in the East, but in a way that would not place eastern areas in the Wilderness System. According to the agency's "purity" doctrine, eastern areas, almost all of which had once been cut-over and showed the imprint of past human activity, could not qualify as wilderness. Forest Service officials feared that if cut-over eastern areas were allowed into the system, a precedent would be established that could be used to permit the designation of "substandard" western areas.

McGuire's speech provoked a vigorous debate with and within the environmental community. The Wilderness Society was adamant in its insistence that eastern areas could qualify as wilderness. Some leaders in the Sierra Club, however, were willing to compromise with the Forest Service in the hope that eastern areas might be protected in a separate "Wild Areas" system. The Sierra Club eventually endorsed the Society's position, but not before there had been difficult meetings and some bad feelings between officials of the two organizations.

In 1973, the Senate Interior Committee (later the Energy and Natural Resources Committee) and Agricultural Committee agreed to share jurisdiction over eastern wilderness legislation, with the understanding that eastern areas would be protected under the Wilderness Act of 1964. By early 1973, the Forest Service had dropped the idea of a separate "Wild Areas" system. On January 3, 1975, President Gerald Ford signed into law the "Eastern Wilderness Act" (it actually had no name) designating 15 wildernesses and 17 wilderness study areas.[41]

In 1976, the Sierra Club thought the time was ripe to introduce the first omnibus western wilderness bill since the Wilderness Act of 1964. Most of the areas they chose were near western cities and had been excluded by the Forest Service for wilderness recommendation because they were subject to urban sights and sounds, which was the agency's last variation of its "purity" doctrine. The areas were encompassed within proposed legislation known as the Endangered American Wilderness Bill.

During most of 1976, congressional mail had been running against the bill, but by autumn the Sierra Club's campaign gained momentum, and Congress began to receive more mail and delegations of citizens favoring the bill. President Jimmy Carter's election in November 1976 considerably increased the chances that the bill would pass. During the election, Carter's staff had promised the environmentalists strong support and, in one case, had even gone beyond what they had asked for by offering to place a development moratorium on all roadless areas.

The Endangered American Wilderness Bill was still being debated (it was signed in early 1978) when Rupert Cutler became the new Assistant Secretary of Agriculture responsible for the Forest Service. Cutler had been an assistant director of the Wilderness Society before becoming a professor of natural resources at Michigan State University. Previously, the Forest Service had not taken a position on the bill, but Cutler persuaded agency officials to support it. However, Cutler had some reservations because although he was urging the Forest Service to liberalize its definition of wilderness, he did not have any criteria by which to judge whether the endangered areas were worthier of wilderness designation than the hundreds of other roadless areas in the National Forest System.

The prospect of Cutler as assistant secretary distressed some timber industry officials because of his former tenure with the Wilderness Society. Cutler met with some of them and expressed sympathy for their difficulties in making investment decisions when so much national forest land was either being studied for wilderness designation or was tied up in lawsuits.

Cutler decided to begin a second roadless inventory soon, called RARE II. Unlike RARE I, which only selected areas for further study as wilderness, he wanted as much as possible to resolve the uncertainty by recommending some areas for wilderness designation and "releasing" others. He proposed a national EIS to satisfy the requirements of NEPA. Forest Service officials did not think the idea would work and would not have done it if left to their own devices, according to Deputy Chief R. Max Peterson, who became chief in 1979. But once the order was given, the agency responded with enthusiasm. For the next year, the agency studied 62 million acres of roadless land on all of the national forests. In the process, the agency identified many potential wilderness areas of which environmentalists were not aware. Over 200,000 public responses were received, ranging from preprinted postcards to detailed letters.

On January 4, 1979, the Forest Service released its findings. It recommended 15 million acres for wilderness, 36 million acres for nonwilderness, and 11 million acres for further planning. The timber industry, which had done a good job getting its constituency to send in letters and cards, was relatively pleased with the results, although it was reluctant to admit it publicly. The environmentalists were disappointed, especially in Oregon and Washington where the amount of land recommended for wilderness was small.

After announcing the RARE II results, the Carter administration declared that all nonwilderness lands would be released for other uses under the first cycle of forest plans mandated by NFMA. The Sierra Club and the Wilderness Society did not want to sue the Forest Service because they feared that Congress might permanently release land that the agency had not recommended

for wilderness designation. However, the California Department of Natural Resources decided not to follow the advice of the wilderness organizations and brought its own suit. As a result, a Circuit Court enjoined development on 47 California roadless areas mentioned in the suit.

This lawsuit brought to the forefront the issue of "release," which was to occupy the Forest Service for the next 4 1/2 years. In 1980, Congress passed wilderness bills for the States of Colorado and New Mexico covering areas studied in RARE II. These bills stated that land considered for but not designated as wilderness would be released for other uses during the life of the first forest plans, or about 10 to 15 years. If after that period they were still undeveloped, the Forest Service could once again recommend them for wilderness designation. This formula became known as "soft" release to distinguish it from permanent or "hard" release. The Colorado, New Mexico, and Alaska bills were the only statewide wilderness bills passed during the Carter administration.[42]

Proposed Reorganization

Since the administration of Warren Harding, there have been attempts to move the Forest Service out of the Department of Agriculture into a reconstituted Department of the Interior. The Nixon administration proposed such an action. It also sought to make the Forest Service conform to the structure of "ten standard regions" followed by many other Federal agencies. Both of these proposals were overtaken by the Watergate crisis and dropped.

The most serious effort of the postwar era came during the Carter administration. President Carter pushed for the creation of a new Department of Natural Resources that would be composed primarily of Department of the Interior agencies and the Forest Service. Proposals of previous administrations had been thwarted in part because of the timber industry's opposition. This time the Carter administration secured the industry's neutrality when it agreed not to make a large RARE II wilderness recommendation in the Pacific Northwest. But this was still not enough to overcome congressional resistance, so the plan was abandoned in 1980, when the administration was preoccupied with the Iranian hostage crisis.

Three Forestry Bills

Three forestry bills were passed in 1977: the Cooperative Forestry Assistance Act, the Forest and Rangeland Renewable Resources Research Act, and the Renewable Resources Extension Act.

From its earliest days, the Forest Service has been giving forestry assistance and advice to States and private landowners. One of the agency's three divisions, State and Private Forestry, is devoted to this work. The Cooperative Forestry Assistance Act brought together in one statute authority for 10 programs in cooperative assistance: cooperative forest fire control and cooperative tree seed and plant production previously authorized by the Clarke-McNary Act of 1924; general forestry assistance previously authorized by the Department of Agriculture Organic Act of 1944; forest insect and disease management previously authorized by the Forest Pest Control Act of 1947; cooperative forest management and urban forestry previously authorized by the Cooperative Forest Management Act of 1950; cooperative tree improvement previously authorized by the Agricultural Act of 1956; rural community fire protection previously authorized by the Rural Development Act of 1972; the forestry incentives program for tree planting and timber stand improvement previously authorized by the Agriculture Act of 1970 and the Agriculture Consumer Protection Act of 1973; and white pine blister rust control previously authorized by the Act of that name of 1940.

The Cooperative Forestry Assistance Act: (1) integrated the cooperative tree seed and plant program, the cooperative forest management program, and the cooperative tree improvement program into one program of rural forestry assistance; (2) authorized financial assistance to State foresters to carry out silvicultural practices on non-Federal lands when private vendors of such practices are not available; (3) clarified the role of the State forester in the administration of the forestry incentives program; (4) limited the benefits of the incentives program generally to owners of 1,000 acres or less of private forest land; (5) expanded the forest insect and disease program to the protection of wood products, stored wood, and wood in use; (6) integrated the cooperative forest fire program with the rural community fire protection

John Benzie counting reproduction on a mixed swamp conifer study plot, Dukes Experimental Forest, North Central Forest Experiment Station. Photo: USDA Forest Service

program; (7) established a rural fire disaster fund that would be available to the Secretary of Agriculture to assist States overwhelmed by a disastrous fire situation; and (8) formally established programs in management assistance, planning assistance, and technology implementation.

The Research Act authorized a comprehensive research program for forest and rangeland renewable resources, while repealing the existing, more restricted authority of the McSweeney-McNary Act of 1928. The Act authorized the Secretary of Agriculture to conduct a comprehensive program of renewable resources research in management, environment, resource protection, resource utilization, and resource assessment.

The Renewable Resources Extension Act authorized an expanded extension program to increase yields of forest and rangeland renewable resources from private lands through education. Funding of the Cooperative Forestry Assistance Act is the same as funding of the State and Private activities of the Forest Service, which have been funded at levels substantially less than those called for in the 1975 and 1980 RPA recommended programs. The 1980 RPA program called for a reduced role for State and Private Forestry. Implementation of the Extension Act has been frustrated by a lack of funding.[43]

Grazing

More land in the national forests is used for grazing domestic livestock than for any other economic use. The national forests contain 50 million acres of open rangeland, more than one-fourth of the entire system. The Forest Service also permits grazing on roughly an equal amount of forested land, raising the total to 102 million acres. Grazing is light in many areas and is usually seasonal due to the high elevation of most national forests. Commercial grazing is limited to permit sufficient forage for wildlife and to prevent the land from overgrazing.

Grazing income is not large. Fees have always been below the market value and agency costs for grazing management always exceed revenues. During the early 1980's, the Forest Service permitted 1.4 million cattle and 1.2 million sheep and goats to graze for an annual return of about $8.6 million.[44]

Passage of the 1891 amendment creating the forest reserves marked a change in Federal range policy. The Government continued to ignore grazing on public domain lands, but began to regulate grazing on the new forest reserves. At first, attention was directed to the destructive effects of sheep grazing. Although Congress did not mention grazing in the 1897 Organic Act, the Department of the Interior used its general statutory authority to regulate occupancy and to impose severe restrictions on sheep grazing. Naturally, sheepherders were outraged and were able to get the order modified. An annual permit system was established for all livestock in December 1901, and an order of preference was established for permit applicants in January 1902. The next month, the Department of the Interior decided to allow sheep owner associations to recommend the allotment of grazing permits, provided they ensured that all rules were followed. By 1903, the grazing permit system was forcing reductions in the number of livestock grazing on the national forests. Sheep owners and cattleowners competed fiercely for permission to graze. Many graziers who did not get permits simply ignored the regulations. The General Land Office obtained injunctions against unauthorized grazing in some cases, but could not get indictments.

After the Forest Service took over the reserves in 1905, several criminal prosecutions were upheld, however. In 1906, fees were imposed. Graziers' hostility to fees was mollified by recognizing advisory boards appointed by livestock associations. The boards consulted with the Forest Service on numbers and distribution of livestock. But trespass cases increased. In May 1911, the U.S. Supreme Court upheld the Forest Service's right to regulate grazing and to charge grazing fees.[45]

The Forest Service reduced livestock grazing when it was found that the range was being damaged by too many animals. These restrictions were removed temporarily after the United States entered World War 1. When the excess livestock was removed, ranges were found to have been damaged, requiring further reductions. The Forest Service began to prepare range management plans for each grazing allotment, in cooperation with the permittees. In 1925, 10-year permits were issued to qualified applicants. Between the world wars, grazing was reduced by more than 50 percent, and big-game wildlife use more than tripled. By 1947, the reductions had provoked intense hostility among stockmen and strong political opposition in the West. The National Livestock Association asked Congress to curtail Forest Service authority. The House Public Lands Committee conducted public hearings in the West and made six recommendations, including a 3-year moratorium on permit reductions. The Secretary of Agriculture accepted all of them except the moratorium. Congress did not Act on the question and the controversy subsided.

Three statutes enacted in the 1970's provide general guidance for Forest Service range planning: the Federal Land Policy and Management Act of 1976 (FLPMA), the National Forest Management Act of 1976 (NFMA), and the Public Rangelands Improvement Act of 1978 (PRIA).

FLPMA requires Forest Service planners to consult with the allottees, to plan for range improvements, and to prescribe how livestock operations will be conducted. The Act gives the agency broad discretion to modify the numbers of stock and set limits on seasonal use of grazing lands. Grazing permits and leases are subject to cancellation, suspension, or modification, in whole or in part. agency planners are authorized to reexamine range conditions at any time and to adjust grazing accordingly. In general, current allottees must receive preferences on permit renewals. For the most part, the Act confirmed existing Forest Service practices.

NFMA requires that resource plans and permits be consistent with land management plans. One NFMA regulation requires planners to identify lands suitable for grazing and browsing, determine their present and future condition, and plan appropriate action to restore lands that have deteriorated. This basically restates the central purpose of Forest Service range policy. The regulation also protects wildlife on the range.[46]

PRIA established a national policy of improving soil quality, wildlife habitat, watershed, plant communities, and other elements of range condition. The PRIA also amended FLPMA to emphasize that allotment management plans must have assistance from the allottee, advisory

boards, and State agencies. Third, the allotment management plans must be geared to the specific range conditions and must be reviewed periodically to find whether they have improved range conditions. Finally, Congress directed the Forest Service to begin experimental stewardship programs, a provision with potentially far-reaching effects on range planning. Their purpose is to motivate grazing allottees to improve range conditions by reducing grazing fees, which continue to be a periodic source of controversy. Allottees are allowed to spend up to one-half of their grazing fees on range improvements such as fences, stock ponds, and stock trails. The program is intended to benefit ranchers by reducing grazing fees, and the Forest Service by improving range conditions without additional appropriations. Congress has rarely faulted traditional Forest Service grazing policy; consequently, rigorous legislative standards have not been imposed.[47]

In recent years, Congress has intervened directly only once in the management of Forest Service rangelands. During RARE II, some ranchers feared that they would no longer be able to construct range improvements and use motorized vehicles in areas that became designated wilderness. Before RARE II, most of the land that went into the Wilderness System had been administered as wilderness or primitive areas for many years by the Forest Service. In most cases, grazing improvements and motorized equipment had been kept out of these areas. However, this was not the case with roadless areas in RARE II. Many of them were being used under normal Forest Service grazing procedures. Improvements and motorized equipment were common in some of these areas. Environmentalists predicted that a strict interpretation of the Wilderness Act's grazing provision would stir up political opposition and would keep some areas out of the Wilderness System. The Forest Service did not want wilderness grazing to become so permissive that it violated the Wilderness Act.

The House Subcommittee on Public Lands successfully mediated among the Forest Service, the environmentalists, and the livestock industry. Its staff drew up guidelines that permit the upkeep of improvements and the use of motorized equipment where such practices had been customary before an area went into the Wilderness System. The Forest Service agreed to apply these guidelines throughout the National Forest System, albeit with some initial reservations about their conformance with the Wilderness Act's ban on motorized vehicles. The guidelines were given greater authority when the Colorado Wilderness Act of 1980 directed the Forest Service to implement them on all the national forests. In November 1980, the agency distributed a list of "questions and answers" dealing with practical situations in wilderness grazing to all field units. The guidelines and the Forest Service's practical instructions appear to have solved the problem, for there has been general peace on the wilderness range since their promulgation in 1980.[48]

During the last year of the Carter administration, the so-called "Sagebrush Rebellion" erupted in the West. Legislatures in Nevada and Wyoming passed bills calling for the transfer of Federal land to the States. For the most part, these bills were a reaction to the passage of a new organic Act for BLM, FLPMA. The BLM administers several hundred million acres of land in the West, many of which are contiguous to national forests. Before 1976, commodity interests (graziers, miners, oil companies, and the timber industry) were BLM's principal clients. By recognizing wildlife, recreation, and wilderness as additional uses of BLM land, the agency became more like the Forest Service.

The resentment of some western constituencies against FLMPA and other aspects of Federal land management helped elect Ronald Reagan as president. After carrying all of the States west of the Mississippi, he came into office promising to increase economic activity on public lands. His first response was to appoint James Watt, Director of the Mountain States Legal Foundation, as Secretary of the Interior. Watt was a committed foe of eastern environmentalists and a strong proponent of economic development.

Reagan's election also brought to a halt all action on State wilderness bills. The industry no longer would accept the "soft" release formula, but felt it now had the political strength to require permanent or "hard" release. In early 1981, a national "hard" release bill was introduced in the Senate. At first its chances appeared good, but it soon ran into difficulties and stalled in committee. During the next 2 years, less rigorous variations of "hard" release were proposed, but were blocked primarily by Congressman John Seiberling (D, OH), chairman of the House Public Lands Subcommittee. In the meantime, Secretary James Watt was encountering severe criticism and rousing opposition to his development policies. The political strength of environmentalists was rising, while that of the timber industry was declining. In the early 1980's, lumber prices collapsed and many purchasers of national forest timber in the Pacific Northwest found they could not economically harvest what they had contracted to buy. Distracted by this problem, the industry could not focus entirely on the release issue. Moreover, it was difficult to argue against the creation of wilderness areas at a time when there was too much timber on the market. In 1983, Congress passed so-called "buy-back" legislation that allowed many of these companies to escape from their contracts.

In December 1983, the Oregon Natural Resources Council filed a lawsuit against harvesting on Oregon roadless areas that was similar to the California lawsuit of 1980. Senator Mark Hatfield (R, OR) was concerned that his State might suffer economically and introduced a State wilderness bill with "soft" release. This action broke the impasse over release. Congressman Seiberling and Senator James McClure (R, ID), chairman of the Senate Energy and Natural Resources Committee and an advocate of "hard" release, negotiated a new release formula that was basically a modified version of "soft" release. Once this problem was settled, Congress proceeded to pass 18 State wilderness bills, placing nearly 7 million acres of national forest land into the Wilderness System. This was the greatest single increase in the national forest component of the Wilderness System since the Wilderness Act of 1964. Montana, Idaho, and Nevada were the only States not to receive wilderness Acts in 1984. (At the time of this writing in 1989, bills for these States remain stalled.)

Like his predecessor, Rupert Cutler, Assistant Secretary for Conservation and Natural Resources John Crowell (1981–84) was actively involved in establishing Forest Service policy. Before Cutler, assistant secretaries generally monitored Forest Service decisions but rarely dictated them. The growing influence of assistant secretaries is, in part, the result of the political conflict over the national forests during the last 20 years. Crowell urged the Forest Service to increase timber harvests.

In one case, he countermanded the regional forester in Portland and directed him to begin timber sales in RARE II roadless areas in order to relieve pressures on other parts of the national forests. Environmentalists responded by criticizing the Forest Service for selling timber at "below cost," i.e., selling timber for less than it cost to prepare and administer the sale. The agency argued that in many cases the costs of building roads and other improvements, usually deducted from the sale price, should be amortized over many years because they indirectly benefit recreation, fire suppression, and wildlife. In other words, using a cost accounting system that spreads the costs over several years would show that many apparent "below-cost" sales actually benefit the Government through the creation of external economies. In any case, the "below-cost" debate once again focused public attention on the Forest Service's timber program.[49]

Forest Service-BLM Land Swap

In the West, land administered by the BLM is often contiguous to Forest Service land. For many years it has appeared that management could be simplified and made more cost-effective by consolidating land through an interagency land exchange. The difficulty with this idea is that towns are frequently reluctant to relinquish Forest Service offices both because of the prestige they confer and the jobs they provide.

In 1985, the administration proposed a 35-million acre land swap between the two agencies. The Forest Service leadership was not enthusiastic about the idea, but during the next year spent considerable time planning the exchange. It soon became clear, however, that many in Congress opposed it. For instance, Nevadans were chagrined to learn that under the plan they would lose their two national forests when they were transferred to the BLM. On the other hand, Oregonians feared that the transfer of BLM's heavily timbered Oregon and California lands to the Forest Service would decrease the amount these lands paid into the State treasury. Similar concerns were expressed in other States. By the beginning of 1986, the plan was dead.

The Pilot Project

In February 1987, 46-year-old Dale Robertson succeeded Max Peterson as chief, making him the youngest chief in over 50 years. Robertson is the first chief since the Forest Service's founder, Gifford Pinchot, and his immediate successor, Henry Graves, who has been neither deputy regional forester, regional forester, or experiment station director. He came to Washington, DC, in 1980 after being a forest supervisor in Oregon and was made associate chief in 1982. During his career, Robertson became impatient with the voluminous regulations that govern Forest Service operations. While still associate chief in 1985, he began a pilot program in which several field offices were given the freedom to simplify their methods and procedures. Their only restriction was that they not do anything illegal. Several pilot units showed significant increases in productivity while lessening administrative controls. In 1987, the project was expanded to include all of the Eastern Region, as well as the Washington Office.

Backfire hits head of Brushy Creek Fire, Salmon National Forest. Photo: USDA Forest Service

Fire Control

Protecting the national forests from fire has been a major duty of the Forest Service since its beginning. Two of the handtools first used, the axe and mattock, are still used, often as a combination of both of them—the pulaski, a tool invented soon after the great northwestern fires of 1910 in Idaho and Montana. A major edict self-imposed on the Forest Service in 1935 was the 10 a.m. policy that required that all efforts were to be concentrated on putting fires out by 10 a.m. of the day following their occurrence. Smokejumpers and the dumping of water and later chemical retardants on fires began in the 1940's.

In 1956, the Navy gave the agency a surplus fleet of TBM's as air tankers. A helicopter firefighting program was launched under a cooperative agreement with the U.S. Army Corps of Engineers. In 1960, the Missoula (Montana) Equipment Development Center (EDC) was formally dedicated as an all-service fire lab. It worked on aircraft development and chemical retardants. Missoula EDC specialized in parachute accessories, portable hand and power tools, disposable fireline items, protective clothing, and physiological testing. In 1965, the Arcadia (California) EDC moved to San Dimas. It emphasized heavy equipment, ground tanker and pump testing, and helicopter accessories. In the 1960's and early 1970's, firefighters were completely refitted with flame-resistant shirts and pants, special fire shelters, hardhats, face shields, nomex hoods, and gloves. Remote sensing, data processing, simulation, and telecommunications became firefighting tools. Reducing fires through fires ignited under controlled conditions (known as prescribed fires) became a new strategy. Satellites were used to detect smoke and as communication relays; infrared (IR) mapping became commonplace; remote weather stations automatically relayed data for fire danger forecasts; and computers entered nearly all dimensions of planning, presuppression, and suppression.

In February 1967, a fire policy and procedure review committee sustained the 10 a.m. policy for normal fire seasons, but permitted leeway for pre- and post-season fires. In 1971, a fire policy meeting authorized exceptions for wilderness areas and for periods of low fire danger.[50] The Forest Service revised its fire management policy in 1978. The very rigid direction of control by 10 a.m. the following day was further modified. If a fire escapes initial attack, the land manager makes a fire situation analysis, including cost-effective fire suppression alternatives. Fire protection and use programs will be planned to be cost-effective and to protect lives, property, public safety, and natural resource management programs. The revised policy encourages land managers to make more use of prescription fire to safely burn areas with a dangerous buildup of fuels. The goal is not to control fires regardless of cost or hazard, and some fires are allowed to burn if they meet certain conditions. A national wilderness fire policy was announced in 1985, although many national forests had been following such a policy for several years. Natural or lightning-caused fires are allowed to play a role if they have had a place in producing the present forest. Additionally, agency personnel can ignite prescribed fires to prevent the buildup of fuels that might result in fires that threaten nonwilderness areas.[51] During the summer of 1988, this policy came under scrutiny when parts of Yellowstone National Park and surrounding national forests were burned. Television and newspaper reports led many people to believe that the park had been devastated and that the local tourist industry would decline. A year later it was evident that the damage was not as great as had been feared and that the land was already beginning to recover. In 1989, the new administration ordered land management agencies to put out all forest fires as soon as possible. It seems likely, however, that the natural fire policy will be reinstated in the near future when the results of the Yellowstone fires can be assessed with greater objectivity.

The Chief of the Forest Service reports to the Assistant Secretary for Natural Resources and Environment. He is responsible for the management of 191 million acres of forest and rangeland, the conduct of a nationwide program of forestry research, and the provision of technical and financial assistance to State forestry commissions and private owners of forest land. These responsibilities are encompassed within the agency's three principal divisions known as the National Forest System, Forest Service Research, and State and Private Forestry. An associate chief is second in command. There are deputy chiefs for Programs and Legislation, National Forest System, Research, State and Private Forestry, and Administration, as well as two assistant chiefs for Strategic Planning and Civil Rights.*

July 1, 1962—Edward P. Cliff succeeds the retiring Richard E. McArdle as chief.

March 1966—The Eastern Region of the National Forest System is abolished and its forests merged with those of the North-Central Region (thereafter known as the Eastern Region). One forest, the Cumberland (now the Daniel Boone), is transferred to the Southern Region.

July 1, 1972—John R. McGuire succeeds the retiring Edward P. Cliff as chief.

June 29, 1979—R. Max Peterson succeeds the retiring John McGuire as chief.

July 6, 1982—The Southeastern Area Office of the State and Private Forestry Division in Atlanta, GA, is abolished and its functions and personnel are merged with the Southern Regional Office of the National Forest System.

February 8, 1987—Dale Robertson succeeds Max Peterson as chief.

* The 1990 Farm Bill created a division of International Forestry directed by a deputy chief. Established in 1991, International Forestry facilitates cooperative forestry programs with international partners.

Notes

1. Gerald W. Williams, "Creation of Wilderness in the Pacific Northwest: The Controversy Expands," 1987; "Changing Values and the Management of Natural Resources," 1992; "Ecosystem Management: How Did We Get Here?" 1994; "Ecosystem Management: Putting the People Back In," 1994; "Administrative Units and Reorganization Efforts, 1905–1993," 1994; and "Community Stability and the Forest Service," 1995.*

2. U.S. Forest Service, *Report of the Forester* (Washington, DC: GPO, 1926), p. 36; Dennis M. Roth, *The Wilderness Movement and the National Forests* (College Station: Intaglio Press, 1988), pp. 1–6.

3. U.S. Department of Agriculture, *The Principal Laws Relating to Forest Service Activities*, Agricultural Handbook no. 453 (Washington, DC: GPO, 1978), p. 201; Roth, *The Wilderness Movement*, pp. 6–10.

4. Dennis C. Le Master, *Decade of Change* (Westport, CT: Greenwood Press, 1984), p. 7.

5. U.S. Forest Service, *Report of the Chief*, 1961–86.

6. U.S. Senate, Committee on Interior and Insular Affairs, *National Wilderness Preservation Act, Hearings*, 85 Cong. 2d sess., 1959, p. 310; Roth, *The Wilderness Movement*, pp. 10–12.

7. U.S. Forest Service, *Forest Service Manual* (Washington, DC, 1973), p. 8213; Charles F. Wilkinson and H. Michael Anderson, "Land and Resource Planning in the National Forests," *Oregon Law Review*: 64, Nos. 1 and 2 (1985), pp. 31–34.

8. Richard C. Davis, ed., *Encyclopedia of American Forest and Conservation History* (New York, MacMillan Co., 1983), p. 548.

9. Samuel T. Dana and Sally K. Fairfax, *Forest and Range Policy* (New York: McGraw-Hill Book Co., 1980), pp. 231–235.

10. Report on H.R. 3454 Report No. 95-490, Senate Committee on Energy and Natural Resources, 1977, p. 7; Chief Edward Cliff, "San Gabriel, Washakie, and Mount Jefferson Wilderness Areas," Hearings Before the Subcommittee on Public Lands, U.S. Senate, 90th Cong. 2nd sess., 1968, p. 17; Roth, *The Wilderness Movement*, pp. 13–36.

11. Le Master, *Decade of Change*, pp. 9–10.

12. Ibid., p. 13.

13. Ibid., pp. 14–19.

14. Dana and Fairfax, *Forest and Range Policy*, pp. 307–308.

15. Ibid., pp. 308–309.

16. LeMaster, *Decade of Change*, pp. 41–42.

17. Ibid., pp. 37, 42–43.

18. Ibid., pp. 150–151, 155.

19. Ibid., pp. 55-58.

20. Wilkinson and Anderson, *Land and Resource Planning*, pp. 69–72.

21. LeMaster, *Decade of Change*, p. 59.

22. Ibid., pp. 242–243.

* Copies may be obtained by writing to Gerald W. Williams, USDA Forest Service, Pacific Northwest Region, PO Box 3623, Portland, Oregon 97208. Telephone: 503/326–7744. DG:R06A.

23. Ibid., pp. 156–159.

24. Wilkinson and Anderson, *Land and Resource Planning*, pp. 371–373.

25. Dana and Fairfax, *Forest and Range Policy*, pp. 254–257.

26. Ibid, p. 254.

27. Wilkinson and Anderson, *Land and Resource Planning*, pp. 312–325.

28. Glen O. Robinson, *The Forest Service* (Baltimore: Johns Hopkins University Press, 1975), pp. 132–134.

29. Wilkinson and Anderson, *Land and Resource Planning*, pp. 324–329.

30. U.S. Forest Service, *The Principal Laws Relating to Forest Service Activities* (Washington, DC: GPO, 1985), p. 213.

31. Wilkinson and Anderson, *Land and Resource Planning*, pp. 251–255.

32. *Principal Laws*, p. 388.

33. Wilkinson and Anderson, *Land and Resource Planning*, pp. 266–268.

34. *Principal Laws*, p. 156.

35. Wilkinson and Anderson, *Land and Resource Planning*, p. 289.

36. *Principal Laws*, p. 324.

37. Ibid., p. 447.

38. Wilkinson and Anderson, *Land and Resource Planning*, p. 297.

39. Ibid., pp. 304–307.

40. *Principal Laws*, p. 370.

41. "Eastern Wilderness Act," 93rd Cong. 1st sess., Senate Report No. 93-661, 1973; Ross, *The Wilderness Movement*, pp. 37–45.

42. U.S. Forest Service, *RARE II: Final Environmental Statement* (Washington, DC, 1979); Roth, *The Wilderness Movement*, pp. 46–54.

43. LeMaster, *Decade of Change*, pp. 98–101, 168–169

44. Wilkinson and Anderson, *Land and Resouce Planning*, pp. 91–92.

45. Ibid., pp. 97–104.

46. *Principal Laws*, p. 403.

47. Ibid., p. 527.

48. USDA Forest Service, Washington Office, Legislative Affairs Records, "Wilderness Grazing" folder; Roth, *The Wilderness Movement*, pp. 58–60.

49. Ibid., pp. 1–36.

50. Stephen J. Pyne, *Fire in America* (Princeton, NJ: Princeton University Press, 1982), pp. 437–446.

51. USDA Forest Service, "Friday Newsletter," February 15, 1985.