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Report to the Chairman, Subcommittee on Forests and Public Land Management, Committee on Energy and Natural Resources, U. S. Senate

June 1999

FOREST SERVICE PRIORITIES

Evolving Mission Favors Resource Protection Over Production

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Resources, Community, and
Economic Development Division

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June 17, 1999

The Honorable Larry E. Craig
Chairman, Subcommittee on Forests and
Public Land Management
Committee on Energy and Natural Resources
United States Senate

Dear Mr. Chairman:

In a February 1997 testimony[1] and an April 1997 report,[2] we stated that statutory changes to improve the efficiency and effectiveness of the Forest Service's decision-making process cannot be identified until the Congress and the agency reach agreement on which uses the Forest Service is to emphasize under its broad multiple-use and sustained-yield mission and how it is to resolve conflicts or make choices among competing uses on its lands.

During the intervening 2 years, the Forest Service has clarified its overriding mission and funding priorities. However, these priorities are still "de facto" in that they have evolved over many years in response to many laws, and the Congress has never explicitly accepted them or acknowledged their effects on the availability of timber and other uses on the national forests. Therefore, as agreed, our report describes (1) the priorities that the Congress set in enacting the National Forest Management Act of 1976, which guides the development of plans for managing national forests; (2) the Forest Service's current mission and funding priorities and how they have evolved over the past 2 decades; and (3) the effect of these priorities on the availability of timber and on the costs of and receipts from timber sales.

Results in Brief

The National Forest Management Act attempts to facilitate continuous levels of timber production on Forest Service lands while, at the same time, protecting and improving other forest resources, such as air, water, and wildlife and fish habitat. However, the act and other multiple-use laws intended to guide the management of the national forests provide little

[1]Forest Service Decision-Making: Greater Clarity Needed on Mission Priorities (GAO/T-RCED-97-81, Feb. 25, 1997).

[2]Forest Service Decision-Making: A Framework for Improving Performance (GAO/RCED-97-71, Apr. 29, 1997).

guidance on how the agency is to resolve conflicts or make choices among competing uses on its lands.

The National Forest Management Act and other multiple-use laws guiding the management of the national forests provide little direction for the Forest Service in resolving conflicts among competing multiple uses on its lands. However, the requirements in environmental laws and their implementing regulations and judicial interpretations do. The Forest Service has responded to these environmental requirements and judicial interpretations over time. It has also responded to changing public values and concerns about the management of the national forests and to increased scientific understanding of the functioning of natural systems and their components. Over the past 2 decades, the Forest Service has refocused its activities away from producing goods and services (such as timber) and toward protecting land health and forest resources. During the past year, the Forest Service clearly stated that its overriding mission and funding priority is to maintain or restore the health of the lands entrusted to its care. Furthermore, according to the Forest Service, it intends to limit goods and services on the national forests to the types, levels, and mixes imposed by considerations of land health and ecological sustainability.

As the Forest Service has increased its emphasis on resource protection and ecological sustainability, the timber harvested on national forests has decreased substantially, in both quantity and quality. At the same time, the per-unit costs to prepare, sell, and harvest timber have increased dramatically while the receipts have declined sharply.

Background

The Forest Service, created in 1905, manages about 192 million acres of land—nearly 9 percent of the nation's total surface area and about 30 percent of all federal lands. Laws guiding the management of the forests require the Forest Service to apply the principles of multiple use and sustained yield to meet the diverse needs of the American people. In managing its lands in accordance with these principles, the agency provides a variety of goods and services. Goods include timber, natural gas, oil, minerals, and lands for livestock to graze. Watersheds on Forest Service lands provide drinking water to thousands of communities, and the national forests themselves offer opportunities to the public for camping, hiking, and rafting.

The Forest Service's activities are subject not only to the laws governing multiple uses but also to the requirements of numerous environmental

statutes, such as the National Environmental Policy Act and the Endangered Species Act. These requirements form the basis for defining the agency's mission and priorities.

Act Seeks to Balance Continuous Levels of Timber Production With the Protection of Natural Resources

The National Forest Management Act of 1976 (NFMA) reinforces the mission laid out for the Forest Service in other governing statutes—that the agency will both provide goods and services, such as timber and recreation, and protect forest resources, such as clean air and water, aesthetics, and fish and wildlife habitat. However, NFMA, much like the agency's other governing statutes, does not provide direction to the Forest Service for making choices among competing uses on its lands.

Threats to Logging and Concerns About the Environment

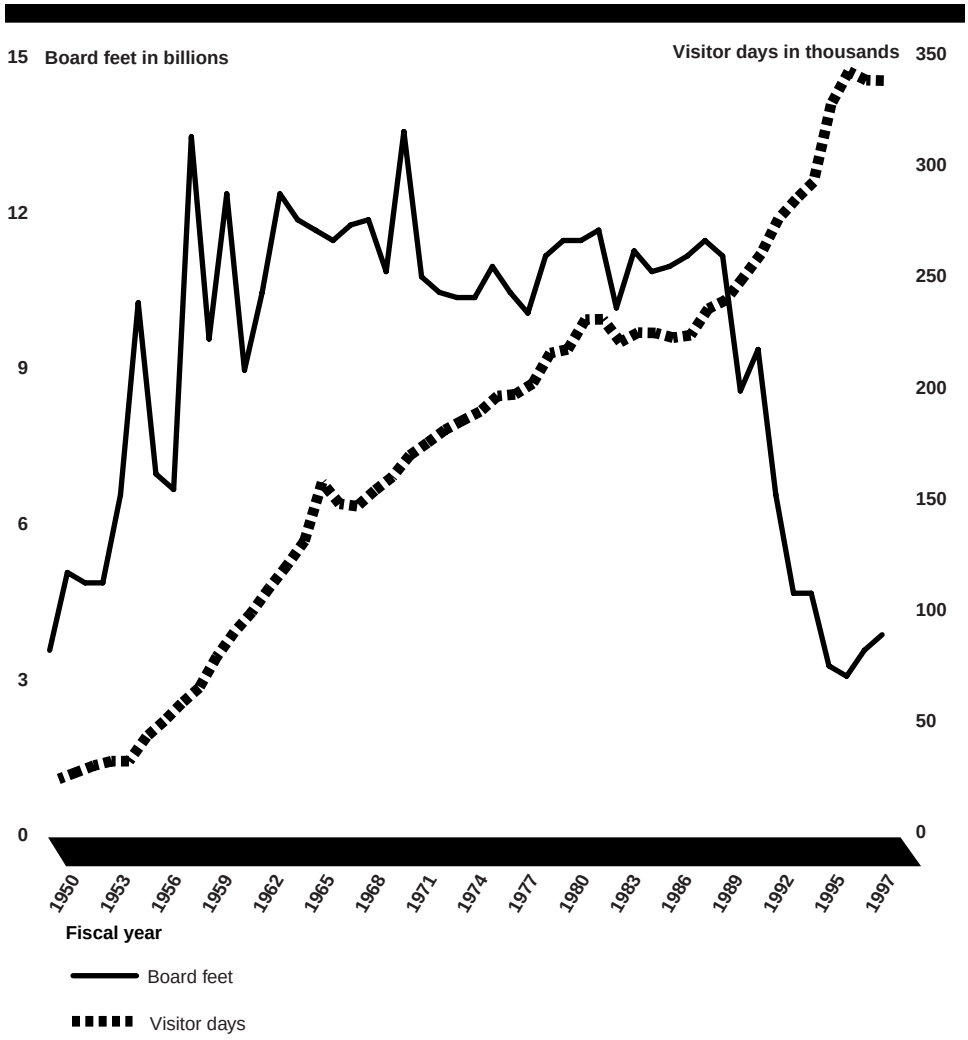
Before NFMA's enactment in 1976, three statutes bore primary responsibility for guiding multiple uses on the national forests: the Organic Administration Act of 1897 (the Organic Act), the Multiple-Use Sustained-Yield Act of 1960, and the Forest and Rangeland Renewable Resources Planning Act of 1974. Under the Organic Act, the national forests are established to improve and protect the forests within their boundaries or to secure favorable water flow conditions and provide a continuous supply of timber to citizens. The Multiple-Use Sustained-Yield Act directs the Forest Service to manage its lands so that they may be used for various purposes—including recreation; rangeland; wilderness; and the protection of watersheds, fish, and wildlife—and to ensure that the agency's management of the lands does not impair their long-term productivity. The Forest and Rangeland Renewable Resources Planning Act requires the Forest Service to prepare assessments, inventories, and plans to manage its lands. The cumulative effect of these statutes is to direct the Forest Service to manage its lands for environmental protection and for recreational opportunities, as well as to provide continuous levels of certain goods, including timber, oil and gas, minerals, and forage for grazing livestock. No one use of the national forests is given priority in any of these laws. However, the agency is required to manage its lands to sustain undiminished their ability to produce these uses for future generations.

From its creation in 1905 to World War II, the Forest Service played a primarily custodial role, and livestock grazing was the primary commercial use on the national forests and grasslands. After World War II, rapid economic growth dramatically increased the nation's demand for timber. Accordingly, timber sales on Forest Service lands flourished, rising from

just under 4 billion board feet in 1950 to about 12 billion board feet in 1969.

As the demand for federal timber rose, so did the number of Americans using federal lands for recreation. Beginning in the 1950s, as more people visited national forests and saw the results of timber harvests—primarily clear-cuts—on the national forests, debate intensified over the extent to which federal lands should be preserved or used for timber production. Moreover, as timber production continued to rise, so did the efforts of the environmental community to protect the nation's lands and natural resources. The 1960s and 1970s saw the creation of the U.S. Environmental Protection Agency and the passage of numerous environmental statutes, including the Wilderness Act, the National Environmental Policy Act, the Endangered Species Act, the Clean Water Act, the Clean Air Act, and the Wild and Scenic Rivers Act. Figure 1 tracks trends in timber production and recreation on Forest Service lands during the last half century.

Figure 1: Volume of Timber Sold From and Number of Visitor Days in National Forests, Fiscal Years 1950-97



Source: Forest Service.

While these environmental statutes were being enacted, a landmark lawsuit in West Virginia against the Forest Service threatened to curtail logging on the national forests. In 1975, the Court of Appeals for the Fourth Circuit affirmed a 1973 federal district court decision mandating adherence to a long-ignored provision in the Organic Act that limited commercial sales of trees to those that were dead, physiologically mature, or large.[3] Essentially, this decision, which applied only to Forest Service

[3]West Virginia Div. of the Izaak Walton League of America v. Butz, 522 F. 2d 945 (4th Cir. 1975).

land within the court's jurisdiction, banned clear-cutting, the harvesting method of choice on the national forests at that time. Had the decision been applied nationally, the Forest Service estimated that it would have reduced timber harvests on federal lands by 50 percent.

NFMA Seeks to Protect Timber Harvesting and Other Forest Resources

During this period of concern about the future of timber harvests on the national forests and of growing support for protecting the environment, the Congress enacted NFMA. The legislative history shows that, among other things, the act was an attempt to, at a minimum, maintain existing timber harvest levels and to protect and improve other forest resources, such as fish and wildlife habitat. The act aims to sustain a continuous harvest level by repealing the provision of the Organic Act that limited logging. According to the report of the Senate Committee on Agriculture and Forestry that accompanied the act, the Committee expected that the amount of timber harvested on federal lands would continue to increase as the Forest Service implemented NFMA and managed the forests for multiple uses.[4] The Committee also noted the importance of providing for diverse plant and animal communities and of protecting soil, water, aesthetic, and wildlife resources.

While establishing long-term goals, NFMA does not provide direction for achieving them. For example, it does not indicate how much timber and other commodities should be provided, which uses of national forests should have priority, or how conflicts among uses should be resolved. NFMA's legislative history is also silent on these matters. As a result, the Forest Service is expected to provide for continuous levels of certain goods and services and for the protection of other resources, even when providing for one may conflict with sustaining another.

[4]S. Rep. No. 94-893 (1976).

The Forest Service's Mission and Funding Priorities Emphasize Protecting the Environment Over Producing Timber and Other Goods and Services

While NFMA and other statutes intended to guide the Forest Service's management of the national forests provide little direction for the agency in resolving conflicts among competing uses on its lands, the requirements in environmental laws and their implementing regulations and judicial interpretations do. Over time, these environmental requirements and judicial interpretations, together with changing public values and concerns about the management of the national forests and better ecological information, have led the Forest Service to change the mix of its activities, shifting the focus from production toward protection.

The Forest Service Has Increased Its Emphasis on Protecting the Environment

The past 2 decades have seen significant changes in how the Forest Service does business. Perhaps most marked is the change in the agency's own description of its mission. In the mid-1970s, the Forest Service believed that its role was primarily to produce timber and, more generally, to serve as a steward of the land. Today, the agency states that maintaining and restoring the health of the land is its overriding priority[5] and that outputs of goods and services will be accomplished within the "ecological sideboards imposed by land health."[6] In speeches outlining the Forest Service's Natural Resource Agenda, the Chief, in March 1998 and February 1999,[7] unambiguously emphasized land health, including watershed restoration and ecological sustainability.[8] In his February 1999 speech, for instance, he noted that over 65 percent of the national forest plans will be revised within the next 5 years and that "watershed health and restoration will be the overriding priority in all future forest plan revisions."

[5]FY2000 Budget Explanatory Notes for the Committee on Appropriations, U.S. Department of Agriculture, Forest Service.

[6]"Protecting and Restoring a Nation's Land Health Legacy," Speech, Chief, U.S. Forest Service (Feb. 3, 1999).

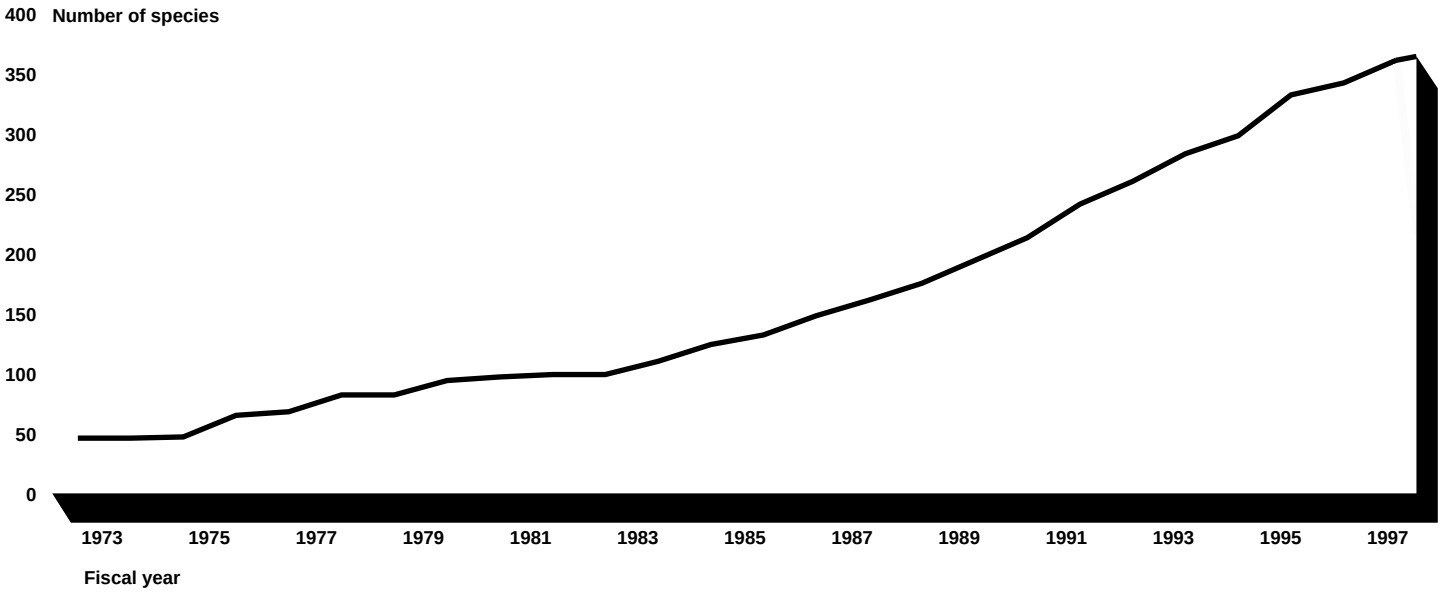
[7]"A Gradual Unfolding of a National Purpose: A Natural Resource Agenda for the 21st Century," Speech, Chief, U.S. Forest Service (Mar. 2, 1998) and "Protecting and Restoring a Nation's Land Health Legacy," Speech, Chief, U.S. Forest Service (Feb. 3, 1999).

[8]Ecological sustainability means maintaining the composition (biological diversity), structure (biological and physical attributes, such as large trees, unconstrained rivers, and habitat patterns), and processes (including photosynthesis, water movement, and disturbance) of an ecological system.

Statutory Requirements, Changing Public Values, and Better Information Have Increased the Forest Service's Focus on the Environment

The Endangered Species Act has played a substantial role in steering the Forest Service toward protection. In particular, section 7 of the act represents a congressional design to give greater priority to the protection of endangered species than to the other missions of the Forest Service and other federal agencies.[9] When proposing a project, the Forest Service bears the burden of demonstrating that its actions will not likely jeopardize threatened and endangered species. The number of threatened and endangered species on national forests and grasslands has risen more than sevenfold in the 26 years since the act was passed in 1973. (See fig. 2.)

Figure 2: Number of Threatened and Endangered Species With Habitat on Forest Service Lands, Fiscal Years 1973-98



Source: Forest Service.

The Forest Service is required by regulations implementing the National Environmental Policy Act to assess the effects of activities occurring outside the national forests, such as timber harvesting on state and private lands, in deciding which uses to emphasize on its lands. In addition, other environmental laws, their implementing regulations, and judicial

[9] TVA v. Hill, 437 U.S. 153,185 (1978).

interpretations require that the agency protect the diversity of species and other components of natural systems, including clean water and clean air.

In recent years, the Congress has increasingly withdrawn lands on the national forests for conservation—as wilderness, wild and scenic rivers, national monuments, and recreational areas. By 1994, about one-fourth of the national forests were being managed for conservation.[10]

According to the Forest Service, within the "ecological sideboards" imposed by legal thresholds and land health, a wide range of management options exists, and the mix of goods and services provided is as much a social decision as it is a scientific one. Within this decision space, the agency has increasingly chosen to emphasize land health and ecological sustainability, responding in part to changing public values and concerns about the management of the national forests. For example, in June 1992, the Forest Service announced plans to reduce the amount of timber harvested by clear-cutting by as much as 70 percent from fiscal year 1988 levels in order to manage the national forests in a more environmentally sensitive manner. In addition, the Forest Service recently issued an interim rule to prohibit the construction of new roads in roadless areas on many national forests for 18 months while the agency develops a policy for the construction and maintenance of future roads.[11] According to the Chief, the Forest Service "will rarely build roads into roadless areas," and when it does, "it will be in order to accomplish broader ecological objectives."[12] The agency has also used its discretionary authority to set aside or withdraw an increasing percentage of its lands for conservation. For example, in February 1999, it withdrew an additional 429,000 acres in Montana from mining and observed that many areas on the national forests are simply not appropriate for activities such as mining.

Over the years, the Forest Service has also learned more about the importance of maintaining and restoring natural systems—such as watersheds, airsheds, soils, and vegetative and animal communities—to ensure the long-term sustainability of other forest uses, including timber production. In addition, the agency has increasingly recognized that its past management decisions have led to degraded aquatic habitats, declining populations of some wildlife species, and increased forest health

[10]Land Ownership: Information on the Acreage, Management, and Use of Federal and Other Lands (GAO/RCED-96-40, Mar. 13, 1996) and Federal Land Use (GAO/RCED-96-139R, May 7, 1996).

[11]64 Fed. Reg. 7290 (Feb. 12, 1999).

[12]"Protecting and Restoring a Nation's Land Health Legacy," Speech, Chief, U.S. Forest Service (Feb. 3, 1999).

problems. These decisions include the agency's decades-old policy of suppressing fires on the national forests, which has increased the density of undergrowth and trees, creating high levels of fuels for catastrophic wildfires.[13]

The Agency Has Adopted an Ecological Approach to Management to Avoid or Prevail Against Legal Challenges

To accommodate the requirements of the Endangered Species Act and other environmental laws, the Forest Service and other federal land management agencies have turned to a science-based, ecological approach for managing their lands and resources. This approach, called ecosystem management, is designed to (1) ensure the sustained functioning of natural systems by analyzing and planning along their boundaries rather than along the boundaries of national forests and other federal land management units and (2) integrate people and resources from different programs to maintain and restore the health of forested, aquatic, and rangeland ecosystems.[14] According to the Forest Service, an ecosystem-based approach to management considers ecological, economic, and social factors in determining how to best maintain and enhance the quality of the environment to meet current and future needs for recreation, water, timber, minerals, fish, wildlife, and wilderness on the national forests.

Federal courts have agreed with the Forest Service's ecological approach to land management. The Forest Service and the Department of the Interior's Bureau of Land Management used an ecosystem-based approach to develop a 1994 plan to manage 22.3 million acres of federal land in the Pacific Northwest (primarily western Washington, western Oregon, and northern California). Both industry and environmental groups challenged the legality of the plan, contending, among other things, that the agencies had not adequately complied with environmental laws. However, the District Court for the Western District of Washington upheld the plan and the ecosystem approach, finding that the agencies had acted within the bounds of the law. In reaching its decision, the district court noted that "[g]iven the current condition of the forests, there is no way the agencies could comply with the environmental laws *without* planning on an

[13]Western National Forests: A Cohesive Strategy Is Needed to Address Catastrophic Wildfire Threats (GAO/RCED-99-65, Apr. 2, 1999.)

[14]For a more complete description of ecosystem management, see Ecosystem Management: Additional Actions Needed to Adequately Test a Promising Approach (GAO/RCED-94-111, Aug. 16, 1994).

ecosystem basis."[15] The Court of Appeals for the Ninth Circuit affirmed the judgment of the district court.

Similarly, in December 1997, the Secretary of Agriculture convened an interdisciplinary committee of scientists to review and evaluate the Forest Service's planning process and to identify changes that might be needed to the agency's planning regulations. In its March 1999 report,[16] the committee stated that conserving habitat for native species and the productivity of ecological systems remains the surest path to maintaining ecological sustainability. The committee suggested that, to conserve these key elements of sustainability, a scientific assessment of the ecological integrity of ecosystems be used in tandem with monitoring the viability of the native species themselves.

Emphasizing Land Health Constrains Other Uses on the National Forests

As the Forest Service has increased its emphasis on land health and ecological sustainability, the timber harvested on national forests has declined in quantity and quality. The costs per thousand board feet to prepare and sell the timber, as well as the costs to harvest it, have increased, and the receipts generated have been substantially lower.

As Harvesting Has Declined, Costs Have Risen for Timber

Between 1976, when the Congress enacted NFMA, and 1997, the volume of timber sold from Forest Service lands decreased nearly 70 percent. (See fig. 1.) The quality of the timber also declined as the agency's purpose in offering timber sales shifted from providing wood fiber to improving or maintaining the health of the national forests. For example, most of the trees that need to be removed to reduce accumulated fuels and lower the risk of catastrophic fires are small in diameter and have little or no commercial value.[17] Restrictions on the location and age of trees that can be harvested have also reduced the quality of the timber. Older, more commercially valuable trees often cannot be harvested because of their value as species habitat.

As the quantity and quality of timber have declined, the per-unit costs to the Forest Service and logging companies have increased—in some cases

[15]Seattle Audubon Soc-y v. Espy, 871 F. Supp. 1291, 1311 (W.D. Wash. 1994) aff'd sub. nom. Seattle Audobon Soc-y v. Moseley, 80 F.3d 1401 (9th Cir. 1996).

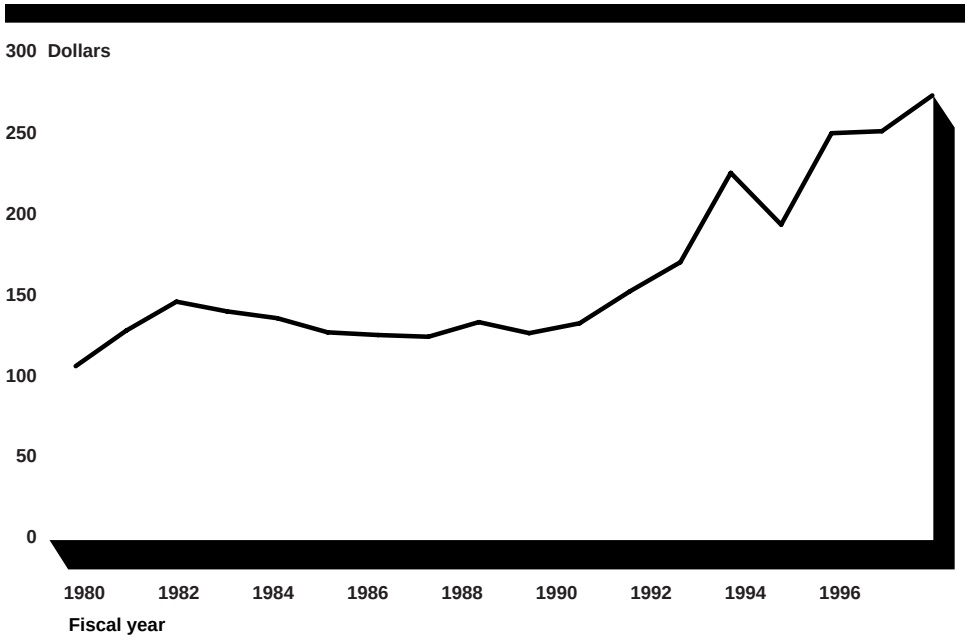
[16]Sustaining the People's Lands: Recommendations for Stewardship of the National Forests and Grasslands into the Next Century, Committee of Scientists, U.S. Department of Agriculture (Mar. 15, 1999).

[17]Western National Forests: A Cohesive Strategy Is Needed to Address Catastrophic Wildlife Threats (GAO/RCED-99-65, Apr. 2, 1999.)

dramatically. For example, the agency's per-unit costs of preparing and administering timber sales designed to improve forest health rose over 70 percent from fiscal year 1993 through fiscal year 1997. In the same 5 years, the costs per thousand board feet of preparing and administering timber sales designed to provide wood fiber rose nearly 40 percent. This increase was largely attributable to the higher proportions of fixed costs (e.g., the expenses associated with depreciation on existing facilities and roads) and administrative costs (for activities such as sale preparation and harvest administration) associated with lower harvest levels.

Moreover, when timber is harvested to improve land health, the costs of its removal are generally higher than when it is harvested for other purposes because only trees of certain sizes and ages may be logged in certain locations. The Forest Service's June 1992 policy to reduce the amount of timber harvested by clear-cutting has also increased the costs of logging for private companies because other methods of harvesting are generally more expensive than clear-cutting. For private companies in the Pacific Northwest, the use of more environmentally sensitive, but costlier, harvest methods increased the per-unit costs of logging over 150 percent between 1980 and 1997. (See fig. 3.)

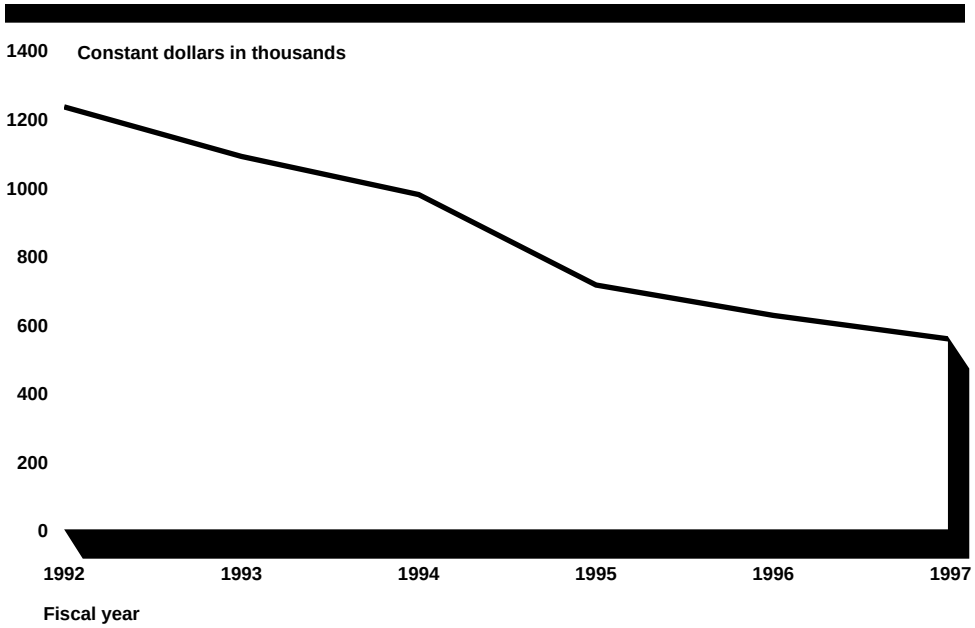
Figure 3: Cost Per Thousand Board Feet to Cut and Remove Timber in National Forests in Western Washington and Western Oregon, Fiscal Years 1980-97



Source: Timber Data Company.

Revenue from timber sales has also declined. Timber sales have traditionally generated more than 90 percent of the total receipts on the national forests. However, as the quantity and quality of timber sold have declined, so too have total timber sales receipts. For example, from fiscal year 1992 through fiscal year 1997, total timber sales receipts declined 55 percent, from $1.2 billion to $555 million. (See fig. 4.)

Figure 4: Total Timber Sales Receipts, Fiscal Years 1992-97



Source: GAO's analysis of data from the Forest Service.

These declines in the quantity and quality of timber and in the revenue generated from timber sales on national forests are not likely to change, given the current statutory and regulatory framework, recent judicial interpretations, and the Forest Service's policies. For instance, the agency estimates that sales of between 170 million and 260 million board feet, currently planned for fiscal years 1999 and 2000, may be delayed because of the 18-month suspension of road construction.

In addition, the Forest Service has noted that recreation as well as timber will likely be affected by the agency's increased focus on the environment. In his February 1999 speech,[18] the Chief likened recreation to timber 20 years ago and cautioned that, to avoid what happened to the timber industry, recreation must occur within the ecological sideboards imposed by land health. That same month, we reported that the Forest Service had begun to restrict some recreational uses on the Sawtooth National

[18]"Protecting and Restoring a Nation's Land Health Legacy," Speech, Chief, U.S. Forest Service (Feb. 3, 1999).

Recreation Area in central Idaho to protect threatened and endangered salmon species and wilderness.[19]

Agency Comments

We provided a draft of this report to the Forest Service for review and comment. The Forest Service commented that the report accurately and fairly presented information on the evolution of the Forest Service's mission. The Forest Service also provided technical clarifications, which we incorporated into the report.

Scope and Methodology

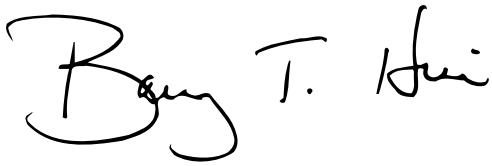
We conducted our review from January 1999 to April 1999 in accordance with generally accepted government auditing standards. In conducting the review, we examined the laws guiding the management of the Forest Service, including NFMA and its legislative history. We also reviewed judicial decisions pertaining to the Forest Service's implementation of these laws. In addition, we examined the agency's strategic plans, annual reports, speeches, and other documents describing its mission and priorities. Finally, we analyzed trends in the Forest Service's production of goods and services.

As arranged with your office, unless you publicly announce its contents earlier, we plan no further distribution of this report for 10 days after the date of this letter. We will then send copies to the Honorable Dan Glickman, Secretary of Agriculture; and the Honorable Michael Dombeck, Chief of the Forest Service. We will also make copies available to others on request.

[19]National Forests: Funding the Sawtooth National Recreation Area (GAO/RCED-99-47, Feb. 11, 1999).

If you have any questions about this report, please contact me or Charlie Cotton at (202) 512-3841. Key contributors to this assignment were Doreen Feldman and Angela Sanders.

Sincerely yours,



Barry T. Hill
Associate Director, Energy,
Resources, and Science Issues

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