

The Process Predicament

How Statutory, Regulatory, and Administrative
Factors Affect National Forest Management



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EXECUTIVE SUMMARY

Despite a century of devotion to conservationism, the Forest Service today faces a forest health crisis of tremendous proportions:

- 73 million acres of national forests are at risk from severe wildland fires that threaten human safety and ecosystem integrity.
- Tens of millions of acres in all ownerships are threatened by dozens of different insects and diseases.
- Invasive species are spreading at an accelerated rate, degrading an increasing proportion of forests, rangelands, and riparian habitats.

Unfortunately, the Forest Service operates within a statutory, regulatory, and administrative framework that has kept the agency from effectively addressing rapid declines in forest health. This same framework impedes nearly every other aspect of multiple-use management as well. Three problem areas stand out:

1. ***Excessive analysis***—confusion, delays, costs, and risk management associated with the required consultations and studies;
2. ***Ineffective public involvement***—procedural requirements that create disincentives to collaboration in national forest management; and
3. ***Management inefficiencies***—poor planning and decision-making, a deteriorating skills base, and inflexible funding rules, problems that are compounded by the sheer volume of the required paperwork and the associated proliferation of opportunities to misinterpret or misapply required procedures

These factors frequently place line officers in a costly procedural quagmire, where a single project can take years to move forward and where planning costs alone can exceed \$1 million. Even noncontroversial projects often proceed at a snail's pace.

Forest Service officials have estimated that planning and assessment consume 40 percent of total direct work at the national forest level. That would represent an expenditure of more than \$250 million per year. Although some planning is obviously necessary, Forest Service officials have estimated that improving administrative procedures could shift up to \$100 million a year from unnecessary planning to actual project work to restore ecosystems and deliver services on the ground.

The Forest Service is deeply committed to the principles of sound public land management in a democracy—long-term planning on an ecosystem basis, extensive public involvement, inter-agency consultation and collaboration, and ample opportunities for public redress. In the 21st century, Americans have the tools and techniques they need to work together to stop invasive species, reduce the danger of catastrophic fire, restore ailing watersheds to health, and enjoy their national forests. Permitted to use the tools and apply the techniques of modern management, Americans can look forward to a future of healthy, resilient ecosystems all across their national forests and grasslands.

It is time to tailor the Forest Service's statutory, regulatory, and administrative framework to the new era of public land management. Part of the solution will be internal. However, the problem goes far beyond the range of control of any single agency, or a single branch of the government. The Forest Service will need to work with partners, both in and out of government, to establish a modern management framework. By working together with partners to create and operate within such a framework, the Forest Service can focus more of its resources on responsible stewardship and thereby improve public trust and confidence in the agency's ability to care for the land and serve people.

The Process Predicament

How Statutory, Regulatory, and Administrative Factors Affect National Forest Management

In December 1995, a severe winter storm left nearly 35,000 acres of windthrown trees on the Six Rivers National Forest in California. The storm's effects created catastrophic wildland fire conditions, with the fuel loading reaching an estimated 300 to 400 tons per acre—ten times the manageable level of 30 to 40 tons per acre.

The forest's management team proposed a salvage and restoration project to remove excessive fuels and conduct a series of prescribed burns to mitigate the threat to the watershed. From 1996 through the summer of 1999, the forest wrestled its way through analytical and procedural requirements, managing to treat only 1,600 acres.

By September 1999, nature would no longer wait. The Megram and Fawn Fires consumed the untreated area, plus another 90,000 acres. Afterward, the forest was required to perform a new analysis of the watershed, because postfire conditions were now very different. A new round of processes began, repeating the steps taken from 1996 to 1999.

Seven years after the original blowdown, the Megram project was appealed, litigated, and ultimately enjoined by a federal district court. The plan to address the effects of the firestorm—a direct result of the windstorm—remains in limbo.

THE PROBLEM

Caught in a Bind

The Megram case example,¹ encapsulated above, illustrates the process predicament faced by Forest Service decision-makers at all levels. As many Forest Service employees see it, they are caught in a bind, where the very procedures they need to follow to get them to their goal are keeping them from getting there.

Too often, the Forest Service is so busy meeting procedural requirements, such as preparing voluminous plans, studies, and associated documentation, that it has trouble fulfilling its historic mission: to sustain the health, diversity, and productivity of the nation's forests and grasslands to meet the needs of present and future generations. Too frequently, the paralysis results in catastrophe.

Inspired by conservationism, the Forest Service has, throughout its history, been dedicated to protecting and restoring our nation's forests and rangelands. Notwithstanding this devotion, today the agency faces a land health crisis of tremendous proportions:

¹ See Six Rivers National Forest, "Megram Fire Recovery Plan," appendix C, pp. C-23-28.

- 73 million acres of national forests are at risk from severe wildland fires that threaten human safety and ecosystem integrity.²
- Tens of millions of acres in all ownerships are threatened by dozens of different insects and diseases. In 1999, for example, the southern pine beetle infested forests on about 6.2 million acres in the South, including many national forest lands.³
- The roads maintenance backlog is enormous, with more than a thousand bridges classified as deficient in 2000 and more than a thousand miles of road becoming unusable on average each year from 1990 to 1998.⁴
- The rate of introduction of new invasive weeds has been on the rise since the 1960s; once introduced, invasives such as cheatgrass and leafy spurge spread at exponential rates. Today, more than 3.5 million acres of national forest land are infested.⁵
- In the West, more than half of the rangeland riparian areas on the National Forest System do not meet standards for healthy watersheds. Moreover, almost one in ten acres in the Pacific states and one in six acres in the Rocky Mountains and Plains states is making no progress toward improvement.⁶

The Forest Service has taken a number of important steps to address these rapid declines in forest health. For example, the agency recently completed the implementation plan for the 10-Year Comprehensive Strategy for Reducing Wildland Fire Risks to Communities and the Environment, in cooperation with the Western Governors Association and a host of collaborators from professional organizations, counties, tribes, resource users, and environmental interests. The agency also has vigorous pest management and watershed restoration programs, often in collaboration with federal, state, and private partners.

Notwithstanding the importance of such cooperative efforts, the Forest Service will ultimately fail to reverse rapid declines in forest health and increasing wildland fire risks unless the agency is able to more quickly achieve results on the ground. And the problem does not end with forest health. Issuing permits, improving recreational opportunities, addressing deferred maintenance needs, and a host of other management responsibilities all require timely, effective decision-making.

Forest Service professionals are deeply committed to the principles of sound public land management and the existing framework of environmental laws. They support long-term planning on an ecosystem basis, extensive public involvement, interagency consultation and collaboration,

² USDA Forest Service, "Historical Fire Regimes by Current Condition Classes," (Washington, D.C.: USDA Forest Service, February 2001), Website <http://fs.fed.us/fire/fuelman/data_summary_tables.pdf>.

³ USDA Forest Service, Forest Insect and Disease Conditions in the United States: 1999 (Washington, D.C.: USDA Forest Service, Forest Health Protection, December 2000), Website <http://fs.fed.us/fire/fuelman/data_summary_tables.pdf>.

⁴ USDA Forest Service, "Public Forest Service Roads: 'Seamless Transportation'" (Washington, D.C.: USDA Forest Service, April 2000).

⁵ USDA Forest Service, *Rangeland Resource Trends in the United States: A Technical Document Supporting the 2000 USDA Forest Service RPA Assessment* (Washington, D.C.: USDA Forest Service, 2000), pp. 47-54.

⁶ USDA Forest Service, *Rangeland Resource Trends*, pp. 40-43.

and ample opportunities for public redress. They work long and hard to hammer out agreements that everyone can live with.

But all too often, the regulatory and administrative framework the Forest Service is bound by keeps the agreements from going into effect. Time, effort, and resources poured into a project might ultimately yield nothing but paperwork—competent studies and documentation, but no results on the ground. In the Megram case example, after initial setbacks, the appeals process resulted in sound documentation for the proposed action; yet the project resulted in only 1,600 acres of fuels treatments before the 1999 Megram Fire severely burned much of the project area.⁷ It is not just a matter of delivering more outputs (see the sidebar below); it is about getting anything done at all.

The essential question is this: Does the Forest Service have the statutory, regulatory, and administrative framework needed to cope with the land health crisis and otherwise manage the National Forest System? Or will process delays keep the Forest Service from reducing hazards and addressing emergencies, thereby putting forest ecosystems and nearby communities at ever-greater risk—and ultimately preventing the agency from fulfilling its core mission?

Purpose of This Report

In 2001, shortly after being named to lead the Forest Service, Chief Dale Bosworth appointed a team of Forest Service employees to explore whether national forest management is indeed mired in process. The team reviewed the statutory and regulatory framework for national forest

It's About Good Government

The Coconino National Forest in Arizona is home to the northern goshawk. In 1996, the forest proposed thinning trees near a goshawk nest, partly to protect the bird from fire hazards. The project was stopped because environmentalists protested. That year, a catastrophic fire destroyed the forest, including the tree with the goshawk nest. “There was not a green tree left,” said a Forest Service biologist. “What the scientists said could happen, did happen, right in front of my eyes.”*

If process keeps projects from restoring the land, the land ultimately suffers. At stake are wildlife habitat and all of the other values that the Forest Service is charged with protecting and delivering on the national forests and grasslands. By streamlining procedures, the agency can reduce costs and increase its ability to do more on the ground for healthy, resilient ecosystems.

Many values might or might not flow out of that, such as recreation, wildlife habitat, and timber. But the particular values are incidental to the core purpose—good government. It's about reducing waste and mismanagement. It's about efficient, effective service delivery.

* Tom Knudson, “Playing With Fire: Spin on Science Puts National Treasure at Risk,” *Sacramento Bee*, 25 April 2001.

⁷ Six Rivers NF, appendix C, appendix C, p. C-23.

management and examined the agency's own internal processes for forest planning and decision-making, based on:

- past reports by internal agency task groups and the General Accounting Office (GAO);
- relevant past and ongoing studies, particularly a 1995 draft report under Forest Service Chief Jack Ward Thomas (appendix A) and an ongoing business process analysis of a Forest project (appendix B); and
- case examples from Forest Service field personnel (some of which are in appendix C).

In February 2002, the team presented its findings to Chief Bosworth. This report is based on those findings. It makes no recommendations. Its purpose is simply to set forth the problem: Statutory, regulatory, and administrative requirements impede the efficient, effective management of the National Forest System. As long as they do, the Forest Service's ability to achieve healthy, resilient ecosystems and otherwise meet its multiple-use mission will remain in doubt, undermining public confidence in the agency.

The scope of this report is limited. Important questions remain. How can barriers to efficient, effective national forest management be removed without violating the principles of sound public land management in a democracy? Who should remove the barriers, and how? At least part of the problem is internal; how much of it can be solved through internal agency reforms alone? Should interagency processes or even statutes be improved? These are questions for the Forest Service's leaders and, perhaps, our nation's democratic process to decide. This report makes a start by simply identifying the problem.

Finally, this report is not a conclusive treatise on resolving land management processes. Nor does it fault any particular entity involved in forest planning and land management. Rather, it offers facts and examines past practices and ensuing results. The Forest Service, over its hundred-year history, has earned a reputation for conservation leadership and innovation. This report opens a dialogue between the agency and interested publics to improve management efficiency while managing our natural resources within the spirit of the law.

BACKGROUND

Origins of the Problem

The original purpose of the forest reserves, embodied in the Organic Act of 1897, was "to improve and protect the forest within the reservation"⁸ in order to conserve watersheds and timber reserves for the nation to call on when needed. The timber reserves were needed after World War II. Other timber supplies were exhausted, and there was a huge postwar demand for timber to help realize the American dream of owning a single-family home. The national forests helped fill the gap. From 1960 to 1985, the national forests met about 25 percent of U.S. softwood timber needs.

⁸ Organic Administration Act (16 U.S.C. 475), as quoted in USDA Forest Service, *The Principle Laws Relating to Forest Service Activities* (Washington, D.C.: USDA Forest Service, 1993), p. 6.

In the 1950s, some people began to question the Forest Service's emphasis on timber production. They argued that other uses of the national forests, such as recreation, should have equal standing. The Multiple Use–Sustained Yield Act of 1960 provided a framework for balancing multiple uses, but it failed to quell growing controversy over national forest management.

At the time, federal land managers and many others believed that professional expertise should guide decision-making on public lands. The Forest Service took local opinion into account, but its philosophy was to “inform and educate” the public on what was best for the land, in the expectation that people would ultimately “see the light.”⁹ However, the appeal to professional authority failed to satisfy growing numbers of Americans. As one study put it, the traditional Forest Service approach “did not provide a way to surface differences, much less work through them.”¹⁰ Increasingly, the public turned for relief to the courts and to Congress.

In the 1960s and 1970s, Congress passed many new laws and amendments to old laws affecting national forest management, including the National Environmental Policy Act (NEPA), the Federal Advisory Committee Act (FACA), the Endangered Species Act (ESA), the Clean Water and Clean Air Acts, and the National Forest Management Act (NFMA). Congress understood what was at stake. In the national forest debate, social values were at issue; the underlying conflicts were often political. By facilitating public participation in national forest management, Congress sought to create mechanisms for conflict resolution, thereby obviating the need for direct congressional intervention to resolve disputes. To some degree, Congress seems to have favored a complex public process over other, more efficient management models.

Each new law or amendment was driven by sound intentions. Each contained provisions that enjoyed broad public support. Some mandated integrated management approaches that are widely accepted today as the foundation for ecosystem-based management; others encouraged ordinary citizens to engage in Forest Service decision-making; still others placed more emphasis on individual values, such as undisturbed natural settings and native fish, wildlife, and plants.¹¹

Each law was intended to strengthen the Forest Service's ability to discharge its obligation to care for the land and serve people. In response, the Forest Service reformulated its mission, goals, and objectives.¹² Today, the agency focuses on the long-term health of the land, in accordance with the principle that conditions we leave on the land are more important than what we take away.¹³

⁹ Personal communication with Gerald W. Williams, National Historian for the USDA Forest Service, Washington Office, Washington, D.C.

¹⁰ M. Hummel and B. Fleet, “Collaborative Processes for Improving Land Stewardship and Sustainability,” in *Ecological Stewardship*, vol. III, p. 99.

¹¹ A relatively recent public survey suggests strong public support for noncommercial values on the national forests and grasslands. Deborah J. Shields, Ingrid M. Martin, Wade E. Martin, and Michelle A. Haefele, “Results from a Survey of the American Public's Values, Objectives, Beliefs, and Attitudes Regarding Forests and Rangelands” (Fort Collins, Colo.: USDA Forest Service, Rocky Mountain Research Station, March 2001).

¹² A process finalized with publication of the *USDA Forest Service Strategic Plan (2000 Revision)* (Washington, D.C.: USDA Forest Service, December 2000).

¹³ A principle often cited by Forest Service Chief Dale Bosworth. See, for example, Chief Bosworth's speech at the Forest Policy Summit in Grand Rapids, S.D., 15 August 2001 (online at <<http://www.fs.fed.us/intro/speech/2001/2001aug15-Blackfinl.htm>>).

In the 1970s, the Forest Service began to change its approach to public participation in national forest management. In accordance with statutory requirements for more public involvement, the agency's new approach was to "inform and involve."¹⁴ In practice, however, "inform and involve" often continued the tradition of "educating" the public and arbitrating disputes among resource users based on professional expertise. It failed to stop an intensification of the debate over resource use on federal lands.

As the conflict heated up in the 1980s, line officers began to seek alternative means of conflict resolution. By the early 1990s, the old model was giving way to new collaborative approaches.¹⁵ Today, the Forest Service increasingly sees itself as a partner in natural resource management. It works within collaborative groups with members who openly discuss their differences while seeking agreement based on mutually shared values and goals.

The environmental laws thus helped to end one era of land management and inaugurate another. What one study calls "the period of retention and management of public lands" is yielding to a new era marked by "integrated, ecosystem-based management that transcends traditional jurisdictional boundaries."¹⁶ In the new era, opportunities abound for new, more flexible approaches to public land management. New scientific insights are paving the way for adaptive management on an ecosystem basis, and new developments in information technology are making it easier to share information and collaborate across jurisdictions on a landscape level.

Yet, the Forest Service's decision-making process is failing to keep pace with these developments. The environmental laws spawned thousands of pages of regulations and administrative rules, making national forest management far more complex and cumbersome at a time when flexibility and agility in public land management are needed to capitalize on new opportunities. The requirements include a stream of predecisional consultations and analyses, often followed by postdecisional appeals and litigation. Line officers often find themselves in a costly procedural quagmire, where a single project can take years to move forward and where planning costs alone can exceed \$1 million.¹⁷ Even noncontroversial projects can proceed at a snail's pace.¹⁸

¹⁴ Personal communication with Gerald W. Williams, National Historian for the USDA Forest Service, Washington Office. The first extensive experience with public involvement came following the Wilderness Act of 1964, with about a quarter million public comments on the Forest Service's proposed wilderness regulations. The Roadless Area Review and Evaluation in 1973 generated the next big surge of public involvement—about 300 public meetings and more than 50,000 written and oral comments. In 1979, the new forest plans under NFMA generated hundreds of thousands of responses (such as letters) with millions of comments. For example, the forest plan for Oregon's Umpqua National Forest alone inspired 15,458 responses containing 215,680 comments.

¹⁵ Hummel and Fleet, pp. 99-100. Arguably, the new approaches could draw on the Forest Service tradition of informal consultations with local communities.

¹⁶ R.B. Keiter, T. Boling, and L. Milkman, "Legal Perspectives on Ecosystem Management: Legitimizing a New Federal Land Management Policy," in *Ecological Stewardship*, vol. III, p. 12.

¹⁷ For example, procedural costs for individual projects exceeded \$1 million in both the Bitterroot and Santa Fe case examples. See Bitterroot National Forest, "Bitterroot Burned Area Recovery Project," appendix C, p. C-10; and Santa Fe National Forest, "Santa Fe Municipal Watershed Project," appendix C, p. C-19.

¹⁸ For example, the planning process in the Morgan Falls case example took about 20 months (from August 1999 to April 2001), even though it was noncontroversial and there were no appeals. According to the line officer, "The process is frustrating for many local publics and employees due to the amount of time it takes to put an action in place." See Chequamegon-Nicolet National Forest, "Morgan Falls Trail Reroute Project," appendix C, p. C-41.

Thomas Report

This problem has long been recognized. In April 1995, during his Senate confirmation hearing, Secretary of Agriculture Dan Glickman pledged to work with Congress to streamline the Forest Service's statutory framework.¹⁹ Subsequently, Forest Service Chief Jack Ward Thomas appointed a task force to review the laws and regulations that guide management of the National Forest System. The review was to form the basis for a report to Congress. The task force drafted a report on how key laws relate to one another and affect national forest management (appendix A). The report was not delivered.²⁰

The Thomas Report found two widely held yet disparate views. One view is that the various statutes and regulations complement each other. The other view is that the statutes and regulations form a "crazy quilt" with unintended adverse consequences.²¹ Although the task force "did not find strong oppositional conflict between statutory mandates," it did find that the legal and regulatory framework had "some negative effects" on "the effectiveness of the Forest Service as a land-managing agency."²² The report identified the following adverse effects:

- diminished output predictability;²³
- disincentives for predecisional dialogue because citizens have opportunities for administrative appeals and judicial review;²⁴
- legal constraints on using professional expertise and consensual group recommendations;²⁵
- uncertainty in Forest Service decision-making, given the vague or undefined parameters of judicial review;²⁶

¹⁹ U.S. General Accounting Office, "Forest Service Decision-Making: A Framework for Improving Performance" (Report to Congressional Requesters; GAO/RCED-97-71; April 1997), p. 102.

²⁰ According to GAO, "[Clinton] Administration officials have said that they are hesitant to suggest changes to the procedural requirements of planning and environmental laws because they believe that the Congress may also make substantive changes to the laws with which they would disagree." GAO, "Forest Service Decision-Making," p. 102.

²¹ Judge Lawrence K. Karlton characterized the situation as follows: "With the growth of the environmental movement, the tension between the power of the Secretary [of Agriculture] to administer the surface of the national forests and the right to prospect and mine in the national forests became evident. With the passage of the Multiple Use Act and other statutes and amendments to pre-existing statutes, the unresolved tension has been incorporated into law. Indeed, the crazy quilt of apparently mutually incompatible statutory directives are enough to drive any Secretary of Agriculture interested in discharging his lawful duties to drink. Congress, can, of course lead a Secretary to booze, but Congress cannot force the Secretary to drink. Thus the Secretary by nature of his rulemaking powers, has the opportunity to bring order out of chaos." *United States v. Brunskill*, Civil No. 5-82-666 LKK (E.D. Cal. 1984), unpublished opinion, aff'd, 792 F.2d 938 (9th Circuit 1985).

²² Thomas Task Force, "Review of the Forest Service Legal and Regulatory Framework" (draft report) (Washington, D.C.: USDA Forest Service, 1995), appendix A, p. A-3.

²³ For example, "ESA requires the re-evaluation of on-going projects whenever new listings are made, critical habitat is designated, or other new information comes to light," which can change output projections. Thomas Task Force, appendix A, pp. A-11-12.

²⁴ For example, the Flathead National Forest faced litigation when its forest plan decision was announced in 1986, even though the Forest Service conducted additional analysis and hired a mediator to facilitate negotiations. Thomas Task Force, appendix A-14.

²⁵ Under FACA regulations, "where the Forest Service does not have the professional expertise or the necessary information, but knows that the expertise or information exists, it can be difficult to get the information and recommendations." Thomas Task Force, appendix A, pp. A-14-15.

- process duplication and management inefficiencies;²⁷ and
- inefficient cycles of forest plan and project-level consultation and documentation.²⁸

The Thomas Task Force also reported escalating costs connected with forest planning and management due to the need for voluminous documents to meet potential court challenges.

Business Process Analysis

Years of experience in project preparation have primed agency managers to accept overlapping and occasionally competing processes. It has become second nature for a forest’s management team to allocate the time and resources needed solely for project process. Yet, beyond informal discussion and examination, no attempt to quantify the required processes had occurred.

In early 2001, the Forest Service decided to see how procedural requirements translate into concrete activities at the project level by applying a business process model validated by agency personnel with field experience. The agency chose to analyze all requirements potentially applicable to one phase of a timber sale, drawing on the perspectives of employees who worked on the South Platte Watershed Project in Colorado, one of 15 large-scale watershed restoration projects nationwide. The Forest Service’s Inventory and Monitoring Institute hired a contractor to perform a business process analysis—a step-by-step breakdown of the activities involved.

The initial report delivered to the Forest Service (appendix B) summarizes results from the study. The study found that project-level decisions involve as many as 800 individual activities and more than 100 process interaction points.²⁹ The report concluded that “the intent of the Agency and governing laws is programmatically aligned,” but that “[p]rocess interaction between laws is extremely complex ... [and the] project planning process is highly susceptible to recursion/interruption and even non-completion.”³⁰ In other words, the process appears to be so complex that it is fragile and prone to failure. The final report will show time and costs involved, which promise to be extensive; it will be based on a review by the agencies responsible for administering the relevant laws.

Case Examples

The Bosworth Team reviewed and analyzed several real-world case examples to help pinpoint some of the problems associated with national forest management. The case examples include two fire recovery projects, a fuels reduction project, a trail relocation project, and a watershed

²⁶ For example, under a 1994 decision on the northern spotted owl, the court “identified several circumstances that may cause a need to reconsider the ROD [record of decision].” Thomas Task Force, appendix A, p. A-16.

²⁷ For example, the responsibilities of state agencies to oversee water and air quality overlap with corresponding Forest Service responsibilities. Thomas Task Force, appendix A, p. A-18.

²⁸ For example, regulatory agencies “are generally unwilling to allow projects that comply with forest plan consultation to proceed without further review at the project level.” Thomas Task Force, appendix A, p. A-18.

²⁹ Inventory and Monitoring Institute and BusinessGenetics, “Report Abstract: Reflecting Complexity and Impact of Laws on a USDA Forest Service Project” (preliminary report) (Fort Collins, CO: USDA Forest Service, 2001), appendix B, pp. B-7, B-17.

³⁰ IMI and BusinessGenetics, appendix B, p. B-7.

restoration project. Drafted in the field, they reflect the views of local line officers; appendix C contains summaries and lightly edited full text.

The case examples tell a complex story. Some of the problems described in the case examples were avoidable. One case example partly attributes project delays to mistakes made by managers, including a failure to change tactics in response to a changing situation.³¹ Another case example notes that the project could have been expedited had managers given it higher priority.³²

Nevertheless, a strong common theme runs through all five case examples and other materials reviewed by the team: Procedural constraints keep national forest management from being as efficient and effective as it should be. Specifically:

- multiple layers of interagency coordination, coupled with internal administrative requirements that have accumulated over time, are delaying time-sensitive projects;³³
- for some groups, postdecisional review opportunities (through appeals and litigation) are a disincentive to seriously engage in predecisional collaboration on a project;³⁴
- requirements for environmental analysis go well beyond what is required for fully informed decision-making,³⁵ partly because the Forest Service has locked itself into expectations for analysis and monitoring without fully considering the practical and scientific limitations involved;³⁶
- procedural requirements place enormous stress on employees at all organizational levels, leading to employee burnout;³⁷
- projects needed for ecological restoration and fuels treatment are not being implemented on the ground;³⁸
- continually evolving court interpretations of regulatory requirements create uncertainty for land managers;³⁹ and
- project analyses are frequently reworked at high cost.⁴⁰

³¹ Six Rivers NF, appendix C, pp. C-25-26.

³² Santa Fe NF, appendix C, p. C-18.

³³ In the Bitterroot case example, managers spent months reviewing roads policy and various environmental statutes and regulations “to provide the greatest chance of success in judicial review.” Meanwhile, fire-damaged timber proposed for salvage harvest was declining in value. See Bitterroot NF, appendix C, pp. C-7-8.

³⁴ See, for example, Bitterroot NF, appendix C, p. C-10: “Given the obvious prospect of judicial review, there was little motivation for compromise among interests.”

³⁵ See, for example, Bitterroot NF, appendix C, p. C-12: “However, much of the analysis and documentation prepared to minimize litigation risks did not substantially help the decisionmaker.”

³⁶ See, for example, Bitterroot NF, appendix C, p. C-8: “The Forest Service Manual prohibits management actions that lead to listings under the Endangered Species Act. There are 12 sensitive vertebrates and 27 sensitive plants on the BNF. Uncertainty about the population dynamics of most of these species makes the analysis of species viability problematic.”

³⁷ See, for example, Bitterroot NF, appendix C, p. C-11: “Many employees would prefer to avoid such assignments because they perceive them as unrewarding exercises in paperwork, with a greater chance of frustration and failure than of success.”

³⁸ See, for example, Six Rivers NF, appendix C, pp. C-23-28.

³⁹ In the Megram case example, a court threw out the environmental impact statement based on its interpretation of regulatory requirements. See Six Rivers NF, appendix C, p. C-25.

NATURE OF THE PROBLEM

With the advent of the electronic age, the world has become a different place. Advances in science and technology have the potential to revolutionize public land management. Personal computers, the Internet, and telecommunications have created unprecedented opportunities for collaboration and flexible decision-making through teleconferences, virtual public meetings, and instantaneously shared information. Ecosystem-based approaches have opened possibilities for cross-jurisdictional management unheard of in the days of administering the land strictly within jurisdictional boundary lines. The science of adaptive management has the potential to replace traditional linear decision-making with flexible, holistic approaches based on feedback loops.

Unfortunately, the Forest Service operates within a statutory, regulatory, and administrative framework that has kept the agency from fully capitalizing on such opportunities. The Thomas Report, business process analysis, and case examples all illustrate the shortcomings of a cumbersome procedural framework inherited from the past. Three problem areas stand out in particular:

1. ***Excessive analysis***—confusion, delays, costs, and risk management associated with the required consultations and studies;
2. ***Ineffective public involvement***—procedural requirements that create disincentives to collaboration in national forest management; and
3. ***Management inefficiencies***—poor planning and decision-making, a deteriorating skills base, and inflexible funding rules, problems that are compounded by the sheer volume of the required paperwork and the associated proliferation of opportunities to misinterpret or misapply required procedures.

Excessive Analysis

Interagency consultations and environmental studies are cornerstones in our nation's system of protecting federal lands. However, the associated procedures, as they have evolved over decades of experience and legal precedent, are now complex, often costly and time-consuming, and sometimes redundant. Ironically, the requirements can keep federal agencies from realizing the intent of the law—to protect resources at risk.

Federal land management agencies (such as the Forest Service) and regulatory agencies (such as the Environmental Protection Agency, National Marine Fisheries Service, and U.S. Fish and Wildlife Service) play distinct yet overlapping roles in conserving and managing natural resources on federal lands. Decision-making is complicated by the extensive environmental analysis and public involvement procedures developed under NFMA, NEPA, ESA, FACA, and the Forest Service's appeals process. The ecosystem-based approach adopted by most federal agencies adds further layers of complexity.⁴¹ All of these factors, alone or in combination, can pre-

⁴⁰ In the Megram case example, the remanded EA was reworked based on a wildlife survey that cost \$28,350 for 1,134 acres (about \$25 per acre). See Six Rivers NF, appendix C, p. C-26.

⁴¹ The Council on Environmental Quality has named additional factors that keep federal agencies from embracing "policies, procedures, and activities that would enhance the conservation of biological diversity," including the disparity between administrative and ecological boundaries; institutional infrastructure (separate jurisdictions, differing

vent or seriously delay work from getting done to protect species, improve water quality, or restore watersheds.

Short-Term Focus

Forest and rangeland management can, in many respects, be compared to a sporting event. Forest Service employees constitute the team. Forest plans are like game plans, designed to help the team achieve the desired outcome of maintaining healthy ecosystems in the long term. Projects are like individual plays in the game. If executed properly, they propel the team to victory.

Regulatory agencies, on the other hand, are like referees. They are responsible for enforcing the various environmental statutes, such as ESA and the Clean Water and Air Acts, that constitute the rules of the game. The primary focus of regulatory agencies is not on long-term outcomes (winning the game). They rightly leave that up to the land management agency. Rather, they focus on the immediate risks to a particular resource, such as a threatened or endangered species or the quality of the air on any given day, that is governed by the rules they enforce.

Understandably, the regulatory agencies often seek to avoid any risk to the individual resources they oversee. “Regulatory agencies, given their missions,” former Forest Service Chief Jack Ward Thomas has declared in testimony before Congress, “will always opt to accept as little short-term risk as possible and be relatively indifferent to long-term dynamic changes in the ecosystem in question.”⁴² By contrast, said Thomas, “[m]ultiple-use oriented agencies, given their missions, will usually opt for greater short-term risk with a longer-term view.”

Thomas noted that “[t]he regulatory agencies’ cards trump those of the land management agencies.” Before the game can start, the referees must inspect and approve the game plan (forest plan). That might take awhile, particularly if the pool of referees is small and overworked, overly cautious, or subject to multiple levels of review. Then the game can begin, but it is constantly interrupted before each play (project) so the referees can inspect and approve the play in advance. Again, that might take awhile.

And, to further complicate matters, each referee uses a different rulebook (different laws and different requirements for particular resources, such as air quality or individual species). Adjustments made to satisfy one referee might violate the rules of another. If every referee can be satisfied—which can be difficult—then the play is allowed to proceed; but it might no longer do what it was supposed to do: help the team win the game.

missions); and the absence of regional ecosystem plans and strategies that provide specific biodiversity goals and objectives against which the impacts of proposed activities can be assessed. CEQ concluded “the challenges and obstacles discussed here do not preclude serious consideration of biodiversity in NEPA analysis within existing institutional arrangements and with presently available information. CEQ, “Incorporating Biodiversity Consideration Into Environmental Impact Analysis Under the National Environmental Policy Act” (Washington, D.C.: CEQ, January 1993), p. 22.

⁴² Jack Ward Thomas, Testimony prepared for a hearing on the Northwest Forest Plan, scheduled for October 24, 2001, before the Senate Subcommittee on Public Lands and Forests of the Committee on Energy and Natural Resources.

In other words, the regulatory agencies can use their “trump cards” to change the focus of land management from landscape-level conditions desired far into the future to the short-term welfare of single resources. As one study has noted, the short-term, single-resource focus defies ecological insights established decades ago by Aldo Leopold.⁴³ “From my observation,” noted Chief Thomas, “it seems that each time there was a decision to make, it was made on the conservative (low immediate risk) side. These cautious decisions, piled one on top of the other, finally accumulated to slow management to a crawl headed for a stop.”⁴⁴

Two types of examples illustrate the problem:

- Thinning and controlled burning can have adverse short-term impacts on water and air quality. However, if consultation stops such projects, the adverse long-term impacts can be much greater, including enormous fires; watershed damage; widespread loss of biodiversity and wildlife habitat; and massive, uncontrolled smoke emissions.⁴⁵
- Roads decommissioning and in-stream restoration (such as culvert removal) can adversely affect water quality in the short term, although the long-term benefits for waters and lands are obvious. Often, such activities are folded into large projects with multiple objectives to achieve greater efficiencies. If consultation delays or prevents such projects from going forward, managers have a perverse incentive *not* to decommission roads or restore streams, but rather to eliminate those components from the project just to get the rest of the work done.⁴⁶

Management Uncertainty

Many environmental laws contain provisions that tailor judicial review to particular purposes. However, agency actions under NEPA and NFMA are reviewed under the “arbitrary and capricious” standard of the Administrative Procedures Act. Under this standard, evolving case law has increased the costs for national forest planning and decision-making. Part of the increase comes from the Forest Service’s efforts to supply data and information requested by internal and external interests. However, much of the increase is related to management uncertainty—the desire to cover multiple eventualities, particularly if a case goes to court.

Since 1969, when NEPA was enacted, the courts have established a body of case law. NEPA regulations formulated by the Council on Environmental Quality (CEQ) have their basis in early NEPA case law; the regulations have had only one substantial change since 1978. Each federal agency is responsible for developing NEPA procedures for its own particular environmental issues and decision-making processes. Forest Service NEPA procedures established in 1992 address some of the problems, but many areas of uncertainty remain unaddressed.

⁴³ Keiter and others, p. 12.

⁴⁴ Thomas, congressional testimony on the Northwest Forest Plan.

⁴⁵ The focus on short-term effects on forest resources such as water quality and fisheries is illustrated by the adverse ruling in *Pacific Coast Federation of Fisherman’s Association v. NMFS*, 253 F.3d 1137 (9th Cir. 2001).

⁴⁶ Memorandum from the forest fisheries biologist to the acting forest supervisor, Gifford Pinchot National Forest, 1 July 1999.

For example, the range of alternatives required for environmental assessment and the appropriate way to incorporate adaptive management are still ambiguous. Line officers can never be sure when documentation is enough (see the sidebar below). They must constantly assess the risk of failure in the courts based on case law interpretations. They are left with the choice of either spending more time and money on analysis to cover a variety of potential court interpretations, or withdrawing project proposals for fear of adverse court decisions.

In the Santa Fe case example, where severe fire hazards in a municipal watershed urgently demanded action, project withdrawal was not an option. As a result, the forest spent almost 5 years and more than \$1 million on planning and public involvement, including collecting and analyzing extensive information of dubious value.⁴⁷ “We needed really good NEPA in order to have a defensible process,” noted the project planner. “We expected legal challenge.”⁴⁸

Information Levels

In the past, land managers have made mistakes because they did not adequately understand natural systems.⁴⁹ Sound land management decisions must be based on enough information to sufficiently assess the environmental effects. NEPA incorporates that insight. NEPA requires

Beschta Report—When Is Enough Enough?

An excellent illustration of excessive analysis due to management uncertainty is the Beschta Report. Commissioned by the Pacific Rivers Council in 1995, eight scientists drafted a paper, “Wildfire and Salvage Logging,” commonly known as the Beschta Report.

The paper has never been published in any scientific or professional journal, nor has it ever been subject to any formal peer review. In 1995, Forest Service scientists and managers expressed strong reservations about the report, which contains many unsubstantiated statements and assumptions. Nevertheless, the courts have sometimes shown support.

Groups have challenged postfire recovery projects on the grounds that the Forest Service has failed to consider the Beschta Report. In four cases, the courts have ruled that Forest Service decisions violated NEPA because the associated records did not adequately document the agency’s consideration of the Beschta Report. In two other cases, courts have ruled in favor of the Forest Service on this issue.

In view of the court record, forest planners might feel compelled to thoroughly document their consideration of the Beschta Report’s principles and recommendations, even though the underlying land management issues are already addressed in the record. That includes documenting why some elements of the Beschta Report are not relevant to the specific proposed project.

The court record has inspired some groups to demand that the Forest Service consider other papers and articles supposedly relevant to proposed actions. Sometimes the proffered list of references exceeds 100 entries. To minimize the risk of adverse judicial opinions, land managers might feel constrained to fully document within the body of the NEPA document their detailed consideration of each and every paper or article.

⁴⁷ See Santa Fe NF, appendix C, p. C-11: “ID Team members often believe that much of their work is ‘for the courts’ and not particularly useful for line officers who make decisions.”

⁴⁸ Santa Fe NF, appendix C, pp. C-17-18.

⁴⁹ In Oregon’s Blue Mountains, for example, “[i]n their haste to fix what was wrong with industrial logging, the [early Forest Service] foresters created other problems that proved much more difficult to mend.” Nancy Langston, *Forest Dreams, Forest Nightmares* (Seattle: University of Washington Press, 1995), p. 135.

federal land managers to conduct environmental analyses in order to evaluate the short- and long-term implications of proposed actions, to the extent that such implications are known or reasonably ascertainable.⁵⁰

Unfortunately, the courts have increasingly directed Forest Service managers to obtain information beyond the agency's own view of what is reasonable. Requirements to reopen analysis and rework project plans can delay even very small projects (see the sidebar on the next page). Natural systems are so inherently complex that they might never be fully understood in all of their workings. "For not only are ecosystems more complex than we think," Chief Jack Ward Thomas has observed, "they are more complex than we can think."⁵¹ Environmental analysis is necessarily based on incomplete data and our less-than-perfect understanding of natural processes. The question is this: How much information is enough?⁵²

Opinions differ. For reasonably foreseeable adverse effects, CEQ NEPA regulations require only that an environmental impact statement (EIS) disclose the fact of incomplete or unavailable information regarding the effects, acquisition of that information if reasonably possible, and evaluation of the effects based on available approaches. An EIS need not discuss remote and highly speculative consequences. In *Alaska v. Andrus*, the court ruled that federal agencies have a responsibility to "predict the environmental effects of a proposed action before the action is taken and those effects are fully known," but that "agencies may not be precluded from proceeding with particular projects merely because the environmental effects of that project remain to some extent speculative."⁵³

However, some have demanded very high standards of certainty, threatening otherwise to appeal or litigate. "When land-use decisions are to be made that have large-scale economic, social, and

⁵⁰ NEPA sections 102(C)(ii) and (v) require proposals for "major Federal actions" to include "a detailed statement" on, respectively, "any adverse environmental effects which cannot be avoided should the proposal be implemented" and "any irreversible and irretrievable commitments of resources which would be involved in the proposed action should it be implemented." *Principle Laws*, p. 456.

⁵¹ Quoted in Michael J. Gippert, "Integration and Coordination of Environmental Laws and Federal Administrative Practice: Forest Service Experience" (Washington, D.C.: USDA Office of General Counsel; revised talking points, November 1996), p. 1. Thomas was paraphrasing the noted ecologist Frank Egler, who wrote: "Ecosystems are not only more complex than we think, they are more complex than we can think." Frank Egler, *The Nature of Vegetation: Its Management and Mismanagement* (Norfolk, Conn.: Aton Forest Publishers, 1977).

⁵² A question raised by the court in *Alaska v. Andrus*: "Predictions, however, by their very nature, can never be perfect; and the information available to an agency could always be augmented. The question in each case is, 'How much information is enough?'" 580 F.2d 465 (D.C. Cir. 1978), *vacated in part as moot*, 439 U.S. 922 (1978).

⁵³ *Alaska v. Andrus*, 580 F.2d 465 (D.C. Cir. 1978), *vacated in part as moot*, 439 U.S. 922 (1978).

Morgan Cut: A Case of Analysis Paralysis*

A good example of what some call “analysis paralysis” comes from the Wayah Ranger District on the Nantahala National Forest in North Carolina, where a stream of new developments has produced years of analysis and planning for a small pilot project:

- **1992:** Public scoping begins for the Hickory Knob timber sale.
- **1994:** The environmental assessment (EA) is released; the project area is found to contain cerulean warblers, listed in the forest plan as a sensitive species. The timber sale is dropped.
- **April 1998:** Part of the old timber sale becomes the Morgan Cut Reinvention Project, a stewardship pilot project to evaluate the use of commercial logging for vegetation management. Proposed are a regeneration harvest on 12 acres and thinning on 8 acres. The project area contains no cerulean warblers.
- **February 1999:** Coordination with the regional and national offices is completed to tailor the project to the stewardship pilot program. Additional analysis covers aquatic, wildlife, and plant resources.
- **February 1999:** The district announces a decision based on a categorical exclusion (CE). The decision is appealed and withdrawn. A court subsequently eliminates use of CEs for similar small projects.
- **June 1999:** The district reinitiates scoping. An EA is released in November, but a decision is delayed pending analysis related to the endangered Indiana bat, discovered in an adjacent county.
- **September 2000:** A forest plan amendment and a biological opinion are released, both containing new requirements to protect habitat for the Indiana bat.
- **September 2001:** The forest completes a forestwide management indicator species report, in compliance with a recent court decision affecting several national forests in the South.
- **February 2002:** Additional surveys are completed for sensitive species. The project’s biological evaluation and EA are reformatted to meet new regional standards. The decision notice is released.
- **March 2002:** The decision is appealed. The project is delayed pending outcome of the appeal.

New developments forced employees to rework plans for Morgan Cut, keeping the project in limbo for years. The EA currently stands at 65 pages, with an additional 81 pages of specialist reports and an appeals record 372 pages long—all for a 20-acre stewardship pilot project involving no new roads.

* Based on a report from the Wayah Ranger District, Nantahala National Forest, May 2002.

political impacts,” noted Jack Ward Thomas, “individuals who stand to lose from those decisions typically demand unreasonable degrees of certainty in the information on which those decisions are based.”⁵⁴ These demands are often supported by references to existing case law. In response, the Forest Service has spent growing amounts of time and money on increasingly elaborate predecisional speculation about the environmental effects of proposed actions.

The Bitterroot Burned Area Recovery Project is a case in point. Despite the need to move swiftly—in part to recover the value of removed timber—line officers still had to “fully document their ‘hard look’ at all the issues and their full compliance with every potentially applicable procedural requirement” in order to “withstand a federal court’s ‘searching inquiry’ of whether

⁵⁴ Jack Ward Thomas, in an article that appeared in *Forest Watch* (January/February 1992), quoted in Gippert, “Integration and Coordination of Environmental Laws,” p. 8.

the [national] forest ‘adequately considered all the relevant factors.’”⁵⁵ The adjacent Sula State Forest, which suffered the same fire damage as the Bitterroot National Forest and proposed similar treatments, was able to get work done on the ground while the national forest was still collecting and analyzing information. In the end, opponents did litigate, so the national forest’s careful study and documentation were in part justified. But they came at a considerable cost and risked fatally delaying a time-sensitive project. The end result was a settlement that did not fully utilize the study and analysis.

Though necessary under the circumstances, such efforts are of questionable usefulness.⁵⁶ As Kai Lee has put it, “Conflict through the courts forced substantial change in the agencies’ decision-making. But there was little learning about the environment itself. ... [W]hat remains is environmental analysis that is often usable, but few users and little cumulative ecological knowledge.”⁵⁷ Resources put to such dubious use cannot be applied to more productive tasks, such as monitoring, assessment, and adaptive management.

New Information

A related problem is the inherently incomplete nature of information on the environment. After analysis is done and work has started, new discoveries might be made or the situation might change; for example, an endangered species might be found or a fire or flood might occur. Under NEPA, if the agency makes “substantial changes in the proposed action that are relevant to environmental concerns “ or if there are “significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts,” then such new information can force a project to stop work, pending supplementation of environmental analysis.

And therein lies the rub. The agency interpretation of the terms “substantial” and “significant” are subject to judicial review, creating fertile ground for litigation. The problem is particularly vexing at higher levels of planning and coordination. Forest plans, for example, are intended to last 10 to 15 years, a period long enough for many changes to occur and much new knowledge to emerge. Another challenge is incorporating new information into the larger scales of planning and analysis required for eco-regional or cross-jurisdictional coordination and collaboration. New information at any scale can trigger delay or additional analysis at other scales (see the sidebar on the next page).

Most scientists and land managers agree that adaptive management is the answer.⁵⁸ Adaptive management is based on the premise that our understanding of ecosystems continually evolves

⁵⁵ Bitterroot NF, appendix C, p. C-7.

⁵⁶ See Bitterroot NF, appendix C, p. C-11: “Uncertainty over what is a legally sufficient level of analysis for particular issues and policy directives often leads to levels of analysis and documentation greatly exceeding the amount line officers feel is needed to make an informed decision. This additional analysis and documentation is ‘for the courts,’ and is of little or no use to the general public or agency decision-makers.”

⁵⁷ Lee, *Compass and Gyroscope*, pp. 103-104.

⁵⁸ For a thorough discussion of the concept and application of adaptive management, see B.T. Borman, J.R. Martin, F.H. Wagner, W.W. Wood, J. Alegria, P.C. Cunningham, M.H. Brookes, P. Fiesema, J. Berg, and J.R. Henshaw, “Adaptive Management,” in *Ecological Stewardship*, vol. III, pp. 505-533.

Woodpecker Project: A Case of Open-Ended Analysis*

A good example of open-ended analysis comes from Alaska's Mitkof Island, part of the Tongass National Forest. In 1995, a landscape analysis of the island identified a grouping of potential timber harvest opportunities. They came to be known as the Woodpecker Project, a proposal to remove 16.3 million board feet of timber and build 8.6 miles of new and temporary roads.

In the years that followed, new decisions, policies, and appeals required the Woodpecker plans and studies to be constantly reopened. Such new developments included:

- in 1997, the record of decision (ROD) for the Tongass Forest Plan;
- in 1999, the ROD for the revised forest plan;
- in January 2001, the new agency wide roadless rule and roads policy;
- in February 2001, again the new roads policy;
- in March 2001, a court decision to vacate the 1999 ROD;
- in March 2001, a court decision to enjoin timber sales pending a supplemental environmental impact statement;
- In May 2001, a court decision to lift the injunction, requiring documentation to be reworked to incorporate the latest legal and policy language;
- from June to December 2001, interim directives to protect roadless values;
- in December 2001, a decision by the regional forester to reverse the forest supervisor's decision to proceed with the project because the record appeared to include a data error that might be significant; and
- in February 2002, court hearings on whether to again enjoin timber sales.

Each new development forced employees to rework documentation for the Woodpecker Project. The future promises more of the same; litigation could follow, given the roadless issues involved.

* E-mail memorandum from Betsy Rickards, environmental coordinator, USDA Forest Service, Alaska Region, 25 April 2002.

and that unexpected events can and will occur. Uncertainty is normal; it need not grind decision-making to a halt. "Adaptive management is learning while doing," Kai Lee has noted. "Adaptive management does not postpone action until 'enough' is known but acknowledges that time and resources are too short to defer *some* action. . . ."⁵⁹ Adaptive management means making decisions using the best information available, then monitoring the results, learning from experience, and adapting future management accordingly.

However, current procedures can discourage adaptive management. The Forest Service takes the approach that complying with NEPA and ESA requires making decisions, completing projects, and determining effects within a clearly identifiable timeframe. Forest Service rules for public participation and administrative appeals are linear and inflexible. Without more flexible mecha-

⁵⁹ Kai N. Lee, "Appraising Adaptive Management," in *Conservation Ecology* 3(2) (online at <[http:// www.consecol.org/vol3/iss2/art3](http://www.consecol.org/vol3/iss2/art3)>).

nisms, adaptive management will remain at best difficult to incorporate into national forest planning and decision-making.⁶⁰

New Listings

A special form of new information is the new listing of a threatened or endangered species. If a species is added to the endangered species list, then activities that might affect it must often stop, pending consultation with regulatory agencies.⁶¹ That stands to reason; however, renewed consultation might be required for an entire forest plan, triggering a forest- or even regional suspension of projects.⁶²

The need for such blanket delays is questionable, particularly in the electronic age. With detailed databases quickly at their disposal, regulatory and management agencies should be able to focus on the projects that specifically affect a newly listed species. Other projects should be able to proceed without delay.

Administrative Rules

The Forest Service's own rules, many of which resulted from court decisions, require the agency to gather and analyze extensive data before a project can proceed. For example, forest planning regulations require line officers to maintain "viable populations of native and desired non-native species within the planning area."⁶³ By comparison, NFMA requires only that managers "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...."⁶⁴

The "viable populations" requirement is responsible for much of the time and expense that goes into project planning. It means analyzing potential project effects on many different species, as opposed to a far less time-consuming landscape-level analysis of habitat diversity, specifically checking for the needs of individual species. In the Bitterroot case example, the national forest evaluated the proposed project's impact on "viable populations" for 12 sensitive vertebrates and 27 sensitive plants, a daunting challenge: "Uncertainty about the population dynamics of most of these species makes the analysis of species viability problematic," the line officer observed.⁶⁵

Former Chief Jack Ward Thomas, currently Boone and Crockett Professor of Wildlife Conservation at the University of Montana, has questioned the rationale for such "unreasonable degrees of certainty" in project planning. "The biology of certain wildlife populations and habitat relationships is not conducive to precise estimates, no matter how much they are studied," he noted.

⁶⁰ For example, "[s]topping ongoing and new activities during the development or reconsideration of programmatic ecosystem strategies operates as a dis-incentive for federal agencies to practice adaptive management." Gippert, "Integration and Coordination of Environmental Laws," p. 18.

⁶¹ *Pacific Rivers Council* (PRC), 30 F.3d 1050 (9th Cir. 1994).

⁶² The Supreme Court's ruling regarding the justiciability of forest plans has raised questions about the viability of *Pacific Rivers Council v. Thomas*.

⁶³ 36 CFR 219.19.

⁶⁴ NFMA section 6(g)(3)(b). *Principle Laws*, p. 597. The "viable populations" requirement is also arguably more rigorous than any in provision in ESA.

⁶⁵ Bitterroot NF, appendix C, p. C-8.

“The precision of such estimates can become only marginally better regardless of how politically desirable that may be.”⁶⁶

Another example of an administrative rule that seems to demand unreasonable degrees of certainty is the “Survey and Manage” requirement in the Northwest Forest Plan. Before a “ground-disturbing activity” can proceed within the 24.5 million acres of federal land covered by the plan, federal agencies must collect detailed data on numerous plants and animals in the project area.⁶⁷ For species such as mollusks, the knowledge of habitat needs can be extremely limited; there might be no more than a single expert worldwide. “Survey and Manage” can prevent fuels reduction if thinning or prescribed fire would temporarily affect suitable habitat or threaten individuals in surveyed species. Even more than consultation requirements, “Survey and Manage” tends to distract from long-term resource conservation by focusing management on short-term, single-resource protection.⁶⁸

Moreover, the scientific basis of “Survey and Manage” is questionable.⁶⁹ Jack Ward Thomas, who led landscape-level studies related to ecosystem management in the Pacific Northwest before serving as Forest Service Chief from 1993 to 1996, believes that the surveys under the protocol are not only exceedingly expensive, but also of limited value because they do not provide statistically valid data on species occurrence.⁷⁰

Ineffective Public Involvement

Public participation is an essential part of public land management in a democracy. National forest management has always incorporated some form of public involvement. Over the years, however, the role of public involvement has changed. Since the 1960s, top-down approaches have gradually given way to bottom-up approaches based on partnerships.

Today, the Forest Service encourages competing interests to sit down and reason together. The final decision still rests with the agency, but a collaborative approach can yield better-informed decisions with broader public support than in the past. Collaboration takes time, but it can build constructive long-term relationships and dialogue, leading to decisions that are sustainable.⁷¹

⁶⁶ Jack Ward Thomas, in an article that appeared in *Forest Watch* (January/February 1992), quoted in Gippert, “Integration and Coordination of Environmental Laws,” p. 8.

⁶⁷ Record of Decision for Amendments to Forest Service and Bureau of Land Management Planning Documents Within the Range of the Northern Spotted Owl (April 1994). Dozens or even hundreds of species might fall under “Survey and Manage” requirements for a project. “Under the Survey and Manage component of the NFP [Northwest Forest Plan], we have learned about the distribution of over 400 species about which little was known prior to 1994,” said Deputy Regional Forester Nancy Graybeal in testimony before the Senate subcommittee on Forests and Public Land Management, 24 October 2001.

⁶⁸ See, for example, Six Rivers NF, appendix C, p. C-26: “In fact, ‘Survey and Manage’ requirements are typically more inflexible than consultation requirements for endangered species.”

⁶⁹ See, for example, Six Rivers NF, appendix C, p. C-27: “Data collection without a research design is usually a waste of time.”

⁷⁰ Personal communication with Jack Ward Thomas, Forest Service Chief *emeritus* and former leader of the Forest Ecosystem Management Advisory Team process.

⁷¹ For an authoritative discussion of collaborative approaches, see Hummel and Fleet, pp. 97-129.

Of course, collaboration is no silver bullet. Collaboration has worked well primarily where it has succeeded in building a basis for mutual trust (see the sidebar below). Where distrust remains, results have been mixed.

In the Santa Fe case example, according to the line officer, “local constituents simply do not trust the Forest Service to do the right thing.”⁷² A suspicious public demanded more information than technically needed to justify a relatively simple fuels reduction project.⁷³ The Forest Service spent nearly five years and more than \$1 million on project planning. Much of the time was spent on

Ponderosa Pine Forest Partnership*

“Some kind of intervention was necessary,” said Mike Preston, a commissioner for Montezuma County in southwestern Colorado.

For years, bitter conflicts over timber harvest had slowly ground public land management to a halt. Meanwhile, the ponderosa pine forest—historically open, with lots of grasses under the big, old trees—continued to decline, choked by “dog-hair” thickets of invading small trees. Catastrophic fires threatened each year to incinerate the entire forest and cook the soils, doing long-term ecological damage.

The county decided to try something new. It brought together various sides—loggers and environmentalists, state and federal managers, college researchers and facilitators—in a collaborative experiment called the Ponderosa Pine Forest Partnership.

Each partner has a mutually shared responsibility for community and forest sustainability. Partners build new relationships based on shared values, shared knowledge, and constructive action.

The experiment has worked because the partners discovered a basis for mutual trust. Traditional relationships, all too often based on mutual recrimination, have given way to new arrangements in which ecology drives the economics of forest restoration.

Based on principles of adaptive management, the San Juan National Forest marks trees to be left standing. Then local loggers remove the remainder, using ecologically sound techniques. Next come the controlled burns. The fires burn off brush and add nutrients to the soil but kill few trees.

The result is astounding. Thousands of acres in the forest’s ponderosa pine zone have been restored to open, sun-filled expanses, with meadow like floors and clumps of large trees. “It’s a much better approach to forestry than we’ve seen elsewhere in the national forest,” said Mark Pearson, executive director of the San Juan Citizens Alliance. “People can get timber products off the forest at the same time that they’re supporting the ecosystem.”

* Based on Jim Greenhill, “Partnership Reduces Fire Danger, Helps Forests With Logging,” *The Durango Herald*, 9 May 2002.

⁷² Santa Fe NF, appendix C, p. C-18.

⁷³ Santa Fe NF, appendix C, p. C-18: “[The public does] not accept agency expert opinions on face value. Consequently, the information needs were greater for this project than for many others of similar size and complexity. There was a demand for ‘outside’ scientific opinion, such as that presented by well-known forest ecologists at a community forum.”

collaborative efforts to build public trust and support for the project. Given the urgent need for the project, some questioned the value of the time spent.⁷⁴

The emerging collaborative approach hinges on the Forest Service's ability to hold open discussions with stakeholders. That ability can be constrained by procedural barriers associated with FACA, administrative appeals, prolonged delays, uneven standards for judicial review, and the Forest Service's own uneven expertise in collaboration.

FACA Constraints

One increasingly desirable—and sometimes necessary⁷⁵—option for line officers is to utilize broadly representative public groups to provide consensual advice on watershed- or landscape-level projects. Consensus goes beyond collaboration; it entails agreement reached by a group through its own decision-making process. If the Forest Service decides to utilize such a group, it is required by FACA to charter an advisory committee.⁷⁶ Under USDA regulations, the chartering process is usually so laborious and time-consuming that its potential advantages have never been fully realized—and, until recently, seldom explored.

In August 2001, new FACA regulations issued by the General Services Administration went into effect. The new regulations exempted some groups from FACA requirements, including groups with members who are not actually managed or controlled by the executive branch, who provide individual advice, or who exchange facts or information.⁷⁷

However, when the exemptions do not apply, then the Forest Service must still go through the time-consuming process of chartering an advisory committee. The alternative is to use methods that do not trigger FACA requirements. Such methods would not facilitate the consensual approaches that might work best in some situations.

Administrative Appeals

The Forest Service's procedure for administrative appeals allows citizens to challenge a line officer's decision to proceed with a project. Although the Forest Service has long had an administrative appeals process, none was legally required for the agency until the 1993 Interior and Related Agencies Appropriation Act.⁷⁸ The Forest Service is now required by law to give public notice and an on-the-record comment period for proposed actions covered by environmental as-

⁷⁴ Line officers estimated that, without fuels treatments, a wildfire in the watershed would spread to 46,000 acres within two days. "The mayor [of Santa Fe], regional forester [for the Forest Service's Southwest Region], and others questioned the length of time involved." Santa Fe NF, appendix C, pp. C-13, C-19.

⁷⁵ For example, under the Secure Rural Schools and Community Self-Determination Act of 2000.

⁷⁶ NFMA, 16 U.S.C. 1612(b), provides for the involvement of FACA-chartered advisory boards in forest planning.

⁷⁷ 41 CFR 102-3.40. There are also statutory exemptions, such as section 204 of the Unfunded Mandates Reform Act of 1995, that exempt advisory committees whose membership consists of state, local, and tribal elected officials or their designees, and where their meetings are concerned with managing federal programs with intergovernmental responsibilities or administration.

⁷⁸ 106 Stat. 1419.

assessments and findings of no significant impact.⁷⁹ Other federal land managers have administratively established review procedures or no appeals process at all.⁸⁰

Administrative appeals can greatly delay a project. For time-sensitive projects, results can be disastrous. For example, unless insect-infested trees are swiftly removed, infestations can spread to healthy forests and even to nonfederal lands. In the Southeast, southern pine beetle infestations have repeatedly spread from national forests to private lands because the Forest Service was unable to complete environmental analysis and take action soon enough to prevent it.⁸¹

Moreover, the opportunity to appeal can discourage collaboration. If a group's only chance to affect an outcome is before a decision is made, its incentive to engage from the outset in collaborative decision-making will be strong. However, if the group can later appeal the decision, it can ignore opportunities for predecisional collaboration and focus instead on postdecisional challenges. Instead of helping parties work out their differences, the appeals process can all too easily become a tool for obstruction.⁸²

In the Santa Fe case example, the national forest spent years consulting with the public and tailoring its municipal watershed restoration project accordingly. The effort paid off: A broad consensus emerged behind the final project decision. However, two groups have threatened to challenge the decision. If the challenge materializes, it "would illustrate a rather common situation," according to the local line officer. "The agency often works diligently and collaboratively to design a project acceptable to constituents, only to have implementation stalled by a very small minority relying on esoteric legal arguments."⁸³

However, most collaborative groups recognize that Forest Service decisions are subject to appeal but choose to work with the agency, anyway. Recent experience suggests that a collective sense of ownership flows from decisions reached through collaborative processes. Local peer pressure can sometimes—but not always—help influence appellants to settle their cases. "Although challenge is still possible," noted the line officer in the Santa Fe case example, "many believe that residents and members of environmental organizations that have been engaged throughout the process will exert pressure on potential litigants to allow implementation to proceed."⁸⁴

⁷⁹ 36 CFR 215.

⁸⁰ 43 CFR 1610.5-2. For example, BLM decisions are appealable to the Interior Board of Land Appeals, and the National Park Service has no appeals process.

⁸¹ E-mail memorandum from Robert Pierson, planning director, USDA Forest Service, Southern Region, 24 April 2002.

⁸² Case examples consistently suggest that appeals do not help resolve disputes. In the Megram case example, "[T]he appeals process did not change the forest's decision. It provided neither the means nor the incentive to negotiate a resolution that addressed both the Forest Service's concerns and the appellants' core objections" (Six Rivers NF, appendix C, p. C-27). In the Indian River case example, "The Indian River, like most rivers on the Hiawatha National Forest, was heavily damaged during the log drives of the early 20th century. However, the plaintiffs did not want to see any management activities within the corridor, even if designed to restore the river system. . . . [T]he [high] level of public acceptance [for the project] by the majority of stakeholders was not increased by the litigation" (Hiawatha National Forest, "Indian River Watershed Restoration Project," appendix C, pp. C-34-35).

⁸³ Santa Fe NF, appendix C, p. C-20.

⁸⁴ Santa Fe NF, appendix C, p. C-19.

Procedural Delays

For time-sensitive projects, merely delaying implementation can be enough to stop work from ever beginning.⁸⁵ The ability of a single group to control the process can discourage groups from participating at all if it seems a waste of time. In the Bitterroot case example, litigious groups “appeared to many to push the majority of local interests out of the picture,” according to the line officer. Thereafter, what was initially a highly productive process of public involvement “seemed to dissolve into a process of litigation.”⁸⁶

Even if there are no appeals, it can still take a long time for work to begin.⁸⁷ In the Indian River case example, the public appreciated the need for environmental analysis and public participation, but was frustrated by the amount of time involved. “Questions arise as to why professional input and documents need to be continually revised to deal with new information or concerns,” noted the line officer, “and why it is necessary to document everything in great detail in anticipation of appeals.”⁸⁸ Appeals and litigation did result, even though the project—to restore a National Wild and Scenic River corridor degraded by use—was relatively noncontroversial; the EA generated only five comments, including those from the groups that appealed and litigated. It took more than two years after initial scoping to finally reach a settlement.

Public discouragement over procedural delays can prevent the Forest Service from forming and sustaining valuable partnerships. For example, the National Wild Turkey Federation, through a partnership agreement, helps the Forest Service create walk-in areas, plant wildlife openings, develop water resources, and conduct prescribed burns on national forest land. Many species benefit from the projects, including fire-dependent plants and threatened and endangered wildlife, such as the red-cockaded woodpecker and Indiana bat. Biologists from the Federation provide the Forest Service with technical advice and assistance. After generating the necessary funds and providing technical support, the Federation’s members expect the Forest Service to deliver the associated projects. Prolonged delays damage the agency’s credibility as a partner and discourage the Federation from continuing support.⁸⁹

Standards for Judicial Review

Evolving case law for NFMA, NEPA, and other statutes has slowly defined what is required of national forest land managers. Legal issues remain unaddressed or unresolved between jurisdictions, requiring the agency to rely on its own interpretation of appropriate legal standards. The resulting uncertainty for national forest managers constrains cross-jurisdictional collaboration.

⁸⁵ In the Megram case example, a fuels treatment project was delayed for more than a year by administrative barriers related to appeals. By the time the project proceeded, it was too late; a fire burned through most of the project area before fuels could be treated. See Six Rivers NF, appendix C, pp. C-24-25.

⁸⁶ Bitterroot NF, appendix C, p. C-10.

⁸⁷ In the case example of the Morgan Falls trail reroute—a noncontroversial “white-hat” project—planning and analysis took about 20 months, a length of time that “generally amazed and disheartened” local people, according to the line officer. “The process is frustrating for many local publics and employees due to the amount of time it takes to put an action in place.” Chequamegon–Nicolet NF, appendix C, p. C-41.

⁸⁸ Hiawatha NF, appendix C, p. C-34.

⁸⁹ Personal communication with Dr. James Earl Kennamer, president of the National Wild Turkey Federation.

In 1998, for example, 22 years after NFMA became law, the Supreme Court addressed the timing of judicial review of forest plans with regard to NFMA claims.⁹⁰ Yet questions still remain regarding the timing of judicial review for forest plans and projects.⁹¹ Other issues that have not been resolved include:

- appropriateness of the use of a NEPA categorical exclusion if “extraordinary circumstances” are present, i.e., the “mere presence” conundrum⁹² (conflict among the 7th and 9th, 10th Circuit Courts of Appeal);
- use of wildlife population data versus habitat to comply with 36 CFR 219.19(a)(6) (monitoring of management indicator species) (conflict among the 9th and 7th, 11th Circuit Courts of Appeal);
- application of the Migratory Bird Treaty Act to federal actions (conflict between D.C. Circuit and 8th, 11th Circuit Courts of Appeal); and
- application of NEPA to the designation of critical habitat under ESA (conflict between the 9th and 10th Circuit Courts of Appeal).

Agency Follow-through

Despite the Forest Service’s professed commitment to collaborative decision-making, partners have sometimes found it difficult to work with the agency. Problems include a lack of institutional capacity for collaboration and an inability to keep commitments.⁹³

In some cases, despite major resource commitments by communities, the Forest Service has failed to respond in kind. For example, by the time the last sawmill closed in Hayfork, California, in the mid-1990s, the community had lost more than 50 percent of its wage income. Undeterred, community members formed the Watershed Research and Training Center to stimulate new employment and enterprise through restoration and stewardship opportunities on federal lands. Those opportunities are great; national forests comprise more than 70 percent of the county, and the need for thinning, fuels reduction, and forest restoration is clear.

The Watershed Center trained local people and developed new, environmentally sensitive ways to use and market small-diameter forest materials and other byproducts from ecosystem restoration. The Forest Service’s State and Private Forestry Staff provided considerable funding through its Economic Action Program; the agency’s Forest Products Laboratory gave research

⁹⁰ *Ohio Forestry Association v. Sierra Club*, 523 U.S. 726 (1998).

⁹¹ See, e.g., *Wilderness Society v. Thomas*, 188 F.3d 1130, 1133 n.1 (9th Cir. 1999) (forest plans ripe for review of NEPA claim); *Heartwood v. Forest Service*, 230 F.3d 947 (7th Cir. 2000) (NEPA challenge to timber categorical exclusion ripe for review); *Coalition for Sustainable Resources v. Forest Service*, F.3d 1244 (10th Cir. 2001) (ESA challenge to forest plan not ripe for review).

⁹² Whether the “mere presence” of an extraordinary circumstance (e.g., listed species, steep slopes, or highly erosive soils) eliminates the possible use of a categorical exclusion has been the subject of considerable debate. See for example Federal Register 48412, 48414 (20 September 2001).

⁹³ Brett KenCairn, “Public Agencies in Collaboration: A Panacea to Gridlock or the Next Big Debacle?” Report to the Forest Service’s National Leadership Team (October 2000). KenCairn is the Director of Indigenous Community Enterprises in Flagstaff, Ariz.

help through its extensive programs for finding new ways to use unmerchantable forest materials, such as small trees and brush.

Despite all the enthusiasm and support, fewer than 200 acres have actually been treated since 1996. The Forest Service's failure to proceed with local projects has multiple reasons—bureaucratic process, competing regional and national priorities, and a lack of project funding and follow-through. Whatever the reasons, the bottom line is this: The national forest has not matched local commitment by taking decisive action. The result is supreme frustration and discouragement in the local community.

Management Inefficiencies

The Forest Service has a proud tradition of conservation leadership and management, dating to President Theodore Roosevelt, who founded the Forest Service in 1905. Gifford Pinchot, the first Forest Service Chief, described the early Forest Service's record of efficiency and effectiveness, including a commendation for sound fiscal management.⁹⁴ In recent decades, however, the agency has struggled with management problems.⁹⁵ Systematic efforts to improve agency performance go back to at least the 1980s.⁹⁶

In some areas, the Forest Service has made progress. For example, the agency has established standard, reliable frameworks for collecting information on nationwide acres at risk from wildland fire;⁹⁷ on the status of natural resources on the national forests and grasslands (the Natural Resource Information System); and on recreational use of the National Forest System (the National Visitor Use Monitoring Project). In 1999, to solve persistent accounting problems, the agency introduced its Foundation Financial Information System. Together with the Bureau of Land Management and other partners, the Forest Service has sponsored Service First, an innovative approach that cuts through red tape for better service delivery.⁹⁸

Nevertheless, the Bosworth Team identified several internal factors that continue to keep work from getting done on the National Forest System: poor planning, confusion about planning requirements, a deteriorating skills base, decisions to monitor individual species, and funding rules.

Poor Planning

The GAO has advised the Forest Service to better manage its planning process by:⁹⁹

⁹⁴ Pinchot, pp. 281-299.

⁹⁵ See, for example, U.S. General Accounting Office, "Forest Service Decision-Making: A Framework for Improving Performance" (Report to Congressional Requesters; GAO/RCED-97-71; April 1997); and National Academy of Public Administration, *Restoring Managerial Accountability to the United States Forest Service* (August 1999).

⁹⁶ Personal communication with Gerald W. Williams, National Historian for the USDA Forest Service, Washington Office, Washington, D.C. Relatively recent efforts to improve internal processes include the "reinvention" initiative of the mid-1990s and the process of revising the Forest Service's strategic plan, finalized in 2000.

⁹⁷ USDA Forest Service, "Historical Fire Regimes by Current Condition Classes," (Washington, D.C.: USDA Forest Service, February 2001), Website <http://fs.fed.us/fire/fuelman/data_summery_tables.pdf>.

⁹⁸ See Hutch Brown and Russ Linden, "Daring to be Citizen Centered," *The Public Manager* (Winter 2001-02), pp. 49-52.

⁹⁹ See GAO, "Forest Service Decision-Making," especially pp. 33-50.

- improving agency accountability for performance;
- improving agency commitment to monitoring and evaluation, including standardized protocols;
- adopting the recommendations of internal efficiency review teams;
- involving the public more actively at the beginning of the planning process; and
- developing common socioeconomic and environmental databases for use by forest planners and managers.

Case examples suggest that poor planning decisions not directly related to statutory or regulatory requirements or to the appeals process can cost the Forest Service precious time. In the Megram case example, time was lost due to management’s decision to use provisions under the 1995 Rescission Act to expedite a time-critical salvage sale. “The forest now believes,” the line officer observed, “that the forest lost nearly a year through its initial strategy and that using provisions under the Rescission Act, particularly for the inventoried roadless area, was a serious mistake.”¹⁰⁰

Confusion About Planning Requirements

In 1976, when NFMA passed, the Forest Service assumed that forest-level plans would meet most or all NEPA requirements for environmental studies. That assumption proved overly optimistic as it became clear that the Forest Service could not address project-level impacts at the programmatic level of evaluation for a 10- to 15-year land management plan. After a number of court cases, the Forest Service adopted a tiered planning process for developing NEPA documentation at both the forest plan and project levels. The evolution of ecosystem management argued for a third stage—large-scale environmental analysis—to evaluate the effects of management actions across ownerships and even across states.

Requirements for multitiered planning and analysis have produced confusion about decisions made and documentation required at the various scales, especially between the programmatic (forest plan and large-scale assessment) and project levels.¹⁰¹ For example, a ranger district might pour resources into a watershed analysis and produce an in-depth, 300-page study, when all that was really needed for landscape-level planning was a 15-page overview.¹⁰² Confusion about what is actually required and needed has led to delays and resource waste.

¹⁰⁰ Six Rivers NF, appendix C, p. C-25.

¹⁰¹ In the Megram case example, confusion over “Survey and Manage” requirements under the Northwest Forest Plan contributed to the remanding of an environmental assessment and associated project delay. As the line officer put it, “The forest had recently come under the Northwest Forest Plan, the requirements of which were complex and confusing, with little clear direction at first.” Six Rivers NF, appendix C, p. C-25.

¹⁰² Personal communication with Forest Service Associate Chief Sally Collins, former supervisor of the Deschutes National Forest in Oregon.

Deteriorating Skills Base

From 1992 to 2000, according to a report by the National Academy of Public Administration, the number of Forest Service employees fell by 23 percent.¹⁰³ The most negative competency assessment in the report went to the agency's Ecosystem Management Staff, which includes interdisciplinary planning occupations. At the very time when the need for interdisciplinary planning skills is rising, the Forest Service is losing precisely those skills. To complicate matters, the requirements for project planning have greatly increased in complexity, particularly with the introduction of large-scale environmental analysis, without a commensurate increase in training.

Under the circumstances, line officers have difficulty completing project planning on time. In the Bitterroot case example, about 60 employees with a wide range of skills were needed for at least 12 months of planning work. The needed skills "are in short supply relative to demand," noted the line officer. "There is little systematic training to develop these skills, and there are few support systems to reinforce any limitations of the team." Moreover, stress levels are high. "Many employees would prefer to avoid such assignments," observed the line officer, "because they perceive them as unrewarding exercises in paperwork, with a greater chance of frustration and failure than of success."¹⁰⁴

Monitoring Individual Species

Some forest plans and other documents commit line officers to monitoring individual species, even though there is no clear idea of the feasibility, cost, or potential benefit of doing so. Examples include the "Survey and Manage" provision in the Northwest Forest Plan and the commitment by the Forest Service's Southern Region to monitor populations of many species.

Commitments to monitor individual species are arguably discretionary. Moreover, other options are available to protect species at risk. However, after commitments are made, they are difficult to rescind or even to modify, even when they are found to be inappropriate or unworkable.

Funding Rules

Ecosystem management facilitates projects that serve multiple objectives. For example, a thinning project can serve to restore wildlife habitat, reduce fuel loads, improve watershed condition and function, and produce forest products for local communities.

Logically, such projects with multiple objectives should be able to draw on various sources of funding. Unfortunately, the Forest Service's budget rules have not kept pace with changing needs.¹⁰⁵ Line officers have cited the budget structure as a major impediment to the cooperative, integrated development of plans and projects.

¹⁰³ National Academy of Public Administration, Center for Human Resources Management; USDA Forest Service Workforce Plan.

¹⁰⁴ Bitterroot NF, appendix C, p. C-11.

¹⁰⁵ Any changes to the Forest Service's budget rules will require coordination with the Chief Financial Officer at USDA.

SCOPE OF THE PROBLEM

The Forest Service has created some of its own problems and can rightly be expected to solve them itself. However, much of the problem lies beyond the Forest Service's own range of control. The Forest Service can, for example, do little to change requirements associated with federal statutes. These requirements, according to the GAO, have made it difficult for the Forest Service "to predict when any given decision can be considered final and can be implemented, increasing the costs and time of decision-making and reducing the agencies' ability to achieve the objectives in their plan."¹⁰⁶

Workload

The Forest Service manages 192 million acres of national forest land. That amounts to 8.5 percent of the land area of the United States, an area the size of the original 13 colonies. The National Forest System comprises 155 national forests and grasslands with 585 ranger districts in 44 states and Puerto Rico.¹⁰⁷

Under NFMA, the Forest Service is required to prepare forest plans for the entire National Forest System. Forest plans are generally 300 pages long.¹⁰⁸ Each forest plan is tied to a programmatic EIS covering an area of about 1 to 3 million acres. Forest plan EISs are about 500 pages long, though CEQ NEPA regulations encourages agencies to limit normal EISs to 150 pages. The entire process of preparing and finalizing a forest plan can take years; for example, it might take five years to prepare a 15-year forest plan. As new information emerges, the Forest Service routinely prepares forest plan amendments and new programmatic EISs. The agency requires review of environmental documentation every three to five years to determine whether it needs to be updated.¹⁰⁹

At any given time, every ranger district has many projects underway. Under NEPA, environmental analysis must precede many ground-disturbing activities on federal land. The Forest Service produces about 5,000 EAs in support of "findings of no significant impact," which document the agency's judgment that an EIS is not required. The Forest Service produces about 120 project-level EISs per year, more than any other federal agency.¹¹⁰ EISs can be hundreds and EAs dozens of pages long, particularly in contentious cases. Agency requirements for documentation are rigorous. At training sessions, the USDA Office of General Counsel tells Forest Service employees that the rule for judicial review of an agency action is, "If you did it, but you

¹⁰⁶ GAO, "Forest Service Decision-Making," pp. 10-11.

¹⁰⁷ Personal communication with Greg Asher, Office of Lands, USDA Forest Service, Washington Office.

¹⁰⁸ Although the NEPA regulations state that a normal EIS shall not be more than 150 pages, and less than 300 pages for proposals of unusual scope and complexity.

¹⁰⁹ Michael J. Gippert, "Why Can't the Forest Service Make More Use of NEPA Tiering, and Why Does the Forest Service Do So Much to Comply With NEPA?" (USDA Office of General Counsel, draft report; 1 July 1997), *in passim*.

¹¹⁰ These figures do not include 15,000 or more categorical exclusions completed each year. Under CEQ regulations, no document must be completed for use of a "categorical exclusion" because the agency has found that this category of actions do not individually or cumulatively have a significant effect on the human environment. 40 CFR 1508.4. An agency may decide in its procedures to prepare environmental assessments even though it is not required to do so.

didn't write it down or you can't find it or you can't find it fast, *you didn't do it.*"¹¹¹ Documentation associated with one case example has reached 10,000 pages.¹¹²

The entire NEPA process for a project, from scoping to implementation, can normally take more than a year. For example, the Morgan Falls Trail Reroute Project was a noncontroversial project with a widely accepted need. There were relatively few public comments and no appeals. Yet planning for the project, from initial scoping to a decision notice, took about 20 months.¹¹³

In some cases, particularly where public interest is high, the planning process can take much longer. Planning for the Santa Fe Municipal Watershed Project outside Santa Fe, N.M., began in 1997 and did not produce a final EIS and record of decision until October 2001, a period of almost five years.¹¹⁴ If challenges follow, the planning process can drag on for another year or more. In the Megram case example, delays associated with appeals and litigation have prevented most fuels treatments from taking place on a blowdown that occurred in December 1995, almost seven years ago.

Costs

What does all the time spent on planning, analysis, and documentation cost? Although exact figures are not available, educated guesses by Forest Service professionals provide some insight. A 1999 report by the National Academy of Public Administration, based on interviews with Forest Service personnel, estimated that planning and assessment consume 40 percent of total direct work at the national forest level.¹¹⁵ That would represent an expenditure of more than \$250 million per year, or more than 20 percent of the congressional appropriations for managing the National Forest System.

Of course, not all planning is time wasted. Part of that \$250-million planning expenditure would be money well spent. However, the GAO has cited an internal Forest Service estimate that "inefficiencies within this process cost up to \$100 million a year at the project level alone."¹¹⁶

In the case example of the Bitterroot National Forest, the national forest tracked planning costs for its fire recovery project following the 2000 fires. Treatments were proposed on about 80,000 acres. With some costs still outstanding, Forest Service employees spent about 15,000 person-days, or 57 person-years, on planning the project.¹¹⁷ In addition, the national forest contracted for a fire effects study. Total costs for analysis and documentation amounted to about \$1 million, including more than \$100,000 in printing and mailing costs.

¹¹¹ Gippert, "Why Can't the Forest Service Make More Use of NEPA Tiering," p. 11.

¹¹² The Megram Fire Recovery Plan on the Six Rivers National Forest, Calif. E-mail memorandum from Forest Supervisor S.E. Woltering, Six Rivers National Forest, 22 April 2002.

¹¹³ See Chequamegon–Nicolet NF, appendix C, pp. C-39-42.

¹¹⁴ See Santa Fe NF, appendix C, p. C-16.

¹¹⁵ NAPA, *Restoring Managerial Accountability*, p. 18.

¹¹⁶ GAO, "Forest Service Decision-Making," p. 4.

¹¹⁷ Bitterroot NF, appendix C, p. C-10.

Are such high planning costs for individual projects justifiable? In the case example of the Santa Fe municipal watershed, the planning cost for a project covering less than 8,000 acres was more than \$1 million.¹¹⁸ At the estimated treatment cost of \$1,500 per acre, the money spent on planning could have treated more than 600 acres—only a small fraction of the project area, but at least some work could have begun.

Appeals and litigation are related to another procedural cost that is often poorly understood. Today, many forests are far denser than they were historically.¹¹⁹ Restoring healthy ecosystems often requires removing some of the trees and undergrowth, which is expensive. Where commercially viable, a timber sale can help defer the costs. In fact, most timber sales on the national forests are at least partly designed to return lands to a healthy condition.

The vast majority of timber sales proceed to completion unchallenged.¹²⁰ However, some groups have successfully used appeals to obstruct timber sales, and Forest Service employees therefore treat almost every ground-disturbing project as a potential target.¹²¹ They spend a tremendous amount of time trying to “bullet-proof” project planning against appeals and litigation. Challenges themselves, if they materialize, can be enormously time-consuming. Overall, the delays, even if a project is allowed to move forward, can reduce or eliminate the commercial value of removed materials, ultimately killing a timber sale. Figure 1 suggests a correlation between the rising number of appeals in recent years and falling volumes of timber harvest.

Timber sales can be the only feasible tool a national forest has to restore a forest to health. Process-related delays can take that tool away. The Megram case example is a case in point. In 1995, the Six Rivers National Forest in California responded to a 35,000-acre blowdown by proposing to treat the resulting fire hazards through a salvage sale. “As often happens,” noted the line officer, “the only way the forest could finance fuels treatment was through a commercial timber sale that generated enough funds to finance other treatments, such as prescribed fire.”¹²²

Constrained by administrative hurdles, the salvage sale failed to proceed until 1998. In 1999, the 59,000-acre Megram Fire burned through the area. It was exactly the kind of event that the national forest was trying to forestall by reducing hazardous fuels.

¹¹⁸ Santa Fe NF, appendix C, p. C-19.

¹¹⁹ For an authoritative discussion of changes in historical forest ecosystems in the West, see Stephen F. Arno, “Fire in Western Forest Ecosystems,” in James K. Brown and Jane Kapler Smith (eds.), *Wildland Fire in Ecosystems: Effects of Fire on Fauna* (RMRS-GTR-42-volume 2; Fort Collins, CO: Rocky Mountain Research Station, 2000), pp. 97-120.

¹²⁰ Presentation by Ross W. Gorte, Specialist in Natural Resources Policy, Congressional Research Service, on 21 May 2002 as part of a Congressional Briefing Conference for the USDA Forest Service, Government Affairs Institute, Washington, D.C.

¹²¹ See, for example, Hiawatha NF, appendix C, p. C-35: “The Hiawatha [National Forest] operates under the assumption that every decision will be appealed. . . . There is a general sense that some groups ‘throw anything at the wall to see if something sticks’ relative to issues raised in response to public involvement efforts.” In the Morgan Falls case example, “This project was not appealed, but the level of effort put into the document and background material was made with potential appeals in mind.” Chequamegon–Nicolet NF, appendix C, p. C-41.

¹²² Six Rivers NF, appendix C, p. C-23.

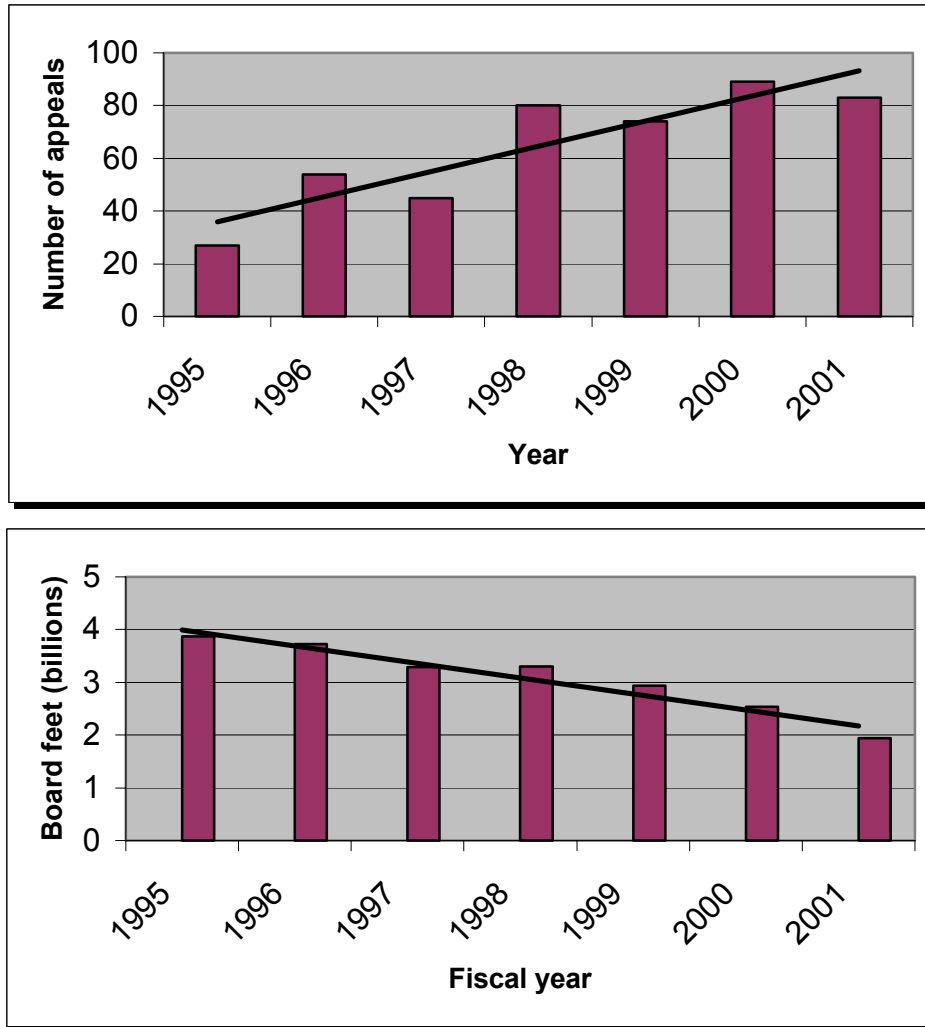


Figure 1—Appeals, even if unsuccessful, can lead to reduced timber sales, limiting land managers’ options for restoring healthy ecosystems. Since 1995, the number of appeals filed against Forest Service decisions under the Administrative Procedures Act and statutes such as NEPA, NFMA, and ESA has been rising (top). At the same time, the volume of timber harvest has been falling (bottom).

Line officers prepared a postfire recovery plan for treating the areas most at risk—a little more than a thousand acres. Again, employees went to great lengths to prepare all the necessary studies and documentation, only to be taken to court, where a judge threw out the EIS. “*Nothing* will change on the ground,” observed the forest supervisor, “other than we’ll be able to salvage less because of the lost value in the trees.”¹²³

NEED TO SOLVE THE PROBLEM

The Megram case example and the others treated in this report raise serious questions about the Forest Service’s statutory, regulatory, and administrative framework: Does it produce efficient,

¹²³ Memorandum from Forest Supervisor S.E. Woltering, Six Rivers National Forest, 22 April 2002.

effective service delivery? Does it permit the Forest Service to meet environmental challenges? And does it help the Forest Service build and sustain public trust?

Efficiency and Effectiveness

GAO has concluded that “the Forest Service’s decision-making process is clearly broken and in need of repair.”¹²⁴ The Forest Service does complete thousands of projects each year, thanks to the dedication and perseverance of its employees. However, it can take more than a year—and often many years—to complete the planning for projects, even for ones that are relatively simple and noncontroversial.

The need for so much planning is questionable. For example, much of the environmental information that the Forest Service collects is of dubious scientific or practical value. Although it might be needed to meet procedural requirements or to withstand appeals and litigation, resources spent on process cannot be put to other uses. The opportunity costs alone—which might range into the tens of millions of dollars—suggest a fundamental lack of efficiency and effectiveness in national forest management.

Healthy Lands

Limited resources might be put to better use in restoring healthy, resilient ecosystems. Large portions of the National Forest System are in poor or declining health. Much more could be done on the ground to restore ecosystems on federal lands; in the words of Aldo Leopold, “Conservation ... is a positive exercise of skill and insight, not merely a negative exercise of abstinence or caution.”¹²⁵ Neither ecosystem values nor the public are well served when responsible management actions take a back seat to process.

Obviously, some planning is required; interagency consultations and environmental studies are certainly needed to ensure that management actions are sound. However, consultation requirements—in their *current* form—often shift the focus of management away from the long-term health of the land. Moreover, procedural requirements for studies—again, in their *current* form—often produce long decision-making delays that can prevent needed work from happening before it is too late.

Most scientists and land managers understand the need for adaptive management. Managers can and should take responsible action without knowing everything that might ever be known about a piece of land. The trick is to carefully monitor the effects on the land and adjust future management actions accordingly. Unfortunately, the Forest Service’s procedural framework is poorly suited to adaptive management.

¹²⁴ GAO, “Forest Service Decision-Making,” p. 12.

¹²⁵ Aldo Leopold, “The Farmer as a Conservationist,” in *The River of the Mother of God and Other Essays by Aldo Leopold*, ed. Susan L. Flader and J. Baird Callicot (Madison, Wisc.: University of Wisconsin Press, 1991), p. 257.

Collaborative Decision-making

At its core, the debate over natural resource use on public lands is driven by differences over values. Sound science and competent land management cannot resolve such differences. In a democracy, interested citizens must have ample opportunities for working out their differences through a decision-making process that is fair, constructive, and participatory. The environmental laws were partly designed to help establish that process.

Today, in the best tradition of our environmental laws, line officers are building on statutory requirements for public involvement by fostering collaborative decision-making that is both timely and effective. Airing differences and finding common ground take time, but collaboration ultimately makes national forest management more efficient and effective by generating public support for decisions made and work done on the ground.

Too often, though, the Forest Service's procedural framework discourages collaborative decision-making. For example, the agency's appeals process tends to feed distrust rather than build on shared values and goals. Where process favors obstruction, the effects on land management can be devastating, shaking public faith in the Forest Service's ability to care for the land and serve people.

Opportunities

Reasonable people will disagree on the nature, scope, and complexity of the statutory, regulatory, and administrative hurdles facing the Forest Service. However, most people will agree on the core values of good government in federal land management: efficient, cost-effective service delivery; healthy, resilient ecosystems; and meaningful public involvement. These values generally transcend conflicts among competing groups over specific values associated with natural resources on public lands.

The environmental laws were designed to promote transcendent values of good government. Evidence suggests that the laws are not the problem. The Thomas Report, business process analysis, and case examples reveal no fundamental conflicts among the laws.¹²⁶ The problem lies in their implementation through a maze of rules and regulations that has evolved over the years.

The rules and regulations have placed the Forest Service in a serious predicament, whereby the process defeats its own purpose. In the Santa Fe case example, one Forest Service critic put it this way: "I would like to just say that we are very concerned about the risk of wildfire in the watershed. . . . But we will require the Forest Service to follow the letter of the law. These laws are established to protect the environment."¹²⁷ In the name of environmental protection, the focus has too often shifted from protecting resources to policing processes. The problem is this: We are following the letter of our environmental laws without infusing their spirit into what is actually happening on the land.

¹²⁶ See, for example, Bitterroot NF, appendix C, p. C-17: "There was no indication that 'conflicting laws' were an issue in this case."

¹²⁷ Bryan Byrd, Executive Director, Forest Conservation Council, quoted in Santa Fe NF, appendix C, p. C-20.

Opportunities abound for reviving the spirit of our environmental laws. Advances in science and technology have paved the way for a new era of public land management through collaboration and flexible decision-making. Ecosystem-based approaches grounded in adaptive management promise to reverse decades of land health decline and restore healthy, resilient ecosystems far into the future.

The key is to tailor the Forest Service's statutory, regulatory, and administrative framework to the new opportunities. Part of the solution will be internal; the Forest Service has an obligation to reform its administrative processes accordingly. However, the problem goes far beyond the range of control of any single agency. Over the years, a central lesson for the Forest Service has been the need to work with partners. By applying that lesson, the Forest Service can strengthen its partnerships and find collaborative ways out of its process predicament.