
Chapter 2

Policy Options

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The National Forest Management Act (NFMA) was enacted in 1976 primarily in response to successful lawsuits challenging longstanding Forest Service timber sale practices in West Virginia and elsewhere. Because these lawsuits indicated a growing public dissatisfaction with clearcutting and other Forest Service activities, Congress chose to require a public planning process for setting management direction for each national forest. Congress expected that a planning process based on sound information, environmental standards, and public involvement could resolve many local controversies over national forest management.

Many are concerned that the NFMA planning process is not working as it was intended. Forest planning has been controversial, and nearly all forest plans and many actions under those plans (especially timber sales) have been appealed. Litigation, notably over red-cockaded woodpeckers in the South and over spotted owls and old-growth forests in the Pacific Northwest, has focused nationwide attention on national forest management.

The current controversies over national forest planning and management have led some, including Members of Congress, to question the efficacy of the planning process, and a few agency critics have suggested repealing the requirement for forest plans. However, plans are necessary for coordinating activities, and the public is interested in national forest management. Repealing the requirement for a public planning process probably would return the Forest Service to a situation akin to that which led to the Monongahela lawsuit, the Bitterroot controversy, and other conflicts that led to NFMA in the first place.

No simple means exist for ending the conflicts over national forest management, because people care about the national forests and have different opinions on how the forests should be managed. Nonetheless, the planning process could be modified to reduce the nationwide conflicts by improving the process for resolving local differences. OTA has found problems and potential for improvements in forest plan development, in forest plan implementation, in Forest Service budgeting, and in forest planning direction. Singly and in combinations,

these options could move national forest planning toward the goal Congress envisioned in NFMA—a strategic planning process for developing and implementing publicly acceptable management direction for the national forests.

FOREST PLAN DEVELOPMENT

Finding 1: Emphasis on Timber and Other Physical Outputs

The Forest Service emphasizes allocating lands and producing physical outputs, especially timber, in national forest planning. Certainly outputs are important. The forest reserves (national forests) were established to provide stable water flows and continuous timber supplies while protecting the lands and resources. They are, in many ways, analogous to trust funds. (See box 3-C, p. 48.) Outputs are the annuity from the trust fund. However, the ecosystems are the investment that generate the annuities; and their sustainability is paramount.

Forest planning today gives relatively little attention to sustaining ecosystems. Emphasis on measuring and producing physical outputs must be balanced with the nonphysical “outputs”—the nonuse values of forests, such as spiritual appreciation or preserving a legacy for future generations. Planning generally provides for nonuse values through land allocations-recommendations for wilderness and identification of lands not suited for timber production—but such allocations are indirect measures that divide interests and ignore mutual benefits. The relative inattention to sustaining ecosystems and to providing nonuse values, the increasing demand for all resources, and conflicting social values are at least some of the reasons for the acrimony over national forest planning.

The emphasis on timber and other physical outputs results from a wide variety of factors throughout the Forest Service’s planning and management systems. (This is not to say that timber dominates the management of all national forests, but that the agency’s structure and programs systematically accentuate timber and other physical outputs over other values.) The Multiple-Use Sustained-Yield Act of 1960 (MUSYA) implied such a focus on outputs. Likewise, NFMA focused more on

regulating timber management than other activities. It is easier to inventory timber than to inventory other resource conditions and values. In addition, the principal planning technology--FORPLAN--was developed from a timber harvesting scheduling model, and the goal (objective function) of the model is to maximize those outputs that can be quantified. Other aspects of planning and management—implementation, budgeting, and national direction—also emphasize the quantitative, physical outputs of the national forests.

Plan Development Options

Implementable national forest plans will necessarily include a balance of uses, outputs, and nonuse values, with management that is sensitive to ecosystems and acceptable to the public. The current systematic emphasis on timber and other physical outputs makes the development of acceptable forest plans difficult, at best, as suggested by the difficulties the Forest Service encountered in preparing the first round of forest plans. A number of steps could be taken to assist in achieving the balance necessary to develop acceptable plans.

Option 1: Clarify the legislative direction.

Congress could amend the laws guiding national forest planning and management to recognize the nonuse values of the national forests and to assure the long-run productivity of the ecosystems that generate the use and nonuse values.

Several laws guiding planning and management of the national forests contribute to emphasis on physical outputs. The 1897 Forest Service Organic Act notably is not a problem. The first purpose it identified for the forest reserves was to improve and protect the forests, and the second was to secure favorable water flows--a nonuse value of the forests (although water also has value in use). The Organic Act also authorized regulation of the occupancy and use of the forests ‘to preserve the forests . . . from destruction. Thus, the Organic Act is fully consistent with the trust-fired concept of the national forests—to provide use and nonuse values and to protect the ecosystem base.

The Multiple-Use Sustained-Yield Act of 1960, however, does contribute to the physical output focus. MUSYA promotes the utilitarian view of national forests, listing as purposes either direct,

on-site activities (e.g., recreation and timber) or surrogates for such activities (e.g., range, watershed, and wildlife and fish). Nonuse values, such as aesthetics, spiritual appeal, and future legacies are, at most, implicit in the act. Furthermore, sustained yield contributes to this focus on the direct, on-site uses and outputs by emphasizing their continued production, rather than emphasizing the management of the ecosystems that generate all forest values. Amendments to MUSYA could; 1) expand the purposes of the National Forest System to that of providing all the use and nonuse values of forests and rangelands; 2) expand multiple-use management to include the multiple values of the lands; and 3) focus on the sustainability of the ecosystems that comprise the national forests.

NFMA has also contributed to the timber focus by providing additional regulatory guidance for continued timber production while protecting other values. Section 6(k) requires the Forest Service to identify lands not suited for producing timber, ‘considering physical, economic, and other pertinent factors to the extent feasible.’ Section 6(l)(1) requires representative information comparing timber sale, reforestation, and stand improvement costs with returns to the Treasury. Section 13(a) requires the Forest Service to identify the allowable sale quantity for timber, such that the production can be sustained in perpetuity. However, other resource management activities are not subject to comparably restrictive provisions. Amendments to NFMA could require: 1) equivalent determinations of land suitability for all management activities; 2) revenue-cost comparisons for each resource; and 3) goals for sustaining all outputs (including nonuse values) at levels which will not decline.

Option 2: Broaden the information base.

Congress could require the Forest Service to expand its inventory and analytical base for forest planning to include necessary information and models on all resources, on ecological interactions, and on social and economic impacts.

NFMA planning has been conducted with few supplemental inventories, beyond those already in use in forest planning and management prior to NFMA. For example, the northern spotted owl was identified as a management indicator species for forest planning in western Washington and Oregon

in the early 1980s. However, the comprehensive inventory of owl populations and habitat was not begun until 1989, after the owl had been proposed for listing under the Endangered Species Act and after draft plans had been completed for many of the forests. The Forest Service has been conducting timber inventories for many years, with substantial statistical validity, and has numerous models for examining future stand conditions and related outputs based on current or proposed management activities. However, inventories for other resources and for ecosystem conditions are less complete and models are less fully developed. Similarly, the data and models for examining the economic consequences of management activities are more complete for timber outputs than for other outputs and conditions.

This is not to suggest that better data on resources, conditions, and trends will allow for correct, scientific management of the national forests. Forest planning is necessarily political, because the decisions and choices are about the future and what it should look like. Furthermore, information is expensive, and some data will always be imprecise. However, improved information and models can more accurately describe the current situation and how actions are likely to affect future outputs and conditions. This is as true for the economic and social effects of decisions as it is for the ecological aspects of land management. Information and models should also focus on public values—on outputs, conditions, jobs, the legacy we leave to the future, etc. Thus, public participation should help define what should be measured and what analytical tools are needed for forest planning.

Congress has provided little direction to the Forest Service on the kind of information required for forest planning and how to obtain it. NFMA established a number of analytical requirements, such as identifying lands not suited for timber production and determining the allowable timber sale level that could be sustained in perpetuity, which dictate certain analytical tools. However, NFMA contained no specific requirements on inventories; it only required the regulations to “provide for obtaining inventory data.” Some analyses are implied by the various requirements, such as providing for biological diversity and prohibiting irreversible watershed damage. Congress has protected the Forest Service from judicial challenge to plans developed using inadequate, outdated information

through a rider on the Forest Service appropriations for fiscal years 1988 and 1989.

Congress could direct the Forest Service to improve its inventory and analytical base for forest planning, to assure that the information and analysis responds to the public’s concerns in terms of national forest goals and direction, of opportunities and tradeoffs, and of management practices. Congress might also recognize the cost of acquiring additional information, since new inventories and tools can be expensive to develop, and a simple requirement for “adequate” information could be subject to widely disparate interpretations. Some congressional guidance on the nature and purpose of information and analysis could assist the agency in determining, and the courts in assessing, the adequacy of the inventory and analytical base.

Option 3: Establish targets for all resources.

Congress could require the forest plans to specify targets for all resource uses and outputs, nonuse values, and ecosystem conditions identified as important by the public in its participation in the planning process.

Congress intended the forest plans to set the direction for managing the national forests. Direction is, in part, described by the established short- and long-term goals. However, as discussed above, the information base and analytical tools emphasize physical outputs, and are fragmentary at best for nonuse values and for ecosystem conditions. While the public is interested in physical outputs, it is also concerned about nonuse values and about the long-term health of ecosystems. The emphasis on outputs contributes to conflicts over national forest planning, because the public wants goals established for all the uses and values of the forests and rangelands,

Congress could require the Forest Service to describe more fully the management direction for the national forests by identifying targets for uses and outputs, for nonuse values, and for ecosystem conditions in the forest plans. Identifying such targets will require development of relevant measures, especially for nonuse values and ecosystem conditions. Such an expanded information base might not be immediately implementable. Nonetheless, a broad array of targets is necessary to respond to the desires and interests of the American people.

Option 4: Improve public participation.

Congress could clarify the purposes for involving the public in forest planning, and could direct the Forest Service to improve its public participation processes.

Effective public participation in forest planning demands that the agency and the participants understand why participation is required. NFMA and the National Environmental Policy Act of 1969 (NEPA) helped to establish public involvement in agency planning and decisionmaking. However, the language in the laws requiring public participation in forest planning is ambiguous as to why the public should be involved. Therefore the agency and the public have differing and even opposing expectations about how public comments are to be considered and used in determining the future direction of national forest management. The imprecise guidance and contrasting expectations have heightened the conflict over national forest planning and management.

The Forest Service model of public participation also has hindered effective public involvement in forest planning. Many Forest Service managers approach public participation as an “inform and educate” exercise—to learn what the various interests want and to inform them of what is feasible. This approach impedes effective participation, because the public is viewed merely as a source for establishing output goals, rather than as individuals and groups interested in all aspects of management. It also suppresses understanding and trust, because the individuals and groups are supposed to accept what the Forest Service determines is feasible, even though the information presented is often incomplete or too technical for many to comprehend. Furthermore, the agency often addresses the interests separately, which can lead to mistrust about what agreements have already been reached. Thus, the ‘inform-and-educate model and meetings with separate groups hamper effective public participation in forest planning.

Congress could clarify the purpose for public participation in forest planning. NFMA could be amended to direct the Forest Service to use public involvement to build plans and decisions that are acceptable. Various tools could be employed, to assure effective involvement by the variety of individuals and groups interested in forest planning and management, including but not limited to formal

and informal public gatherings, personal contacts, and alternative dispute resolution techniques. Congress could also strengthen the direction in section 14 of the Forest and Rangeland Renewable Resources Planning Act (RPA), as amended by NFMA, for using advisory committees, including an exemption from the Federal Advisory Committee Act, if deemed appropriate.

The Forest Service could also improve its public participation process by stressing the importance of building trust and consensus (or at least not opposition) among the various interests. The Forest Service recognizes the widespread dissatisfaction with the current process, and currently has an employee training course that seems to build on this concept of public involvement. Nonetheless, the Forest Service must assure the public and its employees that the process is intended to build local agreement on how the national forests should be managed.

Option 5: Expand use of information technologies.

Congress could direct the Forest Service to broaden the variety of technologies used for information collection, analysis, coordination, and presentation to be sure that both spatial and temporal aspects of forest management are adequately addressed.

The Forest Service, in 1979, designated FORPLAN as its principal tool for national forest planning. FORPLAN (and linear programming in general) is useful for organizing data and analyzing the temporal aspects of forest outputs, but FORPLAN: 1) typically requires information on resource interactions that exceed the state-of-the-knowledge, 2) has limited capacity for analyzing spatial concerns, and 3) was built to be comprehensive—answer all relevant questions in one model—and thus often defies understanding by the public and even planners. IMPLAN (and input-output models in general) is useful for examining the economic consequences of plan alternatives, but the nature of the data and the model lead to a fuller picture of the impacts on the timber industry than on other industries.

Congress could direct the Forest Service to improve its use of various planning technologies. FORPLAN, or a comparable tool, is probably necessary to address temporal concerns, such as sustainable output levels, but could be simplified by

separating distinct issues for analysis with different versions of the model. Despite the extreme cost of geographic information systems, such a spatial tool is probably necessary to address spatial concerns, and would be most useful if linked to FORPLAN. The Forest Service could also be directed to emphasize research on models for spatial and temporal resource interactions and on more complete models of economic and social impacts. The Forest Service could be directed to improve the coordination of data collection and storage, to build a historical record for forest planning and to contribute to an integrated Renewable Resource Assessment. Finally, the Forest Service must recognize that the various technologies are intended to support and assist in building acceptable plans and decisions, not to provide a definitive answer that must simply be accepted.

FOREST PLAN IMPLEMENTATION

Finding 2: Monitoring of Forest Management Activities Is Inadequate

National forest plans have been developed with enormous expenditures of Federal and public time and effort, but it is uncertain how effectively those plans are being implemented. To date, monitoring has been inadequate to evaluate national forest planning and management.

The inadequate monitoring results, in part, from the inadequate base of information on resource uses and outputs and ecosystem conditions of forests and rangelands. For example, it is impossible to monitor changes in ecosystem conditions that result from forest planning direction or from management activities without baseline information on preexisting conditions. On the other hand, monitoring could help establish baseline data needed for forest planning. Thus, inadequate inventories and inadequate monitoring are part-and-parcel of the same problem, and both must be improved to provide an adequate picture of the forest and rangeland resources and ecosystems.

Inadequate monitoring also results from the lack of incentives to monitor, or more precisely, from the lack of penalties for not monitoring. Forest supervisors are evaluated largely on achieving the easily measurable annual outputs specified for their forests—the “hard” targets, such as timber sale targets—and on spending money as appropriated. Timber sale

outputs and expenditures are important, but the lack of monitoring of other plan objectives permits achieving other activities and goals to be postponed and could allow resource and ecosystem conditions to deteriorate. Monitoring that shows degrading conditions or unbalanced achievement of plan objectives would not only reflect poorly on the agency and its managers, but would also provide the public with information that could be used to challenge activities and practices. Thus, the agency has a distinct disincentive to monitor the implementation of the forest plans.

Plan Implementation Options

Monitoring is an essential part of strategic planning for the national forests. Monitoring serves three purposes. First, monitoring demonstrates whether the management activities on the ground are consistent with the direction established in the forest plan. Second, monitoring demonstrates if the results of those activities achieve the goals identified in the plan. And third, monitoring demonstrates the accuracy of the assumptions and values used in the plan. Through such demonstrations, monitoring provides the feedback needed to revise the plans and management activities and to assure that the national forests are being managed to meet the needs of the American people. Several options could improve monitoring of forest plan implementation.

Option 6: Separate the monitoring function.

Congress could establish monitoring of forest plans as a separate Forest Service activity, **with** specified purposes and reporting.

Current Forest Service planning regulations (36 CFR 219.1 l(d)) specify that the forest plans must identify the monitoring and evaluation requirements needed to evaluate management activities. While the plans all appear to contain monitoring sections, no sanctions exist for incomplete or inadequate monitoring. Furthermore, monitoring and reporting might demonstrate that activities are inconsistent with the direction established in the plan, that the outputs vary from the planned goals, or that the assumptions upon which the plan is based are incorrect. In addition, monitoring must compete for funding with other activities, such as planning and output production. Thus, monitoring is generally the first activity to be eliminated or reduced when funding is less than the level specified in the forest plan.

Congress could establish monitoring and reporting as a distinct Forest Service responsibility, much as it did with integrated land and resource management planning. The Forest Service had conducted planning before the enactment of RPA and NFMA, but Congress specified standards for national forest planning, such as an interdisciplinary approach, periodic revisions, specific considerations, and public participation. Congress similarly could require an annual monitoring report, prepared by an interdisciplinary team, with specific requirements and public participation. (The following options discuss these latter aspects.) This would recognize the importance of monitoring, and might reduce the likelihood of curtailing or eliminating monitoring due to insufficient time or money.

Option 7: Require linkage between actions and results.

Congress could require the Forest Service to identify, in an annual report for each national forest, the results of activities in terms of the outputs and conditions identified as goals in the national forest plans, and in terms of public participation in the planning process.

The Forest Service currently is required to prepare a national annual report on its activities as part of the RPA planning process. However, as described in the OTA study, *Forest Service Planning: Setting Strategic Direction Under RPA*, the agency's annual report provides an incomplete picture of outputs and condition changes in the national forests. Timber sales and harvests, recreation use, and other uses and outputs are often identified, but the measures for some resources are merely rough estimates. The report more typically identifies management activities, but the activities are not related to the conditions supposedly being managed; for example, range, watershed, and wildlife habitat improvement efforts are reported, but the agency lacks measures (quantitative or qualitative) to show the resulting improvements in range condition, watershed condition, or wildlife habitat condition.

Comparable annual reports are not required as part of NFMA planning, although many forests produce them and the Forest Service has recently proposed annual reports for each national forest. An annual report could be useful internally, for evaluating the performance of forest supervisors and their staffs, and externally, for informing the public about

the results of management. However, to be effective for such uses, an annual report must demonstrate how on-the-ground activities meet the output and condition targets specified in the forest plans. Because of concerns about the community impacts of national forest management, an annual report might also identify relevant changes in local employment that result from management activities.

An annual report on national forest management could also include an evaluation of public participation. Some have suggested that managers should be rewarded for resolving administrative appeals and lawsuits over forest plans and over activities to implement the plans. Resolving issues locally is generally desirable, and a declining number of appeals and lawsuits would indicate success in such efforts. However, some conflicts cannot be resolved locally, while others may be reduced by postponing decisions or by directing the decision to another forum. Thus, additional measures of effective local public involvement in forest planning and management are needed to evaluate fully managerial performance in public participation responsibilities.

Congress could require an annual report from each national forest to provide relevant information for internal and external reviews that would complete the feedback necessary for strategic national forest planning under NFMA. Measures for comparing annual performance with output and condition targets identified in the plan could be required, and reporting on the local economic impacts of management and on public involvement could also be specified.

Option 8: Require public involvement in monitoring.

Congress could direct the Forest Service to include public participation in the monitoring of forest plan activities.

The public is interested in national forest management, is involved in national forest planning, and is concerned about the results of management activities. Simply reporting on results is feasible, but places the public on the outside, rather than making them participants in planning and management. Congress could specify that the Forest Service include public participation in the monitoring of forest plan activities.

Including the public in monitoring could fulfill several purposes. As described above, monitoring assures **that** activities conform with the direction in the plan. However, different individuals can read the same statements describing direction, and reach different conclusions about what activities are consistent with that direction. Public involvement in monitoring provides feedback to the agency on how the public interprets the plan's direction. Significant differences in interpretation would suggest that a plan needs to specify the management direction more clearly.

Monitoring is also intended to assess whether the results of activities achieve the goals identified in the plan. Public participation in monitoring can help assure that the Forest Service focuses on the outputs, sites, and other values that are important to various interests. Monitoring all results of management activities on all sites is expensive, time-consuming, and probably impossible in a practical sense. Thus, monitoring is necessarily limited. Involving the public can assist the agency to focus on the key concerns, to guarantee that the most important outputs and conditions are measured most carefully.

Finally, public involvement in monitoring can also save money. Many individuals and groups who participate in planning have expertise that could be used to conduct some monitoring activities. Having a variety of interests involved can provide a balance of views and checks to assure that measurements are comprehensive and accurate. In this way, the Forest Service can build trust between the employees and the public, and among the disparate stakeholders in national forest planning and management. However, Forest Service managers must still be responsible for measuring the results of activities in the national forests and for implementing the forest plans.

FOREST SERVICE BUDGET RECONCILIATION

Finding 3: Budget Decisions Overwhelm Planning Decisions

The annual Forest Service budget request and the subsequent appropriations from Congress are inconsistent with the budget levels and mixes assumed in national forest planning. This occurs, in part, because the forest plans establish an integrated, coordinated approach to land and resource management, but the budget request and appropriations are

arranged by resource activity. Budgets for multiple-use management at the forests must be translated into resource-oriented budgets, and these resource budgets are then modified by the Washington Office of the Forest Service, the Secretary of Agriculture, the Office of Management and Budget, and the House and Senate Committees on Appropriations to meet their political needs and responsibilities. The result is congressional appropriations that bear little resemblance to the coordinated budgets needed to implement the integrated land and resource management plans.

The difference between forest plan budgets and annual appropriations also results from the variety of budget assumptions used in forest planning. One regional office restricted the budget increases which could be assumed in forest planning, but others permitted unrestricted and often unrealistic budget increases to achieve all the goals desired by the public. Such plans can seem ideal to the public, so long as no one is clearly responsible for paying for the plan. The differences in budget assumptions in forest planning prevent the Forest Service from developing a budget request directly from the forest plans.

When congressional appropriations conflict with forest plan directions, the budget decision is invariably followed, because Forest Service employees are responsible (some are personally liable) for assuring that money is spent as Congress directs. Thus, appropriations by resource activity—not the forest plans—essentially control the management activities in the national forests. Furthermore, the annual appropriations have specified Forest Service timber sale targets, typically in excess of the administration's request (although below the potential identified in forest plans with unrestricted budgets), and these congressional timber targets determine national, and ultimately local, management priorities. The appropriations have not included targets for other resource outputs or for resource conditions and, thus, have contributed to the Forest Service's emphasis on timber outputs. (See "Finding 1: Emphasis on Timber and Other Physical Outputs.")

Finally, the Forest Service has a number of special accounts and trust funds, comprising about a third of the Forest Service budget. The largest is Forest Service receipt-sharing payments to counties, with payments often exceeding \$300 million annually. However, the Knutson-Vandenberg (K-V) Fund, the

Timber Salvage Sale Fund, brush disposal, and other special accounts and trust funds generate at least \$500 million annually for Forest Service activities. These funds result mostly from timber harvests, but the expenditures commonly are not limited to timber sales or investments. Thus, the counties (through the receipt-sharing payments) and the managers of most resource programs (through available budgets) benefit from increasing timber sales, again contributing to the emphasis on timber outputs. Furthermore, many of these special accounts and trust funds are permanently appropriated, with the money automatically available unless Congress halts or restricts the expenditures. Congress has given relatively little attention to these funding sources, and their use has become increasingly important as the Federal budget problems have mounted.

Forest Service Budget Options

If the forest plans are to be implemented, the planning process must be integrated with the budget and appropriations process. The budget process must provide balanced consideration of all the resource output and condition goals of the forest plans. Congress needs information on the opportunities for improving management with additional funding, but Congress and the public also need to know how the forests will be managed if the desired funds are not available. Furthermore, the Forest Service needs flexibility to implement the forest plans, but Congress needs to exercise its control to assure that national forest management fits within the overall spending and taxing priorities demanded by the public. Congress has several options for integrating and balancing the planning and budgeting processes and for providing the necessary flexibility while retaining appropriate control.

Option 9: Eliminate appropriations by resource.

Congress could appropriate funds by management activity, rather than by resource line items, and direct the Forest Service to develop its budget accordingly, based on the activities needed for implementing the forest plans.

Forest Service budget requests and congressional appropriations are currently arranged in about 60 line items, specifying expenditures for various resource activities, such as timber sale preparation and administration, wildlife habitat improvement, and trail maintenance. Proposed funding for each

resource activity is adjusted at each step in the budget process—by the Washington Office of the Forest Service, the Secretary of Agriculture, the Office of Management and Budget, and the House and Senate Committees on Appropriations—to meet their own needs and responsibilities. The eventual appropriations by resource rarely mesh with the funding needed for integrated, multiple-use management under the forest plans. Furthermore, the resource-oriented appropriations also encourage the administration and Congress to specify output targets, especially for timber, since timber targets are easily specified and are more controllable by Forest Service managers.

A related problem is that, under resource-oriented appropriations, other necessary activities are either unfunded or must be conducted with funds intended for resource management. Planning, and the requisite training and software development and acquisition, has been funded largely by resource-specific appropriations. Monitoring is typically conducted by the resource specialists for the resource being monitored, but does not provide tangible results for which the resource managers can be rewarded. When combined with the lack of penalties for inadequate monitoring, it is not surprising that monitoring has a low priority within the agency. Thus, although planning and monitoring are essential to effective national forest management, funding for these activities must be diverted from the various resource activity appropriations.

Congress could replace the resource-oriented appropriations with appropriations for the activities necessary for managing the national forests—planning, implementing, and monitoring. These major categories could be further subdivided, to provide Congress with more control over the agency's budget. For example, planning could be divided into inventories and data management, technology acquisition and development, personnel development, public involvement, and plan preparation (writing and reproducing). Similarly, monitoring could be divided into on-site measurement, equipment purchases, personnel development, public involvement, and report preparation. Implementation could be subdivided into ongoing activities and investments, with ongoing activities including use and output production and control, and maintaining current resource, ecosystem, and facility conditions. Investment categories could include roads, trails, and facilities to increase or control uses and outputs, and

administrative facilities. Resource, ecosystem, and facility rehabilitation to improve current conditions, such as reforestation or trail reconstruction, could be identified as either ongoing activities or as investments.

Reorganizing the Forest Service budget would not eliminate the agency's responsibility to provide information on the anticipated uses and outputs and on the likely changes in resource, ecosystem, and facility conditions at the requested budget level (and with increases or decreases in the budget). The Forest Service could also be required to provide unit cost information for important activities, such as successful reforestation, road construction, and recreation facility operation. Nonetheless, such reorganization of the budget and appropriations structure could allow Congress to retain control over important decisions (e.g., the level and location of investments), could assure adequate funding for necessary activities (e.g., planning and monitoring), and could provide the Forest Service with the flexibility to implement the forest plans,

Option 10: Require realistic budgets in forest plans.

Congress could direct the Forest Service to include a range of budget possibilities, from the current forest budget to an unlimited increase, in the final plan for each national forest.

The Washington Office of the Forest Service provided no direction on the budget assumptions to be used in national forest planning. One region restricted the budgets that forests could assume in planning but most did not. Budget restrictions are more likely to result in forest plans that are implementable, i.e., within the realities of Federal budget limitations. However, such restrictions also prevent the forests from identifying opportunities for improving national forest management and for generating additional revenues through increased budgets. This has placed forests with restricted budget assumptions at a disadvantage in annual internal budget negotiations.

While unrestricted budget assumptions have allowed forest and regional personnel to identify opportunities for investments under increased budgets and are more acceptable to the public (because more uses and outputs can be accommodated while maintaining or improving resource and ecosystem

conditions), such forest plans may be unimplementable. Conditions may deteriorate and/or the uses and outputs must be at lower levels than planned, increasing the likelihood of challenges in administrative appeals or litigation.

Both types of information---+ppportunities with unrestricted budgets and likely management with budget limitations-are necessary in forest planning. Unrestricted budget opportunities are important to demonstrate how management could be improved, and an analysis of opportunities is required in the RPA Assessment. However, the administration and Congress are facing increasing pressures to reduce the Federal budget and, thus, substantial budget increases are unlikely. Congress and the public need to know how the forests are likely to be managed under limited budgets. Congress could require the Forest Service to include both types of information in forest plans, thereby linking the forest plans with opportunity analysis in the RPA process and providing information on the likely management direction and the near-term outputs and conditions in the national forests.

Option 11: Control special accounts and trust funds.

Congress could require **more complete reporting on the sources and uses of money in the various special accounts and trust funds, and** could clarify the purposes for which the funds could be used.

The Forest Service presents little information on the sources and uses of money in the various special accounts and trust funds. The budget request contains aggregate information on the expected receipts and expenditures from each fund, but with little or no discussion of the purposes or locations of the expenditures. The annual *Report of the Forest Service* presents information on reforestation and timber stand improvement under the K-V Fund and on road construction and reconstruction using purchaser road credits, but not on revenue-sharing payments, the Timber Salvage Fund, the Working Capital Fund, brush disposal, or other permanent appropriations. The Timber Sale Program Information Reporting System (TSPIRS) also includes K-V Funds and purchaser road credits, and adds the Timber Salvage Fund, but excludes brush disposal and road maintenance deposits from timber purchasers. The forest plans, and the RPA Program, do not

distinguish funding and activities under any special accounts or trust funds.

The special accounts and trust funds provide about a third of the Forest Service budget annually, but with the sparse information available, Congress is unable to exercise much oversight and control over their use. Some have specified funding levels: revenue-sharing is 25 percent of gross receipts, and the Reforestation Trust Fund receives up to \$30 million annually from tariffs on wood product imports. However, deposits to most of the accounts are at the discretion of the Forest Service at the local level. An unlimited portion of timber receipts can be deposited in the K-V Fund. If the Forest Service designates a sale as a salvage sale, because it contains some (unspecified) volume of dead, dying, or threatened timber, the remaining timber receipts can be deposited in the Timber Salvage Fund. The level of brush disposal and other cooperative deposits is also at the discretion of the Forest Service. Thus, the Forest Service has substantial local authority to determine the amount of money deposited in the various special accounts and trust funds if the forest has timber to sell.

The Forest Service also has substantial discretion over the use of the special accounts and trust funds. Several accounts (K-V, salvage, brush disposal, and other cooperative deposits) are to be used on the national forest that generated the deposits, although some funds are used for regional and Washington Office staff. Most accounts have specified purposes: salvage funds are to prepare and administer new salvage sales; the Reforestation Trust Fund is for reforestation and timber stand improvement; brush disposal and other cooperative deposits are for the purposes specified in the contractor agreement. The Forest Service has relatively broad discretion over the use of the K-V Fund—it can be used for reforesting cutover sites, for improving timber stands, or for mitigating and enhancing other resources within the timber sale area. To date, no studies have examined whether the level or use of the special accounts and trust funds are consistent with congressional intent.

Congress could require the Forest Service to present more information on the sources and uses of monies in the major special accounts and trust funds in the budget request, the RPA program, the forest plans, and the annual reports. Congress could also examine the use of special accounts and trust funds,

through oversight hearings and/or review by the General Accounting Office, to assess whether the use of the funds is consistent with the original intent and with forest planning. Congress could also clarify the purposes for which the funds could be used, to assure that the special accounts and trust funds are used in a manner that is consistent with the direction set forth in the forest plans.

Option 12: Compensate counties equitably.

Congress could replace the current program of returning 25 percent of gross Forest Service receipts with a system to compensate counties fairly for the tax exempt status of Federal lands and activities.

Since 1908, the Forest Service has returned 25 percent of its receipts to the States for use on the roads and schools in the counties where the national forests are located. The payments were clearly intended to compensate the counties for the tax exempt status of the national forest lands, but the legislative history provides no explanation of why compensation of 25 percent of receipts was deemed appropriate. In 1976, NFMA expanded the definition to include K-V Fund deposits and timber purchaser road credits as gross receipts, because the Forest Service had been diverting an increasing share of receipts to “internal management purposes” (reforestation and road construction), and thereby reducing the basis for county payments. Receipt-sharing is akin to an *ad valorem* severance or yield tax, which some jurisdictions use to tax private timberland owners. However, it is unclear whether Forest Service receipt-sharing approximates common severance or yield tax systems, and in some States, purchasers also pay yield taxes on their harvests of Federal timber.

A second program, enacted in 1976, compensates counties for the tax exempt status of Federal lands. The Payments in Lieu of Taxes (PILT) program, administered by the Bureau of Land Management, generally provides an annual payment of \$0.75 per acre for entitlement lands (which include most National Forest System lands), although the total payments are limited by the population in the county. PILT payments are also reduced by compensation under other programs, such as Forest Service receipt-sharing payments, to a minimum of \$0.10 per acre per year. Thus, in areas where Forest Service payments exceed \$0.65 per acre, the counties receive

\$0.10 per acre under PILT and the full Forest Service payments. In areas where Forest Service payments are less than \$0.65 per acre, the counties receive \$0.75 per acre on average under the two programs. (The offset to PILT payments lags behind changes in Forest Service payments, and thus county compensation could be above or below \$0.75 per acre in any given year, but will average \$0.75 per acre.) The PILT payments have not changed since the program was created, and thus compensation in real dollars is currently less than half of what Congress enacted in 1976.

It is unclear whether the combination of Forest Service receipt-sharing and Bureau of Land Management PILT payments is equitable compensation for the tax exempt status of national forest lands. In some areas, the counties may receive payments that exceed what collections from a private owner of undeveloped land might be, but in other areas, the counties might be undercompensated. Timber generally accounts for at least 90 percent of Forest Service receipts, and in heavily timbered areas, Forest Service payments can be substantial. Many counties rely on Forest Service payments for substantial portions of their budgets, but the agency does not regulate the timing of harvests, and, thus, receipts and county payments vary as timber harvests fluctuate. Timber receipts fluctuate widely, rising or falling by 50 percent or more from year to year because of changing market condition. Furthermore, PILT payments require annual appropriations from Congress, and while Congress has not failed to appropriate the full authorization, Federal budget constraints could force reductions in PILT payments. Counties, therefore, must depend on unpredictable sources that might be compensating them less than a private landowner would.

Congress could replace the current system of receipt-sharing and PILT payments with a system that fairly and consistently compensates the counties for the tax exempt status of national forest lands. Such compensation would reimburse States and counties for lost property taxes, sales taxes, income taxes, and/or yield taxes, depending on existing tax structures, and the basis could vary by county or by State. Congress could require a study, by the General Accounting Office or some other agency, to devise the appropriate compensation methods and levels, and then could replace the current system with the new tax-equivalency compensation system.

FOREST PLANNING DIRECTION

Finding 4: National Targets Can Nullify Local Decisions

RPA established a national strategic planning process for renewable resources under which the Forest Service is to assess opportunities and capabilities, develop a long-term agency program, coordinate that program with annual budgets, and report annually on progress in implementing that program. RPA also established a local planning process for preparing land and resource management plans for the national forests, and NFMA amended RPA to provide substantial guidance on considerations and requirements for the local planning process. Congress may not have envisioned a close union between the local and national planning processes, but they have evolved toward closer coordination. The Forest Service describes the connection as an iterative process, with information on capabilities and opportunities flowing into the RPA Assessment, and quantitative national targets from the RPA Program being allocated to the forests.

Allocating national RPA targets to the national forests can negate local agreement about the appropriate management direction for a national forest. Allocated targets may be technically infeasible, because a comprehensive, national analysis necessarily aggregates information on local capabilities, and loses the site-specific interactions and constraints. Furthermore, the RPA Program is subject to national political pressures, from within the administration and from Congress and the many interest groups, that may be insensitive to local demands and capabilities. Thus, national goals can be infeasible to achieve on the ground. In addition, because of existing inventories and analytical tools, targets focus on annual physical outputs, especially timber outputs. Allocated timber targets from RPA (or from the annual appropriations), even if technically feasible, can substantially alter the national forest management direction, determined with considerable local analysis and public involvement.

Planning Direction Options

To implement national forest plans that are acceptable to the public, the NFMA planning process must be coordinated with the RPA planning process by maintaining a continuous, multidimensional exchange of information on current situations,

capabilities, and opportunities—including physical and political potentials and limitations. National direction for forest planning is needed to assure adequate consideration of regional, national, and global problems and concerns. However, only local analysis can determine physically and politically feasible solutions.

Option 13: Specify forest plans as the baseline for RPA planning.

Congress could require the Forest Service to use the management direction established in the forest plans as the baseline for National Forest System outputs and values in the RPA planning process.

The Forest Service envisions an iterative NFMA planning-RPA planning process, with the forest plans providing information for the RPA Assessment and the RPA Program establishing targets for the National Forest System. Clearly, the forest plans can contribute data on the current situation, and on the capabilities and opportunities for the forests to provide outputs and other values—data which are essential to an assessment of the renewable resource situation in the United States. However, national analyses of management options can overestimate production possibilities, because site-specific interactions and constraints cannot be maintained in such analyses. Therefore, national output targets allocated to the forests may be technically infeasible to implement.

Alternatively, Congress could direct the Forest Service to use national forest plans as a technically and politically feasible baseline for outputs and values from the National Forest System, particularly if a consistent range of budget possibilities is required in forest planning. Then, in RPA planning, the Forest Service could compare the baseline National Forest System production and the expected private and other public production with the demand projections, to determine likely shortfalls, unacceptable price increases, and/or deteriorating conditions. The RPA Program could examine alternatives to address these identified problems—by increasing National Forest System budgets, by expanding research, and/or by bolstering financial and technical assistance to States and to private landowners. If regional, national, or global concerns cannot be adequately addressed under such alternatives, the RPA Program could provide direction for additional

issues to be considered as forest plans are revised. If the problems are near term, the Program could direct immediate analyses of potential plan amendments or revisions to address the problems. However, Congress could specify that any RPA Program direction for the National Forest System be consistent with locally developed forest plans and with public participation to assure that the direction is acceptable.

Option 14: Require RPA direction for all resources and all branches.

Congress could require the Forest Service to provide targets and/or national direction for all outputs and values and for all branches of the agency.

The RPA Program has traditionally established physical output targets, principally because the available information and analytical tools focus on physical outputs. It is admittedly difficult to establish goals for values other than annual physical outputs, particularly when the inventories and analytical models concentrate on outputs. Nonetheless, the emphasis on physical outputs from the national forests has impeded consideration of ecosystem sustainability.

The RPA Program has also focused on the National Forest System. The Program typically sets the direction for Research and State and Private Forestry by simply extending and expanding the size and structure of current activities. In contrast, targets for the National Forest System are driven by the desire to alleviate demand-supply imbalances for the various resources through national forest management. This focus largely reflects the ability to hold forest supervisors and other line managers accountable for achieving physical output targets, whereas researchers and employees providing financial and technical assistance are not clearly responsible for producing outputs. However, this focus has led to an emphasis on the National Forest System lands and outputs, which exceeds their importance in the Nation's land and renewable resource base.

Congress could improve the balance among resources and among Federal and non-Federal lands by directing the Forest Service to establish direction for agency programs to address all the outputs and values on all forests and rangelands. The Forest Service could be directed to emphasize financial and technical assistance to alleviate regional demand-supply imbalances for marketed outputs and values,

and to focus on Federal and other government lands for demand-supply imbalances of unmarketed outputs and values. Congress could require RPA Program direction, for all the branches of the Forest Service, to be defined in long-term goals for productivity and ecosystem health and in short-term targets for outputs and conditions of concern.

SUMMARY AND CONCLUSIONS

Congress, in enacting NFMA, envisioned an open planning process for establishing national forest management direction acceptable to the public. To date, national forest planning has not fulfilled this vision, and national forest management seems to be as controversial now as when NFMA was enacted. Most plans and many actions under those plans have been appealed, and lawsuits have focused national attention on Forest Service land and resource management. Some argue that the planning process has become so controversial and burdensome that NFMA should be repealed, while others have proposed modifications emphasizing various aspects of plan implementation.

OTA found a number of problems in national forest planning. The plans focus on producing timber and other physical annual outputs, because of an emphasis on outputs in the legislative guidance, in the inventories, and in the analytical technologies. Outputs from the national forests are clearly important, but sustaining the ecological health of the national forests is paramount. The national forests are, in many ways, comparable to a trust fund, intended to produce annuities from assets. Annuities are desirable, but maintaining and enhancing the assets is crucial to perpetuating the annuities. In national forest planning, inventories, analyses, and targets too often emphasize the outputs (the annuities) and discount the ecosystems (the assets).

The focus on physical outputs could be overcome, if the environmental and economic consequences of planning and management were assiduously monitored. However, monitoring has been insufficient to evaluate national forest plans and management. Efforts to produce outputs or, in some cases, the agency's failure to act could be degrading the nonuse values and the productive assets of the national forests, but the monitoring needed to assess such changes is not being done. Monitoring can determine: 1) if the activities are consistent with the direction established in the plans; 2) if the results

accomplish the plan's objectives; and 3) if the assumptions and models used in the planning process are accurate. To date, monitoring of national forest plans and their implementation has not achieved these purposes. The lack of monitoring results, in part, from the inadequate information base. More importantly, however, monitoring is fragmentary because there are no incentives to monitor, and no penalties for managers for not monitoring.

Direction-setting at the national level has also emphasized annual timber and other outputs, although better integration of forest plans in the RPA planning process could help to protect nonuse values and long-run ecosystem health. The resource-oriented budget process and the numerous special accounts and trust funds (which are funded principally through timber sales) contribute to the focus on timber and other outputs. Furthermore, RPA planning was intended to be a strategic process for all renewable forest and rangeland resources, but has emphasized timber and other outputs from the national forests, again because better information and analytical tools exist for timber and other annual outputs than for ecosystem conditions. Unless closely coordinated with the forest plans, national output targets from the annual appropriations or from the RPA planning process can overwhelm the technically and politically feasible decisions produced locally, through substantial analysis and public participation.

Despite these problems, NFMA planning can fulfill the strategic process envisioned by Congress. Clearer legislative direction, a broader information base, targets for ecosystem health as well as for annual outputs, more effective public participation, and a variety of analytical technologies could lead to technically and politically feasible national forest plans and management. Distinguishing and organizing monitoring, linking activities to results, and involving the public in monitoring can assure that forest plans are implemented. Appropriations by management activity, realistic budget assumptions in forest plans, better accounting for special accounts and trust funds, and fair compensation to counties for the tax exempt status of Federal lands could lead to Federal financing consistent with the forest plans and overall Federal budget constraints. Finally, a more interactive RPA-NFMA planning process, with forest plans as the baseline for the National Forest System and with long- and short-

term direction for all resource values and all branches of the agency, can result in a national direction that can be achieved through national forest planning and other Forest Service activities.

These changes can complete the strategic planning process for the national forests that was begun with NFMA and has been evolving under Forest Service leadership.