

Sustaining the People's Lands

Recommendations for Stewardship of the National Forests and Grasslands into the Next Century

In December 1997, Secretary of Agriculture Dan Glickman convened an interdisciplinary committee of 13 scientists to provide scientific and technical advice on the Forest Service's land and resource management planning process. The committee was asked to recommend how best to accomplish resource planning within the existing environmental laws and statutory mission of the Forest Service; to provide technical advice on planning and provide material for the agency to consider in revising planning regulations; to recommend improvements in coordination with other federal agencies, state and local government agencies, and tribal governments; and to suggest a new planning framework that could last a generation. The committee took field trips and met in cities and towns around the country to hear from Forest Service employees, representatives of tribes, state and local governments, related federal natural resource agencies, and members of the public. Drawing on many of the approaches and improvements to planning it observed, the committee has made its recommendations.

By K. Norman Johnson, James Agee, Robert Beschta, Virginia Dale, Linda Hardesty, James Long, Larry Nielsen, Barry Noon, Roger Sedjo, Margaret Shannon, Ronald Trosper, Charles Wilkinson, Julia Wondolleck

A summary of the Committee of Scientists' report, prepared by its chair, K. Norman Johnson, follows; excerpts begin on page 9. Full text of the report is available on the Forest Service website, <http://www.fs.fed.us/news/science>.

Recognize sustainability as the overarching objective of national forest stewardship.

The national forests and grasslands constitute an extraordinary national legacy created by people of vision and preserved for future generations by diligent and farsighted public servants and citizens. They are "the people's lands," emblems of our democratic traditions. These lands provide many and diverse benefits to the American people. Such benefits include clean air and water, productive soils, biological diversity, goods and services, employment opportunities, community benefits, recreation, and naturalness. They also provide intangible qualities, such as beauty, inspiration, and wonder.

The committee believes that sustainability in all of its facets—ecological, economic, and social—is the guiding star for stewardship of the national forests and grasslands.

Looking back across the century, a suite of laws, starting with the Organic Act of 1897, call for federal agencies to pursue sustainability. Thus, for the past 100 years, we, as a nation, have been attempting to define what we mean by "sustainability," in part through our grand experiment in public land ownership. In the process, we have broadened our focus from that of sustaining commodity outputs to that of sustaining ecological processes and a wide variety of goods, services, conditions, and values. The concept of sustainability is old; its interpretation and redefinition in this report should be viewed as a continuation of the attempt by Gifford Pinchot and others to articulate the meaning of "conservation" and "conservative use" of the precious lands and waters known as the national forests and grasslands.

Ecological sustainability: A necessary foundation for stewardship.

The committee recommends that ecological sustainability provide a foundation upon which the management for national forests and grasslands can contribute to economic and social sustainability.

The committee believes that conserving habitat for na-



George Washington National Forest, Virginia. 1968.

itive species and the productivity of ecological systems remains the surest path to maintaining ecological sustainability. To accomplish this, the committee suggests a three-pronged strategy:

1. Maintain conditions necessary for ecological integrity, i.e., the characteristic composition, structure, and processes of the ecosystems.

2. Provide the ecological conditions needed to protect and, as necessary, restore the viability of selected "focal" species and of threatened, endangered, and sensitive species.

3. Monitor the effectiveness of this approach in conserving native species and ecological productivity.

The strategy should acknowledge the inherent variability in ecological systems and our incomplete knowledge of them. Stewardship should first retain and restore the ecological sustainability of watersheds, forests, and rangelands so that these lands can continue to provide benefits to society for present and future generations. This recommendation does not mean that the Forest Service is expected to maximize environmental protection to the exclusion of other human uses and values. Rather, it means that planning for the multiple use and sustained yield of the resources of the national forests and grasslands should operate within a baseline level of protection for ecological systems and native species.

The committee has drafted regulatory language to help the Secretary understand how this strategy might be con-

verted from concept to application. With the committee's recommendations, choices in management still exist about the level of risk.

Economic and social sustainability: Contributing to the wellbeing of people today and tomorrow.

Conservation and management of the national forests and grasslands can promote sustainability by providing for a wide variety of uses, values, products, and services and by enhancing society's capability to make sustainable choices. To accomplish this goal, the Forest Service should:

- Assess the contributions of national forests and grasslands to society.

- Recognize the interdependence of forests and grasslands with economies and communities. Many communities depend on the national forests and grasslands for much of their economic, social, and cultural sustenance. Although the Forest Service cannot single-handedly sustain economies and communities, the national forests and grasslands nevertheless contribute many values, services, outputs, and uses that allow economies and communities to persist, prosper, and evolve. Within a context of sustaining ecological systems, planning must take generous account of compelling local circumstances. Also, local communities have much to offer in terms of the entrepreneurship and people to undertake the treatments that will be needed to sustain these lands and resources.

- Recognize the rights of American Indian tribes.
- Search for strategies and actions that provide for human use in ways that contribute to long-term sustainability.

Consider the larger landscapes in which the national forests and grasslands are located to understand their role in achieving sustainability: Look outward in planning.

Recognize the special role that national forests and grasslands play in regional landscapes. National forests and grasslands are increasingly called upon to anchor regional conservation strategies for protection of species and ecosystems, thus enabling continuation of timber production and other resource use on non-federal lands without undue restriction. Depending on the location, national forests are also counted on to provide municipal

water supplies and dispersed recreation for an increasingly developed and settled landscape. In addition, in some areas, they are the only substantial source of timber and forage.

Recognize the national and global implications of managing national forests and grasslands. The growing national and global population is a pivotal concern with regard to ecological sustainability because it will place increasing demands on our natural resources to provide uses, values, goods, and services, including wood products. Without careful planning to enable continued production of wood and other outputs from the forests of the United States, societal demands may be transferred to other countries with uncertain environmental effects. Planning will need to address the contribution of the national forests and grassland to global issues, such as climate change. In sum, planning should consider how the Forest Service can contribute to sustainability on a national and international scale.

Build stewardship capacity and use a collaborative approach to planning.

Assess resource conditions and trends as joint public-scientific inquiries that build both a knowledge base for planning and institutions and relationships to carry out stewardship.

Work with other public and private organizations, and engage communities and citizens in envisioning and working toward a sustainable future on the national forests and grasslands.

Establish collaborative relationships that provide opportunities and incentives for people to work together and contribute to planning in meaningful and useful ways.

Address all federal lands within the area and work, to the degree feasible, with all affected federal agencies.

Recognize that National Environmental Policy Act goals are shared by all federal agencies and use the review process as an opportunity to coordinate across agencies and responsibilities.

Make plans understandable to the American people.

Make decisions at the spatial scale of the issue or problem (fit decisions to the problems).

Develop overall guidance on sustainability for bioregions. Undertake strategic planning of large landscapes within regions for attaining long-term goals, and conduct project-level planning for small landscapes.

Recognize that we need to learn systematically about successful and unsuccessful approaches to planning and set up experiments and pilots across the country to try different approaches.

Use the integrated land and resource plan as an accumulation of planning decisions at all levels and as an administrative vehicle for plan implementation.

Make these "loose-leaf" plans dynamic and evolving, reflecting the outcomes of adaptive management.

Support local-management flexibility with independent field review. The key to successful implementation lies in harnessing the creative talents of national forest managers and interested members of the public. This should be com-

binated with independent evaluation of how well actions help achieve strategic goals.

Keep decisions close to the planning area.

Identify the suitability of land for resource management as an outcome of planning.

Use principles of efficiency analysis in planning, plans, and management and to help determine the suitability of land for resource management.

Make "desired future conditions" and the outcomes associated with them the central reference points for planning.

Portray the desired future as a range of conditions and outcomes reflecting the dynamic nature of forests.

Establish pathways to the desired future conditions and outcomes in large landscape plans that can guide implementation.

Create incentives within the Forest Service that reward undertaking activities and achieving the conditions needed through time to move to the desired future.

Make effective use of scientific and technical analysis and review.

Work with the scientific community to develop scientifically credible strategies for ecological, economic, and social sustainability.

Establish a national science and technology advisory board.

Involve the scientific community in designing procedures for monitoring and adaptive management.

Establish independent reviews on the use of technical and scientific information in planning.

Integrate budget realities into planning.

Estimate the budgets associated with different strategies, consider likely long-term budgets in setting long-term goals; and develop plans robust enough to adapt year-to-year progress to long-term goals to the annual budgets that are received.

Consider putting more national forest goods and services, such as recreation, on a paying basis to help provide a stable funding source. A continuing challenge to the agency is to find sufficient funds to survive, yet not create incentives that run crosswise to the goals of the plans. Finding stable funding sources to support stewardship remains among the agency's greatest challenges.

Special guidance on watersheds and timber supply: Traditional focuses of the Forest Service in achieving sustainability.

Given the continuing attention to these two important resources, the committee has developed general recommendations in response to language in the National Forest Management Act and other laws.

Watersheds. Develop a strategy for conserving and restoring watersheds.

Maintain and restore watershed integrity; that is, maintain and restore the natural composition, structure, and processes of watersheds, including their flow regimes.

Provide conditions for the viability of native riparian and aquatic species.

Recognize watersheds in assessment and planning.

Develop an overall strategy for setting priorities for restoration and use.

Energize the people of the watershed to help provide stewardship.

Monitor watershed conditions over time as part of adaptive management.

Timber harvest and timber supply. Recognize the role of timber harvest in achieving sustainability: silvicultural practices can help achieve stand and landscape goals while providing goods and services. Regional assessments need to define the historical characteristics of disturbances and stocking conditions so that the appropriate silvicultural methods can be selected.

Recognize the need for predictable timber supplies and how adherence to sustainability increases long-term predictability. Finding actions that simultaneously contribute to ecological, economic, and social sustainability is the key to increasing the predictability of resource flows.

Past planning, which often focused on timber harvest and the allowable cut, tended to polarize people and groups. However, planning that focuses on desired future conditions

and outcomes, and the activities to achieve them, gives the Forest Service its best chance to unify people on the management of the national forests. Therefore, the committee recommends that the Forest Service focus on desired conditions and the actions needed to produce these conditions, including timber harvest, in planning, budgeting, monitoring, and performance evaluation.

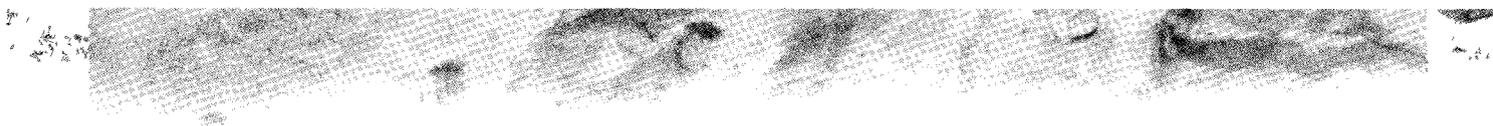
Recognize external influences on collaborative planning and stewardship.

In addition to budgets, a number of external influences can affect planning and stewardship:

Consider developing a consistent approach across federal agencies for addressing protests and appeals.

Recognize that differences exist in legal responsibilities and missions across federal agencies and that some friction is inevitable, but that a coordinated planning approach should help smooth these relationships

Recognize that actions by Congress and the administration can undercut plans and render collaborative planning frustrating and ineffective.



Excerpts from *Sustaining the People's Lands*

Sustainability

... the policy of sustainability should be the guiding star for stewardship of the national forests and grasslands to assure the continuation of this array of benefits. Like other overarching national objectives, sustainability is broadly aspirational and can be difficult to define in concrete terms. Yet, especially considering the increased human pressures on the national forests and grasslands, it becomes ever more essential that planning and management begin with this central tenet. Sustainability is broadly recognized to be composed of interdependent elements, ecological, economic, and social. It operates on several levels. As a collective vision, sustainability means meeting the needs of the present generation without compromising the ability of future generations to meet their needs. As an approach to decision making, it calls for integrating the management of biological and ecological systems with their social and economic context, while acknowledging that management

should not compromise the basic functioning of these systems. As a measure of progress, sustainability has spawned a worldwide movement to develop a common set of criteria and indicators.

Focal Species

... monitoring the status of all species and assessing their viability is impossible from a practical standpoint. Thus it is necessary to focus on a subset of species called "focal species." The key characteristic of a focal species is that its abundance, distribution, health, and activity over time and space are indicative of the functioning of the larger ecological system. In monitoring, the habitat needs of the focal species are analyzed, and projections are made of the habitat that will be needed for the species to be considered "viable," having self-sustaining populations well-distributed throughout the species range. ... The habitat that will be created under any management scenario is compared to the habitat

needed for the viability of each selected focal species. The less adequate the habitat for each species, the greater the risk to native species and ecological productivity.

Economic Sustainability

Because forests and grasslands contribute in numerous tangible and intangible ways to the physical, spiritual, cultural, social, and economic well-being and identity of many communities and individuals, the planning process must actively consider and engage the different cultures, communities, and economies that value these attributes. It is not always possible to quantify or rank diverse uses and values to determine such elusive concepts as highest and best use, just as it is impossible to identify, count, and value on a common ledger all plants and animals in an ecological system. It is, nonetheless, essential that important uses and values be recognized, assessed, and accommodated as practicable and appropriate.

A Regional Role

National forests and grasslands often provide the anchor of regional conservation strategies for protection of species and ecosystems, thus contributing to a stable landscape within which the extraction of timber and the use of other natural resources occurs across all ownerships. This regional approach is intended to conserve species and ecosystems without creating undue requirements on nonfederal lands, thus enabling the production of timber and other commodities from these lands. The argument for this approach has three sources. First, through law and policy, the United States has developed a strategy by which the federal lands take the primary responsibility for protection of species and ecosystems. Second, federal lands often have the best remaining habitats and ecological conditions. Third, federal lands are inherently less efficient in the production of timber and other products because of the required planning processes to ensure protection of the environment.

Public Involvement

Land and resource planning must provide mechanisms for broad-based, vigorous, and ongoing opportunities for open dialogue. These dialogues should be open to any person, conducted in nontechnical terms readily understandable to the general public, and structured in a manner that recognizes and accommodates differing schedules, capabilities, and interests. The participation of citizens should be encouraged from the beginning and be maintained throughout the planning process, including roles in assessments, issue-identification, implementation, and monitoring.

... The committee recommends that the Forest Service test advisory boards on particular national forests and grasslands across the nation ...

Spatial Scales

In the past, the administrative boundaries of national forests and

grasslands have often bounded the scope of decisions in land- and resource-management planning. In the collaborative planning process for sustainability, administrative boundaries of a particular agency may often not be logical decision boundaries. Rather, decisions should occur at the scale of the issue or problem. This means that developing policies regarding conservation strategies for wide-ranging species, for example, need to occur at the bioregional level to encompass the entire range of the species. Similarly, strategic planning will generally occur at a "large-landscape" level following ecological and political or social boundaries. Naturally, implementation



Yazoo-Lake Tallahatchie, Mississippi. 1954.

planning occurs at a "small-landscape" level where actions, cumulative effects, and performance can be monitored.

The Loose-Leaf Notebook

... the land- and resource-management plan should be in the form of a loose-leaf notebook that contains all of the policy directions, strategies, and implementation proposals from decisions that have been made at all levels of the planning process. ... It must also contain the monitoring methodologies that will be implemented as well as the evaluation results from monitoring. ... Rather than a formal process involving review and comment, these loose-leaf plans are dynamic and evolving, readily reflecting and accommodating the

outcomes of adaptive management. Thus, as decisions are revisited and revised in response to changing social understanding, natural and social events, and policy priorities, the loose-leaf notebook immediately reflects those changes. Consequently, any "amendments" made to these plans reflect decisions that have been made and reviewed elsewhere.

Integrated Strategies

Effective assessment and planning for our federal lands requires a coordinated approach across affected federal agencies. Harmonizing and coordinating the different statutory priorities, geographic areas of consideration, and implementation time frames of the various federal agencies is no small task, but the potential benefits are enormous. Integrating and coordinating these separate planning processes is essential to developing integrated strategies for ecological and social sustainability and for adapting these strategies to changed conditions over time. Moreover, the Committee has repeatedly heard that state and local governments, tribes, non-governmental and private organizations, and the public is overwhelmed by

the multitude and complexity of federal land and resource planning processes. Coordinating the federal planning processes, especially where there are adjacent federal managers within an area, would help solve this problem. It must be said, though, that the Forest Service cannot make coordinated federal planning happen by itself. Other federal agencies must also want to participate.

Efficiency

The national forests and grasslands should be efficient in their management, within the context of meeting their other goals. This mandate does not require the Forest Service to manage the public lands to maximize monetary return. Rather it simply requires the Forest Service to pursue its objectives in the least-cost manner and to

ensure that social benefits from its actions exceed social costs.

Timber Production and Harvest

The classification of lands as to their suitability for different kinds of resource management should be made during planning for large landscapes....

The planning process should classify (zone) lands by suitable types of resource management: habitat preservation, water-quality management, timber production, range management, and recreation. Some lands might be classified as suitable for all types of management; others might only be suitable for one type. Site-specific analysis might be necessary to refine the estimates of where activities could actually occur and the form they could take.

The most complicated portion of this analysis addresses resource management involving timber harvest and timber production, where timber production is defined as a long-term commitment to produce commercial-timber volume. ...

... timber harvest can occur for the "protection of other multiple-use values," even where the forest is not suitable for timber production. Thus, lands suitable for resource management involving timber harvest need two subcategories: (1) where timber harvest is prohibited and (2) where timber harvest is permitted. When timber harvest is permitted, however, it might be either (1) for protection of other multiple-use values, even though timber production is not a goal, or (2) for timber production as one of several goals.

Given this complexity, it is not surprising that identifying the lands [not suited for timber production] has perplexed analysts... However, the criterion of economic efficiency broadly defined should eliminate many of these conflicts. For example, lands should be viewed as unsuited for timber production if the costs of regeneration, including using a reasonable discount rate, cannot be covered by the benefits (returns) from the future timber sales. In this case, these lands should not be allocated to timber production; such

an allocation would be inconsistent with efficient attainment of long-term sustainability. Timber harvest should occur on these lands only to "protect other multiple-use values." Lands may also be unsuitable because of environmental damages associated with the harvest (e.g., serious erosion or water-quality deterioration) that exceed any surplus of harvest revenues over harvest costs. Similarly, economic criteria suggest that below-cost timber sales do not pass the efficiency test and therefore should not be undertaken unless justified by the achievement of some other end of sufficient value to justify the revenue losses. For example, if the below-cost activity generated substantial values in turkey browse to compensate for the losses, the activity would meet the efficiency criteria. The careful use of economic criteria should eliminate many of the questionable practices of the past. We do believe these problems are solvable by appropriate analysis of revenues and costs. Furthermore, such problems can be avoided by using the scientifically credible, participatory planning process that is recommended in the report and by striving to attain the overarching goal of sustainability.

User Fees

One way to reduce the uncertainty of budgeting is to fund activities out of a percentage share of the net returns from user fees. Such an approach should reduce the dependence of the Forest Service on the vagaries of the budget process, encourage managers to be efficient in their expenditures, and provide signals indicating the value that members of the public place on different goods and services. Some forms of recreation, as an example, would seem perfect for this approach. Recent Resources Planning Act assessments suggest the American people would be willing to pay hundreds of millions of dollars per year for the right to enjoy different types of recreation on the national forests. As another example, developing stand-treatment projects that contribute to sustainability while paying for themselves will be a major challenge for the next decade. While it is difficult or impossible to

charge individually for collective goods, such as the protection of endangered species, self-financing activities will be one key to a stable future for programs on the national forests.

Silvicultural Systems

... clearcutting should be used only where it can be demonstrated to be the optimal method for meeting the objectives for the stand and landscape, but not as a default method. There are species, ecosystems, and disturbance conditions for which a convincing argument can be made for the "optimality" of clearcutting. Even here, suitable conditions for regeneration can almost always be created with a range of alternative reproduction methods (e.g., clearcutting-with-reserve-trees, shelterwoods, and even large-group selection). At times there have been attempts to list the situations under which clearcutting will be considered. Such an approach is fraught with difficulties because of the impossibility of predicting all the different situations that might occur.

Generalized limits on the size of harvest units can be a prescription for fragmentation of the forest into patterns that have not been experienced historically though natural disturbance. To emulate natural disturbances, the overall size of the harvest units should be designed in accordance with patterns of disturbance on the broader landscape. Any limits regarding the minimum or maximum opening sizes of harvest blocks need to be based on the ecology of the species and disturbances typical of the region.

Predictability of Timber Supplies

Just as the timber industry in many parts of the country requires outputs from the national forests, the national forests need a functional timber industry to help achieve long-term goals for these lands. Also, communities planning for their future would like to have some confidence in the amount of timber that will be coming off of nearby national forests. Without some notion of the magnitude of likely offerings, it is improbable that investment will occur in wood-processing facilities.

In recent years, achieving predictable timber supplies has been increasingly difficult for the Forest Service for a number of reasons. The inherently dynamic nature of our ecological and economic systems makes predictability difficult. In addition, timber harvest has more and more been seen as at odds with long-term sustainability, with resulting political and legal protests.

... the more that timber harvest contributes to long-term sustainability, the more predictable supplies will tend to be. Conversely, to the degree that timber harvest works against sustainability (ecological, economic, or social), it will be unpredictable and difficult to achieve.

The Appeals Process

Different rules regarding how protests and appeals are treated by each agency can pose a significant problem within a multiagency collaborative planning process. The Committee recommends that the different agencies form a multiagency task group to carefully examine this problem and con-

sider the development of an appeals process that is consistent across agencies and encourages participation in collaborative planning...

The Committee hopes that the benefits to every agency of more smoothly working in a collaborative process will prompt immediate attention to this issue and lead to a willingness by the agencies to adopt consistent procedures. The Committee recognizes that legislation currently requires the Forest Service to allow project-level appeals after a final decision is made. While changing legislation requires a level of effort beyond that needed to change agency regulations, the appeal requirements need to be analyzed in the context of the new approaches to planning and recommendations for changes made to ensure that a collaborative planning process can succeed.

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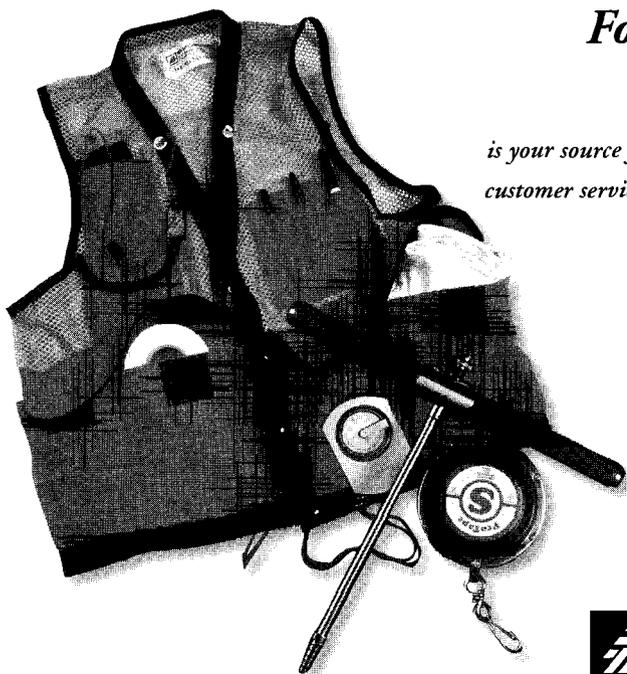
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