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Effectiveness of Decisionmaking

Volume 7

Critique of Land Management Planning

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Executive Summary

The objectives of the team critiquing decisionmaking in the forest planning process were to (1) evaluate how adequately the forest planning process prepared a decisionmaker to make a reasoned, supportable, and defensible decision and (2) recommend improvements in forest planning and decisionmaking.

The team collected information through a series of interviews. Separate questionnaires were devised for Forest Service employees and local public audiences. The key subject areas covered in the interviews included—

1. What were the key decision points?
2. Who made the decision at the key points?
3. Was there an adequate range of options at key decision points?
4. Were tradeoffs and effects adequately displayed to the decisionmaker?
5. What decisions were not made that should have been?
6. What decisions were made that should not have been?
7. When were decisions made and why?

The team interviewed a total of 62 Forest Service employees and 19 members of the public, spread across all nine Forest Service regions. A summary of responses is included in the "Analysis" chapter of this report. The team grouped its findings into six major areas; a capsule description of each is provided below.

Understanding and Involvement

There is a lack of understanding of all aspects of land management plan decisions, both internally and externally. The amount of understanding depends on the amount of involvement people had in plan development. The team offers three recommendations:

1. Line officers should implement an "open management" style that encourages maximum participation in the decision process.
2. Forest supervisors should give planning a high priority and demonstrate personal commitment and involvement in the planning/decision process.

3. Forest plans must focus issues identified during the scoping process on specific problems and develop specific solutions (alternatives) for these problems.

Analysis and Modeling

The analysis and modeling conducted in the forest planning process was too complex and often adversely affected the quality and timeliness of decisions. There are three recommendations:

1. There should be flexibility for forests to determine which analytical models to use.

2. Analysis models should be thoroughly tested before national implementation.

3. We should continue implementing the two-step decision process with minimal, focused analysis at the forest plan (first decision step) level.

Resource Versus Social Concerns

Too much time, money, and energy were spent on modeling resource data during the planning process. This took time away from interacting with the public and addressing sociopolitical analysis and decisions. The team has three recommendations:

1. Sociopolitical issues and tradeoffs should be analyzed more fully.

2. Interdisciplinary teams should incorporate social scientists as members.

3. Methods should be developed to align the amount and type of resources modeling and analysis with the sociopolitical decision space.

Development of Options

Too many alternatives were presented and considered in the plans. Many of those alternatives were unnecessarily constrained by historical outputs while others were not realistic or implementable. The team offers four recommendations:

1. A wide range of viable options should be given full consideration rather than limiting consideration to historical output levels.

2. The public should be more involved in developing the alternatives. Adversaries should be brought together to work out options and solve problems.

3. Forests should develop alternatives that solve specific forest problems as part of an integrated package and should avoid "piecemeal" solutions aimed at addressing a single problem.

4. General issues should be condensed into specific problem statements and specific solutions (management direction) developed.

Implementation and Budgets

No matter what decisions are in the forest plan, its implementation is a function of the budget and the mix of funds that the forest receives. Plan decisions are irrelevant if budget implementation decisions do not reflect the plan's intent. There are two recommendations:

1. The Forest Service should clearly display to Congress the desired future conditions that forest plans have been designed to achieve and show how varying budget proposals could affect those desired conditions.

2. We should develop forest plans that analyze and make decisions on the changes in management direction at various budget levels.

Timeliness

The forest planning process took far too long to complete, causing unnecessary problems in issue resolution, employee interest and morale, public expectations of timely decisions, continuity of planning, economic efficiency, and quality involvement of line officers throughout the process. The team has two recommendations:

1. The forest plan revision activities should be reduced to produce the revised plan within a shorter period. Approximately 2 years seems to be realistic.

2. Forest plans should be kept dynamic and current through improved information gathering, monitoring, and timeliness of needed revisions.

This report concludes by listing five key characteristics of supportable plans and 13 observations of plan decisionmaking processes that worked.

Team Members

The critique team consisted of the following members:

- **Dale Bosworth** (Team Leader), Forest Supervisor, Wasatch-Cache National Forest, Intermountain Region (now Deputy Director, Timber Management, Washington Office).

- **John Twiss**, District Ranger, Siuslaw National Forest, Eastern Region (now Deputy Forest Supervisor, Superior National Forest).

- **Gretchen Merrill**, District Ranger, White River National Forest, Rocky Mountain Region.

- **Dave Barone**, Planning Staff, Wayne-Hoosier National Forests, Eastern Region.

- **Bob Butler**, Assistant Director, Planning, Pacific Southwest Region.

Introduction

Overview

The critique team's objectives were to (1) evaluate how adequately the forest planning process prepared a decisionmaker to make a reasoned, supportable, and defensible decision and (2) recommend improvements in forest planning and decisionmaking. The most crucial aspect of forest planning is effective decisionmaking. The Forest Service expected that integrated land and resource planning would provide decisionmakers with forest-wide information for all resources so that they would have a clear understanding of tradeoffs. Final decisions would be much more effective.

Forest Service planning regulations designated regional foresters as the decisionmakers. As planning proceeded, it became clear that various line and staff people would make procedural decisions along the way that limited options for the final decision. The technology used and the issues generated in the planning process also generated massive amounts of information to consider in making decisions.

Planners in each region and forest approached decisionmaking a little differently but learned from the successes and failures of other forests and regions. Interested groups and individuals outside the Forest Service also learned from successes and failures, and public participation became more effective.

The final results of this critique indicate that most of the decisions made in forest planning were sound. They were based on the most comprehensive and current information available. The forest planning process was successful in ensuring that decisions were in fact reasoned, supportable, and defensible. This critique points out a few problems, however, and discusses some areas that should be considered to improve the process in the future.

Methodology

The team chose to address decisionmaking effectiveness through a series of interviews with both Forest Service employees and members of the public. The word *decision* was purposely not defined for interviewees so they could identify and discuss points where important choices were made without team-imposed constraints on their thinking. We told respondents that "decisionmaking" covered all decision steps during the planning process.

The kinds of decisions our interviewees thought were important included—

1. Issue identification.

2. Standards and guidelines development.

3. Determination of output levels for commodity resources, such as timber.

4. Alternatives development.

5. Preferred alternative selection.

6. Management area delineation.

7. Generic prescriptions development.

8. Analysis of the management situation.

9. Decisions made on forest-specific resource issues, such as outdoor recreation vehicle use, amount of wilderness or roadless areas, and elk forage production level.

It is interesting that many of the key decision points noted above are similar to the kinds of decisions described in the National Forest Management Act (NFMA) implementing regulations (36 CFR 219).

We started the critique in the summer of 1989 with a team of five members. Three team members have served as forest planning specialists on six different forests and also at the regional level in three different regions for the past 10 years. The other two team members have strong line experience. One has been a district ranger on two different districts in Region 2. The other has been a district ranger in Regions 1 and 6 and is currently a deputy forest supervisor in Region 9.

We collected information through a series of interviews conducted either in person or by telephone. We first identified key subject areas, then devised three questionnaires, two for Forest Service employees and one for our public interviews. Each questionnaire had specific questions relating to the key subject areas, including—

1. What were the key decision points?

2. Who made the decision at the key points?

3. Was there an adequate range of options at key decision points?

4. Were tradeoffs and effects adequately displayed to the decisionmaker?

5. What decisions were not made that should have been?

6. What decisions were made that should not have been?

7. When were decisions made and why?

Team members were assigned to conduct interviews in one or two Forest Service regions. We first interviewed regional planning directors to gain an

overview of forest planning and to select forests and public audiences for further interviews. We used the following criteria to select forests:

1. No lead forests and no less than two forests per region.

2. A mix of forests representing various levels of controversy and cultural and geographic differences.

3. Forests familiar to the interviewer with many key players in the planning process still in place or available.

4. Forests representative of that region's established process.

5. Forests recommended by the regional planning director and cost-effective to interview.

We used the following criteria to select members of the public:

1. Involved or highly interested in the planning process.

2. No more than three separate interviews per forest.

3. No interviews with other Government agencies.

4. Local rather than national participants.

5. Forest recommendations on whom to interview.

6. Regional planning directors' recommendations on whom to interview.

7. A range of people representing a variety of opinions and interests.

We interviewed Forest Service employees and members of the public in all nine Forest Service regions. Forest interviews included, where possible, the forest supervisor, district rangers, forest planning team members, and members of the public for that forest. After the forest interviews, we interviewed a selection of regional foresters and the national planning director. A total of 62 Forest Service employees and 19 members of the public were interviewed.

Analysis

The team hoped to interview enough people in enough varied environments to thoroughly assess the decisionmaking process, find common issues and success stories, and be able to recommend improvements. The team met twice during summer and early fall of 1989 to establish this process and compare results. We analyzed the total 81 interviews and then summarized all responses to each question into a single document.

At our final meeting in late October 1989, we discussed and interpreted our results. Our six key areas of findings are discussed later in this report.

Summary of Responses

Responses from interviews are summarized here. We have included the actual questions asked, summary answers, and a few actual comments to display the variety and depth of response. The Forest Service responses (18 questions) are listed first, followed by the public responses (6 questions).

Internal Responses (Regions and Forests)

What were the key decision points?

This question generated very diverse responses, including agreement on the issues, FORPLAN model use, analysis of the management situation, amount of line involvement, development of standards and guidelines, development of alternatives, land allocation decisions, selection of the preferred alternative, and record of decision. Others asserted that before any analysis was done, some key decisions were made—for example, decisions to set commodity output levels (especially the allowable sale quantity level for timber), to protect existing contracts in the 1979 Alaska forest plan, to determine the degree of support for community stability, and to maintain the situation that existed prior to NFMA planning.

Who made the decision at the key points?

Most respondents said that the forest supervisor and forest management teams made the key recommendations. Early in the process, forest planning teams made many procedural decisions that shaped the final decisions. Many said that the regional forester made final decisions but that these were just approving what the forest recommended. Many stated that allowable sale quantity decisions were handed down to the forests by the regional forester based on strong direction from the Washington Office. This view was repeatedly heard throughout the interviews.

Was there an adequate range of options at key decision points?

Most respondents said the range offered would have been adequate, but they thought that only a few of the alternatives were really considered. They thought the range of actual options was narrow, especially where the allowable sale quantity was concerned. Any alternatives seriously considered generally did not challenge the status quo. Many felt strongly that the other options offered were merely "straw man" alternatives, analyzed only to meet the requirements of the process.

Were tradeoffs and effects adequately displayed to the decisionmaker?

Most identified this as a major weakness in the process. Few people understood how to define real tradeoffs—possibly because the real issues were not identified or were not focused enough. Many respondents blamed this on the lengthiness of the planning process—issues changed, others kept emerging, and it was difficult to keep up with them. The method of displaying tradeoffs seemed to be adequate for most.

What decisions were not made that should have been?

Several regional respondents felt that regional directors should have been involved earlier in the planning decisionmaking. This would have averted many current plan implementation problems. Regional office model and document content design would have provided more consistency among forests, easing the current difficulty in coordinating regional programs. Regional office involvement also could have provided reasonable budget levels for forests' preferred alternatives, more and earlier Office of General Counsel involvement, and regional guidelines for resources and issues that cross forest and State boundaries. Many interviewees said that plans also should have included resource decisions on land adjustment, fire analysis, silvicultural practices, oil and gas development, and some transportation planning.

The forest respondents identified a number of issues that were not recognized as important early in the process but that became important later. By then, they either lacked time to go back and analyze them or decided not to address them at that time. Many cited specific resource areas where better decisions should have been made.

What decisions were made that should not have been?

Regional respondents said decisions for capital investments, timber sales, roads, and road closures should not have been made at the forest plan level. These site-specific decisions should be made during plan implementation. In one region, the respondents felt that planners relied too heavily on the RPA demand analysis and should not have used forest-wide averages in the

FORPLAN analysis. In another region, the respondents decried a decision to limit options in engineering and timber management (that is, not to seriously consider uneven-aged timber management options).

At the forest level, the respondents said that decisions should not have been made to set the allowable sale quantity in the preferred alternative based on historical output levels and to avoid addressing certain issues. They thought the Forest Service should not have decided to begin planning on all units of the National Forest System at the same time.

When were decisions made and why?

People at both the regional and forest levels thought that during the planning process, people at all levels of the organization continually made decisions as they were needed. Most thought that some decisions were made sequentially—that is, one decision had to be made before subsequent decisions could follow and the process could continue. Decisions were made for many different reasons—because regulations required them or to meet resource, social, or political needs. Many noted that key decisions were made between the draft and final plan documents, after evaluating public comments. Several said that the Forest Service should make quicker decisions to shorten the process and stay current with the issues.

Were all the forests in the region consistent in their decisionmaking approach? If not, why?

"No" was the general response. Some thought that consistency in decisionmaking was not as important as consistency in the planning process. Most said that the regions' review process did provide some consistency, especially as time passed, but many regional office and Washington Office officials stated that there should have been more consistency in approach and decisionmaking.

How did the regional guide (or direction) affect the decision space? Was the decision space adequate?

The regional guide disaggregated RPA targets for the forests and helped establish the process. The range of alternatives was indirectly limited by regional guide demand projections because forests did not place values on outputs beyond the demand projections. In one region, the regional guide broadened the decision space because forests were required to consider a wide group of possible prescriptions and goals. Regional interviewees thought this probably was unnecessary. Certain practices documented in the regional guide, such as utilization standards, stocking levels, and size of openings, were used by all forests unless there was a good reason for an exception. Demand often set the upper bound for the decision space. Some forest and regional personnel thought the regional guides served no useful purpose in the process. Most

thought strengthening the regional guide would not help the planning process significantly.

What was your role and your staff's role in the decision process?

Regional interviewees said they played a support role in the entire process: providing technical expertise, making other regional office staffs knowledgeable about the process, passing on departmental and Washington Office direction, and acting as coaches and cheerleaders. In the decisionmaking process, they provided the "how to" information to the forests, structured the regional review process, and provided quality control, leadership, and guidance.

The role of forest personnel was to develop and recommend.

Washington Office respondents said their role shifted from providing information in the early stages to quality control in the later stages. Washington Office personnel would prefer that the regions take the quality control role in the future. The Washington Office officials did not feel that they took any decisions (such as the allowable sale quantity or level of commodity outputs) away from the regional foresters. However, they occasionally asked regions to revisit their processes or outputs.

The planning process was given more emphasis by the incoming Administration in 1981 and 1982. This increased interest generated a major revision in the Secretary's forest planning regulations and included departmental review of selected forest planning documents prior to publication.

Do you feel the process was effective in preparing the decisionmaker for the best decisions?

Most people answered "yes" but thought the process could be greatly improved to meet the regional foresters' decisionmaking needs. Other thoughts on the topic from various forest interviewees were: "The Forest Service is too enamored of technical and analytical decisions (such as FORPLAN modeling) and not concerned enough with social and political decisions. . . . The process took too long and we lost touch with our publics. . . . Real issues may have been masked by the sheer amount of detail and information. . . . Decisionmakers really didn't have critical information for the best decisions. . . ."

Were you able to understand the issues, options, and tradeoffs that led to the decisions?

Respondents generally said "yes"—if the right issues were identified in time. Some thought that district rangers really did not understand the major issues, either because their perspective was district-oriented instead of forest-wide or because they were not adequately involved in the process. Many managers

believed that they understood the key issues but that many issues had changed and the important issues were not really decided.

How did public input affect the decision?

Public input "greatly" affected decisions, especially between the draft and final plan documents. Depending on the forest, public input affected decisions ranging from management area land allocations to the amount of road construction needed. One exception was the allowable sale quantity. Forest officials felt the public had little influence on that decision; they perceived that the decision was made at a "higher level" in the organization.

How did the timeframe/deadlines affect the decisions?

Respondents on some forests mentioned cases where decisions were made in haste or before all needed information had been collected and analyzed. Others cited instances where they did not address crucial issues because they lacked the time or because issues kept emerging and they could not keep up with them. However, for the most part, respondents felt that the timeframes did not hurt decisionmaking. Most thought the planning process should be shortened and decisions made more quickly.

How did historical resource outputs and funding affect the final decisions?

Most respondents thought these had little effect on decisions, but many wish they had considered historic funding levels more seriously. They now face the reality of being financed at a lower level than they need to implement the plan, forcing adjustments in numbers of personnel, program emphasis, and policies at the forest level.

Respondents said that historical trends strongly affected the amount of land assessed as suitable for timber management, the allowable sale quantity, and timber output levels for the preferred alternative. Some forest interviewees stated that the emphasis of historic output levels and programs depended on how much influence individual staff directors and staff officers had on the process.

What political pressures affected the decisions, and how so?

Some forest respondents said that wilderness issues brought the most political involvement. Political pressure also was felt on permits for recreation residences, wild and scenic river issues, and cases where special interest groups lobbied politicians to try to influence specific decisions. Some units experienced direct congressional or State involvement, while others had no political

contacts. Officials of one region expressed great satisfaction that a governor openly influenced the planning process and decisions.

What internal pressures affected the final decisions, and how?

Respondents stated that most pressures were specific to their forest and region and that final decisions resulted from compromises made at management team meetings. They thought that other levels of the Forest Service exerted pressure in such cases as developing road construction standards, eliminating uneven-aged alternatives, maintaining a traditional assumable sale quantity, and managing specific recreation opportunity spectrum classes (for example, semi-primitive nonmotorized. Some forest respondents said that their region required too much fine-tuning of the plan and that they could not seem to arrive at a meaningful final decision. On some units, resistance to change was a factor in the planning process; on other units, internal pressures did not affect the decisions at all.

What would you recommend for improving integrated planning and decisionmaking in the future?

Regional respondents said: "Keep the plans current, monitored, and amended . . . use the plans . . . pay more attention to the publics' perspectives . . . continue meaningful public participation in the decisionmaking process . . . make decisions for people, not resources. . . . Involve the district rangers more. . . . Involve the public earlier and continually in the whole process, not just for reviewing prepared documents. . . . We need upfront agreement on budgets and on what emphasis we will place on all resources. . . . We need better information management. . . . Make sure we have the proper skills in the organization, and keep all our people trained. . . . (All employees) need to understand the roles of the organization's four levels in forest planning." They advocated integrated resource management instead of separate emphasis and funding for each "function"; functionalism is hindering plan implementation at all levels.

Forest respondents said: "Do much more on public involvement . . . shorten planning timeframes . . . develop good quality resource inventories . . . foster multiresource-oriented decisionmaking instead of a functional approach . . . use simpler analytical models . . . keep the process open to all employees and publics . . . focus more on social (nonresource) analysis . . . use a more integrated approach . . . be more sensitive to the public and keep them informed about what we are doing at all times . . . use Geographic Information System (GIS) as a tool once it is available." Several also advocated changing the way we reward managers. "Getting the cut out at all costs, meeting hard targets, ignoring NEPA requirements, and maintaining a functional approach have been viewed as ways to get ahead in the Forest Service, if you can pull it off," they indicated.

Respondents also suggested that the Forest Service shorten and simplify the planning process, do problem-oriented planning, tie budgets more closely to the process, provide shorter, more understandable documents, and summarize plan contents in a form that both employees and the public can easily read and understand.

At every level, respondents said that the traditional "functional" approach to budgeting and management—both from the way Congress funds the Forest Service and from traditional agency practices—has discouraged Forest Service line officers from serious involvement in and commitment to making the best forest plan decisions. Perhaps this concern was most strongly stated by one regional forester whose remarks we have paraphrased at length. He urged the Forest Service to "send a message to Congress" to fund national forests in one lump sum, similar to the national parks. The Forest Service, he added, must make it clear that funding parts of a forest plan or funding plans at different levels is counter to the long-range planning process Congress itself asked the Forest Service to undertake. Successful plan implementation will require an integrated rather than a functional approach, he said, and this new way of doing business must be clearly articulated to both internal and external interests. He also stated—

> We must . . . tell our special interest groups that we are going to be less functional in our staffing and approaches, as our forest plans insist upon. We need specialists who are oriented toward forest plan implementation, not functional implementation. Our entire organization must reflect our integrated approach to forest plan implementation. We must rid ourselves of all the functional budgeting czars that guard and promote functional money approaches and accountability. We need less functional targeting and more total plan targeting. Get rid of activity reviews and start total plan reviews. A lump sum budget with forest plan accountability is the best way.

External Responses (Interested Publics)

Were the decisions meaningful to you?

Generally, they were, but for different reasons. Some said that the real test of how meaningful the decisions were will come during plan implementation. Many were concerned that forests are not receiving adequate budgets to carry out the decisions. Where Forest employees worked closely with the public and responded to specific concerns, the public felt that decisions were meaningful, although they did not always agree with the decision.

Did you understand the impacts of the decisions?

Generally, respondents answered "no." Those who worked closely with interdisciplinary teams understood better than those who simply reviewed and commented on documents. Many thought the documents were too complex to be understood by a lay person, and therefore the total scope of the impacts was difficult to know.

Were you able to understand the issues, options, and tradeoffs that led to the decision?

Usually, the answer was "no" to the tradeoffs. The process was very complex and often difficult to understand. One person thought the forest staffs were trying to protect some turf and did not really want to disclose all the tradeoffs. Others thought that even after tradeoffs were displayed in the documents, they still did not understand them. Most understood the issues and options, however.

Were you able to influence the decision?

Generally, "yes." Respondents perceived there were more opportunities for influence later on in the process. Most thought their viewpoints were listened to and given consideration. Some reported that public input resulted in many changes made between the draft and final plans. A few people said that they were unable to influence the process and thought the plans would be difficult to implement because of this.

Did you understand how the decisions were made and what criteria were considered?

Of all the questions asked in the public interviews, this one generated the most varied responses. Some people thought that forest officials had their own agendas and did not really want to share the internal criteria used to make decisions. Some thought that the computer model was making the decisions for the forest. Some said that the resource inventories and data led to the decisions. Others thought public input helped the local decisionmaker reach conclusions. One person said that the decisions were the best compromise that could be reached. Some people thought decisions were made to justify the status quo, and others said decisions were entirely political or came from the top down. People interviewed were not confident that they understood what decisions were based on or how they were made.

Do you know who made the decisions?

Most answered "yes" to this question but indicated different decisionmakers (planning team, forest supervisor, regional forester, RPA).

Major Finding Areas

After long discussion and debate, the team recognized findings in six major areas: understanding and involvement, analysis and modeling, resource versus social concerns, development of options, implementation and budgets, and timeliness. As we discuss each of these finding areas below, we relate each to the decisionmaking process and draw some conclusions.

Understanding and Involvement

Statement of Findings

There is a general lack of understanding of all aspects of our decisionmaking process, both internally and externally. This also is true about land management planning decisions. Internally and externally, the amount of understanding depends on the amount of involvement people had in plan development. Involvement directly affects people's understanding of the initial decision, agreement on the decisions, and the commitment to implement decisions.

Discussion/Conclusions

Both within and outside the Forest Service, the level of knowledge of and comfort with draft and final plans seems to depend on the level of involvement and management style of the line officers at the district, forest, and regional levels. The management style and involvement of the forest supervisor is most critical.

We concluded that decisions are more informed and readily accepted when based on an involved, open management style in the decision formulation process—that is, when decisions are based on information from the public, other agencies, and our own resource people. An open, team approach provides for a more integrated decision and helps reduce the level of functionalism in the decisions.

Involvement seems to foster better understanding of how decisions are made and the rationale for the decisions. Decisions gain acceptance more readily, especially if people have a voice in the discussions and perceive that their ideas are heard. When concerned individuals from the public, other agencies, and people at different levels in the Forest Service are involved in the decision process, trust is built that helps both in plan development and implementation. People are more willing to accept (not necessarily agree with) decisions when they know how and why they were developed. We concluded that one of the keys to this continued interest and involvement is to address real, specific forest issues and to strive for real solutions to the problems—instead of getting bogged down in "perceived" issues. "Perceived" issues may be described as those nonlocal issues that the forest addressed as "givens." These were generated at other levels of the Forest Service or, in some cases, at the departmental level.

The planning process has been extremely complex and has taken many years and adjustments to proceed from issue identification to a final forest plan. Forest planning focuses on a very complicated set of biological, physical, social, and political interactions. Because of the complexity, only people who were continually involved with many of the details of the plan development believe they truly understood the decisions and supported the plans. This was especially true of the public, but also was the case within the Forest Service. The complexity and detailed requirements considerably lengthened the time it took to develop these plans. This made it much more difficult for the public

to stay involved enough to feel they understood the plan decisions and their effect on the ground.

We concluded that the most successful forest plan decisions had direct involvement by the forest supervisor who placed land management planning as a high priority. This included the proper staff work necessary to prepare the information needed for making decisions. These supervisors most often had an open process and established a personal working relationship with their publics, other agency people, and all Forest Service levels.

Analysis and Modeling

Statement of Findings

The analysis and modeling conducted in the forest planning process was too complex and often adversely affected the quality and timeliness of decisions.

Discussion/Conclusions

Because the forest planning decisionmaking process used many analysis and modeling tools never used before, Forest Service personnel and the public had difficulty understanding the reasons for and the results of this analysis. Many respondents also thought the issues identified and the problems the planning process tackled were not focused enough. Using these generic issues and problem statements often resulted in collecting and compiling much data not needed for making the "real decisions." The analysis design and tools used were more complex than necessary for the real issue areas that decisionmakers had to resolve. Many said that poor issue definition not only resulted in irrelevant analysis work but also made it more difficult for the decisionmaker and the public to understand what the analysis meant.

We concluded that the tradeoff displays based on this analysis did not always prepare the decisionmaker to make the necessary decisions. The complexity of the analysis also increased the time taken to complete the entire process. If the decisionmaker and the public did not stay continually involved, they did not feel comfortable with and often did not trust the analysis results.

The national decision to require all forests to use FORPLAN made the planning process much more complex. Timber-significant forests represent only one-fourth to one-third of the National Forest System. FORPLAN was designed primarily as a timber analysis tool. We concluded that its use by forests with little or no timber production capability, or where timber production was not a significant issue, increased the complexity, time drain, and misunderstanding of the planning process on the part of the public and decisionmakers. Decisionmakers did not feel comfortable making decisions that were based in part on the results of FORPLAN, which were often very complex. It was difficult to track what they meant or whether they actually could be implemented on the ground.

Although we need good analysis to make sound decisions, we concluded that the modeling and analysis in this planning effort were very costly and time-consuming. We doubt that the complexity helped improve the decisions made in forest planning, or that it will help in forest plan implementation. The two-step decisionmaking process for forest plan implementation should make forest plan analysis requirements less complex next time around.

Resource Versus Social Concerns

Statement of Findings

Too much time, money, and energy were spent on modeling resource data during the planning process. This took time away from interacting with the public and dealing with real sociopolitical analysis and decisions.

Discussion/Conclusions

The Forest Service has long prided itself on being an organization made up of resource professionals who know how to determine what is best for the forest resources. This tradition influenced the design of the land management planning process, which focused on determining resource capabilities. "Too much attention was paid to resource, technical, and analytical decisions and not enough to political/social decisions," said one acting regional planning director. We concluded that the planning process was designed for an analytical approach to resource decisionmaking; it lacked any means for incorporating sociopolitical issues into the decisionmaking process. A balance of both approaches is needed.

The fallacies of the mostly analytical approach became apparent during our interviews. People often said that the range of biological options for a particular resource was huge. For example, a forest could produce many more million board feet or animal unit months than it currently had without decreasing the long-term productivity of the land. However, the sociopolitical decision range was tiny. As one member of the public said, "Get away from FORPLAN. It has been set up like a household god; it tries to reduce everything to dollars and cents. Get down to issues that really matter, nationally and locally."

We apparently provided the decisionmakers with reams of FORPLAN results and resource data but with very little information on the demographics, culture, or lifestyle of constituents. As a result, decisions often were not acceptable in the social and political spheres. As the planning staff on a forest with a very controversial plan said, "[Resource] analysis is not the answer . . . we can't be so adversarial with our publics."

Many decisions supported status quo levels of timber and range production; it seems that these decisions were often handed down from the "top" or were based on the decisionmaker's perceptions of how much sociopolitical flexibility he or she had. Decisionmakers realized this arena was important, yet the

planning process has no way to incorporate this reality. Public constituencies with conflicting values often saw this aspect of decisionmaking as bogus and arbitrary. Forest and regional officials wanted a clear mutual understanding of the political decision space and the tools to analyze these options.

Development of Options

Statement of Findings

Too many alternatives were presented and considered in the plans. Many of those alternatives were unnecessarily constrained by historical outputs and others were neither realistic nor implementable. They wasted time and made for poor decisions.

Discussion/Conclusions

On most forests, the range of alternatives evaluated was broad, including a number of benchmarks, and most were not implementable because they did not actually solve the forests' problems. Many were developed as "advocacy" alternatives, such as high wilderness or high commodity alternatives. These, along with the benchmarks, were considered necessary to prove a point or set sideboards for the analysis. We concluded that many of these were presented as real options, when, in fact, they were not.

Many alternatives were developed to resolve a specific issue; thus, each alternative concentrated on one major issue. Often, these alternatives were designed to emphasize one resource and left other resources to fall as an effect.

On forests with high timber or range programs, historical outputs weighed heavily in developing preferred and final alternatives. Because historical outputs were important to local industries, they should have been addressed in one or more alternatives. However, few "real" alternatives lower than the historical output level were presented or considered seriously on many forests.

On most forests, alternatives were developed without ongoing public involvement. The process was to ask the public about issues and follow that with the in-service development of alternatives, including a preferred one. The next time the public saw alternatives was in a draft plan, where the impression was that "the Forest Service mind was made up." It seems that we never asked the public to help us consider options for addressing the issues, so we immediately put the public on the defensive.

By developing and presenting "advocacy" alternatives and not inviting people to help develop integrated, real alternatives, we set our publics up for some real problems. This pitted people with different interests against each other instead of bringing people together to work out common problems. This forced people apart and put them in adversarial roles.

On all forests, issues were used to generate alternatives and to help develop management direction in the form of policies or management standards. Many forests developed general issues that led to general management direction to resolve the issue. We concluded that the most successful forests boiled down general issues into specific problem statements and developed specific solutions (management direction). This process seemed to allow people to see in more detail what would be done on the forest and increased public understanding and acceptance of the decisions.

Some people indicated that we were not creative enough in developing options for handling problems. They thought we were too encumbered by traditional methodologies, traditional outputs, and professional snobbery to look at more than a narrow range of options for management. Many felt we missed a golden opportunity to take a leadership role in many aspects of natural resource management.

Implementation and Budgets

Statement of Findings

No matter what decisions are in the forest plan, implementation is a function of the budget and the mix of funds that the forest receives. Plan decisions are irrelevant if budget implementation decisions do not reflect the plan's intent.

Discussion/Conclusions

The budget actually controls the scheduling, timing, and emphasis in resource management areas for implementing forest plans. For example, some resource areas are funded at 100 percent and others at 50 percent. We concluded that although the forest plans were designed for a desired future condition and an integrated approach to forest management, historical and functional budget decisions often changed the priorities of forest plans during plan implementation.

The team found that ranger district programs often were not being based on forest plan direction but rather on the mix of funds received annually. Few forest plans analyzed and discussed how management direction should account for differing budget levels during plan implementation. There was no consistency in how budgets were handled in the forest planning process. We concluded that forests that evaluated differing budget levels within the forest plan were best prepared to implement the forest plan decisions.

Timeliness

Statement of Findings

The forest planning process took far too long to complete, causing unnecessary problems in issue resolution, employee interest and morale, public expectations of timely decisions, continuity of planning, economic efficiency, and quality involvement of line officers throughout the process.

Discussion/Conclusions

It became quickly apparent during our interviews with line officers, key staff, and the public that the excessive length of the planning process had a detrimental effect on the effectiveness of decisionmaking. There were five types of detrimental effects:

1. Changing values and issues.

2. Public involvement and expectations.

3. Continuity of planning and quality decisionmaking.

4. Changing regulations and policies.

5. Costs.

During the early stages of the planning process, forests were able to effectively identify issues, conduct analysis, and develop suitable options to address the issues. At that point, forests were prepared to recommend a preferred alternative to the decisionmaker. Forests that were delayed in issue identification, analysis, development of alternatives, or selection of an alternative quickly discovered that people's values were changing and that new issues were being presented to the forests for analysis and recommendation. This left the decisionmaker with a dilemma: Issue a decision that was ready but did not cover all the "important" issues or delay and address the new issues. It became apparent that the longer the time (particularly between draft and final), the greater the number of issues and the greater the public interest in those issues. Interviewees stated that many of the emerging issues were not easily analyzed or understood, and the greater the time needed to reach understanding, the greater the number of new issues that emerged. It quickly became a "Catch 22" or revolving door scenario.

Interviews with the public revealed a great frustration with the length of the process. One person stated, "I simply lost interest because of the length of the process." Another stated, "At one point, we were negotiating one set of issues where we reached agreement, then there was a large lapse in time, and the Forest then became focused on another set of issues with little attention to our original issues." Decisionmakers stated that the process became so long that the quality of public input decreased and polarization increased. It was difficult to keep people continuously involved—making quality, implementable decisions more difficult to make. Different segments of the public were involved at different stages of the process, which made maintaining meaningful contacts and partnerships more difficult. Line officers told us that the later plans became more of a political football, further delaying completion.

Maintaining a continuous, quality planning team process was more difficult as the length of the process increased. This was because of the turnover of forest planning teams, forest management teams, district rangers, forest supervisors,

and regional foresters. Decisionmakers said it was difficult to keep quality planning teams together and motivated because there seemed to be no end to the process. Turnover resulted in a lack of essential data and strategies. Planning staffs expressed difficulty in bringing decisionmakers up to speed each time and questioned the quality of the decisions. The history of plans was often hard to track. We concluded that morale at the regional and forest levels suffered greatly as planning teams "burned out." Lack of a well-defined completion point also seemed to decrease team commitment to finishing the plan. Some people felt that their careers suffered because of being on a forest planning team.

We noted a constant "top down" fine-tuning of the planning process, apparently from a desire to create more defendable plans. As the process continued, new regulations and policies surfaced that had to be incorporated. This further delayed plan completion and increased the complexity. Decisionmakers saw a constantly changing set of rules, which greatly affected the process strategies and final decisions. Few felt that this improved the quality of the decisions. This had a demoralizing effect on many involved in planning at the forest level.

As the process grew complex and more time-consuming, costs increased proportionately. The forest plan became an all-consuming effort that took larger portions of the forest resources to complete. Decisionmakers struggled with decisions on the commitment of resources. Many thought that management at the field level suffered as planning costs increased. It became increasingly expensive to include all key contributors (public and internal) over a long period, and often key contributors were excluded because of cost. This factor likely hurt the quality of the decisions.

Recommendations

Understanding and Involvement

Recommendation 1

Line officers should implement an "open management" style that encourages maximum participation in the decision process.

The public should be involved through the entire effort, including monitoring and evaluating plan implementation. Continual involvement will help alleviate the internal and external concern over lack of understanding and support of land management planning decisions. It will help build the commitment for implementing the decision.

Recommendation 2

Forest supervisors should give planning a high priority and demonstrate personal commitment and involvement in the planning/decision process.

The most successful forest plan decisions had the highest, continuing involvement from forest supervisors. The forest supervisor was identified as the most important participant in forest plan decisionmaking.

Recommendation 3

Forest plans must focus issues identified during the scoping process on specific problems and develop specific solutions (alternatives) for these problems.

The highest level of understanding of, involvement in, and commitment to forest plan decisions is achieved when (1) issues are clearly explained, (2) focus is on identified problems, and (3) decisions resolve those problems. The Washington Office, regional office, and forest land management planning sections must refrain, where legally permissible, from insisting on the development of alternatives or analyses that do not address identified problems obtained in the scoping process.

Analysis and Modeling

Recommendation 4

There should be flexibility for forests to determine which analytical models to use.

The type of analysis developed for the forest plan decision should be primarily determined by the complexity of the issues to be resolved. Our research

indicated that the analysis tools and amount of analysis used on some forests were more detailed and complex than needed to solve the problems.

Recommendation 5

Analysis models should be thoroughly tested before national implementation.

FORPLAN was found to be primarily a timber analysis tool that was difficult (and often too complex) to understand, trace, track, or produce timely results. In some cases, decisionmakers did not feel comfortable making decisions that were based in part on FORPLAN results.

Recommendation 6

We should continue implementing the two-step decision process with minimal, focused analysis at the forest plan (first decision step) level.

The Chief's direction, requiring only two decision levels for National Forest System units, is working. This helps decide the type and complexity of analysis needed at each level and helps identify which decisions are needed in forest plans. The Washington Office land management planning staff should ensure that this direction is incorporated into the Forest Service Manual.

Resource Versus Social Concerns

Recommendation 7

Sociopolitical issues and tradeoffs should be analyzed more fully.

This will alleviate the concern that we knew little of the consequences of our decisions on people and on their cultures and lifestyles. Line officers should ensure that this analysis is conducted.

Recommendation 8

Interdisciplinary teams should incorporate social scientists as members.

Social scientists will provide teams with the skills needed to successfully analyze such characteristics as demographics, lifestyle, culture, and changing social values. Forest supervisors should include social scientists when selecting planning teams.

Recommendation 9

Methods should be developed to align the amount and type of resources modeling and analysis with the sociopolitical decision space.

Decisionmakers often felt they had only limited sociopolitical flexibility, and yet they were required to do unneeded, unrealistic analysis. Forest supervisors should institute a step in the planning process to decide on the amount and types of further analysis needed.

Development and Selection of Options

Recommendation 10

A wide range of viable options should be given full consideration rather than limiting consideration to historical output levels.

We found much internal pressure from the regional and national levels to select alternatives that protected the historical resource outputs. This pressure was particularly acute on forests with large timber and range programs. Other realistic alternatives were not developed or, if they were, often were not seriously considered. NEPA requires that the current management be displayed as an alternative, but other alternatives should be given full consideration.

Recommendation 11

The public should be more involved in developing the alternatives. Adversaries should be brought together to work out options and solve problems.

This approach has shown great success where used and would address the oft-heard concern about lack of continuing public input into solutions. It also could avert problems caused by developing options that needlessly polarize people and put them in adversarial roles. Forest supervisors should practice this approach throughout the planning process.

Recommendation 12

Alternatives should be developed that solve specific forest problems as part of an integrated package and should avoid "piecemeal" solutions aimed at addressing a single problem.

We often found alternatives designed to resolve only a specific issue and/or resource area. Forest supervisors should ensure that all alternatives are complete and integrated, thus providing a more complete and detailed option for land management.

Recommendation 13

General issues should be condensed into specific problem statements and specific solutions (management direction) should be developed.

All forests used issues to generate alternatives, but many defined only general issues that led to very general management direction to resolve the issues. Where issues were "boiled down" to specific problem statements, people could see in more detail what would be done on the forest, thereby leading to increased public and employee understanding. The result of this approach will be an increased acceptance of decisions.

Implementation and Budgets

Recommendation 14

The Forest Service should clearly display to Congress the desired future conditions that forest plans have been designed to achieve and show how varying budget proposals could affect those desired conditions.

Forest supervisors continually stated that budget allocations have changed the intent of forest plans. For example, some resource areas were funded at 100 percent while others were funded at only 50 percent. This variation hurts our ability to implement on the ground and breaks faith with public participants in the planning process. The Forest Service should work closely with Congress to demonstrate the effect of different funding priorities and should display clearly the effects of differing budgets on integrated forest plan implementation.

Recommendation 15

We should develop forest plans that analyze and make decisions on the changes in management direction at various budget levels.

National forests that evaluated and displayed differing budget levels for the forest plan seemed to be best prepared to implement their plans. Those forests also had the most support for the decisions in the forest plan. Forest supervisors should ensure the use of this practice in the planning process.

Timeliness

Recommendation 16

The forest plan revision activities should be reduced to produce the revised plan within a shorter period. Approximately 2 years seems to be realistic.

As observed above, the lengthy forest planning process hurt issue resolution, employee morale, continuity of planning, economic efficiency, quality involvement by line officers, and public expectations for a timely process. Shortened time frames would resolve many of these problems. Line officers at all levels should keep the process on this shorter time track.

Recommendation 17

Forest plans should be kept dynamic and current through improved information gathering, monitoring, and timeliness of needed revisions.

These improvements would help reduce the amount of analysis and the number of decisions needed in future plan revisions, which, in turn, improve the quality of forest plan decisions.

The Ideal

What process best prepares a forest plan decisionmaker to arrive at a reasoned, supportable, and defensible decision? Will a "good" decision be more likely if a sound decision process is identified and used? These questions may never be fully answered, but our research did identify common characteristics of supportable forest plans and decisions in those plans that could be more readily accepted.

Characteristics of "Supportable" Plans

1. The Forest Planning process and decisions were understood by interested publics and employees.

2. There was acceptance for the process and the decisions (not necessarily agreement on the decision) both internally and externally.

3. There was internal and external commitment to implementation of the plan decisions.

4. People perceived that decisions were ground-based and locally influenced.

5. Forest employees and the public felt strongly that the decisions were implementable, rather than impossible because "the resource isn't there" or "the public won't let it happen."

If these characteristics describe supportable, implementable forest plans, what is the "ideal process" to prepare the decisionmaker to make decisions that will likely produce supportable forest plans? Our research indicated the following process.

The "Ideal" Decision Process

1. Public and employee participation was evident early on in the process.

2. Public and employee participation was continual throughout all stages of the process: issue identification, problem statement development, alternative development, effects and tradeoffs analysis, alternative selection, and monitoring.

3. Line officers were highly involved in the process from the beginning. Forest supervisors exhibited a key leadership role and a great interest in gathering information both internally and externally.

4. The planning process, from initial scoping to the record of decision, was relatively short in duration.

5. Issues were clearly identified, and solutions were specifically described.

6. In most cases, decisions were ground-truthed.

7. Decisions were based on serious analysis and considerations of socio-political acceptability.

8. Where pre-NFMA unit plans were current, plan decisions did not drastically alter the "status quo."

9. Conflicts were resolved as they arose and throughout the process.

10. Adversarial groups were often brought together to mutually resolve conflicts.

11. Forest plan decisions were kept up to date and were changed fairly quickly when needed.

12. Decisions were based on sound resource data.

13. Determining what the desired future condition of the forest should be is an integrated, obvious part of the planning development/revision process.

A Final Thought

The "ideal process" for preparing the decisionmaker to make a reasoned, supportable, and defensible forest plan decision embodies the same characteristics needed for any type of successful managerial decisionmaking. Those characteristics are strong participation by the leader (decisionmaker), an open and receptive climate for ideas and solutions, continual participation by all concerned, reasonable discretion to make decisions and fund those decisions, the ability to bring general issues into specific problems and solutions, the ability to bring adversarial positions into mutual resolution, and a limited time to plan and reach a conclusion.

Wise Use of
Your Natural
Resources