

COST-BENEFIT ANALYSIS

The Final Rule (36 CFR 219) for
National Forest Land Management Planning

USDA Forest Service

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Cost-Benefit Analysis

The Final Rule (36 CFR 219) for National Forest Land Management Planning

Executive Summary

The Forest Service is revising planning regulations to improve the process of establishing, amending, and revising land management plans for the National Forest System. The new planning rule significantly simplifies the requirements of the 2000 rule while retaining the emphasis on sustainability, monitoring and evaluation, collaboration, and use of science.

This analysis identifies the economic costs and benefits associated with the revision to the National Forest System Land Management Planning regulations (36 CFR part 219). The final rule replaces the planning rule published November 9, 2000 (the 2000 rule). The 2000 rule was intended to replace/update the 1982 NFMA rule. The changes in this final rule are in part, a result of a review of the 2000 rule conducted by Forest Service personnel at the direction of the Department of Agriculture. The review identified serious concerns regarding the agency's ability to implement the 2000 rule. The review also found that the 2000 rule failed to clarify the programmatic nature of land management planning. The final rule is intended to build and improve upon the 1982, 2000 and 2002 proposed rules.

This analysis uses information from a report entitled "*A Business Evaluation of the 2000 and Proposed NFMA Planning Rules*" (April 2002), produced by the Inventory and Monitoring Institute of the Forest Service, with the assistance of Business Genetics, a consulting firm in Englewood, CO that specializes in business modeling. This report is hereafter identified as the "2002 NFMA Costing Study", or simply as the "costing study." The study uses a business modeling process to compare the anticipated costs of the 2000 rule and the 2002 proposed rule.

This cost-benefit analysis focuses on key activities in land management planning for which costs could be estimated under the 1982 rule, 2000 rule, 2002 proposed rule and the final rule. The 1982 rule was used as the baseline for this analysis because all the land management plan revisions completed to date have used the requirements of 1982 rule. Quantitative differences among the final rule, the 2000 rule, and the 2002 proposed rule were estimated. Those major activities included regional guides, collaboration, science support, evaluation of the sustainability of decisions and diversity requirements under the NFMA, monitoring and evaluation, and the resolution of disputes regarding plan decisions through the administrative processes of appeals and objections. This analysis does not estimate the trends in planning complexity or costs not associated with the changes in the planning rule. It compares the differences between the 2000 rule, the proposed and final rules based on findings from the costing study. It further compares these rules to the 1982 rule, as modified by current practices. Information taken from a recent report to Congress on planning costs, along with empirical data and inferences from the costing study, were used to approximate costs under the 1982 rule.

The primary economic effects of the final rule are reported in the form of increased costs or cost savings in developing and revising land management plans. The effects do not include the cost of implementing plans. These effects, summarized in Table S-1, identify the estimated cost changes for key planning activities. The analysis indicates that increased costs associated with land management plan monitoring activities under the final rule are more than off-set by decreases in the cost of planning. The final rule has an annual average cost savings of \$4.6 million when comparing to the 1982 rule, and an estimated annual average savings of \$36.9 million when

comparing to the 2000 rule. These cost savings (and the resultant decrease in budget) will not be realized until after land management plan revisions currently underway and completed either under the 1982 rule or by transition to the final rule.

The 2000 rule has greater costs associated with broad scale assessments, independent scientific peer review, scientific advisory boards, and other means to evaluate the consistency and application of science. The final rule decreases costs when comparing to the 2000 rule by reducing the length of time spent on the planning process and by providing discretionary flexibility to the Responsible Official regarding the depth and level of analysis needed to support the decisions being made. As stated, the estimated total costs for the final planning rule are expected to be lower than the 2000 rule; however, the cost savings have decreased in the final rule because costs should increase for monitoring and evaluation. In other words, though the final rule is less costly than the 2000 rule, some of the savings in planning funds has been shifted to needed monitoring and evaluation funds in the final rule.

There will be no effects on local economies and small business entities as a result of the final planning rule. The final rule is programmatic in nature and does not make site-specific project or activity decisions. The planning rule provides direction to Forest Service personnel on how to develop, revise and maintain land management plans pursuant to the National Forest Management Act and other laws and regulations. The final rule also does not establish a specific level of resource outputs. Direct effects on the level of goods, services, and uses produced by National Forest System lands are not included in this analysis. These are the end-results of implementing plans and are beyond the scope of the final rule and this accompanying analysis.

Based on the quantified analysis for these rules, in terms of undiscounted costs, the final rule is estimated to cost \$110.3 million per year. This represents an average annual cost savings of \$4.6 million over the estimated \$114.9 million costs per year for the 1982 rule. The 2004 final rule has cost savings in the cost of revising a plan, however, the 2004 final rule has cost increases in monitoring and evaluation. The total discounted costs for the 15-year cycle are about 15 million less than the 1982 rule (refer to Table 2). When comparing the final rule to the 2000 rule, the annual average undiscounted costs for the final rule are estimated to be about \$36.9 million less than the estimated costs of \$147 million for the 2000 rule. The total discounted costs for the 15-year cycle for the final rule are estimated to be about 300 million less than the 2000 rule. This estimated annual cost of \$110.3 million for the final rule represents a lower cost than the 2002 proposed rule when comparing to the estimated costs of \$129 million for option 1 and \$135 for option 2. The total discounted costs for the 15-year cycle for the final rule are estimated to be about 157 million less than option 1 and about \$211 million less than the proposed rule option 2.

The most apparent potential improvements in terms of cost savings on planning in general are found in the final rule in the form of additional flexibility and discretion for the Responsible Official in deciding the form of collaboration, analysis, science support, ecosystem diversity evaluation, and species diversity evaluation needed to support the decision to be made in the development, revision, or amendment of plans. This should allow planners to avoid planning procedures deemed unnecessary on a case-by-case basis, therefore increasing economic efficiency. In particular, the “vision” of planning, discussed in the preamble to both the proposed and final rules, is for a plan to be supported by a more focused analysis than is currently practiced. If analysis is made commensurate to the decisions made in a plan, substantial additional cost savings could occur. The final rule requires a comprehensive evaluation report and the plan document or set of documents (hereafter referred to as plan set of documents) rather than an environmental impact statement (EIS), to document a plan analysis. There is no precise information available to estimate cost savings if a plan were to be documented in a comprehensive evaluation report and

plan set of documents instead of an EIS, but marked savings are likely to occur, primarily because the final rule focuses on broader analysis and increased flexibility.

Numerous non-quantifiable benefits are expected to result from the final planning rule. The overall goal of the final rule is more clearly based on the Multiple-Use Sustained-Yield Act (MUSYA) and better describes the relationship of the MUSYA to sustainability. This feature more clearly defines agency responsibilities to weigh and balance uses of National Forest System lands for the benefit of the American people. The final rule is based on a stronger emphasis on working with the public, other federal agencies, Federally recognized Indian Tribes, and others, and should result in more social satisfaction with agency efforts and management. The incorporation of ecologically-based management principles, improved monitoring and evaluation, and consideration of science in planning, should result in a flexible process that reduces the burden on both the public and the agency. An efficient planning process that addresses public concerns and leads to improved health of public lands has value beyond the cost savings estimated in the analysis. Therefore, it is highly likely that the final rule is beneficial to the public interest.

Table S-1. Summary of Estimated Annual Savings/(Costs) of 1982 Rule, 2000 Rule, Proposed Rule and Final Rule

Planning Process Requirements	1982 Rule Description/ Annual Cost	2000 Rule Description/ Annual Cost	Proposed Rule Description/ Annual Cost	Final Rule Description/ Annual Cost	Ave. Annual Savings/ (Cost) of the 2000 Rule as Compared to the 1982 Rule	Ave. Annual Savings/ (Cost) of the Final Rule as Compared to the 1982 Rule	Ave. Annual Savings/ (Cost) of the Final Rule as Compared to the 2000 Rule	Ave. Annual Savings/ (Cost) of the Final Rule as Compared to the Proposed Rule
Regional Guides	Regional Guides Required \$747,000	Regional Guides Not Required \$0	Regional Guides Not Required \$0	Regional Guides Not Required \$0	Regional Guides Eliminated \$747,000	\$747,000	No Difference	No Difference
Collaboration <u>1/</u>	Included in "Revise Plan"	\$37,457,000	\$24,237,000	\$15,615,000	(\$37,457,000)	(\$15,615,000)	\$21,841,000	\$8,622,000
Science Support <u>2/</u>	Included in "Revise Plan"	\$7,347,000	\$2,643,000	\$2,106,000	(\$7,347,000)	(\$2,106,000)	\$5,241,000	\$537,000
Analyze, Develop Decisions, & Document the Plan	Included in "Revise Plan"	\$30,880,000	\$25,762,000	\$16,598,000	(\$30,880,000)	(\$16,598,000)	\$14,282,000	\$9,165,000
Assess Decisions for Sustainability and Diversity Requirements:		\$24,556,000		\$12,885,000	(\$24,556,000)	(\$12,885,000)	\$11,670,000	
Under proposed Option 1	Included in "Revise Plan"		\$18,333,000					\$5,447,000
Under proposed Option 2	Included in "Revise Plan"		\$23,530,000					\$10,644,000
Monitoring and Evaluation	\$32,450,000	\$32,000,000	\$45,000,000	\$49,220,000	\$450,000	(\$16,770,000)	(\$17,220,000)	(\$4,220,000)
Revise Plan	\$69,865,000			\$0	\$69,865,000	\$69,865,000		
Consider and Resolve Appeal / Objection	\$1,364,000	\$775,000	\$829,000	\$994,000	\$589,000	\$370,000	(\$220,000)	(\$166,000)
Transition	\$10,514,000	\$14,213,000		\$12,882,000	(\$3,699,000)	(\$2,368,000)	\$1,331,000	
			\$12,718,000					(\$225,000)
			\$13,229,000					\$287,000
Annual Total:	\$114,940,000	\$147,227,000		\$110,301,000				
Option 1			\$129,460,000					
Option 2			\$135,170,000					
Savings/ (Cost):					(\$32,287,000)	\$4,639,000	\$36,926,000	
Option 1								\$19,160,000
Option 2								\$24,869,000

Note: 1/ Includes 2002 Cost Centers for Collaboration, Public Notification, and Identifying Issues. Does not include the cost for Broad Scale Assessments for the 2000 rule, which now appear in the Assess Decisions for Sustainability and Diversity Requirements Activity.

2/ Includes the costs for Broad Scale Assessments for both the 2000 rule, the 2002 proposed rule and the final rule.

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Introduction

The Forest Service is responsible for managing the lands and resources of the National Forest System (NFS), which includes 192 million acres of land in 44 States, Puerto Rico, and the Virgin Islands. The NFS is composed of 155 National Forests, 20 National Grasslands, one Tallgrass Prairie, and various other lands under the jurisdiction of the Secretary of Agriculture (the Secretary). According to the Multiple-Use Sustained-Yield Act of 1960 (MUSYA) (16 U.S.C. 528) and the National Forest Management Act of 1976 (NFMA)(16 U.S.C. 1600 et seq.), National Forest System lands are to be managed for a variety of uses on a sustained-yield basis to ensure a continued supply of products and services in perpetuity.

The NFMA guides land management planning for NFS lands. It directs the Secretary to develop, maintain, and, as appropriate, revise land management plans for units of the National Forest System, and sets forth the requirements for doing so. During the 28 years since enactment of NFMA, much has been learned about land management planning. Yet, many controversial issues regarding the appropriate short- and long-term use of national forests and grasslands remain. Some advocates of land management planning believed it would lead to resolution of the issues associated with the management of natural resources. It has not. Difficult issues remain among competing interests. Land management planning and decisionmaking cannot be expected to resolve all problems. However, improved planning procedures can more fully engage the public and improve public participation in decisionmaking. The emphasis of the final rule on collaboration, use of science, and monitoring and evaluation will contribute to the long-term sustainability and health of NFS lands.

In March 1989, the Forest Service initiated a comprehensive review of its land management planning process. Results of the review were published in May 1990, in a summary report entitled "*Synthesis of the Critique of Land Management Planning*" (Vol. 1), accompanied by ten other more detailed reports. The 1990 Critique documented lessons learned since passage of the NFMA and adoption of initial plans under that law. The 1990 Critique provided recommendations to improve planning and the management of national forests and grasslands, and to more effectively engage the public in addressing future natural resource management challenges.

On February 15, 1991, the Forest Service published an Advanced Notice of Proposed Rulemaking (56 FR 6508) that included preliminary regulatory text revising the 1982 planning rule. Four public informational meetings were held to explain and discuss ideas for revising the planning procedure. Over 600 individuals and several groups submitted written comments. These comments were used in the development of a proposed rule published on April 13, 1995 (60 FR 18886).

A substantial number of public comments were received on the 1995 proposed rule, generally expressing dissatisfaction with proposed changes in the planning process. In part, as a result of public concern with changes proposed, the Secretary elected not to proceed with this proposal.

In December 1997, the Secretary convened a 13-member Committee of Scientists to review the Forest Service planning process and to offer recommendations for improvements. Their findings, which served as a partial basis for the 2000 rule and subsequently this final planning rule, were documented in *Sustaining the Peoples Lands*, March 1999.

A revised National Forest System land management planning rule was published in the Federal Register November 9, 2000. Since then, a number of groups and organizations have identified significant problems and concerns associated with the implementation of the 2000 planning rule, and requested the Department to review the regulations. In addition, lawsuits have been filed challenging the legality of the 2000 rule. The Department, with the assistance of the Forest Service's Inventory and Monitoring Institute and a consulting firm (Business Genetics), conducted a review of the 2000 rule to identify areas where additional work might be needed to ensure effective implementation. In addition, a review of the 2000 rule was conducted by a team of agency employees with significant experience in planning and other aspects of Forest Service natural resource management. Both reviews identified serious concerns regarding the agency's ability to implement the 2000 rule. The Department directed the agency to develop an organizational approach to resolve the major concerns identified in the reviews of the 2000 rule. An interim final rule to modify the transition language in Section 219.35 of the 2000 rule was published in the Federal Register on May 20, 2002 (67 FR 35431). The interim final rule provides that until a final rule that revises the 2000 rule is adopted, a Responsible Official may elect to continue or to initiate new plan amendments or revisions under the 1982 planning rule or the Responsible Official may initiate amendments or revisions under the November 9, 2000, rule. To date, all plan amendments and revisions have used and are using the 1982 rule.

Although the Forest Service continues to support the basic goals of the 2000 rule, some parts are not clear and some requirements are too expensive, time consuming, or ask for commitments from others that may not be realistic or feasible.

Section 6 of the NFMA specifies the requirements for the regulations that guide NFS planning. The provisions of this rule implement the NFMA by establishing requirements for the development, amendment, and revision of land management plans and the monitoring and evaluation of the results of land management. The final rule is the culmination of an effort to revise and focus planning procedures for the NFS. The intended effects are to simplify, clarify, and improve the planning process; to reduce burdens of unnecessary procedural requirements to the agency; and to strengthen coordination with interested and affected people in all phases of NFS planning.

Purpose of the Analysis

This analysis identifies the costs and benefits associated with developing, maintaining, and revising National Forest System land management plans under the final rule. It uses the 2002 NFMA Costing Study and other data to estimate the major cost centers and the anticipated changes in planning costs with those required by the 1982 rule, the 2000 rule, the 2002 proposed rule, and the final rule.

This analysis and report were done according to the direction given in OMB Guidelines to Standardize Measures of Costs and Benefits and the Format of Accounting Statements (Office of Management and Budget Memorandum 00-08), and Economic Analysis of Federal Regulations Under Executive Order 12866 (Best Practices Guidance), January 11, 1996.

Effects Included in the Analysis

This analysis focuses on the Forest Service's financial costs for key planning activities for the NFS for which costs could be estimated under the 1982 rule, the 2000 rule, the 2002 proposed rule, and the final rule. It examines changes in the final rule that significantly alter current planning processes and requirements resulting in cost savings or cost increases. Cost changes are measured in terms of time and expenditures.

This revised planning rule provides enhanced procedures to protect National Forest System lands. The rule protects National Forest System land by sustaining in perpetuity the productivity of the land and the multiple uses of its renewable resources. The revised planning rule allows rapid response to changing conditions like wildfires and new science. Fundamental to the rule, to protect the environment, the revised rule requires Responsible Officials to base everything on sound science. The revised rule assures the public an effective voice in the entire planning process from beginning to end. For the first time ever, this rule creates the requirement for independent review of everything we do. The revised rule provides for better and more efficient planning, which saves time and money for the taxpayers.

The emphases on the ecological, economic, and social components of sustainability; collaborative citizen participation and building of trust and credibility, and science support provide a framework for increasing public knowledge and understanding of NFS lands and natural resources. The intended result is to provide a framework to foster stewardship of these lands and improve the likelihood of contribution toward the ecological, social, and economic components of sustainability. These benefits are found in better decisions and greater public support of forest and grassland plans and projects, healthy forest and rangelands, and sustainable supplies of goods and services.

A key element of the final rule is emphasis on collaboration as a means to encourage broader public participation in the planning process. The rule provides for regular and sustained involvement of other federal natural resource agencies, tribal governments, state and local governments, interested organizations, and the public in a continuing process of discussion and collaboration.

Another key element in the final rule is the consideration of science in planning. The final rule requires that the Responsible Official must consider and use the best available science. The final rule also requires the Responsible Official to document how the best available science was considered and used in the planning process within the context of the issues being considered.

Consistent with the Forest Service 1990 Critique of Land Management Planning, and as validated by the 1999 Committee of Scientists' report, the final rule emphasizes monitoring and evaluation in the adaptive cycle of planning. This emphasis is in keeping with the National Forest Management Act's direction to ensure research on evaluation of the effects of each management system, based on continuous monitoring and assessment in the field, to the end that it will not produce substantial and permanent impairment of the productivity of the land (16 U.S.C. 1604(g)(3)). The final rule adopts an environmental management system to manage the adaptive cycle of planning. The final rule differs from the proposed rule in that it requires a comprehensive review of the planning unit at least every 5 years to keep plans current by capturing cumulative effects of management activities and natural events since the plan was developed or revised.

In addition, most plan analyses required by the final rule would be documented in an evaluation report and the plan set of documents (except those undertaken with other agencies), rather than an Environmental Impact Statement (EIS). There is no known credible information to support an estimate of cost savings, however, because all plan revisions to date have been documented in an EIS. It is likely that there would be substantial savings associated with documenting plans in an evaluation report instead of an EIS.

Also worth noting is that much of the cost data used in this analysis are from the 2002 NFMA Costing Study. This study used cost estimates provided by planning field practitioners. They assumed no change in the depth, rigor and detail of analysis from what is currently practiced under the 1982 rule. This assumption was applied to the 2000 rule and the final rule. It is possible that marked savings could be realized if the type of analysis done for planning under the final rule is streamlined. This concept is discussed in the preamble for the proposed and final rules, and as stated, additional savings are possible. There would be more savings for the final rule than the 2000 rule because the sheer volume of direction in the 2000 rule would limit what improvements could occur from a more streamlined application of NEPA analysis guidance. However, as noted, overall savings of the final rule may be limited because some upfront planning costs are anticipated to shift to monitoring and evaluation costs.

In summary, the final planning rule provides for a collaborative approach to planning based upon best available scientific information and analysis, and the concepts of the ecological, social, and economic components of sustainability. The benefits of this improved approach will be land management plans that more fully address public concerns, and lead to improved health of forest and range ecosystems that are capable of providing a sustainable flow of goods and services.

Transition from the 1982 to the 2004 Rule

This analysis assumes that all National Forests will start to use the 2004 planning rule for new plan revision starts in FY2005. In addition, assumptions in the analysis are consistent with the projections for plan revisions that appeared in the agency’s FY 2005 Budget Justification document. In fiscal year 2004, 55 plans were being revised. It is anticipated that 13 plan revisions will be completed by the end of FY 2004, and the remaining 42 revision efforts will continue into FY 2005. As shown in the following table, the Department estimates 21 of these ongoing revisions will likely continue using the 1982 rule. These National Forests have issued draft environmental impact statements or are currently doing collaborative analysis with the public on alternatives. On the other hand, 21 National Forests have just started the revision process or are working on the analysis of the management situation and have not moved into the alternative analysis process yet. The Department expects that these 21 National Forests will transition to the 2004 planning rule.

Plan Revision Category	FY 2005
Number of Ongoing Plan Revisions continuing under the 1982 Rule	21
Number of Ongoing Plan Revisions converting from the 1982 Rule to the 2004 Rule	21
Number of New Plan Revisions starting under the 2004 Rule	2

This analysis makes the assumption of 9 to 11 new starts in any given year, with no budget constraints, in order to create an even flow of plan revisions according to the current Forest Service Land Management Plan Revision Schedule. However, the funding level for FY 2005 will allow only 2 new revisions starts. In addition, the funding level requested in the President’s

budget for planning in FY 2005 will only allow for an equivalent of 30 fully funded ongoing revision efforts or 42 at reduced funding levels (refer to Appendix Table B-13). This will have the effect of lengthening the transition period to the new rule for an additional three years, or until FY 2008.

In this analysis, the complete cycle of land management planning includes both planning activities, funded by the Land Management Planning Budget Line Item (BLI) and Forest Plan monitoring which is funded by the Inventory and Monitoring BLI. The Inventory and Monitoring BLI also funds other above-project inventory, monitoring and assessment activities associated with Forest Plan implementation and other agency business needs.

The Forest Service estimates that implementation of the 2004 planning rule will result in a savings of land management planning (NFPN) funds in future years. The expected increase in the cost of land management plan monitoring activities (NFIM) associated with the new rule will not be as great as the estimated savings in planning costs. The net effect of an overall reduced budget for these two activities will not be fully realized until the land management plan revisions currently underway are completed. This is expected to occur in FY 2008 if the requested budget for planning activities is received in FYs 2006 and 2007. The following table shows the number of plans being revised, current budgets, and anticipated levels for fiscal year 2005. This analysis takes into account the FY 2005 budget restrictions as well as the costs associated with the transition situation discussed above (refer to Appendix Table B-12).

Fiscal Year	Number of Plans Being Revised	Planning Budget	Inventory and Monitoring Budget
2004 actual budget	55	\$69,995,000	\$169,659,000
2005 budget estimate	44 *	\$59,057,000	\$191,345,000

* In which 42 plans would be at reduced funding levels for their on going revision efforts.

Effects Not Quantified in the Analysis

The final rule is designed to provide a variety of beneficial effects. Many of these effects are not readily quantified in financial terms. There will be no effects on local economies and small business entities as a result of the final rule, although there may be increased satisfaction with planning and with the Forest Service if planning can be done more efficiently. The final rule is programmatic in nature and does not make site-specific project or activity decisions. There will be no effects until decisions are made for projects implementing the forest, grassland, or prairie plans. The final rule provides directions for Forest Service personnel on how to develop and maintain land management plans pursuant to the NFMA and other laws and regulations. It imposes no requirements on other government agencies, the public or private businesses. The final rule also does not establish a specific level of resource outputs. Direct effects on the level of goods, services, and uses produced on NFS lands are not included in this analysis. These are the end-results of plans and are beyond the scope of the final rule and this accompanying analysis.

In addition, both the 2000 and final rule address plan amendments, and both rules have the intent of making amendments more efficient. However, the Forest Service believes that it would be more time consuming and expensive to amend plans under the 2000 rule due to the complexity of planning direction. This complexity is described in the preamble to the 2002 proposed rule. However, it is not possible to quantify the costs of potential amendments because although amendments may be more expensive under the 2000 rule, there would consequently be fewer of

them. Amendments under the final rule might be more frequent, but less expensive to do individually. Therefore, this topic is not addressed further in this cost/benefit analysis.

Indirect Effects Not Quantified in the Analysis

Since the final rule establishes procedures for land management planning for NFS lands, promulgation will not result in any immediate changes in the management of any particular National Forest, Grassland or Prairie in activities permitted or conducted on those lands. Thus, the adoption of the final rule would not have a direct impact on the quality of the human environment due to its programmatic nature. However, future implementation of projects on individual NFS units could affect decisions that are made for those lands.

Implementation of the final rule could eventually lead to an effect on economic and social factors by reducing or increasing the amount of products and services derived from NFS lands. This could result in a localized change in some types of employment and in payments to states. However, implementation of the final rule is expected to eventually result in plans that improve the sustainability of the ecological systems, potentially increasing the availability of goods and services from NFS lands and thus the availability of forest or grassland-related jobs, income, and payments to states. Any short-term or long-term effects on the availability of forest or grassland products and services would occur on a unit-by-unit basis through forest/grassland/prairie and project level planning. It is not possible to determine short or long term environmental consequences of those future decisions in this analysis. For this reason, quantifiable impacts to the availability of forest, grassland or prairie products and services and the associated economic effects cannot be determined at this time.

It is possible to provide some estimate of potential broader social effects. While both the 2000 and final rules propose active public involvement, the more streamlined planning processes in the final rule may result in more public satisfaction, because it would be possible to produce new plans or amend or revise plans more quickly. This would allow a more efficient response to emerging public issues.

Development of General Assumptions

The benefit/cost analysis addresses the comparative costs and benefits of the 1982, 2000 and final planning rule. The baseline, no action alternative is assumed to be the continuation of using the 1982 rule. The 1982 rule was used as the baseline for this analysis because all the land management plan revisions completed to date have used the requirements of 1982 rule. Quantitative differences among the final rule, the 2000 rule, and the 2002 proposed rule were estimated. This analysis does not estimate the trends in planning complexity or the associated costs. It only compares quantitative differences among these rules as modified by current practices, and a discussion of the incremental effects between the 2000 rule, the 2002 proposed rule and this final planning rule.

Costs

The analysis includes annual expenses for interdisciplinary planning teams working on regional guides; plan development or revision, including costs associated with collaboration, science support, analysis, and determination of sustainability; costs of the support provided by other staffs, scientists, and line officers; the cost of compiling and managing the data needed for

planning analyses; and the cost of providing public notice and comment periods, monitoring and evaluation, and resolving appeals or objections (refer to Appendix Table A).

Sources of Cost Data

The cost estimates for planning activities under the 1982 rule were developed by analyzing cost data for plan revisions that have been recently completed using current state-of-the-art procedures under the 1982 rule. These costs were included in a report to the House and Senate Committees on Appropriations entitled, “*Forest Service Land and Resource Management Planning: The Status of Activities*,” dated January 31, 2002. The costs contained in this report however, only included planning costs on the forest units. They did not contain the costs incurred at other organizational levels. To estimate the non-forest costs, this analysis relied on results from the costing study to assist in determining likely costs associated with the 1982 rule for regional office, contracts, monitoring and evaluation, and science support to forests.

In addition, an empirical estimate of the cost per plan for resolving appeals under the 1982 rule was made. Costs for the 1982 rule were summed into one Revision Cost due to the lack of more specific data on the costs of sub-activity centers.

The 2002 NFMA Costing Study investigated the costs of land management planning associated with the 2000 rule and the 2002 proposed rule using a business modeling process. This costing study is the most comprehensive study on planning costs ever conducted. It directly compares major cost centers for both the 2000 rule and the 2002 proposed rule, and includes field validation of the results by agency planners and interdisciplinary specialists. As stated, the estimated total costs for the final planning rule are expected to be lower than the 2000 rule; however, the cost savings have decreased from the final rule because costs should increase for monitoring and evaluation. In other words, though the final rule is less costly than the 2000 rule in planning funds, some of the savings has been shifted to monitoring and evaluation funds in the final rule.

Regional Cost Differences

The Forest Service is divided into nine Regions: Regions 1-6 and Regions 8 and 9 (there is no Region 7) are in the contiguous United States, while Region 10 is located in Alaska. Costs provided by R10 are higher than the estimates from the rest of the Regions. The higher cost for Alaska is based on planning experiences on the Tongass and Chugach National Forests, which are about twice as large as the national average NFS unit, and is attributable to the higher cost of living and travel, and complexities added by the large spatial scales encountered. R10 costs are calculated separately rather than significantly weighting the average costs for the rest of the country. The differences are noted in the following discussions.

Time Frame for Analysis

The NFMA requires that a plan be revised every 10-15 years. The scheduling estimates, for purposes of this analysis, are for a 15-year period beginning in 2005. Costs are compiled over that cycle and discounted at an annual rate of 7 percent as provided by OMB Economic Analysis of Federal Regulations and the 2000 OMB Memorandum 00-08. The dollar estimates received from the regions and national forests are averages of several years of data unadjusted for inflation.

Based on the costing study, the median expected time required to complete a plan revision is about 6 years for the 2000 rule, and 5 years for the 2002 proposed rule. The expected time

required to complete a plan revision is 3 years for the final rule. The *Forest Service Land and Resource Management Plan Revision Schedule* published in the Federal Register on November 30, 2001, estimates that it will take 5 years to revise plans under the 1982 rule.

The number of forest, grassland or prairie land management plans under revision is based on the above cited schedule. The number of plans needing revision between fiscal year 2005 and fiscal year 2019, and an assumption of 9 NFS units each year initiating revision at the third round of the revision cycle, are used in this cost-benefit analysis.

Baseline for Comparison

The benefits and costs of each alternative must be measured against a baseline. This is required by *OMB Memorandum 00-08* and *Economic Analysis of Federal Regulations under Executive Order 12866*. The baseline should be the best assessment of the way the world would look absent the final rule. In this case, the baseline would be the 1982 rule. At the present time, the only rule used for forest planning is the 1982 rule. As previously mentioned, an interim regulation published on May 20, 2002, revised the transition provisions of the 2000 planning rule to allow the option of using either the 1982 or the 2000 rule for plan revisions and amendments until a new planning rule is adopted. To date, NFS managers have elected to be guided by the 1982 planning rule.

The time, cost and scheduling estimates represent the best information available. However, all estimates are of limited precision and changing circumstances could affect the results. A discussion of the assumptions used to estimate the economic effects of specific provisions in the final rule follow. The undiscounted and discounted cost comparisons over the 15-year period are also displayed.

Economic Analysis of Specific Planning Processes

The rest of this report identifies and discusses the requirements, assumptions and economic effects for key National Forest System planning processes. For purposes of making the planning process found in the three rules more understandable and comparable, the key activities and cost centers were aggregated into the following main activity groupings with similar tasks:

- Preparation of Regional Guides
- Collaboration, Analysis of the Current Management Situation, Identification of Issues and Public Notification
- Science Support
- Analyze, Develop Plan Decisions, and Document the Plan
- Assess Decisions for Sustainability and Meeting the Diversity Requirements
- Consider and Resolve Appeals/Objections
- Monitoring and evaluation

Table A in the Appendices displays the cost input values for these rules. For the 1982 rule, costs used largely come from empirical data from implementing the rule. Since the 2000 rule, the 2002 proposed rule or the final rule has been implemented, these cost data come from the 2002 NFMA Costing Study, as adjusted by changes in the final rule in the activity groupings of “analyze, develop plan decisions, document the plan”, “assess decisions for sustainability and meeting the diversity requirements” and “monitoring and evaluation.”

Appendix Tables B-1 to B-11 displays the cost and benefit calculations for planning activities in these rules.

A. Preparation of Regional Guides

1982 Rule

The 1982 rule required the development and maintenance of a Regional Guide for each of the nine Forest Service Regions. Significant changes to update the Regional Guide are made following the same procedures used to develop the initial guide, including an environmental impact statement. Regional Guides were intended to be the interface between the Forest Service national strategic plan and land management plans. Updates to the Regional Guide were expected periodically to reflect changes in regional programs, goals and objectives and to provide tentative resource objectives for each forest or grassland based on current national strategic plan. Other elements of the Regional Guide requiring updates included the analysis of the regional management situation; management direction to address major issues considered at the regional level to facilitate planning; standards and guidelines on harvest methods, size and dispersal of created openings in even-aged forest management; and management intensities and utilization standards for determining harvest levels for the Region. Updates to the Regional Guides were made through management decisions using information gathered in broad-scale assessments.

Most regions did not regularly amend their Regional Guides. Instead, costs were incurred through broad-scale assessments and management decisions based on those assessments. There are no future costs associated with Regional Guides as they have been withdrawn as required by the 2000 rule.

The 2000 rule and this final rule would link land management plans directly with Forest Service policies, laws, Executive Orders, regulations, and applicable Forest Service strategic plans.

Cost Comparisons

The estimated cost of updating Regional Guides is based on estimates done for the 1995 proposed rule, which identified a schedule of activities and costs under the 1982 regulations to keep the nine regional guides up-to-date. These costs included an environmental impact statement to accompany comprehensive updates. For purposes of this analysis all Regional Guides would need comprehensive updates (revisions) starting in Fiscal Year (FY) 2005 except for Region 2 where the Regional Guide was more recently revised. Six years after the completion of a Regional Guide initiation of another revision is assumed necessary.

Under the 1982 rule, the average annual undiscounted cost is \$747,000, as calculated in Appendix Table B-1.

Regional Guides are not being retained under the 2000 rule and the final rule. Other planning activities such as the Government Performance and Results Act, broad-scale assessments, multi-forest amendment processes, directive system, and more informal “desk guides” generally replaced the key functions of Regional Guides. The true difference in cost depends on the cost of these replacement activities, particularly the cost of broad-scale assessments. The costs of these activities are now assigned to other cost centers in the costing study and in this analysis.

B. Collaboration, Analyze the Current Management Situation, Identification of Issues, and Notification

The 1982 rule, the 2000 rule, the proposed rule and the final rule all require these activities as part of their planning processes. The timing of when some activities occur differs among the rules.

The 1982 rule contained a requirement to involve the interested public in the planning process that was usually accomplished through NEPA scoping and comment.

The 2000 rule, the proposed rule and the final rule contain this requirement and envision collaboration as being part of a larger effort to inform the public, solicit their ideas, and to build trust and credibility in the agency's fulfillment of its mission. Such involvement goes beyond traditional NEPA scoping and commenting on agency draft and final decisions, and extends it throughout the planning process.

The 2000 rule differs from the final rule in that it also required that each forest, grassland or prairie supervisor have access to a Federal Advisory Committee Act board that would assist the Responsible Official in resolving public conflicts and in determining when sufficient public involvement had been achieved. The final rule views such mandatory committees as an unnecessary requirement, although they would still be allowed in those situations where a Responsible Official feels they would be of value.

The task of analyzing the current situation is a pre-Notice of Intent (NOI) activity in the 2000 rule and the final rule. It serves as the basis for identifying the need for change and in helping to frame a comprehensive evaluation to be addressed in the revision process. In the 1982 rule and the first round of forest, grassland or prairie plans it served to establish a baseline and benchmark for making management changes through the planning process.

The activities within the broad category of identification of issues vary broadly among these rules. In the 1982 rule it occurred post-NOI and was a set of public, agency, and statutory issues, concerns and opportunities to be considered in the planning process. Recommendations to Congress regarding Wilderness designations are one of the statutory issues to be addressed in the planning process. Roadless areas were required to be evaluated and considered for recommendation as potential wilderness during the forest planning process. In the 2000 rule this activity was pre-NOI and included broad scale assessments and roadless area analysis; Wilderness evaluation remained a post-NOI activity. In the 2002 proposed rule similar roadless area analysis and broad scale assessments, if deemed appropriate by the Responsible Official, are a post-NOI activity and were part of the "Assess Decisions for Sustainability" cost center from the 2002 NFMA Costing Study. These costs have not changed between the proposed and final rules.

Notifying the public of proposed agency actions and decisions is similar among all three rules and largely driven by statutory requirements.

Cost Comparisons

For the 1982 rule, this activity center was not estimated separately due to a lack of specific data. The costs are summarized in the "Revise Plan" activity in Tables 1 and 2 and analyzed in Appendix Table B-6 "plan revision under the 1982 rule."

For the 2000 rule, the 2002 proposed rule and the final rule, certain adjustments were made to utilize the information from the 2002 NFMA Costing Study. The principal one was to remove the cost for large scale assessments for the 2000 rule out of the cost for Issue Identification, and include it in the Assess Decisions for Sustainability cost center to make the 2000 rule, the 2002 proposed rule and the final rule comparable.

The average annual undiscounted cost savings of the final rule is about \$21.8 million when comparing to the 2000 rule. The discounted cost savings are about \$186 million over the 15-year planning cycle. There is about \$8.6 million cost savings annually for this activity center when comparing to the 2002 proposed rule because the final rule is expected to complete a plan revision faster than the proposed rule. Calculations are contained in Appendix Table B-2.

C. Science Support

Science support activities involve the consideration and use of the best available science in planning. These activities occur throughout the planning process. Costs in this activity center will vary depending upon the complexity of the issue and the availability and reliability of data to support the decision being made. For some issues the complexity may require a broader set of scientific disciplines and higher skills and thereby increase costs.

The 1982 rule was largely silent on how to best integrate science into the planning process, although it was assumed that it would occur since natural resource management is composed of science-based disciplines and specialties. The 2000 rule dictated numerous specific procedural requirements for using science reviews, science boards, and scientific peer review, largely without discretion. In the final rule, greater discretion is given to the Responsible Official to choose the type, timing, and methods of science involvement.

Cost Comparisons

For the 1982 rule, this activity center was not estimated separately due to a lack of specific data. The costs are summarized in the “Revise Plan” activity in Tables 1 and 2 and analyzed in Appendix Table B-6.

The average annual undiscounted cost savings of the final rule is about \$5.2 million when comparing to the 2000 rule. The discounted cost savings are about \$45.4 million over the 15-year planning cycle. The costs for the use of science during the planning process for the 2002 proposed rule and the final rule are about the same. Calculations are contained in Appendix Table B-3.

D. Analyze, Develop Plan Decisions and Document the Plan

This activity center occurs at different stage of the planning process in the 1982 rule, the 2000 rule, and the final rule. For the final rule, these activities occur continually throughout the planning process, while for the 1982 and 2000 rules these activities occur at the post-NOI and pre-Notice of Availability of an Environmental Impact Statement phase. In the 1982 and 2000 rules, these activities are integral with the NEPA process and other legal requirements, which are included in this cost center. For the final rule the Forest Service has developed its own process under the Statute, but cost pools are similar. For the 1982 and 2000 rules, this activity grouping represents the bulk of the work in preparing a revised plan. It contains the environmental analysis and development of the alternatives and the land management plan. These costs are highly dependent on the legal and political environment and the nature of the decisions to be made. The

level of risk assumed greatly affects the magnitude of the costs. The final rule allows more flexibility in environmental analysis, so costs there may decrease.

While the 2002 proposed rule included adaptive management (the plan – do – check – act cycle) as a goal, the final rule expands this concept by requiring use of an Environmental Management System (EMS) as the framework for land management planning for every NFS unit. An EMS is based on the international consensus standard, ISO 14001. The overall intent is to increase environmental performance and accountability for the agency.

Using environmental management system (EMS), the unit develops desired conditions and objectives as part of the plan. Then the unit monitors the desired conditions and objectives and how they do, and adjust. The EMS is focused on management with requirements for policy, planning, management programs, objectives, and procedures to maintain compliance with legal requirements. This standard requires a process for establishing goals, developing operational controls, an audit, and management review to ensure that the system is carried out, effective, and continually improved. The Department designed the system to allow independent audits to determine if the system conforms to the published standard.

Under the framework of the EMS, the final rule requires a comprehensive evaluation during plan development and plan revision. These evaluations are unit-wide and describe conditions and trends of the social, economic, and ecological resources of the plan area. After plan development or revision, the comprehensive evaluation is updated at least every five years. This evaluation is equivalent to identification of environmental aspects of the ISO 14001 standard. Several tasks under this activity grouping would be conducted when doing a comprehensive evaluation of the plan instead, so some up-front planning costs within this activity group are anticipated to shift to the comprehensive evaluation activity in the final rule. The adoption of this standard will likely increase annual monitoring costs and additional costs to update the comprehensive report at least every 5 years. These additional costs are captioned in the monitoring and evaluation activity.

Other factors influencing the cost are the complexity of the issues, presence of listed and other species of concern, spatial scale, and social or economic concerns. The availability of information and how existing plans have been maintained through amendments also influences the costs to revise a land management plan.

Plan documentation activities include establishing and maintaining the plan set of documents, documenting the revised plan direction, and making the revised plan available to the public in electronic, Compact Disc, written format, or any combination thereof.

Cost Comparisons

For the 1982 rule, this activity center was not estimated separately due to a lack of specific data. The costs are summarized in the “Revise Plan” activity in Tables 1 and 2 and analyzed in Appendix Table B-6

Cost estimates for this activity grouping can be found in Appendix Table B-4. The average annual undiscounted cost savings of the final rule is about \$14 million when comparing to the 2000 rule. The discounted cost savings are about \$118.7 million over the 15-year planning cycle. There is about \$9 million annual average cost savings for the final rule for this activity center when comparing to the 2002 proposed rule because the final rule is expected to complete a plan revision faster than the proposed rule.

E. Assess Decisions for Sustainability and Meeting the Diversity Requirements

Activities in this area serve to ensure sustainable ecosystems are maintained on NFS lands and thereby provide for the sustainable and renewable production of the multiple-uses.

NFMA requires that plans provide for diversity of plant and animal communities. Under the 1982 rule, this requirement was met primarily through a requirement to provide habitat to maintain viable populations of native and desired non-native vertebrate species.

This is an area of rapidly evolving and emerging science and art of application. Many of the activities of the 2000 rule, the 2002 proposed rule, and the final rule are not well understood, so estimates of costs in this area are more speculative than those of other cost centers. Both the 2000 and final rules address a staged process where ecosystem diversity is first evaluated followed by species diversity. The cost of this activity is directly related to how well the ecosystem diversity design can provide for the needs of species at risk. The more species that need to be addressed individually, the greater the costs.

Since there is not agreement upon the technical aspects of the analysis methodologies, there are questions about the degree and depth of analysis required to assure that diversity is provided for within the planning area. Other factors such as the degree of risk assumption, the level of public interest, and the spatial scale of the plan area also affect costs.

While the 2000 and the proposed rules address ecosystem and species diversity, the 2000 rule is much more prescriptive and defined. The 2002 proposed rule contained two procedural options for this activity. Option 1, streamlined from the 2000 rule, focused analyses on both ecosystem diversity and species diversity, and established viability of vertebrates and vascular plants in the plan area as the measurement of achievement of the NFMA diversity requirement. Option 2, originally developed by agency research scientists, required a more robust analysis of ecosystem and species diversity in a landscape context, and met the NFMA diversity language by requiring that plan decisions conserve and restore biological diversity in the planning area, which included the area covered by the plan and other surrounding and interspersed ownerships. This option was more prescriptive and required spatial analysis of information at more scales.

In contrast, the final rule requires less species diversity evaluation but more ecosystem analysis. It gives the Responsible Official much more flexibility and leeway to choose the means for addressing ecosystem and species diversity, and is likely to be less costly than the 2000 rule and the proposed rule. Details for addressing ecosystem and species diversity will be established in the Forest Service Directive System.. The estimated annual cost per plan to conduct this activity is expected to be about 15 percent less than the proposed rule.

According to the 2002 NFMA Costing Study, the estimated annual costs per forest to conduct activities related to assessing decisions for sustainability and meeting the diversity requirements are averaged at \$450,800 for the proposed option 1 and \$578,600 for the proposed option 2. The cost estimate from the 2002 Costing Study for option 2 reflected the fact that it had more explicit process steps and there was some degree of uncertainty regarding rule application because it was a newer approach.

It should be noted again that for the 2000 rule the cost of broad scale assessments was removed from the Issue Identification cost center and placed within this cost center to be consistent with the approach of the 2002 proposed rule.

Cost Comparisons

For the 1982 rule, this activity center was not estimated separately due to a lack of specific data. The costs are summarized in the “Revise Plan” activity in Tables 1 and 2 and analyzed in Appendix Table B-6.

For all National Forests, the calculated 15-year average annual undiscounted cost for the final rule is about \$12.9 million (refer to Table 1). When comparing to the 2000 rule, the 15-year annual average undiscounted cost saving is about \$11.7 million, and the total discounted cost savings are about \$97 million over the 15-year planning cycle. When comparing the final rule to the 2002 proposed rule, the calculated average annual undiscounted cost is about \$5.4 million less than option 1, and with a cost saving of about \$10.6 million when comparing to option 2. For the discounted cost calculations over 15-year planning cycle, the final rule costs about \$44.9 million less than option 1, and with a cost saving of about \$91.6 million when comparing to option 2.

Calculations for the 2000 rule, the 2002 proposed rule Options 1 and 2, and the final rule are contained in Appendix Tables B-5.

F. Revise plan

Since there were no costs available by sub-activity for planning under the 1982 rule, the total experienced costs were used as reported in the January 2002 Report to the House and Senate Committees on Appropriations, and updated using assumptions from the 2002 costing study for costs associated with plan revision but not incurred on the forest unit level.

Cost Comparisons

The average annual undiscounted cost is about \$70 million. The discounted cost for the 1982 rule is \$628.7 million over the 15-year planning cycle. Calculations can be found in Appendix Table B-6.

For the 2000 rule, the 2002 proposed rule and the final rule, these cost estimates are included in the “Collaboration, Science support, Analysis of effects and comprehensive evaluation, and Assessment of sustainability” cost centers.

G. Consider and Resolve Appeals and Objections

The 1982 rule contained a post-decisional appeals process whereby interested parties dissatisfied with the plan decisions would appeal to the Chief of the Forest Service to overturn or modify the plan. This process, by nature, is adversarial, very costly, and time consuming.

In line with the desire to make the planning process more collaborative and the debate over plan decisions timelier and less costly, the 2000 rule, the 2002 proposed rule and the final rule included a pre-decisional objection process to provide the public the opportunity to object to proposed plan direction and to potentially resolve the objections before a final decision was made. The final rule retains but simplifies the objection process established in the 2000 rule. The final

rule removes the requirements previously provided in the 2000 rule for interested parties, publication of objections, and formal requests for meetings. Costs for such a process will likely be much less than for the appeals process.

Cost Comparisons

Empirical costs for appeal resolution were used to approximate the costs associated with the 1982 rule. The average annual undiscounted cost is about \$1.4 million, and the discounted cost for the 15-year cycle is about \$15.8 million. Calculations can be found in Appendix Table B-7.

For the 2000, the 2002 proposed and the final rule, the estimated costs for resolving pre-decisional objections from the costing study were used to compare with the 1982 rule's cost of deciding appeals. The estimated annual average undiscounted costs were about \$0.78 million, \$0.83 million and 0.99 million respectively for the 2000 rule, the 2002 proposed rule and the final rule. The final rule is estimated to have an annual average cost savings of \$370,000 when comparing to the 1982 rule. The final rule is estimated to cost about \$220,000 per year more than the 2000 rule. This is because objections will begin three years after the start of the plan revisions under the final rule and six years after the start of revisions under the 2000 rule. Calculations can be found in Appendix Table B-8.

H. Monitoring and Evaluation

The 1982 and 2000 rules, as well as the 2002 proposed rule, all require monitoring and evaluation as part of the planning process.

The 1982 rule required the plan to provide monitoring for a series of specific activities, including outputs and services; prescriptions and effects; costs; compliance with standards on restocking, timber suitability, harvest size, and insect and disease impacts; population trends of management indicator species; effects of National Forest management on adjacent land, resources, and communities; and identification of research needs. Information was to include the actions, effects, or resources to be monitored; frequency of measurement; expected precision and reliability; and time when evaluations will be reported. The plan would establish the intervals for evaluating the monitoring results, with a focus on determining how well objectives had been met and how closely standards and guidelines were applied. The evaluations would form the basis of recommendations for any needed changes in management direction or revisions or amendments to the plan.

The 2000 rule required that a monitoring strategy be prepared as part of the plan that focused attention on monitoring ecological (particularly ecosystem and species diversity), social, and economic sustainability. The 2000 rule required preparation of an annual monitoring and evaluation report.

The 2002 proposed rule required more adaptive management than the preceding rules. The proposal focused on assessing the achievement of desired conditions and objectives of the plan, and then, employing adaptive management to determine whether the plan needs to be changed or plan implementation needs to be adjusted. Specific monitoring requirements were left to the discretion of the Responsible Official. There was no specific requirement for a monitoring and evaluation report, though the findings and conclusions from monitoring and evaluation were to be disclosed annually to the public.

The final rule adds an additional requirement of a comprehensive evaluation of the plan to be conducted at intervals not to exceed five years. This change has added to monitoring and evaluation costs from the proposed rule. An annual evaluation report is also now required.

Cost Comparisons

In the 2002 NFMA Costing Study, this activity center was not estimated separately for both the 2000 and proposed rules. Based on current agency budget allocation for planning, inventory and monitoring activities, empirical costs for monitoring and evaluation were used to approximate the costs associated with the 1982 rule. The costs for annual monitoring and evaluation are estimated to be approximately \$256,000 per plan for the 1982 and 2000 rules, and \$360,000 per plan for the proposed rule and the final rule. The 1982 rule also required a five year review of the plan, an additional \$50,000 per plan cost was assumed to the 1982 rule for conducting the 5-year review. For the final rule, because of the additional requirement of a update of the comprehensive evaluation of the planning unit at least every five years, an additional cost of \$300,000 per plan for an interval of every five years was assumed in addition to an estimated cost of \$360,000 per plan for the annual monitoring and evaluation activity. This figure reflects shifting some upfront planning costs from “analyzing, developing plan decision and documentation” activity grouping to the “monitoring and evaluation” activity center to better capture cumulative effects of management activities and natural events when doing a comprehensive evaluation of the plan.

For the 1982 rule, the average annual undiscounted cost for monitoring and evaluation is about \$32.4 million, and the discounted cost for the 15-year cycle is about \$316 million. For the 2000 rule, the average annual undiscounted cost for monitoring and evaluation is about \$32 million, and the discounted cost for the 15-year cycle is about \$311.8 million. For the proposed rule, the average annual undiscounted cost for monitoring and evaluation is about \$45 million, and the discounted cost for the 15-year cycle is about \$438.5 million. Calculations can be found in Table 1 and Appendix Tables B-9 and B-10..

For the final planning rule, the estimated average annual undiscounted costs for monitoring and evaluation is about \$49.2 million, and the discounted cost for the 15-year cycle is about \$475 million. This estimated annual average costs for monitoring and evaluation indicated a cost increase of \$16.8 million more for the final planning rule than the 1982 rule. Calculations can be found in Table 1 and Appendix Table B-11.

Summary and Conclusions

The cost-benefit analysis focused on key activities in land management planning for which costs could be estimated under the 1982 rule, 2000 rule, the 2002 proposed rule and the final rule. Those major activities included:

- Preparation of Regional Guides
- Collaboration, Analysis of the Current Management Situation, Identification of Issues and Public Notification
- Science Support
- Analyze, Develop Plan Decisions, and Document the Plan
- Assess Decisions for Sustainability and Meeting the Diversity Requirements
- Consider and Resolve Appeals/Objections, and,
- Monitoring and Evaluation

When comparing the estimated costs of planning activities under the final rule to the 1982 rule, the final rule is estimated to cost \$4.6 million per year less than the 1982 rule. The final rule is estimated to have an annual average cost savings of \$36.9 million when comparing to the 2000 rule (refer to Tables 1 and 2).

In addition to the expected cost savings, numerous intangible benefits are expected to result from the final rule. The overall goal of the final rule is to develop a planning framework that fosters stewardship of the National Forest System lands and improves the likelihood of contributing toward the ecological, social, and economic components of sustainability. Better decisions provide sustained goods, services, and values without impairment of the health of the land. These improvements will be based on better collaboration with the public, improved monitoring and evaluation, consideration of science, and a more flexible process that reduces the burden on both the public and the agency. A planning process that addresses public concerns and leads to improved health of the public lands has value beyond the cost savings estimated in the analysis. Therefore, it is highly likely that the final rule is beneficial to the public interest.

Table 1. Estimates of undiscounted annual average, total undiscounted and discounted costs of key planning activities over a 15-year planning cycles for 1982 rule, 2000 rule, proposed 2002 rule and final rule

Planning Activity	Cost Estimate	1982 Rule	2000 Rule	Proposed 2002 Rule		Final Rule
				Option 1	Option 2	
Regional Guide		-----	-----	--- \$1,000---	-----	-----
	Annual average	\$747				
	15-year total undiscounted cost	\$11,200				
	15-year total discounted cost	\$8,763				
Collaboration	Annual average	-----	\$37,457	\$24,237	\$24,237	\$15,615
	15-year total undiscounted cost	-----	\$561,850	\$363,560	\$363,560	\$234,228
	15-year total discounted cost	-----	\$331,598	\$218,110	\$218,110	\$145,551
Science Support	Annual average	-----	\$7,347	\$2,643	\$2,643	\$2,106
	15-year total undiscounted cost	-----	\$110,209	\$39,650	\$39,650	\$31,597
	15-year total discounted cost	-----	\$65,044	\$23,787	\$23,787	\$19,635
Analyze, develop decisions and document the plan including comprehensive evaluation under the final rule	Annual average	-----	\$30,880	\$25,762	\$25,762	\$16,598
	15-year total undiscounted cost	-----	\$463,198	\$386,435	\$386,435	\$248,966
	15-year total discounted cost	-----	\$273,375	\$231,833	\$231,833	\$154,709
Assess decisions for sustainability and diversity requirements	Annual average	-----	\$24,556	\$18,333	\$23,530	\$12,885
	15-year total undiscounted cost	-----	\$368,334	\$274,988	\$352,946	\$193,281
	15-year total discounted cost	-----	\$217,386	\$164,973	\$211,742	\$120,106
Revise Plan	Annual average	\$69,865	-----	-----	-----	0
	15-year total undiscounted cost	\$1,047,980	-----	-----	-----	0
	15-year total discounted cost	\$628,712	-----	-----	-----	0
Consider and Resolve Appeal/Objection	Annual average	\$1,364	\$775	\$829	\$829	\$994
	15-year total undiscounted cost	\$20,460	\$11,619	\$12,428	\$12,428	\$14,914
	15-year total discounted cost	\$15,777	\$5,941	\$6,602	\$6,602	\$8,556
Transition	Annual average	\$10,514	\$14,214	\$12,656	\$13,169	\$12,882
	total undiscounted cost	\$157,706	\$213,214	\$189,846	\$197,532	\$193,224
	total discounted cost	\$148,743	\$198,137	\$176,852	\$183,924	\$179,732
Monitoring and Evaluation	Annual average	\$32,450	\$32,000	\$45,000	\$45,000	\$49,220
	15-year total undiscounted cost	\$486,750	\$480,000	\$675,000	\$675,000	\$738,300
	15-year total discounted cost	\$315,985	\$311,855	\$438,546	\$438,546	\$474,965
Total	Annual average	\$114,940	\$147,228	\$129,460	\$135,170	\$110,301
	15-year total undiscounted cost	\$1,724,096	\$2,208,424	\$1,941,907	\$2,027,551	\$1,654,510
	15-year total discounted cost	\$1,117,979	\$1,403,336	\$1,260,702	\$1,314,543	\$1,103,254

Table 2. Summary Table for Comparing 1982 rule, 2000 rule, proposed 2002 rule and the final rule

Planning Activity	Cost Estimate	Savings/(Cost) of the 2000 rule as compared to the 1982 rule	Savings/(Cost) of the Final Rule as compared to the 1982 rule	Savings/(Cost) of the Final Rule as compared to the 2000 rule	Savings/(Cost) of the Final Rule as compared to the proposed rule--option 1	Savings/(Cost) of the Final Rule as compared to the proposed rule--option 2
		----- \$1,000 -----				
Regional Guide	Annual average	\$747	\$747	\$0	\$0	\$0
	15-year total undiscounted cost	\$11,200	\$11,200	\$0	\$0	\$0
	15-year total discounted cost	\$8,763	\$8,763	\$0	\$0	\$0
Collaboration	Annual average	-\$37,457	-\$15,615	\$21,841	\$8,622	\$8,622
	15-year total undiscounted cost	-\$561,850	-\$234,228	\$327,622	\$129,332	\$129,332
	15-year total discounted cost	-\$331,598	-\$145,551	\$186,047	\$72,559	\$72,559
Science Support	Annual average	-\$7,347	-\$2,106	\$5,241	\$537	\$537
	15-year total undiscounted cost	-\$110,209	-\$31,597	\$78,612	\$8,053	\$8,053
	15-year total discounted cost	-\$65,044	-\$19,635	\$45,410	\$4,152	\$4,152
Analyze, develop decisions & document the plan including comprehensive evaluation for the final rule	Annual average	-\$30,880	-\$16,598	\$14,282	\$9,165	\$9,165
	15-year total undiscounted cost	-\$463,198	-\$248,966	\$214,233	\$137,470	\$137,470
	15-year total discounted cost	-\$273,375	-\$154,709	\$118,666	\$77,124	\$77,124
Assess decisions for sustainability and diversity requirements	Annual average	-\$24,556	-\$12,885	\$11,670	\$5,447	\$10,644
	15-year total undiscounted cost	-\$368,334	-\$193,281	\$175,052	\$81,707	\$159,665
	15-year total discounted cost	-\$217,386	-\$120,106	\$97,280	\$44,867	\$91,636
Revise Plan	Annual average	\$69,865	\$69,865	\$0	\$0	\$0
	15-year total undiscounted cost	\$1,047,980	\$1,047,980	\$0	\$0	\$0
	15-year total discounted cost	\$628,712	\$628,712	\$0	\$0	\$0
Consider and Resolve Appeal/Objection	Annual average	\$589	\$370	-\$220	-\$166	-\$166
	15-year total undiscounted cost	\$8,841	\$5,546	-\$3,295	-\$2,486	-\$2,486
	15-year total discounted cost	\$9,835	\$7,220	-\$2,615	-\$1,954	-\$1,954
Transition	15-year total undiscounted cost	-\$55,490	-\$35,518	\$19,972	-\$3,378	\$4,308
	15-year total discounted cost	-\$49,377	-\$30,989	\$18,388	-\$2,881	\$4,191
Monitoring and Evaluation	Annual average	\$450	-\$16,770	-\$17,220	-\$4,220	-\$4,220
	15-year total undiscounted cost	\$6,750	-\$251,550	-\$258,300	-\$63,300	-\$63,300
	15-year total discounted cost	\$4,130	-\$158,981	-\$163,110	-\$36,419	-\$36,419
Total	Annual average	-\$32,287	\$4,639	\$36,926	\$19,160	\$24,869
	15-year total undiscounted cost	-\$484,310	\$69,586	\$553,896	\$287,397	\$373,041
	15-year total discounted cost	-\$285,340	\$14,726	\$300,065	\$157,448	\$211,289

Appendices

Table A – Per plan cost figures used for the Quantified Cost-Benefit Analysis

Planning Process requirements	1982 rule annual cost	2000 rule annual cost <u>1/</u>	2002 proposed rule annual cost	2004 final rule annual cost
----- \$1,000 -----				
Regional Guides				
Regions 1-9	\$300.0			
Region 10	\$400.0			
Collaborations		\$797.0	\$596.0	\$596.0
Science Support		\$156.3	\$65.0	\$80.0
Analyze, develop decision & document the plan		\$657.0	\$633.5	\$633.5
Assessment for sustainability		\$522.5	\$450.8 <u>3/</u>	\$491.8
			\$578.6 <u>4/</u>	
Sub-total of 4 activity centers		\$2,132.8	\$1,745 <u>3/</u>	\$1,801.3
			\$1,873 <u>4/</u>	
Revise plan	\$1,718.0			
Appeal/objection	\$330.0	\$143.0	\$138.0	\$138.0
Annual Monitoring/evaluation <u>2/</u>	\$256.0	\$256.0	\$360.0	\$360.0
5-year comprehensive evaluation report	\$50.0			\$300.0

1/ Numbers were estimated from 2002 NFMA Costing Study.

2/ Numbers were estimated from 1982 rule from FY2003 budget allocation for annual monitoring and evaluation

3/ For 2002 proposed rule, option 1

4/ For 2002 proposed rule, option 2

Appendix B-1. Costs of Regional Guide updates under the 1982 rule

R1-R9	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	TOTAL
ANN COST (\$1,000)	\$300															
Discount factors@7.0%	1	0.93458	0.87344	0.81630	0.76290	0.71299	0.66634	0.62275	0.58201	0.54393	0.50835	0.47509	0.44401	0.41496	0.38782	
Guides in process	7	7	0	1	1	0	7	7	0	0	1	1	0	0	0	32
Undiscounted costs	\$2,100	\$2,100	\$-	\$300	\$300	\$-	\$2,100	\$2,100	\$0	\$0	\$300	\$300	\$0	\$0	\$0	\$9,600
Discounted costs	\$2,100	\$1,963	\$-	\$245	\$229	\$-	\$1,399	\$1,308	\$0	\$0	\$153	\$143	\$0	\$0	\$0	\$7,539

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	TOTAL
R10	2															
ANN COST (\$1,000)	\$400															
Discount factors@7.0%	1	0.93458	0.87344	0.81630	0.76290	0.71299	0.66634	0.62275	0.58201	0.54393	0.50835	0.47509	0.44401	0.41496	0.38782	
Guides in process	1	1	0	0	0	0	0	0	1	1	0	0	0	0	0	4
Undiscounted costs	\$400	\$400	\$-	\$-	\$-	\$-	\$-	\$-	\$400	\$400	\$-	\$-	\$-	\$-	\$-	\$1,600
Discounted costs	\$400	\$374	\$-	\$-	\$-	\$-	\$-	\$-	\$233	\$218	\$-	\$-	\$-	\$-	\$-	\$1,224

	Regions 1-9	Region 10	TOTAL	Annual average
Undiscounted costs	\$9,600	\$1,600	\$11,200	\$747
Discounted costs	\$7,539	\$1,224	\$8,763	

Appendix B-2 Costs of collaboration under the 2000 rule, 2002 proposed rule and final rule

2000 rule	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	TOTAL
ANN COST (\$1,000)	\$797															
Discount factors@7.0%	1	0.93458	0.87344	0.81630	0.76290	0.71299	0.66634	0.62275	0.58201	0.54393	0.50835	0.47509	0.44401	0.41496	0.38782	
number of plans	2	13	24	34	47	60	66	64	62	61	57	53	54	54	54	
Undiscounted costs (\$1,000)	\$1,594	\$10,360	\$19,127	\$27,096	\$37,457	\$47,817	\$52,599	\$51,005	\$49,411	\$48,614	\$45,426	\$42,238	\$43,035	\$43,035	\$43,035	\$561,850
Discounted costs (\$1,000)	\$1,594	\$9,683	\$16,706	\$22,119	\$28,575	\$34,093	\$35,049	\$31,763	\$28,758	\$26,443	\$23,092	\$20,067	\$19,108	\$17,858	\$16,690	\$331,598
proposed rule (2002)	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	TOTAL
ANN COST (\$1,000)	\$596															
Discount factors@7.0%	1	0.93458	0.87344	0.81630	0.76290	0.71299	0.66634	0.62275	0.58201	0.54393	0.50835	0.47509	0.44401	0.41496	0.38782	
number of plans	2	13	24	34	47	58	55	53	52	48	44	45	45	45	45	
Undiscounted costs (\$1,000)	\$1,192	\$7,748	\$14,304	\$20,264	\$28,012	\$34,568	\$32,780	\$31,588	\$30,992	\$28,608	\$26,224	\$26,820	\$26,820	\$26,820	\$26,820	\$363,560
Discounted costs (\$1,000)	\$1,192	\$7,241	\$12,494	\$16,541	\$21,370	\$24,647	\$21,843	\$19,671	\$18,038	\$15,561	\$13,331	\$12,742	\$11,908	\$11,129	\$10,401	\$218,110
final rule	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	TOTAL
ANN COST (\$1,000)	\$596															
Discount factors@7.0%	1	0.93458	0.87344	0.81630	0.76290	0.71299	0.66634	0.62275	0.58201	0.54393	0.50835	0.47509	0.44401	0.41496	0.38782	
number of plans	2	13	24	32	34	36	34	30	26	27	27	27	27	27	27	
Undiscounted costs (\$1,000)	\$1,192	\$7,748	\$14,304	\$19,072	\$20,264	\$21,456	\$20,264	\$17,880	\$15,496	\$16,092	\$16,092	\$16,092	\$16,092	\$16,092	\$16,092	\$234,228
Discounted costs (\$1,000)	\$1,192	\$7,241	\$12,494	\$15,568	\$15,459	\$15,298	\$13,503	\$11,135	\$9,019	\$8,753	\$8,180	\$7,645	\$7,145	\$6,678	\$6,241	\$145,551

Appendix B-3 Costs of Science Support under the 2000 rule, 2002 proposed rule, and final rule

2000 rule	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	TOTAL
ANN COST (\$1,000)	\$156															
Discount factors@7.0%	1	0.93458	0.87344	0.81630	0.76290	0.71299	0.66634	0.62275	0.58201	0.54393	0.50835	0.47509	0.44401	0.41496	0.38782	
number of plans	2	13	24	34	47	60	66	64	62	61	57	53	54	54	54	
Undiscounted costs (\$1,000)	\$313	\$2,032	\$3,752	\$5,315	\$7,347	\$9,380	\$10,317	\$10,005	\$9,692	\$9,536	\$8,911	\$8,285	\$8,442	\$8,442	\$8,442	\$110,209
Discounted costs (\$1,000)	\$313	\$1,899	\$3,277	\$4,339	\$5,605	\$6,687	\$6,875	\$6,230	\$5,641	\$5,187	\$4,530	\$3,936	\$3,748	\$3,503	\$3,274	\$65,044
proposed rule (2002)	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	TOTAL
ANN COST (\$1,000)	\$65															
Discount factors@7.0%	1	0.93458	0.87344	0.81630	0.76290	0.71299	0.66634	0.62275	0.58201	0.54393	0.50835	0.47509	0.44401	0.41496	0.38782	
number of plans	2	13	24	34	47	58	55	53	52	48	44	45	45	45	45	
Undiscounted costs (\$1,000)	\$130	\$845	\$1,560	\$2,210	\$3,055	\$3,770	\$3,575	\$3,445	\$3,380	\$3,120	\$2,860	\$2,925	\$2,925	\$2,925	\$2,925	\$39,650
Discounted costs (\$1,000)	\$130	\$790	\$1,363	\$1,804	\$2,331	\$2,688	\$2,382	\$2,145	\$1,967	\$1,697	\$1,454	\$1,390	\$1,299	\$1,214	\$1,134	\$23,787
final rule	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	TOTAL
ANN COST (\$1,000)	\$80															
Discount factors@7.0%	1	0.93458	0.87344	0.81630	0.76290	0.71299	0.66634	0.62275	0.58201	0.54393	0.50835	0.47509	0.44401	0.41496	0.38782	
number of plans	2	13	24	32	34	36	34	30	26	27	27	27	27	27	27	
Undiscounted costs (\$1,000)	\$160	\$1,045	\$1,930	\$2,573	\$2,734	\$2,894	\$2,734	\$2,412	\$2,090	\$2,171	\$2,171	\$2,171	\$2,171	\$2,171	\$2,171	\$31,597
Discounted costs (\$1,000)	\$160	\$977	\$1,685	\$2,100	\$2,085	\$2,064	\$1,822	\$1,502	\$1,217	\$1,181	\$1,104	\$1,031	\$964	\$901	\$842	\$19,635

Appendix B-4. Costs of Analyzing, Developing Decisions, and Documenting the Plan under the 2000 rule, 2002 proposed rule and final rule																
2000 rule	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	TOTAL
ANN COST (\$1,000)	\$657.0															
Discount factors@7.0%	1	0.93458	0.87344	0.81630	0.76290	0.71299	0.66634	0.62275	0.58201	0.54393	0.50835	0.47509	0.44401	0.41496	0.38782	
number of plans	2	13	24	34	47	60	66	64	62	61	57	53	54	54	54	
Undiscounted costs (\$1,000)	\$1,314	\$8,541	\$15,768	\$22,339	\$30,880	\$39,421	\$43,363	\$42,049	\$40,735	\$40,078	\$37,450	\$34,822	\$35,479	\$35,479	\$35,479	\$463,198
Discounted costs (\$1,000)	\$1,314	\$7,982	\$13,773	\$18,235	\$23,558	\$28,107	\$28,895	\$26,186	\$23,708	\$21,800	\$19,038	\$16,544	\$15,753	\$14,723	\$13,759	\$273,375
proposed rule (2002)	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	TOTAL
ANN COST (\$1,000)	\$633.5															
Discount factors@7.0%	1	0.93458	0.87344	0.81630	0.76290	0.71299	0.66634	0.62275	0.58201	0.54393	0.50835	0.47509	0.44401	0.41496	0.38782	
number of plans	2	13	24	34	47	58	55	53	52	48	44	45	45	45	45	
Undiscounted costs (\$1,000)	\$1,267	\$8,236	\$15,204	\$21,539	\$29,775	\$36,743	\$34,843	\$33,576	\$32,942	\$30,408	\$27,874	\$28,508	\$28,508	\$28,508	\$28,508	\$386,435
Discounted costs (\$1,000)	\$1,267	\$7,697	\$13,280	\$17,582	\$22,715	\$26,197	\$23,217	\$20,909	\$19,173	\$16,540	\$14,170	\$13,544	\$12,658	\$11,830	\$11,056	\$231,833
final rule	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	TOTAL
ANN COST (\$1,000)	\$633.5															
Discount factors@7.0%	1	0.93458	0.87344	0.81630	0.76290	0.71299	0.66634	0.62275	0.58201	0.54393	0.50835	0.47509	0.44401	0.41496	0.38782	
number of plans	2	13	24	32	34	36	34	30	26	27	27	27	27	27	27	
Undiscounted costs (\$1,000)	\$1,267	\$8,236	\$15,204	\$20,272	\$21,539	\$22,806	\$21,539	\$19,005	\$16,471	\$17,105	\$17,105	\$17,105	\$17,105	\$17,105	\$17,105	\$248,966
Discounted costs (\$1,000)	\$1,267	\$7,697	\$13,280	\$16,548	\$16,432	\$16,260	\$14,352	\$11,835	\$9,586	\$9,304	\$8,695	\$8,126	\$7,595	\$7,098	\$6,633	\$154,709

Appendix B-5. Costs for Assessing Decisions for Sustainability and Diversity Requirements under the 2000 rule, 2002 proposed rule, and final rule																
2000 rule	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	TOTAL
ANN COST (\$1,000)	\$522.5															
Discount factors@7.0%	1	0.93458	0.87344	0.81630	0.76290	0.71299	0.66634	0.62275	0.58201	0.54393	0.50835	0.47509	0.44401	0.41496	0.38782	
number of plans	2	13	24	34	47	60	66	64	62	61	57	53	54	54	54	
Undiscounted costs (\$1,000)	\$1,045	\$6,792	\$12,539	\$17,764	\$24,556	\$31,348	\$34,482	\$33,437	\$32,392	\$31,870	\$29,780	\$27,690	\$28,213	\$28,213	\$28,213	\$368,334
Discounted costs (\$1,000)	\$1,045	\$6,348	\$10,952	\$14,500	\$18,733	\$22,350	\$22,977	\$20,823	\$18,853	\$17,335	\$15,139	\$13,155	\$12,527	\$11,707	\$10,941	\$217,386
proposed rule -Opt 1	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	TOTAL
ANN COST (\$1,000)	450.8															
Discount factors@7.0%	1	0.93458	0.87344	0.81630	0.76290	0.71299	0.66634	0.62275	0.58201	0.54393	0.50835	0.47509	0.44401	0.41496	0.38782	
number of plans	2	13	24	34	47	58	55	53	52	48	44	45	45	45	45	
Undiscounted costs (\$1,000)	\$902	\$5,860	\$10,819	\$15,327	\$21,188	\$26,146	\$24,794	\$23,892	\$23,442	\$21,638	\$19,835	\$20,286	\$20,286	\$20,286	\$20,286	\$274,988
Discounted costs (\$1,000)	\$902	\$5,477	\$9,450	\$12,512	\$16,164	\$18,642	\$16,521	\$14,879	\$13,643	\$11,770	\$10,083	\$9,638	\$9,007	\$8,418	\$7,867	\$164,973
proposed rule -Opt 2	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	TOTAL
ANN COST (\$1,000)	\$578.6															
number of plans	2	13	24	34	47	58	55	53	52	48	44	45	45	45	45	
Undiscounted costs (\$1,000)	\$1,157	\$7,522	\$13,886	\$19,672	\$27,194	\$33,559	\$31,823	\$30,666	\$30,087	\$27,773	\$25,458	\$26,037	\$26,037	\$26,037	\$26,037	\$352,946
Discounted costs (\$1,000)	\$1,157	\$7,030	\$12,129	\$16,059	\$20,746	\$23,927	\$21,205	\$19,097	\$17,511	\$15,107	\$12,942	\$12,370	\$11,561	\$10,804	\$10,098	\$211,742
final rule	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	TOTAL
ANN COST (\$1,000)	\$491.8															
number of plans	2	13	24	32	34	36	34	30	26	27	27	27	27	27	27	
Undiscounted costs (\$1,000)	\$984	\$6,394	\$11,803	\$15,738	\$16,722	\$17,705	\$16,722	\$14,754	\$12,787	\$13,279	\$13,279	\$13,279	\$13,279	\$13,279	\$13,279	\$193,281
Discounted costs (\$1,000)	\$984	\$5,975	\$10,310	\$12,847	\$12,757	\$12,624	\$11,142	\$9,188	\$7,442	\$7,223	\$6,750	\$6,309	\$5,896	\$5,510	\$5,150	\$120,106

Appendix B-6. Costs of Forest Plan Revision under the 1982 Rule

1982 rule	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	TOTAL
ANN COST (\$1,000)	\$1718															
Discount factors@7.0%	1	0.93458	0.87344	0.81630	0.76290	0.71299	0.66634	0.62275	0.58201	0.54393	0.50835	0.47509	0.44401	0.41496	0.38782	
Guides in process	2	13	24	34	47	58	55	53	52	48	44	45	45	45	45	
Undiscounted costs	\$3,436	\$22,334	\$41,232	\$58,412	\$80,746	\$99,644	\$94,490	\$91,054	\$89,336	\$82,464	\$75,592	\$77,310	\$77,310	\$77,310	\$77,310	\$1,047,980
Discounted costs	\$3,436	\$20,873	\$36,014	\$47,682	\$61,601	\$71,045	\$62,963	\$56,704	\$51,994	\$44,855	\$38,427	\$36,729	\$34,327	\$32,081	\$29,982	\$628,712

Appendix B-7. Costs of Resolving Forest Plan Appeals under the 1982 Rule

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	TOTAL
ANN COST (\$1,000)	\$330															
Discount factors@7.0%	1	0.93458	0.87344	0.81630	0.76290	0.71299	0.66634	0.62275	0.58201	0.54393	0.50835	0.47509	0.44401	0.41496	0.38782	
Guides in process	0	0	0	0	0	2	13	13	8	9	9	9	9	9	9	
Undiscounted costs	\$0	\$0	\$0	\$0	\$0	\$660	\$4,290	\$4,290	\$2,640	\$2,970	\$2,970	\$2,970	\$2,970	\$2,970	\$2,970	\$20,460
Discounted costs	\$0	\$0	\$0	\$0	\$0	\$471	\$2,859	\$2,672	\$1,537	\$1,615	\$1,510	\$1,411	\$1,319	\$1,232	\$1,152	\$15,777

Appendix B-8. Costs of Resolving Objections under the 2000 rule, 2002 proposed rule and final rule

2000 rule	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	TOTAL
ANN COST (\$1,000)	\$143															
Discount factors@7.0%	1	0.93458	0.87344	0.81630	0.76290	0.71299	0.66634	0.62275	0.58201	0.54393	0.50835	0.47509	0.44401	0.41496	0.38782	
number of plans	0	0	0	0	0	0	2	13	13	8	9	9	9	9	9	
Undiscounted costs (\$1,000)	\$0	\$0	\$0	\$0	\$0	\$0	\$287	\$1,865	\$1,865	\$1,148	\$1,291	\$1,291	\$1,291	\$1,291	\$1,291	\$11,619
Discounted costs (\$1,000)	\$0	\$0	\$0	\$0	\$0	\$0	\$191	\$1,161	\$1,085	\$624	\$656	\$613	\$573	\$536	\$501	\$5,941
proposed rule (2002)	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	TOTAL
ANN COST (\$1,000)	\$138															
Discount factors@7.0%	1	0.93458	0.87344	0.81630	0.76290	0.71299	0.66634	0.62275	0.58201	0.54393	0.50835	0.47509	0.44401	0.41496	0.38782	
number of plans	0	0	0	0	0	2	13	13	8	9	9	9	9	9	9	
Undiscounted costs (\$1,000)	\$0	\$0	\$0	\$0	\$0	\$276	\$1,795	\$1,795	\$1,105	\$1,243	\$1,243	\$1,243	\$1,243	\$1,243	\$1,243	\$12,428
Discounted costs (\$1,000)	\$0	\$0	\$0	\$0	\$0	\$197	\$1,196	\$1,118	\$643	\$676	\$632	\$590	\$552	\$516	\$482	\$6,602
final rule	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	TOTAL
ANN COST (\$1,000)	\$138															
Discount factors@7.0%	1	0.93458	0.87344	0.81630	0.76290	0.71299	0.66634	0.62275	0.58201	0.54393	0.50835	0.47509	0.44401	0.41496	0.38782	
number of plans	0	0	0	2	13	13	8	9	9	9	9	9	9	9	9	
Undiscounted costs (\$1,000)	\$0	\$0	\$0	\$276	\$1,795	\$1,795	\$1,105	\$1,243	\$1,243	\$1,243	\$1,243	\$1,243	\$1,243	\$1,243	\$1,243	\$14,914
Discounted costs (\$1,000)	\$0	\$0	\$0	\$225	\$1,370	\$1,280	\$736	\$774	\$723	\$676	\$632	\$590	\$552	\$516	\$482	\$8,556

Appendix B-9. Costs of Monitoring and Evaluation of the Plan under the 1982 rule																
Final rule	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	TOTAL
Annual M&E ANN COST (\$1,000)	\$256															
Discount factors@7.0%	1	0.93458	0.87344	0.81630	0.76290	0.71299	0.66634	0.62275	0.58201	0.54393	0.50835	0.47509	0.44401	0.41496	0.38782	
number of plans	125	123	115	116	113	117	117	112	110	107	117	117	117	117	117	1740
Undiscounted costs (\$1,000)	\$32,000	\$31,488	\$29,440	\$29,696	\$28,928	\$29,952	\$29,952	\$28,672	\$28,160	\$27,392	\$29,952	\$29,952	\$29,952	\$29,952	\$29,952	\$445,440
Discounted costs (\$1,000)	\$32,000	\$29,428	\$25,714	\$24,241	\$22,069	\$21,355	\$19,958	\$17,855	\$16,389	\$14,899	\$15,226	\$14,230	\$13,299	\$12,429	\$11,616	\$290,710
Comprehensive M&E every 5 years	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	TOTAL
ANN COST (\$1,000)	\$306															
Discount factors@7.0%	1	0.93458	0.87344	0.81630	0.76290	0.71299	0.66634	0.62275	0.58201	0.54393	0.50835	0.47509	0.44401	0.41496	0.38782	
number of plans	0	2	10	9	12	8	8	13	15	18	8	8	8	8	8	
Undiscounted costs (\$1,000)	\$0	\$612	\$3,060	\$2,754	\$3,672	\$2,448	\$2,448	\$3,978	\$4,590	\$5,508	\$2,448	\$2,448	\$2,448	\$2,448	\$2,448	\$41,310
Discounted costs (\$1,000)	\$0	\$572	\$2,673	\$2,248	\$2,801	\$1,745	\$1,631	\$2,477	\$2,671	\$2,996	\$1,244	\$1,163	\$1,087	\$1,016	\$949	\$25,275
Total M&E	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	TOTAL
Discount factors@7.0%	1	0.93458	0.87344	0.81630	0.76290	0.71299	0.66634	0.62275	0.58201	0.54393	0.50835	0.47509	0.44401	0.41496	0.38782	
number of plans	125	125	125	125	125	125	125	125	125	125	125	125	125	125	125	
Undiscounted costs (\$1,000)	\$32,000	\$32,100	\$32,500	\$32,450	\$32,600	\$32,400	\$32,400	\$32,650	\$32,750	\$32,900	\$32,400	\$32,400	\$32,400	\$32,400	\$32,400	\$486,750
Discounted costs (\$1,000)	\$32,000	\$30,000	\$28,387	\$26,489	\$24,870	\$23,101	\$21,589	\$20,333	\$19,061	\$17,895	\$16,471	\$15,393	\$14,386	\$13,445	\$12,565	\$315,985

Appendix B-10. Costs of Monitoring and Evaluation of the Plan under the 2000 rule and 2002 proposed rule																
2000 rule	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	TOTAL
ANN COST (\$1,000)	\$256															
Discount factors@7.0%	1	0.93458	0.87344	0.81630	0.76290	0.71299	0.66634	0.62275	0.58201	0.54393	0.50835	0.47509	0.44401	0.41496	0.38782	
number of plans	125	125	125	125	125	125	125	125	125	125	125	125	125	125	125	
Undiscounted costs (\$1,000)	\$32,000	\$32,000	\$32,000	\$32,000	\$32,000	\$32,000	\$32,000	\$32,000	\$32,000	\$32,000	\$32,000	\$32,000	\$32,000	\$32,000	\$32,000	\$480,000
Discounted costs (\$1,000)	\$32,000	\$29,907	\$27,950	\$26,122	\$24,413	\$22,816	\$21,323	\$19,928	\$18,624	\$17,406	\$16,267	\$15,203	\$14,208	\$13,279	\$12,410	\$311,855
proposed rule (2002)	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	TOTAL
ANN COST (\$1,000)	\$360															
Discount factors@7.0%	1	0.93458	0.87344	0.81630	0.76290	0.71299	0.66634	0.62275	0.58201	0.54393	0.50835	0.47509	0.44401	0.41496	0.38782	
number of plans	125	125	125	125	125	125	125	125	125	125	125	125	125	125	125	
Undiscounted costs (\$1,000)	\$45,000	\$45,000	\$45,000	\$45,000	\$45,000	\$45,000	\$45,000	\$45,000	\$45,000	\$45,000	\$45,000	\$45,000	\$45,000	\$45,000	\$45,000	\$675,000
Discounted costs (\$1,000)	\$45,000	\$42,056	\$39,305	\$36,733	\$34,330	\$32,084	\$29,985	\$28,024	\$26,190	\$24,477	\$22,876	\$21,379	\$19,981	\$18,673	\$17,452	\$438,546

Appendix B-11. Costs of Monitoring and Evaluation of the Plan under the final rule

Final rule	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	TOTAL
Annual M&E ANN COST (\$1,000)	\$360															
Discount factors@7.0%	1	0.93458	0.87344	0.81630	0.76290	0.71299	0.66634	0.62275	0.58201	0.54393	0.50835	0.47509	0.44401	0.41496	0.38782	
number of plans	125	123	115	116	113	117	117	98	99	102	109	108	96	110	116	
Undiscounted costs (\$1,000)	\$45,000	\$44,280	\$41,400	\$41,760	\$40,680	\$42,120	\$42,120	\$35,280	\$35,640	\$36,720	\$39,240	\$38,880	\$34,560	\$39,600	\$41,760	\$599,040
Discounted costs (\$1,000)	\$45,000	\$41,383	\$36,160	\$34,089	\$31,035	\$30,031	\$28,066	\$21,971	\$20,743	\$19,973	\$19,948	\$18,472	\$15,345	\$16,433	\$16,195	\$394,843
Comprehensive M&E every 5 years	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	TOTAL
ANN COST (\$1,000)	\$660															
Discount factors@7.0%	1	0.93458	0.87344	0.81630	0.76290	0.71299	0.66634	0.62275	0.58201	0.54393	0.50835	0.47509	0.44401	0.41496	0.38782	
number of plans	0	2	10	9	12	8	8	27	26	23	16	17	29	15	9	
Undiscounted costs (\$1,000)	\$0	\$1,320	\$6,600	\$5,940	\$7,920	\$5,280	\$5,280	\$17,820	\$17,160	\$15,180	\$10,560	\$11,220	\$19,140	\$9,900	\$5,940	\$139,260
Discounted costs (\$1,000)	\$0	\$1,234	\$5,765	\$4,849	\$6,042	\$3,765	\$3,518	\$11,097	\$9,987	\$8,257	\$5,368	\$5,331	\$8,498	\$4,108	\$2,304	\$80,123
Total M&E	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	TOTAL
Discount factors@7.0%	1	0.93458	0.87344	0.81630	0.76290	0.71299	0.66634	0.62275	0.58201	0.54393	0.50835	0.47509	0.44401	0.41496	0.38782	
number of plans	125	125	125	125	125	125	125	125	125	125	125	125	125	125	125	
Undiscounted costs (\$1,000)	\$45,000	\$45,600	\$48,000	\$47,700	\$48,600	\$47,400	\$47,400	\$53,100	\$52,800	\$51,900	\$49,800	\$50,100	\$53,700	\$49,500	\$47,700	\$738,300
Discounted costs (\$1,000)	\$45,000	\$42,617	\$41,925	\$38,937	\$37,077	\$33,796	\$31,585	\$33,068	\$30,730	\$28,230	\$25,316	\$23,802	\$23,843	\$20,541	\$18,499	\$474,965

Appendix Table B-12. Cost of Transition for 2005-2008						
		1982 Rule	2000 Rule	2002 Proposed Rule		2004 Final Rule
\$1,000				Option 1	Option 2	
per plan revision cost		\$1,718	\$2,133	\$1,745	\$1,873	\$1,801
unit cost for appeal/objection		\$330	\$143	\$138	\$138	\$138
FY2005	# of plans					
transition to new rule	15	25,770	31,992	26,175	28,097	27,020
revision under 82 rule	15	25,770	25,770	25,770	25,770	25,770
Appeal under 82 rule	8	2,640	2,640	2,640	2,640	2,640
FY2005 Total		54,180	60,402	54,585	56,507	55,430
Discounted at 7%		54,180	60,402	54,815	56,732	55,430
FY2006						
transition to new rule	20	34,360	42,656	34,900	37,462	36,026
revision under 82 rule	21	36,078	36,078	36,078	36,078	36,078
Appeal under 82 rule	2	660	660	660	660	660
Objections	15	0	2,145	2,070	2,070	2,070
2006 Total		71,098	81,539	73,708	76,270	74,834
Discounted at 7%	0.93458	66,447	76,205	68,886	71,280	69,938
FY2007						
transition to new rule	20	8,590	42,656	34,900	37,462	36,026
revision under 82 rule	6	10,308	10,308	10,308	10,308	10,308
Appeal under 82 rule	15	9,900	4,950	4,950	4,950	4,950
Objections	5	0	715	690	690	690
2007 Total		28,798	58,629	50,848	53,410	51,974
Discounted at 7%	0.87344	25,153	51,209	44,413	46,650	45,396
FY2008						
transition to new rule	5	0	10,664	8,725	9,366	9,007
revision under 82 rule	0	0	0	0	0	0
Appeal under 82 rule	6	3,630	1,980	1,980	1,980	1,980
Objections	0	0	0	0	0	0
2008 Total		3,630	12,644	10,705	11,346	10,987
Discounted at 7%	0.8163	2,963	10,321	8,738	9,261	8,968
Undiscounted Total		157,706	213,214	189,846	197,532	193,224
Discounted Total		148,743	198,137	176,852	183,924	179,732

Appendix Table B-13 Calculations for FY2005 Planning Funding needs						
		1982 Rule	2000 Rule	2002 Proposed Rule		2004 Final Rule
\$1,000	No of Plans			Option 1	Option 2	
Regional guides		\$2,500				
new starts	2	\$3,436	\$4,266	\$3,521	\$3,776	\$3,603
transition to new rule	15	\$25,770	\$31,992	\$26,405	\$28,322	\$27,020
continue under 82 rule	15	\$25,770	\$25,770	\$25,770	\$25,770	\$25,770
Appeal under 82 rule	8	\$2,640	\$2,640	\$2,640	\$2,640	\$2,640
Total		\$60,116	\$64,668	\$58,335	\$60,508	\$59,032