

Monitoring and Evaluation Report

FY 2002

Rio Grande National Forest, Colorado



United States Forest Service
Rocky Mountain Region
Region Two

2003



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Cover photograph by John Rawinski – Monitoring the Award-Winning Conejos Fisheries Project.

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CERTIFICATION

The Rio Grande National Forest's Land and Resource Management Plan (Forest Plan) was approved on November 7, 1996. It has been amended four times to date. Timber harvest authorized by exception under the first amendment has been completed and consistent with the decision, the area will again be managed as backcountry. The fourth amendment for timber suitability has not been finalized, pending consultation with the US Fish and Wildlife Service.

Overall, the 2002 Monitoring and Evaluation results indicate that the management of the Forest is meeting goals, desired conditions, Standards and Guidelines, and prescriptive allocations (per 36 CFR 219.12 (k)). Previous recommendations for amendments are incorporated here by reference. Recommendations for future amendments are as follows:

- ❖ Unroaded area mapping errors need to be identified, analyzed for effects, and scoped with our publics to propose making corrections to Alternative G and Forest travel maps.
- ❖ As a result of PL 106-530, Great Sand Dunes National Park and Preserve Act, there is a need to correct our Alternative G and Forest travel maps to reflect the Park Preserve within the Sangre de Cristo Wilderness.
- ❖ On January 19, 2001, the Washington Office made a decision on Appeal #97-13-00-0057 (Colorado Environmental Coalition *et al.*) of Record of Decision for the Rio Grande National Forest Revised Land and Resource Management Plan. On March 29, 2001 the Secretary issued a Discretionary Review Decision on the Chief's Appeal Decision. The Forest Plan will have to be amended in accordance with these decisions. This process is underway. The *Management Indicator Species: A Forest Plan Amendment Environmental Assessment For Comment* has been published. This MIS Amendment addresses the Secretary's Discretionary Appeal Review Decision direction to add MIS to the Forest Plan. It proposes to identify nine MIS, along with updates to the standards and guidelines relating to MIS, and the addition of MIS to the Monitoring and Evaluation Strategy.
- ❖ The Forest Plan will be amended through the Regional Lynx amendment that is underway. This amendment will be completed this fiscal year and incorporate lynx conservation measures through standard and guidelines into the Forest Plan.

I have reviewed the annual Monitoring and Evaluation Report for the Rio Grande National Forest for fiscal year 2002. I believe that the monitoring and evaluation requirements of the Forest Plan have been met and that the decisions in the Forest Plan are still valid. I have noted and considered the recommendations for the Rio Grande National Forest and will implement those that I decide are appropriate, after further analysis and required public notification and involvement.

This Monitoring and Evaluation Report also documents the review required by the Chief in the appeal decision for the Haglund and Kirtley LLP appeal #97-13-00-0055.

Peter L. Clark
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Forest Supervisor

October 29, 2003
Date

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**Monitoring & Evaluation Report
Rio Grande National Forest
Fiscal Year 2002**

Introduction and Status

The organization of this report is as follows. First, there is a brief discussion of the status of the Forest Plan appeals, then a discussion covering the basis for monitoring on the Rio Grande National Forest. Next, is a discussion covering amendments followed by potential amendments to the Land and Resource Management Plan (Forest Plan). Next, is a resource-by-resource discussion of monitoring requirements. Finally, a "State of the Resource FY 2002" section describing the results of monitoring by each resource area. An appendix provides additional detail on this past year's monitoring results.

Appeals

Appeal #97-13-00-0057

Regional Forester Elizabeth Estill signed the ROD approving the Revised Plan on November 7, 1996. On January 19, 2001, the Washington Office made a decision on Appeal #97-13-00-0057 (Colorado Environmental Coalition *et al.*) of the Record of Decision for the Rio Grande National Forest Revised Land and Resource Management Plan. On March 27, 2001, the Secretary's Office issued a Discretionary Review Decision of the Chief's Appeal Decision. Specifically, the Secretary stated:

The Chief's appeal decision identifies eleven issues raised in the NOA. The appeal decision also contains an analysis of the appeal points for each issue, and the Chief's decision. All this information was analyzed and considered during my discretionary review of the appeal record. I have decided to affirm in part and reverse in part the Chief's January 19, 2001 appeal decision. My decision on each issue discussed in the Chief's appeal decision is as follows:

1. Viability and Diversity...Chief is affirmed, instructions are vacated, different instructions are provided.
2. Livestock Grazing Capability and Suitability Determination...Chief is affirmed.
3. Wilderness...Chief is affirmed.
4. Wilderness Fish Stocking...Chief is affirmed.
5. Travel management...Chief is affirmed.
6. Winter Recreation Impacts on Resources...Chief is affirmed.
7. Conditioning at Re-issuance and Issuance of FLPMA authorizations...Chief is affirmed with instructions.
8. Clean Water Act...Chief is affirmed.
9. Continuous Monitoring...Chief is affirmed, instructions are vacated.
10. Supplemental DEIS...Chief is affirmed.
11. Maximum size of Created Openings...Chief is affirmed.

Work on the above items with instructions is continuing and results will be posted on the Rio Grande National Forest Website as they become available.

Appeal #97-13-00-0055

The Regional Forester's Decision was also appealed by Haglund and Kirtley LLP in Appeal #97-13-00-0055. Gloria Manning, Reviewing Officer for the Chief, made her appeal decision on January 15, 2003. In her decision, she affirmed the Regional Forester's decision but she also stated:

Although the Revised [Forest] Plan and FEIS, taken together, provide an adequate number of multiple-use goals and measurable objectives to guide future actions and project planning, the links are unclear and difficult to follow. I am directing the Regional Forester to ensure that the goals and objectives of the Revised [Forest] Plan are reviewed during the five-year review, to validate that the goals are clearly defined and the objectives for achieving those goals are measurable and time-specific. Further discussion of this need may be found in the "Response to Concerns" portion of this appeal decision, NFMA Regulations Issue #3: "Measurable Objectives and Use of ASQ as an Objective."

To comply with this direction, the Interdisciplinary Team (IDT) reviewed the goals and objectives of the revised Forest Plan to determine if the goals are clearly defined and the objectives are measurable and time-specific. This included a review of the Forest Plan, the annual monitoring reports completed to date, and the *Forest Plan Implementation -- A Five Year Review 1997-2001*. The results of this review are presented below.

The Forest Plan: The IDT reviewed the Forest Plan to assess that the goals¹ are clearly defined and the objectives² are measurable and time-specific.

Objectives are generally action-oriented tasks to be accomplished within the timeframe of the life of the Forest Plan (10 to 15 years). The goals and objectives form the key framework of the Forest Plan and are integrated throughout the components of the Forest Plan. The different components of the Forest Plan are designed to be interactive.

The Forest Goals are referred to as "Forestwide Desired Conditions" and presented in Chapter 1 of the Forest Plan. The Goals describe the broad mosaic of land and resource desired conditions that the Forest is managing for once the Forest Plan objectives are accomplished. The Goals are defined generally over the long term and are not bound by specific timeframes. The IDT found these goals or Forestwide Desired Conditions to be clearly defined enough to successfully guide future actions and project planning.

The primary place to evaluate the Forest Plan goals and objectives is in the Monitoring and Evaluation Strategy found in Chapter V of the Forest Plan. This chapter discusses how the goals, objectives, and monitoring are linked together. The objectives are closely tied to the goals and the Monitoring and Evaluation Strategy ties directly to the objectives in Chapter 2. The Forest objectives are referred to as monitoring objectives (page V-3). These monitoring objectives are measurable and time specific.

A key component in the Monitoring and Evaluation Strategy is to monitoring the Forest Plan goals and objectives. The first and key monitoring question is to annually assess whether goals and objectives in the Forest Plan are still appropriate. Each resource area is also evaluated as to whether goals and objectives are being met and whether they are still relevant. Each item in the Monitoring and Evaluation Strategy is measurable in that it specifies the monitoring objective, what will be monitored, and how it will be monitored. Each component of the stated objective is measurable and attainable over the life of the Forest Plan or other specified timeframe.

The objectives in the Forest Plan are time specific (Chapter 2 and Chapter 5). They are generally for the planning time frame or life of the plan (10 to 15 years). However, there are some shorter term time lines for meeting certain objectives. These timeframes are indicated by the monitoring frequencies in

¹ Goals are termed "Forestwide Desired Conditions" and are found in Chapter I of the Forest Plan.

² Objectives are termed "Forestwide Objectives" and are found in Chapter II in the Forest Plan.

Monitoring Table V-1 of the Monitoring and Evaluation Strategy. The intent of these monitoring frequencies is to assess whether the Forest Plan objectives have been achieved in that time period.

Forest Plan goals and objectives should not be confused with commodity outputs. Managing the Forest for the Forest-wide goals and objectives should ultimately lead to desired outcomes. Most outcomes produce desirable non-market conditions and amenities, while some outcomes produce desired commodity outputs. Non-market outcomes, by resource area, and market-oriented resource outputs are displayed in the *Forest Plan Implementation -- A Five Year Review 1997-2001*.

Annual Monitoring Reports: The Forest Plan goals and objectives are also monitored every year as part of the monitoring and evaluation strategy and are documented in the annual monitoring and evaluation report. The IDT reviewed these reports. To date, the goals and objectives have been found satisfactory in guiding and monitoring the management and conditions on the Rio Grande National Forest in these annual monitoring reports.

Five-year Review: The five-year review of the Forest Plan was completed and documented in the report, *Forest Plan Implementation -- A Five Year Review 1997-2001*. It was published in 2002 prior to the Chief's appeal decision direction, however, the key focus of the five-year review was whether forest goals were being achieved and whether or not a change was needed. The review summarized the previous M&E reports accomplished by the Forest annually over this time period. Each of the Forest Plan goals was reviewed. The review resulted in a determination that the goals in the Forest Plan were adequate and that no changes were necessary.

Results of the Review: After reviewing the Forest Plan, the annual Monitoring and Evaluation Reports and the *Forest Plan Implementation -- A Five Year Review 1997-200*, the IDT found that the Forest Plan Goals are defined clearly enough and the Objectives for achieving those Goals are sufficiently clear, adequately measurable, and time-specific where appropriate for these Forest Plan Goals and Objectives to continue to be effective in guiding and monitoring the management and conditions on the Rio Grande National Forest. Therefore, no changes in the Forest Plan Goals or Objectives are recommended at this time.

Monitoring on the Rio Grande National Forest

On November 11, 1996, the Revised Land and Resource Management Plan (Forest Plan) for the Rio Grande National Forest (RGNF or Forest) was approved by Regional Forester Elizabeth Estille. The Forest Plan establishes the management direction for all future activities, to ensure that an interdisciplinary approach is used to achieve the Desired Conditions described for all areas of the Forest. This Monitoring and Evaluation Report is based on the RGNF Monitoring Plan, as described in Chapter 5 of the Forest Plan for the Rio Grande National Forest. This report is not a list of outputs; rather, it describes conditions of the various resources on the Rio Grande National Forest. The report is key to the concept of adaptive management (the ability to change as new information or technology is developed) and is the feedback mechanism for improved resource management. The information presented in this report will be used to determine if an amendment or revision of the Forest Plan is needed.

Monitoring and Evaluation criteria are based on national policies, Regional monitoring emphasis items, interdisciplinary-team concepts, and legal and other policy requirements. The Monitoring and Evaluation program asks the fundamental questions, "How are things working?" and "What needs to be changed?" The purpose of the monitoring program is to establish a basis for periodic determination and evaluation of the effects of management practices (36 CFR 219.11(d)). The criteria include the following:

- Goals, Objectives, and Desired Conditions identified in the Forest Plan.
- Forest Management Direction.
- Land suitability.
- Management-area Prescriptions, as well as the Forestwide and Management-area-specific Standards and Guidelines.
- The Monitoring Plan.
- Congressional recommendations.

Annual monitoring goals are described in the Annual Monitoring Operation Plan (AMOP) detailing monitoring expected to be completed in the upcoming year. The AMOP is developed by RGNF resource specialists, who are responsible for monitoring, and is reviewed and approved by the Forest Supervisor. The AMOP describes in detail reasons, methods, locations, responsible persons, and estimated costs.

Three types of monitoring are described for Forest management:

- **Implementation Monitoring.** This includes periodic monitoring of project activities to determine if they have been designed and carried out in compliance with Forest Plan direction and management requirements.
- **Effectiveness Monitoring.** This level of monitoring is used to determine if management activities are effective in achieving the Desired Future Condition described for each of the various management areas.
- **Validation Monitoring.** This level of monitoring is used to determine whether the initial data, assumptions, and coefficients used in the development of the Forest Plan are correct, or if there is a better way to meet Goals and Objectives and Desired Future Conditions.

Because the Forest Plan has been implemented for a relatively short time, this FY 2002 report focuses primarily on implementation and effectiveness monitoring. As trends develop and conclusions are validated, the third level of monitoring will be addressed.

Forest Plan Amendments

There have been four amendments to the Forest Plan to date.

Amendment # 1

Twister Blowdown Management-area Prescription 3.3 is a temporary exception applied to Management-area Prescription 3.3. On 3/2/98 a Decision Notice was signed that amended the Forest Plan to allow for timber salvage harvesting on approximately 60 acres within Management-area Prescription 3.3 (Backcountry) in the Twister Blowdown area. The amendment lifted the no harvest Forest Plan Standard by exception, so that salvage of blowdown could occur on this site. The timber harvest has been completed and consistent with the decision, the area will again be managed as backcountry. Spruce beetle monitoring and control activities are continuing in the backcountry area.

Amendment # 2

Wilderness Management Direction. The scope of Forest Plan direction for Wilderness was limited in the revised Forest Plan of 1996 due to ongoing wilderness planning efforts. It was recognized that growth in the population of Colorado has affected the amount and type of recreation use within the South San Juan and the Weminuche Wilderness Areas -- the most visited Wilderness area in the state. A review of Forest Plan direction pertaining to the management of recreation use, changes in recreational use patterns, and preservation of the wilderness character of these areas, was done in order to address these affects. Limits of Acceptable Change (LAC), a planning tool that enables wilderness managers to define acceptable wilderness conditions and then develop standards, guidelines, indicators, and management actions to meet acceptable conditions became available and was used to help formulate a Forest Plan amendment pertaining to Wilderness Management direction.

On 8/3/98 a Decision Notice was signed to implement wilderness management goals for the Forest Plan, to change Management-area Prescription definitions and locations, to add Wilderness Management-area Prescription and Forest-wide standards and guidelines, to define thresholds and possible management actions within Wilderness when thresholds are exceeded, to add wilderness monitoring requirements, and to add wilderness management to the Forest Plan. The Forest Plan amendment and implementation of the Wilderness management direction and action items began on October 1, 1998.

Amendment # 3

Adjustment of a Botanical Special Interest Area Boundary. On June 18, 1999, a Decision Notice was signed approving the adjustment of a Special Interest Area boundary. The Special Interest Area was originally designed to protect a Sensitive plant (Ripley milkvetch), but the adjustment was made to better reflect the actual habitat of the plant. Ripley milkvetch generally grows in relatively open ponderosa pine /Arizona fescue communities (Douglas-fir may also be present and is somewhat co-dominant with ponderosa pine) where canopy coverage by all trees is less than 25% and where the elevation is about 9,200 feet or lower. Due to the electronic format used when revising the Forest Plan, abundant higher elevation habitat, not specifically conducive to Ripley milkvetch, was included within the Special Interest Area boundary. The analysis to support the amendment, done as a part of the November Analysis Area Environmental Assessment, resulted in reducing the acreage of the botanical Special Interest Area from 2,076 acres to 910 acres. The reduced acreage (1,166 acres) was included in a Bighorn Sheep Management-area Prescription (5.42). The location of the botanical Special Interest Area is to the west of Fox Creek, in the Hicks Canyon area, on the Conejos Peak Ranger District.

Amendment # 4

Timber Suitability Amendment. On March 2, 2000, a Decision Notice was signed to amend the Forest Plan in regard to the suitable timber lands on the Rio Grande National Forest. The Amendment corrects omissions made between the publication of the Draft and Final Environmental Impact Statements for the Revised Forest Plan. Net adjustments of acres to the suitable timber land base result in an 8.3 percent increase in suitable lands, which was determined to not be a significant change. The amendment becomes effective upon completion of the consultation process with US Fish and Wildlife Service regarding the adequacy of the Forest Plan biological assessment and evaluation.

Status of Previous Recommendations

There have been several recommendations for changing the wording of some of the silvicultural guidelines in the Forest Plan. There has been a recommendation for changing monitoring requirements for fish and birds. These are being addressed in the proposed MIS Amendment discussed below. There have been recommendations for correcting mapping errors in the boundary of the Fox Mountain Unroaded Area and for updating the Desired Conditions statement for the ski area.

A recommendation has been made to incorporate the terminology and definitions in the 1996 Federal Wildland Fire Management Policy Action Plan and the 1998 Wildland and Prescribed Fire Implementation Procedures Guide into the Forest Plan.

Potential Forest Plan Amendments

Management Indicator Species: A Forest Plan Amendment Environmental Assessment For Comment has been published. This MIS Amendment addresses the Secretary's Discretionary Appeal Review Decision direction to add MIS to the Forest Plan. It proposes to identify nine MIS, along with updates to the standards and guidelines relating to MIS, and the addition of MIS to the Monitoring and Evaluation Strategy. A Decision is expected in 2003.

Unroaded area mapping errors need to be identified, analyzed for cumulative effects and scoped with our publics to propose making corrections to Alternative G and Forest travel maps. The Fox Mountain unroaded mapping error was addressed in the Handkerchief-Mesa environmental assessment, but decisions related to the environmental assessment have been withdrawn pending completion of the forest plan amendment to correct the forest plan deficiencies identified by the Secretary of Agriculture.

As a result of PL 106-530, Great Sand Dunes National Park and Preserve Act, there is a need to amend parts of the Forest Plan Wild and Scenic River and Wilderness section write-ups in the FEIS to address the change in ownership and administration and correct our Alternative G and Forest travel maps to reflect the Park Preserve within the Sangre de Cristo Wilderness.

Monitoring Requirements

This section briefly synthesizes the minimum level of monitoring identified for each resource component of the Monitoring Plan. A more detailed description is included in the Forest Plan (Chapter V, pp. V-4 through V-16). Forest Monitoring efforts are focused on meeting these requirements, however, the amount of monitoring actually done for each element is a function of available funding.

Air Quality

Maintaining air quality at a level that is adequate for protection and use of National Forest System resources is required by 36 CFR 219.27 (a)(12). To accomplish air-quality monitoring, a number of techniques will be employed. For instance, visibility data are available from the National Park Service, which monitors visibility at the Great Sand Dunes National Monument. Synoptic surveys in all four Wilderness Areas on the RGNF have identified the lakes most sensitive to changes in acidity, and they have been selected for long-term trend monitoring. Regional protocols, and the Forest Air-Quality-Monitoring Plan, stipulate that these lakes will be monitored three times per summer.

Aquatic Resources

Watershed health is a primary focus of the Forest Service. Accordingly, particular emphasis will be placed on this monitoring element. Water-resource monitoring will include evaluation of how well streams have been protected (including stream banks, shorelines, and wetlands), and how well erosion and flood hazards have been minimized. Watershed-disturbance monitoring is expected to identify disturbances from past, present, and proposed activities; relate severity of disturbances to an equivalent roaded area; compare total disturbance to a concern level, to measure relative risk; and vary the Concern Level, based on existing information and experienced field people

Monitoring and evaluation of stream health, water quality, and riparian conditions will be included in watershed assessments. Watershed assessments are completed on at least one stream and riparian area per Analysis Area for each land-disturbing Environmental Analysis (EA). Monitoring of streams within watersheds that have been identified as "at risk" will occur, and be reported in, watershed assessment sections of appropriate EAs. Monitoring of six streams identified as damaged in the

Monitoring Plan, to evaluate improvement over time, will be reported based on long-term assessments (two streams will be evaluated each year).

Biodiversity

Maintaining the habitat necessary to support viable populations is required by 36 CFR 219.27 and 36 CFR 219.19(6). To determine if the Forest Plan is meeting this objective, Forest specialists will monitor those species and/or habitats about which there are some questions as to their potential viability. Species monitored are found on the Threatened and Endangered list, the Regional Sensitive Species list, and for plants, the Colorado Natural Heritage Program's list of Species of Special Concern and Significant Plant Communities.

Monitoring will occur at two different scales. The "fine-filter" scale will focus on particular plant and wildlife species that generally occupy distinct habitats which cannot be accurately monitored at the landscape level. The rest of the fine-filter work is specific to the known location(s) of the particular plant or animal. The intent of the fine-filter work is to track the species' population trends over time. The "coarse-filter" work focuses on tracking the changes in gross habitat conditions (e.g., cover type, structural changes).

Providing for and maintaining diversity of plant and animal communities is required by 36 CFR 219.27. To ensure that the Forest is meeting this objective four attributes have been selected for monitoring because they capture the key components of vegetative diversity. Two of them involve tracking changes in the amount, quantity, and pattern of the vegetation that may appear over the life of the Plan. The third is a validation of the reference-work and landscape-scale tools. The final attribute is a progress report on the gathering of data for the Forest's old-growth inventory/reconnaissance.

Fire and Fuel Management

"Serious or long-lasting hazard" potential will be reported based on a determination of "relative resource values." Hazard potential from wildfire will be determined through ocular estimates, fuel transects, on-site inspections, and/or surveys. In addition, the Fire program is routinely monitored through the National Fire Management Analysis System. This economic-analysis program addresses the "relative resource value" determination through a relatively complex cost/benefit evaluation of the Forest's fire suppression program.

General Infrastructure

Monitoring will be reported based on the results of routine inspections of all facilities, including dams, facilities, drinking water, road bridges, trail bridges, and Forest Development Roads.

Health and Safety

This monitoring objective is focused on meeting the intent of the National Health and Safety Codes and Occupational Safety and Health Administration guidelines.

Heritage (Cultural) Resources

Monitoring will be reported based on the evaluation of protection measures for resources discovered during project proposal evaluations. Monitoring of selected highly significant heritage resources not associated with specific project proposals will also be reported. Consultation efforts, with those recognized American Indian tribes and nations having a demonstrated concern for the area of the RGNF, concerning areas of cultural importance will be monitored and reported.

Minerals

Monitoring will be reported based on a verification process to determine if the conditions in the Forest Plan are still valid, and whether oil and gas operations could be allowed somewhere on a proposed lease tract. Monitoring of oil and gas will occur if such activities are developed. To date, no oil and gas development has occurred on the Forest. This is well below the potential level analyzed in the Forest Plan. There are lease applications on the Forest that are on hold until the Lynx conservation strategy is completed. Monitoring of locatable minerals will be reported based on the inspection and enforcement of operation plans to assure compliance with the Forest Plan.

To date, no Forest Plan amendments are needed for minerals.

Noxious Weeds

Monitoring of noxious weeds (where and to what extent they are present) will be reported based on the evaluation of control methods on infested areas on the forest

Range

Monitoring of Suitable rangelands for condition and trend will be reported based on the information obtained from the Rocky Mountain Region's *Rangeland Analysis and Management Training Guide* (RAMTG) inventory process. The information is expected to yield baseline data to determine Desired Conditions of rangelands.

Monitoring of range suitability will be reported based on determinations made during the development of Environmental Assessments (EAs) and Allotment Management Plans (AMPs) for each allotment.

Range utilization will be reported based on the results of routine field analysis.

Recreation

Developed Recreation

Developed recreation site monitoring will be based on facility condition surveys. Visitor use and expectations will be monitored and reported based on customer surveys. Ski area monitoring will be done through approved summer and winter operating plans. Special uses will be monitored through permit compliance and evaluations.

Dispersed Recreation

The Forest will monitor effects of its travel management plan during routine summer inspections and fall big game hunter patrols. The Forest will monitor trail conditions and trail needs based on trail inventories and logs.

Unroaded Areas

Monitoring will be reported based on a representative assessment of backcountry areas. This will include the assessment of motorized and nonmotorized recreation trail use, levels and type of use, areas of conflicts, identification of areas of concentrated use, and other resource impacts (biological and physical).

Wild and Scenic Rivers

Monitoring will be reported based on the assessment of resource-management activities that occur within the river corridor.

Wilderness

Monitoring will be reported based on the evaluation of wilderness management thresholds (specific indicators) and appropriate management actions to determine if wilderness standards and guidelines are being met.

Research and Information Needs

Monitoring will be reported based on the results of all resource-monitoring activities.

Research Natural Areas (RNAs)

Monitoring will be reported based on on-site inspections of established Research Natural Areas every five years.

Road Construction, Closures, and Decommissioning

Monitoring of road construction, closures, and decommissioning will be reported based on routine field reports.

Scenic Resources

Monitoring will be reported based on a determination of disturbance, using photographs, on-site inspections, and aerial photographs.

Soil Productivity

The protection of soil productivity will be monitored based on the requirements of 36 CFR 219.12(k)(2). The Forest will use several tools for soil monitoring, including the collection and analysis of core soil samples, erosion modeling, ocular estimates, transects, investigations, and professional judgment. Soil health assessments will be made to determine whether long-term soil productivity is maintained or improved. Management actions and effects will be measured using existing Forest Plan Standards and Guidelines. These techniques will be employed on ground-disturbing projects where high soil-erosion, mass-movement hazards or other soils concerns exist.

Special Interest Areas

Monitoring will be reported based on on-site inspections of designated Special Interest Areas every five years.

Timber

Restocking of final-harvest areas is required by 36 CFR 219.12(k). Monitoring will consist of surveys conducted in the first, third, and fifth year after final harvest. First-year surveys are on-site inspections, while third- and fifth-year surveys are statistically valid plot-inventory exams.

36 CFR 219.12(k) requires that all Forest lands be examined at least once every ten years, to determine if Unsuitable lands have become Suitable, or vice versa. Monitoring will also confirm that lands identified as Suitable do, in fact, meet suitability criteria.

36 CFR 219.12(k)(5)(iv) requires the Forest to monitor levels of destructive insects and disease organisms following management activities. The monitoring of created openings is tied to various legal requirements, including 36 CFR 219.12(k)(5)(iii), and 36 CFR 219.27(d)(2).

State of the Resource FY 2002

Summary statements, pertaining to the results of monitoring efforts done in Fiscal Year 2001, for each specific resource are presented below. The statements are based on the information presented in Appendix A, "Monitoring & Evaluation Table, Rio Grande National Forest, Fiscal Year 2001."

State of the Resource: Air Quality

Air quality for the Forest is excellent. It remains an outstanding feature that people come to enjoy. Long visual distances enhance beautiful scenery. Some impacts occur from burning, but are quickly dissipated by stable atmospheric conditions. Regional haze diminishes visibility; however, visual distances remain among the best in the country.

The most sensitive high-elevation lakes have been monitored in the past, but funding and emphasis for lake monitoring in 2002 was preempted by priorities given to fire fighting and reclamation of the Million Burn. Lake, visibility and particulate data are useful in modeling to predict impacts from proposed facilities that could impact air quality. This data is also used to prescribe pollution control technology for new major polluting facilities. No additional information is available from lichen monitoring.

State of the Resource: Aquatic Resources

Emphasis and priority for monitoring was reduced in 2002, because of the severe fire season. Many projects that would normally have required monitoring were set aside in order to provide people and resources needed to deal with fire fighting and reclamation of the Million burn and to provide severity patrols and initial attack units during the extreme drought of 2002.

From past monitoring, we know that watershed disturbances can increase in timber harvest areas. High levels of watershed disturbance seem to affect stream health in some areas on the Forest, but not in others. This seems to be mostly related to amount of precipitation. Areas of low precipitation, like the Saguache Ranger District, can tolerate more watershed disturbance before stream health begins to be impacted. The location of disturbances and how they are mitigated are more important criteria in these areas.

“Adequate” to “Robust” stream health is the norm, although the health of some streams has been diminished due to drought conditions. Smaller streams and spring sources dried up during the drought. As water sources diminished, animals were forced to concentrate into smaller areas. Impacts to stream banks are inevitable at such times. Range specialists continue to make adjustments in grazing systems to deal with drought impacts and avoid excessive concentration of animals in sensitive riparian areas.

The Wolf Creek Ski Area continues to exceed Forest Plan sediment control requirements. They have successfully stabilized steep slopes, installed water collection systems that divert flow into sediment collection basins. They are paving parking lots to prevent sediment delivery as part of snow removal.

Construction work on Highway 160 has caused impacts to Pass Creek in some cases. One parking area below the Wolf Creek snowshed has historically delivered sediment into Pass Creek. This year, however, the Ski Area cooperated with the State Highway Department to correct the problem by paving the parking area and directing all runoff into an enclosed pipe that safely delivers water into an energy dissipater and sediment collection system.

Streams within the Million Burn were evaluated during development of an Emergency Rehabilitation Plan. Peak flows were modeled for pre-burn conditions and again for post-burn conditions and for a 1-hour, 25-year storm event. Based on these calculations, people were warned of possible impacts to their properties below National Forest System lands. Monitoring with photos after storm events showed severe sediment loading in some places and severe downcutting of channels in other places within the burn.

Several fuel reduction projects occurred in 2002. Stability and general condition of streams within these project areas were evaluated prior to the projects. Where necessary, channels were identified for buffering from the burns. Additional monitoring will occur subsequent to the burns to evaluate effects.

The Forest has been working on three different abandoned mine land reclamation projects that involve improving water quality and health of streams, riparian areas and watersheds. These were described in the 2000 M&E report. We continue to work on the Willow Creek project. Surface water site

characterization was nearly completed in 2001 and progress was made on groundwater characterization. Actual mine site characterization should begin in 2003.

State of the Resource: Biodiversity

Ecology Program

The Ecology Program was responsible for the plant-related items in the Biodiversity section of the Monitoring Plan. The plant items were as follows: 1) Fine-filter Assessment of plant species (*Astragalus ripleyi*; and other special status plants), and 2) Coarse-filter Assessment of habitat (Landtype Association status; special status plant communities; and old growth). Finally, the Ecology program was responsible for making a determination of whether the biodiversity-related goals, desired conditions, Standards and Guidelines, and prescription allocations (per 36 CFR 219.12 (k)) were being met or were still appropriate.

A brief assessment of each of these topics follows. More detail is provided in Appendix A. Overall, the Forest appears to be generally meeting the goals, desired conditions, and Standards and Guidelines for the Ecology resource as intended in the revised Forest Plan. Based on monitoring this past year, there is nothing to indicate that a change in Management-area Prescription allocation is needed relative to the Ecology resource.

The field research work is complete for *Astragalus ripleyi*. Results indicate that the population demographics for this species are primarily influenced by moisture availability. Furthermore, research shows that livestock grazing does not reduce *Astragalus ripleyi* population viability, at least in the short term. The recommendation is to avoid season-long grazing and to incorporate rotation-grazing schemes so that this species is not grazed at the same time of year every year.

Several monitoring elements could not be scheduled due to the higher priority of addressing human safety and resource issues tied to the Million Fire. Forest activities (timber harvest, livestock grazing, recreation, etc.) were severely limited on the Forest due to the extreme drought conditions in 2002. We plan to continue monitoring all elements in 2003.

Site visits to special-status plants could not be scheduled due to the higher priority of the Million Fire. One significant accomplishment was the construction of a livestock enclosure around the one known population of *Salix arizonica* on the Forest. This rare southwestern willow species is the only known occurrence in Colorado.

The IRI Center in Dolores has completed the contract mapping and attributing of Common Vegetation Unit (CVU) polygons on the Forest. The updated vegetation data will be used in future analysis work.

Site visits to CNHP plant communities of special interest could not be scheduled due to the higher priority of addressing human safety and resource issues tied to the Million Fire.

Old-growth inventories were completed for the following projects: Fox Mountain blowdown, Dry Lake aspen, and Wolf Mountain. To date, old growth (Mehl 1992) remains uncommon. On the Divide and Conejos Peak Ranger Districts, old growth appears to be limited due to a lack of patchiness, lack of structural diversity, and/or net productivity being too high. Because the Mehl criteria are biased toward more productive sites, the Saguache RD appears to generally lack the productive capability to meet the Mehl old-growth descriptions.

The Ecologist visited more than 20% of the Forest's on-going projects (site visits made due to writing project-level plant BEs). Most large-scale projects (e.g., timber sales and range AMPs) have been on hold due to the Forest Plan Reversal. Monitoring did not reveal that biodiversity items in 36 CFR 219.12 (k) were in need of change.

Wildlife Program

Wildlife habitat on the Forest is a mixture of ecological types offering habitat for a wide diversity of wildlife species. Overall, key components identified for monitoring, such as vegetation amount, quantity and pattern are adequate, and appear to provide for and maintain the diversity of animal communities required by the Forest Plan. The 2002 summer season did affect habitat conditions to an extent on the Forest, due to the extreme drought and the Million Fire. The burned area, as well as riparian and range areas, will require close monitoring in the 2003 field season. Rehabilitation and conservative management of these areas will be required to recover desirable habitat conditions in the affected areas.

Population monitoring for TES species is primarily related to project inventories. Compilation of data into comprehensive spreadsheets in anticipation of implementing the FS new database, FAUNA, was accomplished and will continue to be updated.

The Forest is a part of a Statewide effort to monitor population trends for various bird species found within the State. The established transects will continue to be monitored annually to help determine status and trends for avian species. The survey is conducted by the Rocky Mountain Bird Observatory (RMBO) and includes survey information on TES avian species as directed by the Forest monitoring plan.

The Forest continues to receive monitoring reports from the Colorado Division of Wildlife on peregrine falcons, boreal toads, and bats. Results of monitoring Southwestern Willow Flycatcher habitat continues to be submitted to the US Fish and Wildlife Service and population surveys were initiated this year, although no birds were found on the Forest.

The Forest continues to conduct monitoring efforts in accordance with the monitoring plan until a revised monitoring plan can be developed in response to the Secretary's discretionary review decision. At that time, MIS monitoring will become part of the Forest's monitoring plan for biodiversity.

Fisheries Program

The Desired Condition for Biodiversity is to maintain viable populations of native and desired nonnative species. Following is a summary of the state of the fisheries resource on the RGNF.

The fisheries resources on the Forest struggled through a tough year in 2002 due to severe drought and a wildfire that impacted an important reservoir fishery. Many streams on the Forest reported record low flows with several drying up, or sections of the stream drying up. One popular recreational fishery was completely lost due to a flood event following a wildfire that introduced ash and sediment into the reservoir.

Due to the drought, upland forage and water sources were limited on several grazing allotments last summer which led to increased animal concentration, primarily cattle and elk, in riparian areas. This resulted in over utilization of some riparian and stream corridors. Therefore, some allotments had to be shortened due to meeting or exceeding standards and guidelines early in the grazing season. Dead and dying trout were noted in one stream that was outside of compliance with riparian standards and guidelines. The trout were impacted by poor water quality resulting from low flows, loss of riparian cover, and increased sedimentation from bank alteration.

Population monitoring and evaluation were completed on four Rio Grande cutthroat trout (RGCT) populations in 2002. Density, biomass, and population size estimates were conducted on three streams and relative abundance determination was made for one lake. Extensive ocular population monitoring was conducted on all RGCT streams to help identify populations impacted by low flows and poor water quality. RGCT were relocated from one stream to a reservoir due to poor water quality and low flow.

Native Rio Grande cutthroat trout are found in 51 streams and 58 lakes and reservoirs on the Forest, totaling approximately 321 stream miles and 1008 surface acres, respectively. RGCT populations are divided into three categories based upon genetic purity: core populations (>99% pure), conservation populations (>90% pure), and recreation populations (RGCT coexisting with nonnative trout species).

On the Forest, there are 28 core populations totaling approximately 130 stream miles and 23 surface acres, 8 conservation populations totaling approximately 64 stream miles, and 73 recreation populations totaling approximately 127 stream miles and 985 surface acres. Of the core populations, eight are considered secure and stable, three are secure and expanding, five are at risk and stable, six are at risk and declining, and status is unknown for seven populations. For conservation populations, one is considered secure and stable, one at risk and stable, four at risk and declining, and the status is unknown for two streams.

Recreational fishing is a major activity on the RGNF. The Forest offers a variety of fishing opportunities ranging from high mountain lakes and streams to downstream rivers and reservoirs. CDOW maintains an active hatchery program supporting recreational fishing on the forest and stocks a variety of native and desirable nonnative fish species.

Activities conducted in 2002 to improve and protect fish populations includes constructing a boulder barrier to prevent nonnative fish encroachment on a RGCT population, repairing a fish migration barrier, planting willows to help stabilize streambanks and increase overhead canopy, and completion of the Conejos River Project. The Conejos River Project utilizes in-stream structures to improve overwintering fish habitat to help sustain a high use recreational fishery with limited hatchery stockings. Additional activities include conducting a stream habitat assessment to determine suitability for RGCT reintroduction and collecting tissue samples for genetic analysis from a newly discovered population of cutthroat trout.

Recreational fishing is a major activity on the RGNF. The Forest offers a variety of fishing opportunities ranging from high mountain lakes and streams to downstream rivers and reservoirs. CDOW maintains an active hatchery program supporting recreational fishing on the forest and stocks a variety of native and desirable nonnative fish species.

The information available suggests that when properly and consistently applied, the Revised Forest Plan Direction, Desired Conditions, Standards, and Guidelines are effective in protecting biodiversity, in terms of the fisheries resource. However, this should continue to be evaluated. Continued monitoring and assessment is needed to determine if there is any need for change, but at this time, no changes to Forest Plan Direction, Desired Conditions or Standards and Guidelines are warranted.

State of the Resource: Fire and Fuels Management

To address the "state" of the fuels resource, it must be represented as a manifestation of Forest health. In FY 2002, several areas within Fire Regimes 1 (High Frequency/Low Severity) and Fire Regime 3 (Medium Frequency/Mixed Severity) and in Condition Class 2 or 3 were identified, evaluated, and treatment planned. However, due to the very high to extreme fire conditions the Forest experienced from May through September 2002, only a small amount of prescribed fire treatment was accomplished. Where treatments were implemented (in October of 2001, FY 02), results were favorable. Additionally, implementation of the National Fire Plan, in particular Keypoint #3's Hazardous Fuels Reduction for "communities at risk" direction, has sharpened our focus on fuel treatment planning in wildland/urban interface and intermix areas. The planning in these areas (to reduce the risk of crown fire initiation and spread) may need to address the potential conflict between what is the best silvicultural treatment and what will truly reduce the risk of crown fire initiation and spread.

On-going fuels/forest health surveys and evaluations provide land managers with valuable insight into the state of the resource as relates to the potential for wildland fires to create unacceptable resource

impacts. Though some areas have been identified as such, the Forest Plan provides adequate direction and needs no significant changes in fire and fuels management. An amendment to the Forest Plan may be needed to reflect some revised terminology and definitions contained in the 1996 *Federal Wildland Fire Management Policy Action Plan*, the 1998 *Wildland and Prescribed Fire Implementation Procedures Guide*, and the *Review and Update of the 1995 Federal Wildland Fire Management Policy* (January 2001).

State of the Resource: General Infrastructure

Monitoring, based on the results of routine inspections of all facilities, including dams, facilities, drinking water, road bridges, trail bridges, and Forest System Roads indicates the general infrastructure is meeting the needs of Forest users for access and multiple-use management.

State of the Resource: Health and Safety

Meeting the intent of the National Health and Safety Codes and Occupational Safety and Health Administration guidelines was met based on monitoring.

State of the Resource: Heritage Resources

The Forest made good progress in conducting the Heritage Resource monitoring called for in the FY 2002 Annual Monitoring Operation Plan (AMOP). The monitoring of several completed projects of different types where heritage resource sites were identified for protection indicates that protective measures are adequate to ensure the protection of sites. The monitoring of Heritage Resource sites, not associated with a specific project, that have the potential to be vandalized should be continued to further comply with established Standards and Guidelines. The review of Heritage Resource Inventory Reports for FY 2002 indicates that projects with the potential to impact Heritage Resources are being inventoried and protective measures are adequate.

The Tribal Consultation Bulletin (TCB) should continue to be used for initial consultation with American Indian people concerning project proposals that may impact cultural sites important to them. Expansion of the numbers and the types of projects included in the TCB is recommended, to further comply with Standards and Guidelines. Contact with Bulletin recipients by telephone should be initiated 3 weeks after the mailing of the Bulletin.

State of the Resource: Minerals

The minerals monitoring program requires us to validate leasing activities as well as standards and guidelines. No lease applications were processed for leasing by the BLM in 2002. Nine lease applications are being withheld pending appropriate analysis for the Lynx. There were no major proposals in the locatable minerals program. Homestake Mining continued reclamation work on their Bulldog Mine, Mineral County. In the common variety mineral program, the Forest Service administers a number of in-service, free-use and commercial common variety mineral operations. All are done in compliance with Forest Plan Standards and Guidelines.

State of the Resource: Noxious Weeds

Noxious weeds are a persistent problem on the Forest. Inventories and control were conducted in FY2002. Cooperative work between the Forest and the San Luis Valley Weed Districts resulted in the mapping of all Level 1 and Level 2 roads on the Forest. Those species, which appear to have increased or have been inventoried more thoroughly are: toadflax, oxeye daisy, short whitetop, Canada thistle, black henbane, and Russian knapweed. Yellow starthistle has not been found on the Forest but it is located within adjacent counties to the west of the Continental Divide.

State of the Resource: Range

Rangelands are being managed for a variety of seral stages with most being managed for upper mid-seral to high-seral condition. Inventory of rangelands conducted in FY2002 indicated that while there are a variety of seral stages found throughout the Forest, there is an imbalance of seral stage classes.

There is not enough representation in the upper seral condition classes. Environmental analyses have been initiated to identify areas needing improved management and to correct management deficiencies. The 2002 grazing season was the driest on record and resulted in approximately 40% of the livestock not being placed on the Forest. Approximately 60% of the livestock within the San Louis Valley have been sold or moved to pastures outside of the state of Colorado. Monitoring of rangeland resource conditions and compliance checks were the principle emphasis for the 2002 season.

State of the Resource: Recreation

Developed Recreation

Developed Sites:

Forest campground visitations and revenues in FY02 were down about 23.5% from FY01 due to the extreme fire and drought conditions (Forest implementation of restrictive fire orders).

Forest programmatic assessments were done in FY02 for minor recreation special uses (recreation events), annual Forest developed site maintenance and deferred maintenance projects (FY02-FY05). Findings of the assessment included: no effect on threatened, endangered, proposed or FS sensitive plant species; heritage resource clearances and for terrestrial species no effect or may affect, not likely to adversely affect (nlaa) with concurrence from US Fish and Wildlife Service.

The following deferred maintenance projects were completed in FY02: Forest-wide toilet replacement work (1 toilet at Buffalo Creek CG and 3 toilets at Elk Creek CG); installation of new water storage and chlorination tanks at Big Meadows CG; and, reconstruction of an existing trail through a dangerous stream crossing (North Fork) and installing a turnpike (.2m) on the Middle Fork trail. In FY03, reconstruction of a section of the Blue Lake trail (dangerous and narrow rocky area) will be completed. These trail projects are situated in the South San Juan Wilderness.

Ski Area:

Wolf Creek Ski Area continued its improvement work in FY02. Work included: piling and burning of slash from ski trails; installation of gazex avalanche control system in horseshoe bowl and knife ridge areas; installing a small yurt structure at the base area for renting snowboards; partial paving of the lower base area parking lot; partial completion of the two tranquility parking lots and completion of the snowshed parking area (installation of energy discharging drainage structures and paving the parking area)

Special Uses:

Term special use permits that came up for renewal in FY02 were assessed and re-issued. Annual billings and issuance of special use permits and conditions were done in SUDS. To meet the intent of Section 606 of the Cabin User Fee Fairness Act of 2000, the Forest completed a recreation residence typical lot inventory on all its summer home tracts.

Dispersed Recreation

Trails

Deferred maintenance trail inventories were completed on 18% of the Forest's system trails (230.4 miles) in FY02. Approximately seventy-eight percent of the Forest's system trails have been inventoried.

A Forest programmatic assessment was done in FY02 for annual Forest trail maintenance work. Findings from the assessment included: no effect on threatened, endangered, proposed or FS sensitive plant species; heritage resource clearance and for terrestrial species no effect or may affect, not likely to adversely affect with concurrence from the US Fish and Wildlife Service.

Baseline Capacity Allocation:

A review of the wilderness trailhead registration data indicates the Forest needs to take a close review of six compartment in conjunction their baseline capacity allocation. Authorized capacity in three compartments may need to be reduced (over-capacity) to bring them in line with the baseline

allocations and in the other three compartments an adjustment in the capacity allocation could be needed with follow-up documentation and incorporate the changes in Appendix C (capacity allocation spreadsheets) of the Forest Plan.

A Forest programmatic assessment was done in FY02 for a forest-wide prospectus to award additional special use permits for specific activities and service days in a number of Forest-wide compartments. Findings from the assessment included: no effect on threatened, endangered, proposed or FS sensitive plant species; heritage resource clearance; and no effect or may affect, not likely to adversely affect with concurrence from the US Fish and Wildlife Service for terrestrial species.

Travel Management:

The Forest revised its Forest travel map and updated our travel order in FY02. Hunter patrols were conducted during the various big game hunting seasons. The Divide RD completed its winter meetings with the task force group and received their recommendations for managing the winter dispersed recreation use in the Wolf Creek Pass area. Signs outlining the guidelines for using the area, monitoring and surveys are being implemented this winter season at Wolf Creek Pass area.

Unroaded Areas

No backcountry areas were monitored in FY02 because of the Million fire and the Million fire BAER and BARA planning efforts. Interim roadless area management direction is in place. New direction will be forthcoming in the future and will be looked at to determine how it will affect our current Forest Plan direction. There is no direct affect from the interim roadless area management direction on our Forest Plan implementation in regards to our management of roadless areas

Wild and Scenic Rivers

No Wild and Scenic corridors were monitored in FY02 because of the Million fire and the Million fire BAER and BARA planning efforts.

Wilderness

The wilderness team reviewed the monitoring results for the Weminuche and South San Juan wilderness areas and based on this baseline information, they developed management actions to implement that addresses those resource conditions exceeding standards. These recommendations are to be presented to the Line Officers for concurrence.

The Forest addressed fish stocking in Wilderness Areas through the Wilderness Management Direction EA. An errata sheet to correct a typographical error in the Forest Plan concerning the stocking of indigenous fish in Wilderness Areas has been drafted and will be published in 2003.

State of the Resource: Research and Information Needs

Progress is continuing on 1) watershed inventories for old growth in conjunction with proposed timber harvest activities; 2) Forest roads inventories; 3) collection of floral and faunal occurrence data for inclusion in the Colorado Natural Heritage Program (CNHP) Biological Database.

State of the Resource: Research Natural Areas (RNAs)

Site visits to RNAs could not be scheduled due to the higher priority of addressing human safety and resource issues tied to the Million Fire. We plan to continue monitoring this element in 2003.

State of the Resource: Road Construction, Closures, and Decommissioning

No planned timber sale road closures were conducted in FY 2001. Twenty-two and one half miles of unclassified road decommissioning was accomplished in FY 2001.

State of the Resource: Scenic Resources

Several areas were monitored for Scenic Resources compliance during FY2002. Under the terms of the Scenic Resources, all areas have two years after project implementation to comply with Scenic

Integrity Objectives (SIO's). The three areas will be under continued monitoring for changes. The Mountain Lion Lookout Area, does marginally meet compliance for the Scenic Resources when the landscape does have high color contrasts during the winter months. During the spring and summer, views into the area show a slight change in texture and color. Straight line edges become most noticeable during the winter months. Wolf Creek Ski Area has been notified of the recommended changes to the entrance walls and has agreed to begin staining the concrete color to come into compliance with the Scenic Integrity Objectives.

The Highway 160 Expansion Project is being closely monitored month by month to ensure that there is no change in the Scenic Integrity Objectives. Retaining wall staining meets the SIO's for the corridor above the new tunnel construction. Recommendations have been made to the state engineer about future rock walls, excavating along the highway, tree removal, storage areas, wall staining, seeding, and replanting. These areas will continue to be monitored through project completion.

Overall, the Scenic Integrity Objectives are being met with most forest projects, with the exception of the aforementioned ones. At this time, there is no need to make changes to the Rio Grande Land and Resource Management Plan's Scenic Resource direction.

State of the Resource: Soil Productivity

The RGNF soil resource is carefully monitored through project assessments and soil health assessments. In FY 2002, the soil monitoring program was curtailed by the Million Wildfire, which burned nearly 9,000 acres of National Forest. Prior to the wildfire, soil health assessments were completed on timber sales and burned areas.

The Twister Timber Sale area, logged in 1998 and 1999, had soil compaction concerns from the logging that required mitigation. In 2002, 75 acres of the Twister area were treated with a subsoiler. Additional acreage may benefit from subsoiling in this sale area. The Forest has purchased a winged subsoiler implement to alleviate soil compaction.

The Eagle Mountain Prescribed Fires that were conducted in the mid and late 1980's have recovered sufficiently from soil scorching. An on-site investigation in March 2002 showed most soil conditions to be properly functioning. Nutrient recharge is still evident along the fringe of the burned areas, which is unusual after such a long time period.

The Tres Cabras Timber Sale was monitored for soil health. Soils were rated as "at risk" due to a lack of coarse woody debris. This lack of coarse woody debris is due to the fact that the public uses this area for firewood collection and most snag trees are harvested before they can fall to earth and be recycled in the soil.

Pinos Creek Gravel Pit: This rock crushing gravel site is on National Forest land and was used as recently as 2002. Since this operation was the last planned entry for the site, long-term restoration needs were identified for the pit. This site is essentially devoid of any topsoil, which does not meet the Forest Plan Desired Conditions, which are: "Soils may be periodically disturbed by management activities, but are restored and reclaimed to original potentials after activities have been completed." Since topsoil was not stockpiled, the potential soil source material is not available for reclamation. Topsoil will need to be imported in order to restore the site to original potential as required by the Forest Plan. The Forest planned a topsoil purchase in fiscal year 2002 but funds were diverted for firefighting. The site is still planned for restoration.

Over the entire Forest, soils remain properly functioning with a few minor exceptions. The Forest Plan soil resource provisions are providing the necessary protections for soil health and there is in no need of amendment.

State of the Resource: Special Interest Areas

Site visits to botanical Special Interest Areas could not be scheduled due to the higher priority of addressing human safety and resource issues tied to the Million Fire. We plan to continue monitoring this element in 2003. Special Interest Areas associated with historical and geological values were not monitored in FY2002 due to the higher priority of addressing human safety and resource. We plan to continue monitoring this element in 2003

State of the Resource: Timber

Overall, timber resources across the RGNF reflect structure and composition within a natural range of variability. Some short-term human influences have affected, and are still affecting, the structure and composition of forested communities, particularly lower elevation forest cover types.

On-site field monitoring, primarily within past timber sale boundaries, during the summer and fall of 2001-2002 revealed the following relative to monitoring objectives:

Restocking

Regeneration of areas harvested, since the mid-1970s when the Forest changed from mostly clearcutting to partial cutting (mostly shelterwood), has been consistently successful with natural stocking. The naturally occurring annual addition of new trees in spruce-fir forests, the most common and most actively managed forest cover type on the Rio Grande has resulted in ample stocking. In 2002 approximately 810 acres were surveyed and certified as meeting regeneration requirements. Specific areas that have not regenerated to meet minimum stocking standards were planted in the late summer of 2000 had survival surveys completed in 2001 are as follows:

- **The Royal Pain Fire (within the Royal Park Timber Sale).** A wildfire began in or near the then active timber sale. Logging slash burned extremely hot and the existing advanced regeneration was destroyed. This area was planted in 2000. Survival surveys accomplished during the 2001 field season show that planted seedlings have survived the first year. Third year surveys are scheduled for this area in 2003.
- **Grouse Timber Sale.** Some patch clearcuts in this former timber sale are not expected to regenerate fully. This area was planted in 1999 and 2000. Survival surveys accomplished during the 2001 field season show that planted seedlings have survived the first year. Third year surveys are scheduled for this area in 2003.

The Twister blow-down on the Divide Ranger District has created a need for restocking. 300 acres of the area is planned for planting over three years, beginning in FY 2002. Mechanical site preparation for planting/reforestation was planned on 75 acres during the 2002 field season. The mechanical site preparation was completed over an area greater than 75 acres in 2002. Planting of these areas was planned for 2002 but was deferred for one year due to the drought conditions that exist. This planting is now planned for May of 2003. In 2003 further evaluations for reforestation needs on the Twister Timber Sale will be evaluated.

Timber Suitability

The Forest amended the Revised Forest Plan in 2000 to address timber suitability. The suitability amendment will take effect after appropriate consultation with the US Fish and Wildlife Service regarding species viability is completed. Timber suitability has been and will continue to be evaluated during the project level planning phase for timber sales. Since planning for timber sales did not occur in 2002, no further monitoring of timber suitability has been completed.

Insect and Disease Infestations

Foresters and entomologists have been active in monitoring insect and disease activities across the Rio Grande National Forest with some success in control activities. However, the overall condition of forest health is declining with serious levels of insect outbreaks, possibly related to the extended

drought. Additionally, many of the areas where insect and disease problems occur fall in the critical habitat linkages for lynx. A summary of the on-going activities across the Forest is listed below:

- The Grouse timber sale was sold in 2002 and harvesting of trees infected with spruce beetle has begun. During the summer of 2002 monitoring of the site found that numerous additional trees had been infected with spruce beetle. The beetle flight was monitored using pheromone baited traps. Control activities and monitoring in this area will continue in 2003.
- Monitoring of spruce beetle infested trees continued on the Twister timber sale and an additional 1,500 trees were identified with spruce beetle. Monitoring of spruce beetle using pheromone baited traps was also accomplished in the Twister sale area. Planned control activities include one timber sale and force account felling/debarking of infected trees in 2003. Further monitoring of trees and traps will occur in 2003 on the Twister sale area.
- Monitoring occurred on the La Manga and the Spruce Hole timber sales. Significant spruce beetle activity was discovered in these areas. The Forest has completed some marking of beetle infested trees on the Spruce Hole salvage and is planning on treating these areas using small sales. Monitoring of the site will continue in 2003.
- The fern creek area was monitored using pheromone baited traps that indicated a presence of spruce beetle in the area of the Cliff timber sale. Monitoring of spruce beetles also occurred on the Trujillo Meadows timber sale using pheromone baited traps. There was very little spruce beetle activity detected on the Trujillo Meadows salvage sale area. The Red Mountain timber sale and the Shaw Lake area were monitored and no significant beetle activity was found.
- Stand exam data collection was completed in the Cornwall area in 2001 and the data was entered into the FS Veg database in 2002. The results of this work have indicated that there is sporadic spruce beetle activity in the old Cornwall and Mary Jay's timber sales. This area will continue to be monitored.
- Seventy trees in the Buffalo Pass campground were treated with carbaryl to protect the trees from mountain pine beetle and other insects. These trees were monitored through the summer and the treatment was effective. Additional monitoring in the Buffalo Pass campground discovered ips beetle that was causing mortality to blue spruce and Douglas-fir. Trees will continue to be treated with carbaryl and monitoring of insects within and adjacent to the campground will continue in 2003.
- Western spruce budworm populations are at endemic levels. Monitoring in the Park Creek Salvage area showed minor western spruce budworm activity at this time.
- Douglas-fir beetle has been observed and is increasing on the Saguache District in Douglas-fir stands that were heavily infested with Western Spruce Budworm. This is an expected event given the combination of the recent Western Spruce Budworm infestation and drought conditions that have severely stressed trees. Park Creek Salvage was visited by the Gunnison Service Center and Rocky Mountain Experiment Station to study impacts from Douglas-fir beetle and plan for baiting beetles prior to prescribed burning the area.
- Monitoring has shown that Mountain Pine Beetle has moved into numerous Ponderosa Pine and some lodgepole pine stands, most noticeably in the northern portion of the Saguache Ranger District. In 2001 approximately 6550 acres of timbered stands within the Cochetopa Hills area were inventoried using CSE protocols. In 2002, continued examination of the existing condition was completed. Since a majority of the infected stands fall within the proposed Cochetopa Hills and Poncha Pass Lynx Corridors direction for management in this area hinges on comprehensive plans for the Lynx Corridors. Completion of a Gate 1 document

to initiate a timber sale is scheduled for 2003. Further monitoring of the area will continue in 2003 and beyond.

- Through monitoring Western Gall Rust was observed in circa 1980 roller-chopped lodgepole pine stands on the Saguache Ranger District. This rust is girdling small diameter lodgepole pine. In 2002 a large reconnaissance effort was completed on approximately 260 acres. The data shows that the stands are overstocked and heavily infested with Western Gall Rust. Control activities are planned for 2003.
- The North Park Salvage Sale and Sheep Creek areas were monitored for insect and disease infestations. Ponderosa and Douglas-fir Mistletoe is abundant and stocking levels are high. Pine beetle and Douglas-fir beetles are present. These areas will soon be evaluated for treatment.

Harvest Openings

Harvest openings from current, recent, or proposed timber management have not approached, and/or are not expected to approach, the 40-acre limit.³ Most harvest openings are less than one acre in size. Past-created openings exceeding the 40-acre limit generally trace back to clearcutting in the 1960s and early 1970s. Most are fully stocked with sapling or pole-sized trees.

Output Performance

Timber resource outputs are measured in various ways including "acres treated" and "volume of material harvested" (in either cubic or board feet). Several key outputs are stated in the Management Attainment Report (MAR). MAR timber resource outputs for FY 2002 are displayed in the table below:

Item	Measure	Planned	Accomplished	% Accomplishment
Reforestation/Planting	Acres	75	0	0%
Reforestation Surveys	Acres	810	810	100%
Timber Volume Offer	CCF	6000	3547	59%

1 "Harvest openings" are here defined as final harvest treatments such as clearcuts/coppice, final overstory removals of shelterwood or seed-tree systems, or groups from group-selection systems. Smaller openings created from removal of individual trees or small clumps of trees, as in single-tree-selection harvests, are generally too small to be considered as openings. Also, not all overstory-removal harvests create openings, because in many instances, a fully stocked understory of sapling- and pole-sized trees is already fully established, particularly in spruce-fir stands, and the released stand exceeds trees per acre, average height, and distribution criteria for Silvicultural Guideline #4, "Opening Guidelines" (see page III-21 of the revised Forest Plan).

Recommendations

No major changes need to be made to the Forest Plan. Suggested minor changes in the Forest Plan include:

- Change second sentence in Silviculture Standard #2 to read, “Even-aged, two-aged, or uneven-aged management systems can be used and applied...” The rationale for this change is to better reflect the various management systems and to be consistent with Table III-4 on the same page.
- Page IV-25, under Desired Conditions for Management-area Prescription 5.11, add, “Suitable timberlands will be managed to provide a sustainable flow of forest products.” Though the production of forest products is mentioned in the Prescription Category 5 Discussion, and again under Theme and Setting for Management-area Prescription 5.11, the Desired Condition was omitted, even though this Management-area Prescription, along with Management-area Prescription 5.13, was modeled in the FEIS as part of the Forest's primary timberlands.
- Change the fourth Desired Condition, under the Forest Products Management-area Prescription on page IV-27, to “there are adequate old-growth components in forested stands.” The rationale for this change is to be consistent with MA 5.11.
- A forest-wide assessment of insect and disease infestation should occur to address the current outbreaks.

Interdisciplinary Team Contributors

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APPENDIX A
Monitoring and Evaluation Table
Rio Grande National Forest
Fiscal Year 2002

This appendix synthesizes the monitoring actions and results for fiscal year 2002. The monitoring items listed below correspond with the components listed in Table V-1 from the 1996 revised Forest Plan.

MONITORING ITEM	METHOD and (CONTACT)	PLANNED LOCATIONS	MONITORING ACCOMPLISHED (what, where, results, summarize, references)	EVALUATION (What are the recommendations based on monitoring? Changes needed to the Plan?)
Air Quality				
Monitor & Evaluate (M & E) visibility, lake chemistry, and terrestrial systems. 36 CFR 219.27 (a).	(1) Photographic documentation of visibility. Coordinate with NPS. (L. Dobson)	Great Sand Dunes National Monument.	Visibility and particulate monitoring was completed. Data has been documenting that visibility and particulate levels are among the best in the country. Data collected in 2002, although not fully analyzed yet, appears to still support that conclusion.	No changes in the Forest Plan needed.
	(2) Chemistry of most sensitive lakes. (K. Garcia, J. Fairchild, S. Hall, L. Dobson)	Three lakes in the Weminuche WA; 2 in the S. San Juan WA; 2 in the La Garita WA; and 2 in the Sangre de Cristo WA.	Funding was not available for monitoring in 2002	No changes in the Forest Plan needed.
	(3) Health of terrestrial systems such as lichen communities. (L. Stewart)	Three sites from the baseline survey will be reassessed over time by measuring concentration of chemical elements to begin measuring trends.	No additional monitoring of lichen occurred on the Rio Grande NF in FY99, FY00 or FY01.	No changes in the Forest Plan needed.
M&E Burn Plan. 36 CFR 219.27 (a).	Visual verification of smoke dispersal. (L. Floyd, L. Dobson)	Several burns were completed.	Prescribed burning was accomplished with good smoke dispersal. Stable atmospheric conditions existed throughout the burning period. No complaints were received from the public.	No changes in the Forest Plan needed.
Assess air resources relative to (a) Forestwide Goals, Objectives, S&Gs; (b) Management-area Prescription Objectives, DCs, and	From monitoring results, conclude whether Standards and Guidelines and regulations are being followed, and if Desired Conditions are being met. (L. Dobson)	As a result of monitoring all the above sites.	Forest management activities are following Standards and Guidelines. Desired Conditions are being achieved.	No changes in the Forest Plan needed.

MONITORING ITEM	METHOD and (CONTACT)	PLANNED LOCATIONS	MONITORING ACCOMPLISHED (what, where, results, summarize, references)	EVALUATION (What are the recommendations based on monitoring? Changes needed to the Plan?)
S&Gs; (c) Management-area Prescription allocations and monitoring methods (36 CFR 219.12 (k))				
Aquatic Resources				
M&E Watershed Disturbances. 36 CFR 219.27.	Level I watershed assessment to measure total and connected watershed disturbance and compare to concern levels. Measure acres of disturbance in each 6th/7th level watershed. Use runoff curve numbers to equate all disturbances to an equivalent roaded area. Assess risk to watershed health from increased runoff. (Hydrologist: L. Dobson)	Timber Sales: Range Allotments:	Larger timber sale and range AMPs EAs are on hold while the Forest completes Forest Plan Appeal Decision work, so there were no new watershed assessments. Watershed disturbance levels were reviewed as part of several small timber sales that relied on a programmatic EA. These small sales include: Fox Mtn, Red Mtn, Fern Creek, and Spruce Hole.	From past work it appears that concern levels for total watershed disturbance have been set conservatively at a safe level to ensure adequate watershed health. No changes are needed.
M&E Stream and Riparian health. 36 CFR 219.27a.	(1) Level III stream assessment on one stream per 6th level watershed for each EA analysis area. By comparing to a like reference stream, assess water quality, channel condition and riparian function to measure amount, if any, of impairment. (Hydrologist: L. Dobson)	No new EAs were written	Stream health was not assessed as rigorously in most cases as it would be if the project were part of a project analysis. Visual observations verified that streams within small timber sale areas were healthy and would be avoided by new harvest activities. Pass Creek continues to be fully protected from Wolf Creek Ski Area activities and mostly protected from highway 160 reconstruction activities. A parking area below the Wolf Creek snowshed was reclaimed to cease sediment delivery into Pass Creek. East and West Willow Creeks and Windy Gulch were monitored as part of the Willow Creek mined land reclamation project. The Forest is participating with the Willow Creek Rec. Steering committee. Two Homestake mine dumps in Windy Gulch were reclaimed in the fall of 2002. Several streams were evaluated prior to fuel reduction projects, including a tributary to Cat Creek, a tributary to Embargo Creek, a tributary to Wolf Creek, tributaries to E. Pass Cr., channels in the Hat Springs and Park Creek area of the Saguache District and tributaries to Horse Canyon. In most cases the channels evaluated were ephemeral and they will be re-evaluated after the burns to	Stream health direction in the Plan is appropriate. No changes are needed.

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			assess effects. The intent of these evaluations was to determine whether channels were currently healthy or whether they needed special protection as part of the project.	
	(2) Level III assessment to measure recovery of damaged streams over time. Compare changes in channel shape and composition to see if recovery is occurring with prescribed mitigation. (Hydrologist: L. Dobson)	Kitty Cr., North Fork Saguache Cr., Crooked Cr., and Rock Cr.	This monitoring was not completed due to higher priorities given to fire suppression and reclamation activities.	No changes in the Forest Plan are needed.
	(3) Level II stream assessment to see if watersheds of concern experience stream/riparian damage. Look for visible evidence of channel damage or water pollution. If visible evidence exists, document with a level II stream health assessment. (Hydrologist: L. Dobson)	Streams within watersheds of concern that are identified during level I Watershed assessments.	No additional watersheds of concern were identified during FY2002	No changes in the Forest Plan needed.
Assess Aquatic Resources relative to 36 CFR 219.12 (k)	Visually determine if Standards and Guidelines have been implemented and are achieving the Desired Conditions. (Hydrologist: L. Dobson)	Timber and Range specialists routinely evaluate past and ongoing projects for compliance with Forest direction.	Implementation monitoring during timber sale and range allotment administration.	Aquatic S&Gs: No changes in the Forest Plan needed.
Biodiversity				
Monitor change in occurrence of selected native species (Fine Filter). 36 CFR 219.27 and .19 (6)	(1) Ripley milkvetch -- use plots and transects. (CSU Ph.D. Candidate: J. Burt; Ecologist: D. Erhard)	Hick's Canyon and Terrace Reservoir	Intensive plot monitoring completed by researcher J. Burt in her study areas. Data collection and evaluation finished. Results indicate that the population demographics for this species are primarily influenced by moisture availability. Results also indicate that grazing by domestic livestock does not reduce <i>Astragalus riplei</i> population viability, at least in the short term. The recommendation is to avoid season-long grazing and to incorporate rotation-grazing schemes so that this species is not grazed at the same time of year every year.	No changes recommended in the Forest Plan. Based on the results of this study, the Forest has decided to end intensive monitoring of this species.
	(2) Native Fish Population Monitoring. (District Fish Biologist: Sue Swift-Miller;	East Pass Cr., MF, SF & NF Carnero Cr., Cave Cr., Prong Cr.,	One large diverse drainage was evaluated to determine its suitability for Rio Grande cutthroat trout (RGCT) reintroduction. Drought monitoring and cursory population	No changes in the Forest Plan recommended.

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	Barry Wiley SO Fish Biologist, FS Seasonal employees; DOW)	La Garita Cr., Miners Cr., Big Springs Cr., East Middle Cr., Pass Creek., Deep Cr., Wolf Cr., Jim Cr., Conejos River, Cascade Cr., Cave Cr., Cross Cr., Jack's Cr., Osier Cr., Rhodes Gulch, Lake Fork, Rio de Los Pinos, Torsido Cr., Tuttle Cr., Whale Cr., Wannamaker Cr., Elk Cr.	<p>assessments were conducted on most RGCT streams. Tissue samples were taken from a new cutthroat trout population discovered in the Upper Rio Grande drainage. Tissues were submitted to the University of Montana for genetic analysis. USFS and DOW personnel evaluated four RGCT populations on the Forest. Stream improvements were completed on the Conejos River to improve overwintering habitat. Willows were planted along La Garita Cr. to help stabilize streambanks and provide overhead canopy.</p> <p>Threats to RGCT populations include non-native trout and insufficient habitat (quality and quantity). Habitat and population assessment work is ongoing, and the USFS and CDOW are working together to address these threats, through habitat improvement projects, barrier repair/construction, and reclamation work. A new barrier was constructed on the Middle Fork Carner Cr. and the barrier was repaired on Big Springs Cr.</p>	
	(3) Boreal Toad – Monitoring and Survey (DOW/FS)	Two historic sites monitored and 4 sites surveyed.	No toads or tadpoles found at any site (probably drought related).	No changes in the Forest Plan needed.
	(4) Peregrine falcon - Ocular surveys of nests. (DOW/FS)	Four known nest sites (1 on Divide Ranger District and 3 on Conejos Peak Ranger District). One possible additional site, but unconfirmed to date. Two sites adjacent to the Forest.	Seven sites monitored. Confirmed breeding/reproduction on 3 Conejos Peak Ranger District nests; suspected breeding activity on the Divide Ranger District nest; confirmed reproduction on 2 adjacent sites; the unconfirmed site seems to have been blown-out by sandstorm.	No changes in the Forest Plan needed .
	(5) Southwest Willow Flycatcher	Identified habitats on the Conejos Peak Ranger District	Hawks Aloft, Inc. surveyed all Conejos Peak Ranger District identified habitat sites and found no birds. Additional surveys conducted on Divide Ranger District, with no birds found.	No changes in the Forest Plan needed
	(6) Black swift - surveys of nests. (Schultz)	RGNF sites included in the state-wide Monitoring Colorado Birds (MCB) survey.	2002 MCB Report not yet completed.	No changes in the Forest Plan needed.
	(7) Boreal owl/and other owl and nest box surveys (Schultz)	Established owl survey route near Trout Mtn and 100 boxes along	2002 MCB Report not yet completed. FS surveys did not find birds.	No changes in the Forest Plan needed.

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		Trout Mtn Rd and 50 boxes in the Blowout Pass area (MCB survey).		
	(8) Bats – Surveys (Navo-DOW)	DOW bat surveys	One sighting in Saguache area – use of mine with unidentified status.	No changes in the Forest Plan needed.
	(9) Birds associated with Spruce/Fir Forests (Schultz)	RGNF sites included in the state-wide MCB survey.	2002 MCB Report not yet completed. Incidental sightings from project site visits were recorded.	No changes in the Forest Plan needed
Monitor the change in selected species habitat (Coarse Filter). 36 CFR 219.27.	(1) Other EIS special-status plants. Photo interpretation site visits, GIS, satellite imagery. (Ecologist: D. Erhard)	Special-status plants are at various sites over the Forest.	A livestock enclosure was constructed around the one known population of Arizona willow on the Forest. Site visits to other special-status plants could not be scheduled due to the higher priority of addressing human safety and resource issues tied to the Million Fire. Forest activities (timber harvest, livestock grazing, recreation, etc.) were severely limited on the Forest due to the extreme drought conditions.	No changes in the Forest Plan recommended. We will continue monitoring this element in 2003.
	(2) Snag-dependent species - aerial mapping of current insect, disease, and fire events. (Wildlife biologist)	Forest-wide	Snag surveys were conducted on Divide and Conejos Peak Ranger Districts. Snag analysis will continue into future years.	No changes in the Forest Plan needed.
	(3) Animals listed in the EIS – T&E and Sensitive animals. (Wildlife Biologist)	Forest-wide	Surveys were conducted for the Canada lynx by CDOW and by the US FWS for Uncompahgre Fritillary Butterfly. A goshawk survey project was initiated which identified 8 territories, 3 active nests and confirmed 5 fledglings.	No changes in the Forest Plan needed.
Monitor changes in composition, structure, and pattern for each Landtype Association. 36 CFR 219.27.	Photo interpretation, GIS, satellite imagery, and/or spatial analysis. (Ecologist/Wildlife Biologist)	All Landtype Associations over the entire Forest.	No monitoring was required this year because it is too soon to detect any meaningful changes. We anticipate monitoring this item in year 2006.	No changes in the Forest Plan recommended.
Validate the vegetative composition and structure of LTA 1 reference landscapes. 36 CFR 219.27.	Photo interpretation, GIS, satellite imagery, and/or site visit. (Ecologist: D. Erhard)	14 reference areas within E. Spruce on Mountain Slopes LTA. Found throughout the upper elevations of the Forest.	The IRI Center has completed the contract mapping and attributing of Common Veg. Unit (CVU) polygons on the Forest. The updated vegetation data will be used in future spatial analysis work, where feasible.	No changes in the Forest Plan recommended.
Monitor changes in CNHP Significant Plant Communities listed in EIS. 36	Photo interpretation, site visits, GIS, and/or satellite imagery. (Ecologist: D. Erhard)	Special-status plant communities are at various sites over the entire Forest.	Site visits to CNHP documented plant communities could not be scheduled due to the higher priority of addressing human safety and resource issues tied to the Million Fire. Forest activities (timber harvest, livestock grazing,	No changes in the Forest Plan recommended. We will continue monitoring this element in 2003.

MONITORING ITEM	METHOD and (CONTACT)	PLANNED LOCATIONS	MONITORING ACCOMPLISHED (what, where, results, summarize, references)	EVALUATION (What are the recommendations based on monitoring? Changes needed to the Plan?)
CFR219.27.			recreation, etc.) were severely limited on the Forest due to the extreme drought conditions.	
Monitor the progress of old-growth (Mehl 1992) inventory and reconnaissance on the Forest.	Ocular, plots, GIS, and/or satellite imagery. (Ecologist, Wildlife Biologist, Forester)	Forestwide	Old-growth inventories were completed for the following projects: Fox Mountain blowdown, Dry Lake aspen, and Wolf Mountain. To date, old growth (Mehl 1992) remains uncommon. On the Divide and Conejos Peak Ranger Districts, old growth appears to be limited due to a lack of patchiness, lack of structural diversity, and/or net productivity being too high. Because the Mehl criteria are biased toward more productive sites, the Saguache Ranger District appears to lack the productive capability to meet the Mehl old-growth descriptions.	No changes in the Forest Plan recommended. The Forest continued its progress toward inventorying old growth this year.
Evaluate Biodiversity and Wildlife relative to 36 CFR 219.12 (k).	Ocular, plots, transects. (Ecologist; Wildlife Biologist)	Forestwide.	The Ecologist and District Biologists visited more than 20% of the Forest's on-going projects in conjunction with biological assessments and evaluations. Most large-scale projects (e.g., timber sales and range AMPs) have been on hold until the Forest Plan Appeal Decision work is completed. Monitoring did not indicate any biodiversity and/or wildlife items in 36 CFR 219.12 (k) were in need of change.	No changes in the Forest Plan recommended.
Fire and Fuels Management				
Assess Fire/Fuels relative to: 36 CFR 219.12 (k).	Ocular estimates using photo guides for estimating downed woody fuels. Fuel transects and surveys to determine actual loading and arrangement. On-site inspections. (FMO, Ecologist, & Silviculturist)	Ponderosa pine and mixed-conifer cover types (fire regimes 1 & 3, condition class 2 & 3) – Forestwide. Wildland/Urban Interface/intermix (WUI) areas.	Analysis and evaluation of fuel profiles (loading, arrangement, continuity) was conducted in various mid to low elevation areas (mixed conifer, ponderosa pine, Douglas fir) of the Cochetopa Hills, the Alamosa River drainage, and in the Conejos River drainage. Treatment methods (RX fire, mechanical) have been developed and appropriate project plans (i.e. Burn plans) have been implemented. Due to the severe fire conditions experienced, only one-third of the projected implementation acres were completed, predominantly in the Cochetopa Hills area. WUI project planning was also initiated in Crestone, Zapata, and South Fork areas, with some implementation in the South Fork area.	No changes needed in the Forest Plan
General Infrastructure				
Assess facilities for compliance with state & federal requirements & FS Handbook/Manual direction.	(1) Inspect dams, facilities, drinking water, road & trail bridges, and FDRs for safety and maintenance. (Forest Engineer)	50% of Forest road bridges, all high-hazard dams, 33% of medium-hazard dams, 20% of low-hazard dams, 25% of all trail bridges, all drinking-	Bridge inspections were completed as scheduled by contract. dam inspections were completed as scheduled by the State Engineer's office; 10% of the trail bridges were inspected. All water systems were sampled and tested in accordance with the Safe Drinking Water Act; 50% of the facilities were inspected; and all of the Level 3, 4, and 5 roads were maintained and inspected.	No changes needed in Forest Plan monitoring requirements. Inspections and testing will continue as outlined.

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		water systems as required by the Safe Drinking Water Act, all facilities and all Level 3, 4, and 5 roads.		
	(2) On-site inspections to monitor compliance with Travel Management Plan. (Law Enforcement Officers, District Level II Officers, and other personnel as assigned)	Various locations around the Forest as patrolled by Forest Law Enforcement Officers and other Forest Personnel.	Inspections were conducted through hunter patrols and day-to-day contacts by law enforcement officers and other FS personnel. Numerous issues were raised and some citations issued, and the Forest continues to seek compliance with the current travel management plan.	No Forest Plan changes needed.
	(3) Assess planned road closures through on-site inspections. (Engineering & Timber)	None.	No planned timber sale road closures were conducted in FY 2002. Twenty-six miles of unclassified road decommissioning was accomplish in FY 2000.	No Forest Plan changes needed.
M & E Infrastructure relative to: 36 CFR 219.12 (k).	Review and monitor infrastructure-related inspections and reports for compliance with Forest Plan Guidelines and Objectives. (Forest Engineer)	As outlined in the Infrastructure section of the AMOP.	The Forest Engineer reviewed the infrastructure monitoring that occurred in FY 2000 to determine if any changes were needed relative to 36 CFR 219.12 (k).	No changes in the Forest Plan recommended.
Health and Safety				
Monitor and evaluate Forest activities with respect to National Health and Safety Codes and Occupational Safety and Health Administration guidelines.	Review and monitor guidelines on public safety and health. Forest Engineer	Forest	No adverse reports were received.	No changes in the Forest Plan needed.
Heritage Resources				
Monitor and evaluate projects to assure Heritage Resources have been appropriately protected.	On-site-inspection of selected highly significant heritage resources. On-site inspection of: National Register-eligible heritage resources identified for protection during ground-disturbing project-related activities. (Heritage Specialist: V. Spero)	Identified highly significant heritage resources including open lithic sites, rock art, and prehistoric stone structures. Historic buildings are also included. Heritage resources located on	Higly Significant Prehistoric Heritage Resource sites monitored: 5RN17 Lost Lake Stone Structure. 5RN330 Dog Mtn. Petroglyphs, 5HN55 Black Mtn. Folsom Site. 5RN323 Sentinel Mtn. Stone Structures. 5CN78 Big Horn Corral open lithic site. 5SH903 open campsite. Historic Heritage Resources Monitored: 5RN314 Fitton Guard Station, 5R315 Off Cow Camp, 5RN427 Alder Guard Station, 5RN417 Elwood Guard Station.	No changes needed in the Forest Plan.

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		selected range allotments, timber sales and/or prescribed fire projects.	<p>Project related monitoring: Rito Hondo Prescribed Burn; 5CN17, 5CN18, 5CN19. Schilling Spring Understory Prescribed Burn: 5CN615, 5CN616, 5CN617, 5CN618, 5CN619, 5CN620, 5CN622, 5CN623, 5CN624, 5CN31, and 5CN115.</p> <p>Results: All prehistoric heritage resources monitored were reported to be in good condition. All historic structures monitored were experiencing some form of weathering of varying degrees. No major impacts are occurring..</p>	
M&E Consultations with American Indians.	Assess proposed management activities and programs to determine if American Indian consultation was accomplished. (Heritage Specialist: V. Spero)	Review proposed project EAs where there is a potential for sites or geographic features that are, or have the potential to be, considered culturally sensitive to American Indians.	<p>Tribal Consultation Bulletins (TCBs) were issued in October 2001 and in February 2002 for the following project proposals (TCB 10/01): the Natural Arch Prescribed Burn, the Rito Hondo Understory Prescribed Burn, the Schilling Spring Prescribed Burn Project, and the Wolf Mountain Prescribed Burn (TCB 02/02): Rio Grande National Forest Revised Land Resource and Management Plan Proposed Amendment. Rio Grande National Forest Soil and Water Improvements Projects for the 2002 Field Season. Bonanza Hazardous Fuel Reduction Project, Rio Grande National Forest, Saguache Ranger District, Saguache County, Colorado. Conejos River Corridor Hazardous Fuel Reduction Project, Rio Grande National Forest, Conejos Peak Ranger District. Divide Hazardous Fuel Reduction Project, Rio Grande National Forest, Divide, Ranger District. North Park Salvage Hazardous Fuel Reduction Project, Rio Grande National Forest, Saguache Ranger District. Park Creek Hazardous Fuel Reduction Project, Rio Grande National Forest, Saguache Ranger District. Piedrosa Hazardous Fuel Reduction Project, Rio Grande National Forest, Conejos Peak Ranger District. Tribal Consultation is also initiated by project "scoping" letters and by the RGNF Quarterly Scoping Document (SOPA).</p> <p>Results of the assessment indicate that an effective Tribal consultation effort is being implemented.</p>	No changes to the Forest Plan are needed. The Tribal Consultation Bulletin (TCB) should continue to be issued as the initial Tribal contact for project and program proposals. The TCB includes most major projects or those smaller proposals with the potential to affect areas that are culturally sensitive to consulted American Indian Tribes. Additional follow-up, including phone calls to arrange visits to project areas, should be increased.
M & E Heritage Resource program relative to 36 CFR 219.12 (k).	Review of all Heritage Resource Reports done in FY 2001. (Heritage Specialist: V. Spero)	Review of all Heritage Resource Reports done in FY 2001.	Reports for proposed projects sent to the Colorado State Historic Preservation Officer for concurrence were reviewed.	No changes needed in the Forest Plan. Proposed projects comply with 36 CFR 219.2 (k).

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Minerals				
M & E oil & gas activities so effects do not exceed predicted by 10%	Compare annual & cumulate OG activity. (Minerals specialist)	Forest summary.	There was no oil and gas development on the Forest in 2002. The Forest Plan reasonable and foreseeable development scenario and its effects are still valid as described in the Forest Plan.	No changes needed.
Verify if areas are compatible with FP stip. Assess if occupancy could be allowed on the lease tract. 36 CFR228.1.2 (e) 1,2,3.	Verification form. (Minerals specialist)	Each lease.	All lease applications are on hold until the Forest Plan Appeal Decision work and the Lynx assessment are completed	
M & E Minerals program relative to 36 CFR 219.12 (k).	On-site inspections of mineral activities; review reports. (Minerals specialist)	Forest Summary.	Minor errata have been identified on the oil and gas leasing map. The Clear Creek pit needs to be analyzed and corrected to meet Forest Plan Standards. The Pinos Creek pit needs to be reclaimed according to Forest Plan standards. The Forest Plan is an effective tool for protecting resources while allowing mineral development.	No changes or additional analysis needed.
Noxious Weeds				
M & E Noxious Weeds relative to: 36 CFR 219.12 (k).	Monitoring of noxious weeds (where and to what extent they are present) will be reported based on the evaluation of control methods on infested areas on the forest. (Forest and Ranger District Weed Coordinators)	Inventory efforts focused primarily on FDR road systems. Treatment is being conducted within the South San Juan Wilderness to control infestation of Yellow toad flax near tail head	Forestwide inventories were conducted on all three Ranger Districts in 2002. Specific information on species found and areas infested and treated/inventoried can be found in Ranger District records. 252 Acres were treated by chemical means on the Forest .	No changes needed in the Forest Plan
Assess the extent of infestation and control methods of noxious weeds.	Monitor noxious weed infestations and control methods by using on-the-ground surveys.	See above	See above	No changes needed in the Forest Plan
Range				
M & E Range program relative to 36 CFR 219.12 (k).	Refer to monitoring items that follow (see below)	See below.		
M & E Rangeland seral stage to ensure the Desired Conditions.	(1) Various methods and techniques will be derived from RAMTG. (Primary: G. Snell; Secondary:	ConejosCanyon and Sulfur Allotments	Aproximately 28,000 acres were identified and 137 cover frequency transects installed on the Forest.	No changes needed in the Forest Plan.

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	T. Post)			
	(2) Monitor Desired Condition transects for trend. (Primary: G. Snell; Secondary: T. Post, G. Becenti)	See above	See above	No changes needed in the Forest Plan.
Assess rangeland suitability.	(1) Evaluate suitability of Forest Plan Rangelands. Intensive review at site-specific areas while applying criteria for capability and ID Team determination of suitability. (Primary Contact: G. Snell; Secondary: T. Post, G. Becenti)	A new Forest Plan rangeland suitability determination will be conducted as part of the Forest Plan Appeal Decision. It will be conducted using the R2 protocol. It is expected to be published in 2003.	Rangeland suitability assessments will be initiated beginning in 2003.	No changes needed in the Forest Plan.
	(2) Evaluate suitability of rangelands at the AMP level. (Primary Contact: G. Snell; Secondary:: T. Post, G.Becenti)	See above	See above	No changes needed in the Forest Plan.
Monitor utilization of rangelands.	Various methods will be used including: P/U cages, height-weight, stubble height, and ocular estimates. (Primary Contact: G. Snell; Secondary: K. Garcia, T. Post, G. Becenti)	The following allotments: Conejos Peak: Cumbres, Conejos Canyon, Bancos, La Jara, Glacier, Saddle Creek, Roaring Fork, Twin Lakes, Jarosa, Jarosa-Mesa, Jim Creek Mesa. Divide Ranger District:, Decker, Embargo, Rock Creek, Cattle Mountain, Canon, Church, La Garita, Cross/Race, Handkerchief Mesa, Park, Crooked Creek, Sulphur, Blue Park. Alder, West Pinos, East Pinos, Frisco, Shaw. Saguache Ranger District:, Carnero, Cottonwood,	Monitoring for vegetation utilization was conducted on all three Ranger Districts. About 700,000 acres were monitored for vegetation utilization. Various methods were used, including P/U cages, height-weight, stubble height measurements, and ocular estimates. Allotments monitored by Ranger Districts were the same as the Planned Locations in previous column.	No changes needed in the Forest Plan.

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		Mill Creek, , Saguache Park, Houselog		
Recreation – Developed Recreation				
Assess developed sites for a) visitor expectations, trends, and customer satisfaction; and b) quality and safe facilities.	(1) Customer Survey. Forestwide Market and Customer Survey. (Forest and District Recreational Personnel)	Forestwide.	There was no forestwide customer survey done in FY02. The next scheduled forestwide customer survey is scheduled to take place in fiscal year 2005. Information from the FY2000 customer survey on the Rio Grande NF is on the website at http://www.fs.fed.us/recreation/recuse/recuse.shtml .	No Forest Plan changes needed.
	(2) Annual Developed-Site Hazard Tree Inspections. Inspection of Forest's campgrounds and picnic areas for removal of hazard trees. (I&D Specialist & District Rec/Timber personnel)	Campgrounds & Picnic Areas	Annual hazard tree inspections of campgrounds & picnic areas are completed as part of the sites' preseason maintenance inspections. Hazard trees have been marked and removed. Hazard tree inspection reports are on file at Ranger District offices. Preseason inspections are working well and will continue.	No Forest Plan changes needed.
	(3) Monitor Ski Area Summer and Winter Activities. Monitor Wolf Creek Ski Area for compliance with approved summer/winter operating plans. (J. Flaget)	Wolf Creek Ski Area.	FY 2002 winter & summer operating plans were developed and approved and monitoring inspections made. Inspection reports are on file at the Divide RD office. Winter inspections included lift operations, ski patrol operations and procedures, avalanche procedures and operations, ski school operations, annual billings and payments and the monitoring of the cross country ski trail and use. Summer activities included: piling and burning of ski trail slash; installation of gazex avalanche control system in horseshoe bowl and knife ridge areas; installing a small yurt structure at the base area used for renting snowboards; partial paving of the lower base area parking lot; partial completion of the two tranquility parking lots and completion of the snowshed parking area (installation of energy discharging drainage structures and paving the parking area).	Continue to work with the ski area in conjunction with planned projects. No other changes in the Forest Plan are needed.
	(4) Monitor RGNF Special-Use Permits. Inspections documented and/or inspection reports MAR 62.5 (Forest and District Recreation Personnel)	Forest Recreation Residences, Outfitter Guides (O/G), recreation events, and concession permits	Districts completed the necessary assessment work and re-issuance of various term special use permits SUDS was updated to include annual billing and issuance of special use permits and conditions. Per Section 606 of the Cabin User Fee Fairness Act of 2000, the Forest completed a recreation residence typical lot inventory on all its summer home tracts. Additional follow-up work will be done with our recreation summer	A screening checklist is also required when determining whether to permit recreation events for compliance with FSM2721.49, FSH 1909.15, 30.3-2 and the terrestrial BA/BE. No other Forest Plan changes are needed.

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			<p>home permit holders in FY03.</p> <p>The Forest will continue to administer its special use permits in FY03.</p> <p>A Forest Programmatic Assessment was undertaken in FY02 for Forest minor special uses (recreation events). Findings from the assessments include: no effect on threatened, endangered, proposed or FS sensitive plant species; heritage resource clearances and for terrestrial species no effect or may affect, not likely to adversely affect (nlaa) with concurrence from US Fish and Wildlife Service.</p>	
<p>Assess developed sites actual use compared with projected outputs (36 CFR 219.12 (k))</p>	<p>Use figures collected by concession campground mgrs and FS campground hosts in our fee campgrounds</p>	<p>All concession & FS campgrounds and picnic sites</p>	<p>Visitor use and associated campground occupancy rates were recorded in our Forest concession campgrounds by our concession managers. Use reports are on file at the Forest's Supervisor Office. Campground visitation and revenues were down about 23.5% in FY02 because of the restrictive fire orders implemented on the Forest due to extreme fire and drought conditions.</p>	<p>No Forest Plan changes needed.</p>
<p>Evaluate developed recreation relative to 36 CFR 219.12 (k).</p>	<p>Comparative evaluation for M&E Report. (Forest and District Recreation Personnel)</p>	<p>Forestwide Developed-Recreation Prescription Areas.</p>	<p>Forest Programmatic Assessments were undertaken in FY02 for annual Forest developed site maintenance work and for deferred maintenance projects (FY02-FY05). Findings from the assessments include: no effect on threatened, endangered, proposed or FS sensitive plant species; heritage resource clearances and for terrestrial species no effect or may affect, not likely to adversely affect (nlaa) with concurrence from US Fish and Wildlife Service.</p> <p>Because of the Million fire, Million fire BAER and BARA planning, no review was made of the forestwide developed recreation objectives, standards, desired conditions or monitoring items in FY02.</p>	<p>No changes in the Forest Plan recommended. We will plan to monitor this element in FY03</p>
Recreation -- Dispersed Recreation				
<p>Evaluate traditional and nontraditional recreation opportunities.</p>	<p>(1) Trail log inventory using GPS -- MAR 62.3, 64.3. (Forest Trails Specialist and District Trail Coordinators)</p>	<p>10-15% of Forest Trails.</p>	<p>Deferred maintenance trail inventories were completed on 18% of the Forest's system trails (230.4 miles) in FY02. Of the trail miles inventoried, 115.2 miles (50%) were on the Saguache RD and 115.2 miles (50%) were on the Divide RD. Approximately seventy-eight percent of the Forest's system trails have been inventoried. Trail inventory records are on file at the RGNF Supervisor's Office.</p> <p>The Forest plans to accomplish a majority of the remaining inventory work in FY03.</p>	<p>A screening checklist is also required when determining whether to permit recreation events for compliance with FSM2721.49, FSH 1909.15, 30.3-2 and the terrestrial BA/BE.</p> <p>No other Forest Plan changes are needed.</p>

MONITORING ITEM	METHOD and (CONTACT)	PLANNED LOCATIONS	MONITORING ACCOMPLISHED (what, where, results, summarize, references)	EVALUATION (What are the recommendations based on monitoring? Changes needed to the Plan?)
			A Forest Programmatic Assessment was undertaken in FY02 for annual Forest trail maintenance work. Findings from the assessments include: no effect on threatened, endangered, proposed or FS sensitive plant species; heritage resource clearances and for terrestrial species no effect or may affect, not likely to adversely affect (nlaa) with concurrence from US Fish and Wildlife Service.	
	(2) Monitor representative watersheds to assess baseline capacity allocation. Monitor the amount of public and Outfitter Guide use occurring in identified watersheds. (Forest and District Recreation Personnel/RSST)	Forest Wilderness compartments.	The Divide Ranger District completed a review of its wilderness (Weminuche) trailhead registration data and noted at the 50% level that over-capacity is occurring in three compartments and an adjustment in the capacity allocation might be needed in the Weminuche, Hope and East Bellow compartments. A Forest programmatic assessment was done in FY02 for a forest-wide prospectus to award additional special use permits for specific activities and service days in specific compartments. Findings from the assessments include: no effect on threatened, endangered, proposed or FS sensitive plant species; heritage resource clearances and for terrestrial species no effect or may affect, not likely to adversely affect (nlaa) with concurrence from US Fish and Wildlife Service.	Need to look at these six compartments. In the three over-capacity compartments take steps to bring them in line with the capacity allocation and in the other three compartments, a determination whether to adjust the capacity allocation is needed and follow-up with the necessary documentation and incorporate the changes in Appendix C (compartment spreadsheets) of the Plan. No other Forest Plan changes are needed.
Monitor effects of off-road vehicle use of Forest trails and roads. 36 CFR 295.5.	Assess impacts to physical, biological and social resources (Indicators). (Forest Recreation Specialist/RSST)	Hunter patrols during hunting season.	The Forest revised its Forest travel management map and updated our travel order in FY02 for distribution during the hunting season. Our travel management posters were updated and sent to the Districts for posting on our entry point bulletin boards. The Divide RD completed its winter meetings with the task force group and received their recommendations for managing the winter dispersed recreation use in the Wolf Creek Pass area.	No Forest Plan changes needed. Task Force group came up with dollars for bulletin boards and signs that outline guidelines for use in the Wolf Creek Pass area. CSU developed a winter use survey that is being used this winter to see if the guidelines are working. After this winter use season is over, plans are for the task force and Forest Service to convene and review the survey results and determine if additional management action is needed next season.
Evaluate Dispersed Recreation relative to 36 CFR 219.12 (k).	Comparative evaluation for M&E Report. (Forest and District Recreation Personnel)	Forestwide Dispersed Rx Areas.	Because of the Million fire, Million fire BAER and BARA planning, no review was made of the forestwide dispersed recreation objectives, standards, desired conditions or monitoring items in FY02.	No changes in the Forest Plan recommended. We will plan to monitor this element in FY03

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Recreation -- Unroaded Areas				
Assess the physical, biological, and social resources within Backcountry Areas.	Assess the impacts on the physical, biological, and social resources (indicators). (Forest Rec Specialist and RSST)	Snowshoe Mtn and Pole Mtn/Finger Mesa	No backcountry areas were assessed during the FY02 summer field season due to the Million fire, Representative Diane DeGett continues to work on a wilderness bill that includes Pole Mtn/Finger Mesa area (Handies Peak) for inclusion into the national wilderness preservation system.	No changes in the Forest Plan recommended. We will plan to monitor this element in FY03
Evaluate Backcountry Areas relative to 36 CFR 219.12 (k).	Comparative evaluation for the M&E Report. (Forest and District Rec Personnel)	Forestwide Backcountry Areas.	Errors in the backcountry boundaries have been noted either during the initial work with project environmental assessments (Fox Mtn (020948) or during routine field inspections. These corrections need to be addressed under a plan amendment and area boundary corrections made to the Alternative G and Forest Travel maps. Interim roadless area management direction is in place. New direction will be forthcoming in the future and will be assessed to determine how it will affect our current Forest Plan direction. There is no direct affect from the interim roadless area management direction on our Forest Plan implementation in regards to our management of roadless areas Because of the Million fire, Million fire BAER and BARA planning, no review was made of the forestwide and backcountry prescription standards, desired conditions and monitoring items in FY02.	A plan amendment and map corrections to the Alternative G and Forest Travel maps is on hold until the Appeal Decision work is completed. No changes in the Forest Plan recommended. We will plan to monitor this element in FY03
Recreation -- Wild and Scenic Rivers				
Assess the physical, biological and social resources within Wild and Scenic River corridors.	Assess impacts on the physical, biological, and social resources (Indicators). (Forest / District Recreation Personnel and Core Team)		The enactment of P.L 106-530, the Great Sand Dunes National Park and Preserve Act, created the need for the Forest Plan to be amended to address the changes to the Wild and Scenic River write-up section of the Forest Plan in addition to the map correction changes to the Alternative G and Forest Travel maps.. No Wild and Scenic river corridors were reviewed in FY02.	The Forest Plan will need an amendment to address the Forest boundary and mangement changes due to the Act. The Wild and Scenic River changes and corrections to the Alternative G and Forest Travel maps are on hold until the Appeal Decision work is completed and all the land transfers involved with the Act are completed. No other Forest Plan changes are needed.
Evaluate Wild and Secnic River Management –area Prescription	Comparative evaluation for the M & E Report. (Forest and District Recreation personnel)	Forestwide Wild and Scenic River Management-area.	Because of the Million fire, Million fire BAER and BARA planning, no review was made of the W/S River standards, desired conditions and monitoring items in FY02.	No changes in the Forest Plan recommended. We will plan to monitor this element in FY03.

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Objectives, Desired Conditions, and S&Gs. 36 CFR 219.12 (k)				
Recreation -- Wilderness				
Monitor and evaluate visitor-use levels and other Wilderness resources. 36 CFR 293.2	Schedule for implementation those Priority 1 items outlined in each wilderness Area WIS. Surveys, data gathering, and reports. (District Wilderness Coordinators, Wilderness Rangers, and Resource Specialists)	South San Juan, Weminuche, La Garita, and Sangre de Cristo Wilderness Areas	Baseline monitoring was done in FY02 in numerous compartments in the Sangre de Cristo, La Garita and Weminuche wilderness areas. The wilderness team recently reviewed the monitoring results from the Weminuche and South San Juan wilderness areas. Based on the base-line monitoring results, they reviewed various management actions and determined which actions needed to be implemented in FY03 to address those conditions that are exceeding standards. With the enactment of P.L 106-530, the Great Sand Dunes National Park and Preserve Act, documented changes need to be written that addresses the changes to the Wilderness write-up section of the Forest Plan in addition to the map correction changes to the Alternative G and Forest Travel maps. Fish stocking in Wilderness areas has been addressed through the Wilderness Management Direction EA. A typographical error in the Forest Plan regarding stocking of indigenous fish in Wilderness will be corrected with an errata sheet in 2003.	The Forest Plan needs to be amended to address Wilderness affected by P.L. 106-530) and corrections to the Alternative G and Forest Travel maps. This will be done when the Appeal Decision work is completed and the ongoing land transfers have been completed. No changes are needed to the monitoring indicators outlined in the wilderness EA.
Evaluate Wilderness Forestwide Goals, Objectives, S&Gs and Wilderness Management-area Objectives, Desired Conditions, and S&Gs. 36 CFR 219.12 (k).	Comparative evaluation for the M&E Report. (Forest Recreation Specialist and District Wilderness Coordinators)	Forestwide Wilderness Management-areas.	Because of the Million fire, Million fire BAER and BARA planning, no review was made of the Forestwide wilderness objectives, management area desired conditions or standards in FY02	No changes in the Forest Plan recommended. We will plan to monitor this element in FY03.
Research and Information Needs				
Determine progress of accomplishing needed research. (Items listed on the top of page V-16 of	Questionnaire. (Forest Ecologist)	Poll Forest Resource Specialists on progress.	Progress is continuing on 1) watershed inventories for old growth in conjunction with proposed timber harvest activities; 2) Forest roads inventories; 3) collection of floral and faunal occurrence data for inclusion in the Colorado Natural Heritage Program Biological Database; and 5) an	No changes in the Forest Plan recommended.

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the Forest Plan).			ethnographic overview at the Great Sand Dunes National Monument. Under NRIS, a civil rights project was initiated to develop methods of identifying underserved communities.	
Research Natural Areas (RNAs)				
Evaluate RNAs relative to 36 CFR 219.12 (k).	Ocular, plots, transects, GIS. (Ecologist: D. Erhard)	Designated Research Natural Areas.	Site visits to RNAs could not be scheduled due to the higher priority of addressing human safety and resource issues tied to the Million Fire. Forest activities (timber harvest, livestock grazing, recreation, etc.) were severely limited on the Forest due to the extreme drought conditions.	No changes in the Forest Plan recommended. We will continue monitoring this element in 2003.
Scenic Resources				
Determine if project Scenic Integrity Objectives (SIOs) were met. Assess changes in SIO with respect to ROS.	On-site or photo-point monitoring. (Landscape Architect: K. Clum)	Projects where Scenic Resources is a key issue, and special areas such as campgrounds, gravel pits, and utility sites.	Many of the sites monitored for 2001 are the same sites monitored in 2002. However, little has changed due to Forest priorities associated with the Million Fire in 2002. On site monitoring was conducted at Blue Creek Post and Pole, and Wolf Creek Ski Area in 2002. The sites are still not in compliance with Scenic Integrity Objectives. The Blue Creek Post and Pole area along Hwy 160 was in compliance with the Scenic Integrity Objectives. Further harvesting is expected to continue to reduce insects and disease and to promote aspen growth along the scenic byway. Visits to Wolf Creek Ski Area were made in July 2001 and 2002. Site visits showed that new exterior entrance walls were not in compliance with the Scenic Integrity Objectives for the site. The color does not borrow from the characteristic landscape. Consultation was made with Wolf Creek Ski Area operator; however, May of 2002 showed no changes. Retaining walls for the knife ridge area, also do not borrow from the characteristic landscape colors. Steps are being taken to re-stain the wall to bring the color of the wall into compliance with the Scenic Integrity Objectives, however this was not complete by year end 2002. The Mountain Lion/Lookout was monitored in 2001 and 2002, however, there are significant contrasts during the winter months on the landscape as viewed from the highway. This area has 2 years to come into compliance with the Scenic Integrity Objectives. This area will be monitored again at the end of 2003.	No changes needed in the Forest Plan.

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Determine if SIOs were met. Assess Constituent Survey information	Constituent surveys, visitor observations, interviews, and public participation. (Landscape Architect: K. Clum)	Ranger District roads, trails, and recreation sites.	Constituent Surveys were completed in FY 2002, since the surveys are awaiting Washington Office approval.	No changes needed in the Forest Plan.
Evaluate scenic resources relative to 36 CFR 219.12 (k).	Summarize report	Forest	Three separate areas were monitored for Scenic Resource compliance during FY 2002. Under the terms of Scenic Resources, all areas have two years to come into compliance with the Scenic Integrity Objectives for any area after project implementation. These projects will continue to be monitored over the next year.	No changes needed in the Forest Plan.
Soil Productivity				
Assure that land productivity is maintained or improved.	(1) Monitor soil quality standards. (Soil Scientist: J. Rawinski)	Eagle Mountain Prescribed Fire.	This area is slowly returning to properly functioning condition. Soil scorching was the soil impact of concern.	No changes in Forest Plan needed. Standards and assessments seem to be working.
		Twister Salvage Sale	Twister Salvage Sale incurred soil compaction impacts from logging. Restoration measures continued in the 2002 field season. 75 acres of skid trails de-compacted.	No changes in Forest Plan needed. Standards and assessments seem to be working.
	(2) Use erosion model to predict erosion or analyze projects after completion. (Soil Scientist: J. Rawinski)	Million Wildfire	The Forest experienced a 9,000 acre wildfire. The WEPP erosion prediction model was used to estimate erosion after the fire. Monitoring sites were established for the long term.	No change needed.
	(3) Ocular estimates, pace transects, on-site, professional judgements to monitor fertility, erosion, mass movement. (Soil Scientist: J. Rawinski)	Tres Cabras Timber Sale	Soil rated "at-risk" due to lack of coarse woody debris.	No change needed.
	(4) Mass-movement evaluation by monitoring existing and potential problem areas. (Soil Scientist: J. Rawinski)	Projects where mass-movement potential is moderate or high and other landslide-prone areas, W. Lost Trail Creek, Chama Basin, others.	Inspected the Chama Landslides. No new movement and healing by vegetation is proceeding.	No changes needed.
M & E reclamation and reveg. efforts. (Soil Scientist: J.	On-site and/or random transects, review District project records and	Monitored the Million Fire reseeded efforts.	The growth of barley and native seeds were monitored after watershed seeding and mulching on the Million Fire. Even in a drought year, there was some seed growth.	No changes needed. The Forest Plan gives appropriate direction to reclaim damaged soils.

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Rawinski.)	erosion models. (Soil Scientist: J. Rawinski)		The Pinos Creek gravel pit is being scheduled for reclamation with topsoil .	
M & E Soil Productivity relative to 36 CFR 219.12 (k).	Project results, field reviews, data analysis, and modeling results. (Soil Scientist: J. Rawinski)	See above.	See all projects above.	No changes needed.
Special Interest Areas				
Assess protective measures and interpretive efforts.	Ocular surveys. (Ecologist: D. Erhard; Heritage Resource Specialist: V. Spero)	SIAs	Site visits to botanical SIAs could not be scheduled due to the higher priority of addressing human safety and resource issues tied to the Million Fire. Forest activities (timber harvest, livestock grazing, recreation, etc.) were severely limited on the Forest due to the extreme drought conditions. Special Interest Areas associated with historical and geological values were not monitored in FY2002 due to the higher priority of addressing human safety and resource issues tied to the Million Fire. Monitoring is scheduled to resume in FY 2003.	No changes in the Forest Plan recommended. We will continue monitoring this element in 2003.
Evaluate Special Interest Areas relative to: 36 CFR 219.12 (k).	Summarize reports or information from Districts. (Ecologist: D. Erhard; Heritage Resource Specialist: V. Spero)	SIAs	Site visits to SIAs could not be scheduled due to the higher priority of addressing human safety and resource issues tied to the Million Fire. Special Interest Areas associated with historical and geological values were not monitored in FY2002 due to the higher priority of addressing human safety and resource issues tied to the Million Fire. Monitoring is scheduled to resume in FY 2003.	No changes in the Forest Plan recommended. We will continue monitoring this element in 2003.
Timber				
Restocking of harvest areas. 36 CFR 219.12.	Stocking surveys. (Silviculturist: J. Griffin)	All locations/sites planned for 1st-, 3rd-, and/or 5th-year surveys.	In FY 02, a total of 810 acres were certified as being fully stocked.	Restocking of harvest areas will continue to be monitored. 36 CFR 219.12.
Assess timber suitability. 36 CFR 219.12; 219.27	(1) Standard suitability determination at Forestwide level. (Analyst/Silviculturist)	None.	An analytical error was found in the FEIS timber suitability assessment for the revised Forest Plan. The Forest's analyst failed to include Suitable timber lands based on Soils direction for Suitable lands. Timber lands in the Los Pinos/Cumbres/LaManga-Grouse areas on the Conejos	Continue to assess timber suitability at the project level. 36 CFR 219.12; 219.27

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			Peak RD formerly deemed Tentatively Suitable and/or Suitable and Scheduled (in the draft EIS) were errantly identified as Unsuitable.	
	(2) On-site inspection, inventory/growth-yield exams, soil sampling. (Silviculturalists {J. Griffin, J. Murphy}, Foresters and/or Technicians. Timber Sale Administrators {R. Newman,+ B. Valasquez}. Soil: J. Rawinski)	Pre-sale: Million Salvage, Cochetopa Hills Harvest Operations: Beaver Mountain II Park Creek Salvage, November, Grouse Stocking Surveys – The Gulch T.S. Park Creek Salv. Survival Surveys – Grouse T.S. Soil Surveys – Million	An area on the Divide Ranger District including the Geronimo and Benino Timber Sales was analyzed and is believed to be suitable but is currently categorized as unsuitable. All sales in the Black Mountain area on the Divide Ranger District have been assessed for suitability.	Continue to assess timber suitability at the project level. 36 CFR 219.12; 219.27
Assess insect and disease infestations relative to endemic levels prior to and following management activities. 36 CFR 219.12	On-site observation and limited sampling. Can include statistically accurate plots. (Silviculturalists.: {J. Griffin, J Murphy}; Foresters and /or Technicians Sale-Admin {R. Newman, B. Velasquez}. R2 I&D {R. Mask, T. Eager})	Active timber sales and ongoing Landscape Analyses & post-sale. Also areas undergoing extensive natural disturbance. Dendrochronology Studies	Insect and disease infestations were observed in and around the proposed Cochetopa Hills area (Saguache Ranger District), Twister TS (Divide Ranger District); , November TS and Grouse TS (Conejos Peak Ranger District); An increase in the level of Mountain Pine Beetle was again noted in the Ponderosa Pine zone on the Saguache Ranger District.	Continue to Assess I & D infestations relative to endemic levels prior to and following management activities. 36 CFR 219.12
Monitor size of harvest openings. 36 CFR 219.27.	Traverses, stocking surveys, on-site. (Proj. Silvi. Proj. Prep Foresters/Forestry Technicians)	Pre-sale, current active sales, post-sale areas.	Harvest openings were monitored in the following past timber sales: Par Creek Salvage, Grouse and Beaver Mountain II Timber Sales. No harvest openings were found to exceed the 40-acre maximum	Continue to monitor size of harvest openings. 36 CFR 219.27.
Assess implementation of silvicultural objectives during pre-sale, harvesting, and post-sale periods	On-site, photo points, density measurements. (Pre-Sale: Project and Silvi/Prep Forester/Forest Techs and resource specialists. Active contracts: Sale Admin. Post-sale: Same as pre-sale)	Pre-sale: Million Salvage, Long Lost Cabin, Trujillo Meadows, Personal & Commercial Use firewood & Post/Pole sales.	Opportunities for fire salvage following the Million Fire occupied a large part of the field season. The Million Fire areas were intensively monitored to determine impacts to soils, timber mortality, merchantability of trees, and access to areas. The results of this work is being incorporated into an environmental analysis that will result in salvage sales on the Million Fire.	Continue to Assess implementation of silvicultural objectives during pre-sale, harvesting, and post-sale periods

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		<p>Post-Sale: Twister Sales, Grouse, Million Salvage</p>	<p>The Trujillo Meadows timber sale was monitored for merchantability of blown down trees and for spruce beetle activity. Spruce Beetle activity is surprisingly at endemic levels. Many of the trees originally included in the timber sale contract are no longer merchantable.</p> <p>Monitoring on the Twister timber sale shows that the spruce beetle is very active. Many large diameter spruce trees remained on the ground due to steep slopes. The objective of restoring spruce beetle populations to endemic levels has not yet occurred but work continues on the Twister timber sale</p> <p>Spruce beetle on the Grouse timber sale is responding exactly as predicted in the EA.. The Grouse timber sale was sold in 2002 so attempts to control the spruce beetle population have begun.</p> <p>The firewood permits to be sold in 2003 were modified to exclude firewood cutting in riparain areas.</p>	
<p>Assess output performance of TS program quantity components as compared /outputs. 36 CFR 219.12</p>	<p>Comparative evaluations (MAR items: 17.1, 17.2, 19.0, 19.1, 20.0, 20.1, 77.1, 77.4, 77.5, 77.8, 77.9, 79.1, 79.2. (Analyst and the Timber Staff)</p>	<p>Various Forest offices.</p>	<p>Planned outputs were accomplished for reforestation and timber offer following the fire borrow.</p>	<p>Continue to assess output performance of timber program quantity components as compared /outputs. 36 CFR 219.12</p>
<p>Assess Timber program relative to 36 CFR 219.12 (k).</p>	<p>Comparative evaluations. (TCE Team)</p>	<p>Various Forest offices.</p>	<p>TCE team reviewed FP (Forestwide) Desired Conditions (Goals), Objectives, and Standards and Guidelines (for Silviculture); reviewed Management-area, Prescriptions, and Standards/Guidelines for Management-areas including Suitable timberlands (4.21, 4.3, 5.11, 5.13, and 5.41); and reviewed monitoring approaches to timber-related Desired Conditions.</p>	<p>Continue to assess timber program relative to 36 CFR 219.12 (k).</p>