Monitoring and Evaluation Report
FY 2003

Rio Grande National Forest, Colorado

United States Forest Service
Rocky Mountain Region
Region Two

2004

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Cover photograph by John Rawinski – Salvage operations on portions of the Million Fire in 2003.

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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 was meant to be a dynamic evolving document subject to change. Monitoring of the Plan is essential in evaluating the Plan's effectiveness and making the necessary adaptive management changes. Since The Forest Plan was approved in 1996, it has been amended five times to date. The timber harvest authorized by exception under the first amendment has been successfully completed consistent with the decision, and the area is again managed as backcountry. The fourth amendment for timber suitability became effective upon completion of consultation with the US Fish and Wildlife Service on the updated Forest Plan Biological Assessment. The fifth amendment added nine Management Indicator Species (MIS), along with updates to the standards and guidelines relating to MIS, and the addition of MIS to the Monitoring and Evaluation Strategy to the Forest Plan.

Overall, the 2003 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 were identified in the Forest Roads Analysis Report (2004) and need to be analyzed and scoped with our publics before correcting the Forest Plan map (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 the Forest Plan (Alternative G) map and Forest travel maps to reflect the Park Preserve within the Sangre de Cristo Wilderness. The related Baca Land Exchange is ongoing and will require an amendment to the Forest Plan once the Forest obtains its portion of the new property.

- The Forest Plan would be amended through the proposed Regional Southern Rockies Canada Lynx Amendment which is ongoing. This proposed amendment would incorporate lynx conservation measures through standard and guidelines into the Forest Plan.

- The Forest continues to suffer from drought and insect infestations. The Forest continues to assess forest health conditions and may propose plan amendments to allow for vegetative treatments where necessary.

- The Forest needs to amend the recreation Standard specifying camping stay duration limits to make the Standard consistent with other Forests in the Region.

I have reviewed the annual Monitoring and Evaluation Report for the Rio Grande National Forest for fiscal year 2003. 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.

/s/Peter L. Clark *9/13/04*

PETER L. CLARK
Forest Supervisor

Date

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Monitoring & Evaluation Report
Rio Grande National Forest
Fiscal Year 2003

Introduction and Status

The organization of this report is as follows. First, there is a brief discussion of the status of the Land and Resource Management Plan (Forest Plan) appeals, then a discussion covering amendments and potential amendments. Next is a discussion covering the basis for monitoring on the Rio Grande National Forest. These include a resource-by-resource discussion of monitoring requirements. Finally, a "State of the Resource FY 2003" section describing the results of monitoring by each resource area. An appendix provides a tabular summary of 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 Chief 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. The Secretary's decision affirmed in part and reversed in part the Chief's January 19, 2001 appeal decision. The following instructions were provided to the Forest:

- Select appropriate MIS per 36 CFR 219.19 and display the environmental effects of forest plan alternatives on such species.
- Expand the display of environmental effects of forest plan alternatives on Riparian Group and Nonforested Group species to be commensurate with the display in the FEIS of effects on other Groups.
- Display habitat effects for a longer time period, to be determined by the Forest based on consideration of rotation age and rate of change in plant communities due to succession or management activities. As part of the coarse-filter and fine-filter analyses contained in the FEIS, habitat/vegetation types should be forecast into the future to ensure the persistence of these ecosystems. In addition, the disclosure of effects should include a better display of where management activities are permitted by habitat/vegetation type and management prescription.
- Add direction to the monitoring plan if MIS are selected that the Revised Forest Plan does not already require to be monitored.
- Issue an errata sheet regarding compliance with Section 505 of FLPMA.
- Develop a new livestock grazing suitability determination as required by the Chief's decision, including a map of rangelands that shows where grazing permits have been issued.
- Add to the record the scientific literature cites used to determine habitat needs, distribution, and trends of sensitive species and MIS.

Work on the above items has been completed and posted on the Rio Grande National Forest Website at: http://www.fs.fed.us/r2/riogrande/planning/planning.htm

Forest Plan Amendments

There have been five amendments to the Forest Plan to date. A brief description of each amendment is provided below.

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 to reduce the risk of beetle infestation. This is a non-significant amendment. 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. This amendment also clarified the stocking of indigenous fish in Wilderness. 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. This is a non-significant amendment.

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 became effective upon completion of the consultation process with US Fish and Wildlife Service regarding the adequacy of the Forest Plan biological assessment and evaluation. This is a non-significant amendment.

Amendment # 5

Management Indicator Species (MIS) Amendment. Peter Clark signed a Decision Notice to amend the Forest Plan on 10/24/03 which identifies nine Management Indicator Species (MIS), and adds or modifies the associated standards and guidelines and Monitoring and Evaluation Strategy to the Forest Plan. This is a non-significant amendment.

Status of Previous Recommendations

There were several recommendations for changing the wording of some of the silvicultural guidelines and for changing monitoring requirements for fish and birds in the Forest Plan. Some of these were addressed in the MIS Amendment discussed above. 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

Unroaded area mapping errors were identified in the Forest Roads Analysis Report (2004) and need to be analyzed and scoped with our publics before correcting the Forest Plan map (Alternative G) and Forest travel maps. The Fox Mountain unroaded mapping error may be addressed in the current Handkerchief-Mesa environmental assessment.

As a result of PL 106-530, Great Sand Dunes National Park and Preserve Act, there is a need to correct the Forest Plan (Alternative G) map and Forest travel maps to reflect the Park Preserve within the Sangre de Cristo Wilderness. The related Baca Land Exchange is ongoing and will require an amendment to the Forest Plan once the Forest obtains the new property.

The Forest Plan will be amended through the Regional Southern Rockies Canada Lynx Amendment that is ongoing. This proposed amendment will incorporate lynx conservation measures through standard and guidelines into the Forest Plan.

The Forest continues to suffer from drought and insect infestations. The Forest continues to assess forest health and may propose plan amendments to allow for vegetative treatments where necessary.

The Forest needs to amend the Forest Plan recreation standard which dictates recreational stay duration limits to make the Standard consistent with other Forests in the Region.

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 Estill. 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 only a relatively short time period, this FY 2003 report focuses primarily on implementation and effectiveness monitoring. As trends develop and conclusions are validated, the third level of monitoring will be addressed.

Monitoring Requirements

This section briefly synopsizes 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 should be monitored three times per summer to be most effective.

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 to be completed on at least one stream and riparian area per Analysis Area for each Environmental Analysis (EA) project involving land disturbance. 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

The National Forest Management Act (NFMA) requires the RGNF Forest Plan to provide for the diversity of plant and animal communities based on the suitability and capability of the specific land area in order to meet overall multiple-use objectives (16 U.S.C. 1604(g)(3)(B). NFMA is implemented through the regulations at 36 CFR 219.19 and 36 CFR 219.27(a)(6) which require management of habitat in order to maintain species viability in the *planning area* -- which is the RGNF. Thus, the Forest has a duty to harmonize multiple-use objectives with providing a reasonable certainty for species viability.

To determine if the Forest Plan is meeting this objective, the Forest will use several monitoring tools. 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. Management Indicator Species (MIS) will also be monitored beginning in 2004.

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. Management Indicator Species were specifically selected as one tool to help evaluate diversity and species viability Forest-wide. 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 and structural changes).

To ensure that the Forest is meeting this objective, four attributes have been selected for monitoring vegetation because they capture the key components of vegetation 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.

Management Indicator Species will also be used to monitor the Forest's objective for providing for and maintaining diversity and to assess species viability. Project-level MIS analyses will address species viability within a context of the entire Forest. MIS analysis focuses on habitat to support a minimum number of reproductive individuals which are well distributed so individuals can interact in the planning area while addressing the relationship between the MIS population trends and habitat changes. A multitude of information can be used for MIS monitoring which makes possible the evaluation of diversity in terms of its prior and present condition (36 CFR 219.26).

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

Soil Productivity
The protection of soil productivity is monitored based on the requirements of 36 CFR 219.12(k)(2). The Forest uses several tools for soil monitoring, including the collection and analysis of core soil samples, erosion modeling, ocular estimates, transects, soil health assessments, investigations, and professional judgment. Soil health assessments will be made to determine whether long-term soil productivity was maintained or improved. Management actions and effects are evaluated 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 2003

Summary statements pertaining to the results of monitoring efforts done in Fiscal Year 2003 (FY03), 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 2003."

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. Monitoring resumed in 2003 and samples were collected from the eight established long-term sampling sites. 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

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 seem to be the more important criteria for protection of stream health.

Drought conditions for the Rio Grande National Forest continued into 2003. "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 dry up during a drought. As water sources diminish, animals are 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. Stream health is determined by comparing channel conditions to a similar reference stream that shows what a stream can look like. Sometimes this comparison is made visually and sometimes with more, in-depth measurements.

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 continues, but sediment retention measures are a routine part of that operation.

Streams within the Million Burn continue to be in different states of adjustment. The watershed is healing nicely, but stream channels are naturally down-cutting in places while aggrading in others.

Several fuel reduction projects occurred in 2003. 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 also assessed stream condition for timber sale projects and range allotment renewals. Minor problems were noted in some cases and changes in management are expected to produce improvement in those areas. We also returned to some reference streams and to some long-term monitoring streams to document changes.

The Forest completed work on three different abandoned mine land reclamation projects that involve improving water quality and health of streams, riparian areas and watersheds. Two of these were in the Willow Creek watershed and the third was in the Kerber Creek drainage.

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.

A site visit was made to known *Draba smithii* and *Salix arizonica* sites (Forest Service designated sensitive plants) and they appeared stable and secure. Drought conditions continued in FY03. No new special status plants were found this year.

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.

Several CNHP plant communities of special interest were visited in 2003 as follows: 1) *Alnus incana* / *Cornus sericea*; 2) *Salix monticola* / *Calamagrostis canadensis* and 3) *Populus angustifolia* / *Salix exigua*. Sites appeared stable and there were no apparent threats.

Old-growth inventories were completed for the following projects: Fern Creek, Million Salvage, Spruce Hole, and Twister Beetle Salvage. 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 2003 summer season did affect habitat conditions to an extent on the Forest, due to the continuing effects of extreme drought and the Million Fire. Epidemic beetle outbreaks are affecting forest health conditions, especially in spruce-fir habitats. Rehabilitation and conservative management of these areas will be required to recover desirable habitat conditions and restore appropriate fire regimes in the affected areas.

The area burned in the 2002 Million Fire, as well as riparian and range areas, will require close monitoring in the 2004 field season. There are monitoring surveys for wildlife use, with an avian emphasis, scheduled in the Million Burn Area for 2004. MIS monitoring, new to the Forest Plan through the MIS Amendment to the Forest Plan, is scheduled Forest-wide for 2004, again with an avian emphasis.

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. Lynx habitat baseline data were updated based on proposed projects and management activities.

The Forest is a part of a statewide effort to monitor population trends for various bird species found within the State (the Monitoring Colorado Birds program). 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 (including black swift) as directed by the Forest monitoring plan. In 2004, this program will be expanded on the Forest to add transects specifically for the Forest's avian MIS added into the Forest Plan's monitoring program through the MIS Amendment.

The Forest continues to receive monitoring reports from the Colorado Division of Wildlife (CDOW) on Canada lynx, peregrine falcons, boreal toads, bats, bald eagles and game species. Monitoring of Southwestern willow flycatcher habitat continues to be coordinated with the US Fish and Wildlife Service (FWS) and both population and habitat surveys were conducted this year. Although no birds were found on the Forest, the Forest will continue to coordinate with FWS in 2004 to refine the definition of and map potential habitat for Southwestern willow flycatcher, as a basis for continuing surveys. The Forest is cooperating with multiple entities in the development of a Habitat Conservation Plan for the Southwestern willow flycatcher. The Forest continues to cooperate with adjacent Forests and the FWS in conducting population and habitat monitoring for Uncompaghre fritillary butterfly; to date there are 5 identified populations on the Forest and habitat surveys are ongoing.

The current status of the Forest's TEPS species can be found in the updated Forest Plan Biological Assessment (BA) prepared as part of the Forest Plan MIS Amendment. The Forest Plan BE will be updated in 2004 to include an evaluation of those species from the revised Regional Forester's Sensitive Species List that are found on the Forest. A review of the Forest Plan's guidance for conservation and management of migratory birds was also completed. A final report on this review will be completed in 2004.

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 were affected for the second year in a row, by drought conditions which contributed to lower than normal stream flows and lower water levels in some lakes. But, overall the drought effects in 2003 were not as severe as in 2002 and overall it was an average sport fishing year across the Forest, although native fish populations appear to have been impacted by low stream flows.

Sport 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. Stocked fish include Rio Grande cutthroat trout, rainbow trout, brown trout, brook trout, Snake River cutthroat trout, kokanee salmon, and splake. Creel surveys were conducted at several high use reservoirs and streams on the Forest that are supported by CDOW hatchery stockings. Creel surveys were conducted at Trujillo Meadows, Beaver Creek Reservoir, Big Meadows Reservoir, Continental Reservoir, Road Canyon Reservoir, Regan Lake, Kerr Lake, and the Rio Grande and Conejos River. Rainbow trout was the most common fish recorded in the creel by the approximately 1000 anglers contacted. Angler catch rates declined from 0.81 fish/hour in 2002 to 0.60 fish/hour in 2003. A 0.60 fish/hr catch rate is still above the 0.50 fish/hr target to maintain angler satisfaction. Low water levels and warm temperatures may have contributed to the decline.

Native fish management and restoration is a high priority on the Forest. Management activities completed in 2003 for native fish include the Big Springs Restoration Project, Lake Fork Conejos River Barrier Repair Project, population monitoring and evaluation, and genetic analysis. The Big Springs Restoration Project entailed removing all nonnative fish from Big Springs Creek and restocking with native Rio Grande cutthroat trout and Rio Grande sucker. The Lake Fork Conejos River Project entailed repairing the fish migration barrier in preparation for a stream renovation scheduled for 2004.

Density, biomass, and population estimates were conducted on eight RGCT streams and relative abundance determination was made for two lakes.

Rio Grande cutthroat trout are found in 57 streams and 59 lakes and reservoirs on the Forest (2002), totaling approximately 350 stream miles and 1000 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). Of the 57 streams, 35 of the streams and 3 lakes are considered core or conservation populations and 22 streams and 56 lakes or reservoirs are considered recreation populations.

The drought and corresponding low stream flows impacted the RGCT streams surveyed in 2003. Of the eight streams surveyed, three of the streams were rated as "At Risk and Declining"; two streams rated as "Secure and Stable" (although each population occupies less than .5 mile of stream); and no RGCT were found in three of the streams. Five of the eight streams were intermittent or had extremely low flows when surveyed. Very few RGCT were found in Alberta Park Reservoir and was therefore rated "At Risk and Declining". No fish were found in Teacup Lake and will be removed from future RGCT stocking lists. One new RGCT core population, Big Springs Creek, was started in 2003.

In 2002, Rio Grande suckers were found in five streams on the Forest. In 2003, surveys in two of the five streams failed to document any suckers. The streams were intermittent when surveyed. It appears that low flows have eliminated all, or most of, the Rio Grande suckers from North Fork and Middle Fork Carnero Creeks. One new population was started in 2003; Rio Grande suckers were stocked in Big Springs Creek following the stream renovation which removed all nonnative fish.

It appears that the prolonged drought has impacted the native fisheries found on the Forest. As of 2003, the Forest currently has 36 core and/or conservation RGCT populations and 80 RGCT recreation populations. Core and conservation streams are monitored on a five year rotation so the full extent of the drought will not be fully determined until all streams have been monitored. The number and status of core/conservation populations may change over the next five years as stream inventories are completed.

The number of RGCT recreation populations should remain fairly stable if CDOW continues with their native fish stocking program. Most of the recreation populations are supported by hatchery stockings. In 2003, CDOW stocked approximately 104,120 fingerling RGCT into 54 wilderness lakes and streams.

Additional activities conducted in 2003 included collecting RGCT tissue samples for genetic analysis; planting willows to help stabilize streambanks and increase overhead canopy; collected baseline fishery data in one stream to assess the streams suitability for RGCT reintroduction; and assisted USFWS, CDOW, and TU in the design of a fish migration barrier on North Fork Carnero Creek to protect native RGCT and Rio Grande suckers from nonnative fish invasion.

Information collected in 2003 suggests that extremely low, to intermittent, stream flows have impacted some fisheries on the Forest. These impacts are due to prolonged drought and not current management activities. The information available suggests that 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 2003, 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 continuing drought conditions the Forest was still

experiencing, prescribed fire treatment options have been limited. Where fire treatments were implemented (in October of 2002, FY 03 and May of 2003), 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) has addressed 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. A supplement or addendum 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

The intent of the National Health and Safety Codes and Occupational Safety and Health Administration guidelines were met.

State of the Resource: Heritage Resources

The Forest made progress in conducting the Heritage Resource monitoring called for in the FY 2003 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 2003 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 approximately 3 weeks after the mailing of the Bulletin if necessary.

State of the Resource: Minerals

The minerals monitoring program requires the RGNF to validate leasing activities as well as standards and guidelines. No lease applications were processed for leasing by the BLM in 2003. Nine lease applications are being withheld pending appropriate analysis for Lynx. There were no major proposals in the locatable minerals program. Homestake Mining continued reclamation work on their Bulldog Mine in 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 FY2003. 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 throughly 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 FY2003 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. During the 2003 grazing season, only about 60% of the allowable number of livestock were placed on the Forest due to drought conditions. Approximately 60% of the livestock within the San Louis Valley have been sold or moved to pastures outside of the state of Colorado due to these conditions. Monitoring of rangeland resource conditions and compliance checks were the principle emphasis for the 2003 season.

State of the Resource: Recreation

Developed Recreation

Developed Sites:

Forest campground visitations and revenues in FY03 were up around 35% from FY02 because there were no fire restrictions or closures on the Forest that year.

The following deferred maintenance projects were completed in FY03: Elk Creek campground well, Lower Elk Creek trail bridge construction was begun, design of the Elk Creek campground rehabilitation project and a mile section of the Blue Lake trail (South San Juan wilderness) was reconstructed.

Ski Area:

Wolf Creek Ski Area continued its scheduled summer project work during FY03. Projects included: construction of the new parking area access road, hardened of the stream crossing and clearing of the new lower parking areas; painting of all the ski area buildings; construction of a new ski trail; installation of the gasex avalanche control system and a upgrade of the existing sewer plant.

***Special Uses**:*

Conejos Peak, Divide and Saguache Ranger Districts issued new special use permits in conjunction with the prospectus process in FY03. Billings and issuance of special use permits is now done in SUDS.

Dispersed Recreation

Trails

Deferred maintenance trail inventories were completed on 59.2 miles of trail on the Divide Ranger District in FY03. The resource impacts from the Million fire on the Beaver Mountain trail were corrected and the trail was re-opened for use during the fall season.

Travel Management:

ATV use is increasing on the Forest both during the summer and fall seasons. Use off of designated roads and trails is increasing as the amount of use increases.
Volunteers monitored the winter use in the Lobo area and most users followed the posted regulations and designated use areas.

Unroaded Areas

Interim roadless area management direction remained in place. 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. Representative Diane DeGett introduced another wilderness bill in FY03 that includes the Pole Mtn/Finger Mesa area. No roadless areas were monitored in FY03.

Wild and Scenic Rivers
No Wild and Scenic corridor was monitored in FY03. The Forest Plan will need to be amended to address the changes and corrections to the Wild and Scenic section of the plan with the enactment of P.L. 106-530.

Wilderness
Wilderness team monitoring took place in compartments within the Weminuche and South San Juan wilderness areas. Results indicate that the most resource standards are being met in the South San Juan but there are a few standards being exceeded within various compartments of the Weminuche wilderness.

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)
The Spring Branch RNA was visited and visually evaluated. Unauthorized off road travel continues to be an issue off FDR 327 (Cedar Spring Road) in places, but this has improved over the last several years. The District staff have a done a good job of signage to clearly indicate where motorized travel is authorized. Otherwise, the majority of RNA appears to be minimally impacted by humans. Natural processes are the prevailing influence. There was no evidence of any conflict with 36 CFR 219.12 (k).

State of the Resource: Road Construction, Closures, and Decommissioning
No planned timber sale road closures were conducted in FY 2003. Four miles of unclassified road were decommissioned in FY 2003. Approximately 83 miles of classified and unclassified roads have been decommissioned since 1996.

State of the Resource: Scenic Resources
Three areas were monitored for Scenic Resources compliance during FY2003. In order to obtain Scenic Resources objectives, a project should comply with Scenic Integrity Objectives (SIO's) within two years after project implementation. The three areas will be under continued monitoring for changes.

The Mountain Lion Lookout Area marginally meets compliance for the Scenic Resources during the winter months when the landscape has high color contrasts. During the spring and summer, views into the area show only a slight change in texture and color. Straight line edges become most noticeable during the winter months. This has been monitored for the last 2 years with no changes or rehabilitation to the landscape since project implementation. 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 monitored for Scenic Integrity Objectives. Retaining wall staining marginally meets the SIO's for the corridor above the new tunnel construction. Recommendations have been made to the state engineer to increase texture on soil nail walls and the use of darker stains on future rock walls. In addition blasting techniques along the Lonesome Dove Project to Windy Point are being monitored to assess whether they meet Scenic Integrity Objectives due to pre-slit blasting along a visually sensitive portion of Highway 160. In addition, monitoring will continue along the highway on tree removal, storage areas, wall staining, seeding, and replanting to

assess whether they meet the Scenic Integrity Objectives for the Highway 160 Corridor. These areas will continue to be monitored through project completion.

Temporary range stock tanks are also expected to meet the Scenic Integrity Objectives like other structures on the Forest. The stock tank at the junction of the Conejos Canyon Road did not meet the Scenic Integrity Objectives but has since been removed thereby eliminating the problem.

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 evaluations and soil health assessments. In FY 2003, five projects were reviewed. Soil health is the current health condition of the soil and its ability to sustain the potential natural community of vegetation for the long-term. The three types of soil health ratings are Properly Functioning, At-Risk, and Impaired. Properly functioning means that soil physical, biological and chemical properties are functioning in a manner that maintains soil productivity. At-Risk means that some soil feature has been changed and in its current condition, there is a risk of losing productive capacity through erosion, nutrient losses or loss of surface cover. Impaired means that erosion has been occurring at accelerated rates or that unmitigated compaction is present.

Forest Plan Monitoring Site #1: Coolbroth Fire An on-site soils investigation was conducted on April 2, 2003 to see if the Forest Plan Desired Conditions and Standards and Guidelines to maintain or improve soil health were achieved on the Coolbroth Wildfire Project. This wildfire began in ay 2002, and burned through a predominant cover or Arizona Fescue and Mountain Muhly. The fire was of low intensity burning the upper portions of the bunchgrasses and leaving the plant base intact.

The Forest Plan Desired Conditions and Standard most relevant to the Coolbroth Wildfire are:

1) *Soils are maintained or improved so that the ecosystems they support can flourish. Healthy soils and ecosystem sustainability will be assured if soil damages such as erosion, displacement, compaction, scorching and nutrient drains are kept within allowable limits. (Forest Plan Desired Condition I-3)*
2) *Manage land treatments to limit the sum of severely burned, and detrimentally compacted, eroded, and displaced land to no more than 15 percent of any land unit. (Forest Plan Standard, III-10, Soil Productivity #1)*

The results of the analysis showed that because this wildfire was a low intensity short duration fire, sufficient soil cover remains in the form of grass bunches and rocks so that erosion is not expected to be a concern. No reclamation of this site is necessary and the burned area still meets Forest Plan goals, objectives and standards. Soils are **Properly Functioning Condition.**

Forest Plan Monitoring Site #2 Twister Subsoiling Monitoring A number of site visits were made to the Twister area to review and inspect soil health restoration efforts. Subsoiling treatments were continued to reduce soil compaction problems following the salvage logging. The subsoiling went well, and the treated area is responding favorably. There is no noticeable erosion coming off the hillslopes and water is infiltrating into the soil. By contrast however, the areas that were ripped up and down slope are showing evidence of unacceptable erosion. Next field season, we will subsoil some of the ripped areas to restore infiltration, and will do so along the contours so to break up the erosion potential. **Soil Health Rating: Properly Functioning, with small areas Impaired.**

Forest Plan Monitoring Site # 3: Hydro Axe Impacts A September 2003 site review of the Wolf

Creek area monitored hydro-axe work done on pinyon pine. The area was traversed and treadways, tracks and undisturbed areas were sampled. The hydro-axe treatments were conducted when soil conditions were dry in May and June 2003. An estimated 5% or less of the area had soil compaction, well within Forest Plan standards. The project is meeting soils standards and is an effective treatment. **Soil Health Rating: Properly Functioning.**

Forest Plan Monitoring Site #4 : Million Fire Rehabilitation Monitoring: During the summer of 2003 soil and watershed improvements and structures, seeding, and mulching progress was monitored. These were actions initiated as part of emergency response and the BAER Plan. Some initial findings are presented below.

The mulch and seeding operation by helicopter was successful in that seed has germinated and grown where mulch was persistent. In the bare soil areas without mulch, seed has been poor to establish in this rather dry ecosystem. This is well depicted in the photo below.

The wattles that captured erosion have been seeded this spring with western wheatgrass and slender wheatgrass and have responded well with plant growth. The photo shows a wattle seeded in summer 2002.

Seed applied by aerial seeding is sprouting and showing a favorable response. Although the cover is sparse, in the long term grass is expected to help reduce erosion. **Soil Health Rating: At Risk Soil Health.**

Forest Plan Monitoring : #5 Chama Landslide Monitoring On June 19, 2003, an on-site inspection of the Chama Landslide was conducted. This landslide has been the subject of past controversy and the Forest Plan directs that we monitor its activity.

The landslide materials are still very stable. The stability may be due to the series of drought years we have experienced lately. The landslide was active during the mid 1980's, a period of very wet years. The landslide is revegetating with grasses, forbs, shrubs and trees. The wetland within the landslide now has cattail vegetation and is an excellent water source for elk that frequent the landslide for forage.

Leche Creek still was running white with silt and clay particles, but the sediment is going into the river floodplain and is being effectively filtered. There is sufficient vegetation to continue this process provided livestock grazing is properly managed. There is no need for additional actions nor Forest Plan amendments.

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

The botanical area at Hick's Canyon was visited and visually inspected. *Astragalus ripleyi* plants were relatively infrequent with dimished plant vigor (plant heights noticeably shorter). Continued drought in 2003 is probably negatively affecting plants. Otherwise, there were no new concerns. Special Interest Areas associated with historical and geological values were not monitored in FY2003 due to

the higher priority of addressing human safety and resource protection. We plan to continue monitoring this element in 2004.

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 2002-2003 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 2003 approximately 62 acres of first year survival checks were completed in the fall on the Twister Timber Sale. No further regeneration surveys or certifications were completed in 2003. Specific areas that are planned for reforestation in 2004 are as follows:

- **Twister Timber Sale**. Approximately 65 acres were mechanically site prepared on the Twister Timber Sale. These areas will be planted in 2004. This will complete the artificial regeneration needs on the Twister blowdown unless monitoring identifies a need to interplant or replant areas planted in 2002 and 2003.

- **Million Fire.** Areas salvaged on the Million Fire in 2003 and 2004 will be planted in 2004. The planting will occur on about 62 acres of the Drill Pad Fire Salvage and West Fork Fire Salvage.

Timber Suitability

The Forest amended the Forest Plan in 2000 with Amenment #4 to address timber suitability. The suitability amendment took effect in 2003 after appropriate consultation with the US Fish and Wildlife Service occurred with the updated Forest Plan Biological Assessment. Timber suitability has been and will continue to be evaluated during the project level planning phase for timber sales. Since no planning for timber sales occurred in 2003, 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, probably related to the extended drought. Additionally, many of the areas where insect and disease problems occur fall in the habitat and 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 2003 monitoring of the site found that numerous additional trees had been infected with spruce beetle. The beetle flight was monitored using phermone baited traps. Control activities and monitoring in this area will continue in 2004.

- Monitoring of spruce beetle infested trees continued on the Twister timber sale and 130 acres were treated using sanitation/salvage harvest in 2004. Monitoring has shown that the spruce beetle has infested an additional 261 acres that are planned for treatment in 2004. Further monitoring of trees will occur in 2004 on the Twister sale area.

- Spruce Beetle monitoring occurred on the La Manga, Spruce Hole, Neff Mountain, Shaw Lake, Finger Mesa and County Line areas. Significant spruce beetle activity was discovered in these areas. The La Manga and Spruce Hole timber sales are currently under contract. The Forest has completed some marking of beetle infested trees on the Neff Mountain salvage and is planning on treating these areas using small sales. An environmental impact statement is in progress for County Line and treatment is scheduled to begin in 2005. A Categorical Exclusion may be used to treat Shaw Lake but planning for this spruce beetle infestation has not yet begun. Planning for treatment of the Finger Mesa area has not yet begun. Monitoring of the site will continue in 2004.

- Stand exam data collection was completed in the Pool Table/Ivy and Black Mountain areas in 2003. The results of this work show that spruce beetle is at endemic levels in these areas. The data collected will be entered into the FsVeg database in 2004. Stand exam data was collected in the Luders area and showed increased levels of Mountain Pine Beetle, Spruce Beetle and Ipps Beetle in lodgepole pine.

- Ninety trees were treated in the Buffalo Pass campground with carboryl to protect the trees from mountain pine beetle and other insects. Additional trees were treated in campgrounds on the Conejos Peak Ranger District. These trees were monitored through the summer and the treatment was effective. Trees will continue to be treated with carboryl and monitoring of insects within and adjacent to the campground will continue in 2004. An initial evaluation of insect and disease conditions in the Divide RD campgrounds will occur in 2004.

- Douglas-fir beetle has continued to be observed and is increasing on the Saguache District in Douglas-fir stands. 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 and Douglas-fir beetle and plan for baiting beetles prior to prescribed burning the area. Approximately 2,000 trees were protected using MCH caps in the Park Creek area. Monitoring showed that the treatments were effective. Additional MCH caps will be applied in 2004 as well as experimentation with other products. Abouit 250 trees were used to reduce the Douglas-fir beetle population in the Park Creek area. The trap trees will be removed prior to the bug flight in 2004.

- 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. A Gate 1 document to initiate a timber sale was completed in 2004. In 2004 the Antelope stewardship contract will be awarded to treat about 850 acres of mixed conifer infested with Mountain Pine Beetle and Dwarf Mistletoe in the Cochetopa area and Est Sheep Creek Firewood area will treat about 30 acres. No further work is planned for the immediate future. Further monitoring of the area will continue in 2004 and beyond. A Gate 1 document was also prepared for the Luders area adjacent to Cochetopa Hills. The work in this area revealed Mountain Pine Beetle and Douglas-fir Beetle activity.

- 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 logdepole 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 efforts using a hydro-axe were completed in 2004 on about 263 acres. Some minor amounts of additional work may be required but is not currently planned.

- The Million Fire area was monitored for insect activity. The primary insects of concern were the Mountain Pine Beetle and Douglas-fir Beetle. The insect populations are currently at endemic levels.

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.[1] 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 and are no longer openings.

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 2003 are displayed in the table below:

Item	Measure	Planned	Accomplished	% Accomplishment
Reforestation/Planting	Acres	62	62	100%
Reforestation Surveys	Acres	62	62	100%
Timber Volume Offer	CCF	2573	5460	59%

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.

- District-wide assessment of insect and disease infestation should occur to address the current outbreaks.

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).

Interdisciplinary Monitoring Team Contributers

Gilbert Becenti	Range Conservationist
Bob Dalrymple	Forest Planner
Les Dobson	Hydrologist
Dean Erhard	Ecologist
Theodore “Lary” Floyd	Asst. Fire Mgt. Officer
Diann Gese	Minerals
Stan Mattingly	Forest Engineer
John Murphy	Forester
Kelly Ortiz	Landscape Architect
John Rawinski	Soil Scientist
Vince Spero	Archaeologist
Greg Thompson	Recreation Forester
Laurel Kagan Wiley	Wildlife Biologist
Barry Wiley	Fisheries Biologist

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APPENDIX A
Monitoring and Evaluation Table
Rio Grande National Forest
Fiscal Year 2003

This appendix synopsizes the monitoring actions and results for fiscal year 2003. The monitoring items listed below correspond with the components listed in Table V-1 from the 1996 revised Forest Plan, as amended.

MONITORING ITEM	*METHOD and (CONTACT)*	*PLANNED LOCATIONS*	*MONITORING ACCOMPLISHED (what, where, results, summarize, references)*	*EVALUATION (What are the recommendations based on monitoring? Changes needed t 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 was heavily influenced by the fires in the area and upwind. Data from 2003 has not been analyzed yet.	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 1 in the Sangre de Cristo WA.	Sampling was completed at all 8 lakes. These results are available to define current good conditions and appropriate control technology when new major polluting sources are proposed that could impact these wilderness areas.	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, FY01, FY02, FY03.	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 t 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: Million Salvage and County Line Salvage Range Allotments: Platoro	Larger timber sales and range AMPs EAs that included watershed assessments were the Million Timber Salvage and County Line Salvage Projects and the Platoro Range Allotment. Several small timber sales that relied on a programmatic EA include: Bear Cr, Antelope and Million salvage. No new watersheds of concern were discovered. One watershed of concern that was identified during the Forest Plan Revision was reevaluated as part of the County Line Salvage Project.	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)	As described in the next collumn.	Stream health was measured carefully at 4 reference sites, including Short Creek, Race Creek and two reaches of Ivy Creek. Reference conditions still exist at these locations. Similar stream health assessments were completed on the Rio de los Pinos, Wolf Creek and a tributary to Rio de los Pinos as part of the County Line Salvage assessment. The Rio de los Pinos below the proposed harvest area is healthy with small localized bank instability problems. Wolf Creek showed signs of increase sediment and bedload movement, perhaps from private land logging above. The tributary to Rio de los Pinos was also healthy and has benefitted from watershed restoration efforts. Streams in the Platoro Range AMP assessment included the Conejos River, California Gulch, Fisher Gulch and Rhodes Gulch. The Conejos River above Platoro Reservoir still shows signs of bank instability from historic uses. Other streams in this allotment show signs of bank impacts, probably associated with the drought and increased wildlife/lifestock concentrated use. The Million Timber Salvage project was strategically located to avoid any perennial streams, however ephemeral channels were observed to be naturally unstable due to the burned	Stream health direction in the Plan is appropriate. No changes are needed.

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			condition of the watersheds. West Fork Shaw Creek, located below proposed harvest areas was documented to be in good condition. 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. 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. Fout mine dumps in the Willow Creek watershed were reclaimed in the fall of 2003. Several streams were evaluated prior to fuel reduction projects, including ephemeral channels tributary to the Alamosa River and Ojito Creek, ephemeral channels tributary to the Conejos river, Rito Hondo Creek, ephemeral tributaries to Cat Creek, ephemeral channels to the Rio Grande, tributaries of Embargo Creek, ephemeral tributaries to Carnero and Little La Garita Creeks, and tributarites to Pinos Creek. The intent of these evaluations was to determine whether channels were currently healthy or whether they needed special protection as part of the project. Most of these channels have had impacts from activities in the distant past and are in various stages of recovery, but most are recovering well with new channels established within old gully walls that are naturally revegetating. Rito Hondo Creek has been impacted by the transbasin diversion from Trail Gulch and from wildlife/livestock during the drought.	
	(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)	North Fork Saguache Cr.,	Three reaches of the North Fork Saguache Creek were monitored. The Elk and Cattle Exclosure is in very health condition with bank instability less than 5%. The cattle exclosure allows elk uses and bank instability was 31% on one bank and 18% on the other. The reach that allows both cattle and elk grazing had 33% on one bank and 37% on the other. The conlusion from this work is that elk are having more of an impact on bank instability than we thought and that the additional contribution from cattle is relatively small. Three streams that have been used for reference in the	No changes in the Forest Plan are needed.

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			pasts were revisitied. Two of these streams, Short Creek and Race Creek, are within actively managed grazing systems and both remain in healthy condition. Ivy Creek only receives wildlife grazing and it also is in healthy condition.	
	(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 FY2003. The tributary to Rio de los Pinos was identified as a watershed of concern in the Forest Plan and it was revisited as part of the County Line Salvage project assessment. This watershed has had restoration work in the recent past and was observed to be in healthy condition.	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 *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.	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. The Forest will continue extensive monitoring.
	(2Native Fish Population Monitoring. (District Biologist: Sue Swift-Miller; Barry Wiley SO Fish Biologist, FS Seasonal employees; DOW)	NF Carnero Cr., MF Carnero Cr., Big Springs Cr., Pass Creek., West Fork Pass Cr., Saguache Cr., Wolf Cr., Lake Fork Conejos River, Rio de Los Pinos, Whale Cr., Wannamaker Cr.,	Squaw Creek was evaluated to determine its suitability for Rio Grande cutthroat trout (RGCT) reintroduction. Tissue samples were taken and submitted to the University of Montana for genetic analysis. USFS and DOW personnel evaluated twelve RGCT populations and two recreation waters on the Forest. Creel surveys were conducted at nine high use recreation waters. Willows were planted along two streams to help stabilize streambanks and provide overhead canopy. One new native fish, RGCT and Rio Grande sucker, population was started.	No changes in the Forest Plan recommended. Cuthroat trout, chub and sucker will be monitored as designated in the MIS Amendment in 2004. Rio Grande Cutthroat trout will be monitored as MIS beginning in 2004.

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		Unknown Cr. , Alberta Park Reservoir, Teacup Lake, Deep Cr., Rio De Los Pinos #2, Squaw Cr.	Nonnative fish are the single largest threat to native fish populations on the Forest. Quality stream habitat provides native fish an opportunity to successfully compete with nonnative fish. Habitat and population assessment work is ongoing, and the USFS and CDOW are working together to address nonnative fish threats, through habitat improvement projects, barrier repair/construction, and reclamation work. A new barrier was constructed on the North Fork Carner Cr. and the barrier was repaired on Lake Fork Conejos.	
	(3) Boreal Toad – Monitoring and Survey (DOW/FS)	Two sites were monitored and 2 historic sites were surveyed.	Both monitoring sites produced tadpoles. One site dried up and was a reproductive failure. The other site successfully produced 100-500 metamorphs. No toads were located at either historic survey site.	No changes in the Forest Plan needed.
	(4) Peregrine falcon - Ocular surveys of nests. (DOW/FS)	Seven known nest sites on Forest and 2 on other public lands within Forest administrative boundaries.	Of the seven known sites, five were monitored in 2003. Of these five, all were occupied, and three were known to be successful, producing 10 young. In addition, two known sites near the forest were monitored and found to be unoccupied. One new site on Forest possible, but unconfirmed.	No changes in the Forest Plan needed .
	(5) Southwest Willow Flycatcher (FS, FWS, CDOW)	Mapped habitats on RGNF.	Surveys were conducted on all 3 districts and no birds were found. Ground-truthing of habitat maps continued as basis for future survey work.	No changes in the Forest Plan needed
	(6) Black swift - surveys of nests. (RMBO)	RGNF sites included in the state-wide Monitoring Colorado Birds (MCB) survey.	Surveys were conducted by RMBO and no change in status was reported for the RGNF.	No changes in the Forest Plan needed.
	(7) Boreal owl/and other owl and nest box surveys (FS)	Established owl survey route near Trout Mtn and 100 boxes along Trout Mtn Rd and 50 boxes in the Blowout Pass area.	Documented first successful reproduction on the Forest in 2 separate boxes. A minimum of 4 fledglings were produced.	No changes in the Forest Plan needed.
	(8) Bats – Surveys (CDOW)	CDOW bat surveys	No change in status of known Townsend's bat colony was reported.	No changes in the Forest Plan needed.
	(9) Birds associated with Spruce/Fir Forests (RMBO)	RGNF sites included in the state-wide MCB survey.	First 5-year segment of MCB surveys completed; final report not yet available. Incidental sightings from project site visits were recorded. This habitat type is targeted for future MIS surveys (2004 field season).	No changes in the Forest Plan needed
Monitor the change in selected species	(1) Other EIS special-status plants. Photo interpretaion site	Special-status plants are at various sites	A site visit was made to known *Draba smithii* and *Salix arizonica* sites and they appeared stable and secure.	No changes in the Forest Plan recommended.

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habitat (Coarse Filter). 36 CFR 219.27.	visits, GIS, satellite imagery. (Ecologist: D. Erhard)	over the Forest.	Drought conditions continued in FY03. No new special status plants were found this year.	
	(2) Snag-dependent species - aerial mapping of current insect, disease, and fire events. (FS)	Forest-wide	This habitat type is targeted for future MIS surveys (2004 field season)	No changes in the Forest Plan needed.
	(3) Animals listed in the EIS – T&E and Sensitive animals. (FS)	Forest-wide	Surveys were conducted for the Canada lynx by CDOW and reproduction was confirmed. FS and FWS surveyed for Uncompahgre Fritillary Butterfly, confirming 5 populations on the Forest and mapping additional habitat. Regional goshawk protocol was field tested and other raptor surveys were conducted for projects and to verify historical nest sites and current use. Current status of TES species can be found in the updated Forest Plan BA/BE.	No changes in the Forest Plan needed.
Monitor changes in composition, structure, and pattern for each Landtype Association. 36 CFR 219.27.	Photo interpretaion, 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 interpretaion, 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 CFR219.27.	Photo interpretaion, site visits, GIS, and/or satellite imagery. (Ecologist: D.Erhard)	Special-status plant communities are at various sites over the entire Forest.	Site visits were made to several CNHP documented plant communities as follows: 1) *Alnus incana* / *Cornus sericea*; 2) *Salix monticola* / *Calamagrostis canadensis* and 3) *Populus angustifolia* / *Salix exigua*. Sites appeared stable and secure. Drought conditions continued in FY03.	No changes in the Forest Plan recommended.
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: Fern Creek, Million Salvage, Spruce Hole, and Twister Beetle Salvage. 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	No changes in the Forest Plan recommended. The Forest continued its progress toward inventorying old growth this year.

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			biased toward more productive sites, the Saguache Ranger District appears to lack the productive capability to meet the Mehl old-growth descriptions.	
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 pending the completion of a Forest Plan amendment addressing the Secretary of Agric. Instructions. Monitoring did not indicate any biodiversity 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. (FFMO, 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,thinning plans) have been implemented. Monitoring of WUI and non-WUI projects indicated treatment objectives were met. WUI project planning continues in the Kerber, Bonanza, Conejos R, and South Fork areas. Drought conditions continued in FY03 and affected some RX fire treatment options.	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, each high-hazard dams every 3 years, each medium-low hazard dams every 5 years, 25% of all trail bridges, 25% all drinking-water systems as required by the Safe Drinking Water Act, 20% of all facilities and 20% of all Level 3, 4, and 5 roads as required by programs/per FSH and FSM.	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. 85% of water systems have been sampled and tested in accordance with the Safe Drinking Water Act to date; 20% of the facilities were inspected; and 20% of the Level 3, 4, and 5 roads were inspected. Level 3, 4, and 5 roads were maintained according to assigned RO target levels.	No changes needed in Forest Plan monitoring requirements. Inspections and testing will continue as outlined.

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	(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 2003. Twenty-six miles of unclassified road decomissioning 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 2003 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 selected range allotments, timber sales and/or prescribed fire projects.	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. Project related monitoring: Alpine Pinyon Inventory Area: 5RN688, 5RN713, and 5rn714. Qwest/Century Telephone Fiber Optic Project: 5RN365. Rock Creek Archery Range Permit Renewal Project: 5RN769. Wolf Mountain Big Game Improvement Hydroaxe Project:	No changes needed in the Forest Plan.

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			5RN719, 5RN721, 5RN730, 5RN731, 5RN732, 5RN733, 5RN734, 5RN736, 5RN337, 5RN338, 5RN765, 5RN787 and 5RN788. Tres Cabras and Buffalo Pass Sanitation Timber Sales: 5SH1881, 5SH1885, and 5SH1987. Cochetopa Small Timber Sales: 5SH2074. Results: All prehistoric heriatge reources monitiored were reported to be in good condition. No major impacts are occurring..	
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.	During FY2003 Tribal Consultation was initiated by project "scoping" letters and by the RGNF Quarterly Scoping Document (SOPA). .	No changes to the Forest Plan are needed. The Tribal Consulation Bulletin (TCB) should 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 America Indian Tribes. Additional follow-up, including phone calls to arrange visits to project areas, should be increased.
M & E Heritage Resource progam relative to 36 CFR 219.12 (k).	Review of all Heritage Resource Reports done in FY 2003. (Heritage Specialist: V. Spero)	Review of all Heritage Resource Reports done in FY 2003.	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).
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 2003. The Forest Plan reasonable and forseeable development scenario and its efects are still valid as described in the Forest Plan.	No changes needed.
Verify if areas are compatible with FP stips. Assess if occupancy could be allowed on the lease tract. 36 CFR228.1.2 (e) 1,2,3.	Verification form. (Minerals specialist)	Each lease.	There are no valid leases or applications on the Forest.	No changes or additional analysis needed.
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. These will be addressed in the next Forest Plan revision. The Pinos Creek pit is being reclaimed according to Forest Plan standards. The Forest Plan is an effective tool for protecting resources while allowing	No changes or additional analysis needed.

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			mineral development.	
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. 291 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: T. Post)	ConejosCanyon, Canon and Alder-Silver Allotments	Aproximately 28,000 acres were identified and 137 cover frequency transects installed on the Forest.	No changes needed in the Forest Plan.
	(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 Rangeland Suitability Determination Including a Map of Suitable Rangelands and Active Livestock Grazing Allotments on the Rio Grande National Forest wa completed in May 2003 using the Current R2 protocol.	Rangeland suitability assessments will be initiated beginning in 2004.	No changes needed in the Forest Plan.
	(2) Evaluate suitability of rangelands at the AMP level.	See above	See above	No changes needed in the Forest Plan.

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	(Primary Contact: G. Snell; Secondary: T. Post, G.Becenti)			
Monitor utilization of rangelands.	Various mehods 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, Mill Creek, , Saguache Park, Houselog	Monitoring for vegetation utilization was conducted on all three Ranger Districts. About 974,374 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.
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 FY03. 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 were completed as part of the sites' preseason maintenance inspections. Hazard trees were marked and removed in FY03. Hazard tree inspection reports are on file at Ranger District offices.	No Forest Plan changes needed.

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	(3) Monitor Ski Area Summer and Winter Activities. Monitor Wolf Creek Ski Area for compliance with approved summer/winter operating plans. (S. Brigham)	Wolf Creek Ski Area.	FY 2003 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 include: construction of the new parking area access road; hardening of the stream crossing and clearing of the two new lower parking areas; the existing sewer plant was upgraded; all the ski area building were painted and some of the ski building roofs were coated with a fire retardant; the snow road to the knife edge was seeded; the bank-shot ski trail was constructed and seeded; installation of the gasex alavance control system was completed; removal of downfall trees along lift lines with a helicopter; continued installation of new ski trail signs; and, the weather station at the top of the ski area was elevated.	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 issued new special use permits in conjunction with the prospectus process. Annual billings and issuance of special use permits is now done in SUDS The Forest continued to administer a majority of its special use permits in FY03.	A screening checklist is also required when deteminining 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.
Assess developed sites actual use compared with projected outputs (36 CFR 219.12 (k)	Use figures collected by concession campground mgrs and FS campground hosts in our fee campgrounds	All concession & FS campgrounds and picnic sites	Campground use and occupancy rates were recorded in our Forest concession campgrounds by the concession managers. Use reports are on file at the Forest's Supervisor Office. Campground visitation and revenues were up over 35% from FY02 when fire restrictions were in place.	No Forest Plan changes needed are needed.
Evaluate developed recreation relative to 36 CFR 219.12 (k).	Comparative evaluation for M&E Report. (Forest and District Recreation Personnel)	Forestwide Developed-Recreation Prescription Areas.	Forest Recreation objectives, Forest-wide standards, Recreation Management Area standards, Desired Conditions, standards and guidelines and monitoring were assessed in conjunction with proposed project assessments.	No Forest Plan changes are needed. We will plan to monitor this element in FY04
Recreation -- *Dispersed Recreation*				
Evaluate traditional and nontraditional recreation opportunities.	(1) Trail log inventory using GPS -- MAR 62.3, 64.3. (Forest Trails Specialist and District Trail Coordinators)	10-15% of Forest Trails.	Deferred maintenence trail inventories were completed on 59.2 miles of trails on the Divide RD. These trail inventory records are on file at the RGNF Supervisor's Office. The Beaver Mountain trail repairs and	No Forest Plan changes are needed.

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			reconstrucion work was completed (result of the Million fire) and the trail re-opened for use in the fall.	
	(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 –wide compartments.	We continued to assess the use in the Ute, Wiminuche, Squaw and Ivy compartments to determine if these compartments are approaching or are actually over-capacity.	We will look at our calculations to determine if our baseline figures are correct and if so, what management actions might be needed. 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.	Hunter patrols were implemented again during the hunting season. Patrols indicate we are getting more use and impacts off designated roads and trails. Volunteers monitored the winter use in the Lobo area and indications were that most users observed the posted dispersed use areas and regulations.	No Forest Plan changes needed. Forest is looking at management actions to address the increased off road and trail use.
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.	Forest dispersed-recreation objectives, forest-wide standards, management area standards and guidelines, desired conditions and monitoring were assessed in conjunction with proposed project assessments.	No changes in the Forest Plan recommended. We will plan to monitor this element in FY04
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)	West Lost Trail/Lost Trail.	Last spring, the Divide RD put up signs (signs indicating types of travel allowed) on the Pole Crk, West Lost and Lost trails). A follow-up look at the signing and use on these trails was made in mid-June. The signs were still intact and helped with regulating the type of use permitted on these trails. Representative Diane DeGett continued to sponsor 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 FY04
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 Forest Plan and Forest Travel maps. The Roadless Area Final Rule (published 1/12/01 in the Federal Register) nolonger applies to the RGNF. Since the RGNF has a recent Forest Plan revision and a completed Forest-scale Roads Analysis, the Forest is free to implement the direction in the 1996 Forest Plan, as	A plan amendment and map corrections to the Alternative G map is on hold until the Plan Appeal Decision work is completed. No changes in the Forest Plan recommended. We will plan to monitor this element in FY04

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			amended. However, for the 93,000 acres orignally affected by the November 2000 Roadless Area Conservation Final EIS (i.e., these areas were allocated to Management-area Prescriptions that allowed road construction and reconstruction), it would require Regional Forester approval to implement road construction, reconstruction, and timber harvest activities in inventoried Roadless Areas.	
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 monitoried in FY03.	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 map are on hold until the Plan Appeal Decision work is completed and the Baca land transfer is completed. No other Forest Plan changes are needed.
Evaluate Wild and Secnic River Management –area Prescription Objectives, Desired Conditions, and S&Gs. 36 CFR 219.12 (k)	Comparative evaluation for the M & E Report. (Forest and District Recreation personnel)	Forestwide Wild and Scenic River Management-area.	The W/S river standards, desired conditions, allocation and monitoring were reviewed.	No changes in the Forest Plan recommended. We will plan to monitor this element in FY04.
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 and Weminuche Wilderness Areas	Baseline monitoring was done in FY03 in numerous compartments in the Weminuche and South San Juan wilderness areas. 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 section of the Forest Plan in addition to the map correction changes to the Forest Plan map. Fish stocking in Wilderness areas was addressed through the Wilderness Management Direction EA. A typographical error in the Forest Plan regarding stocking of indigenous fish in Wilderness was corrected with an errata sheet.	The Forest Plan needs to address the Wilderness area (Sangre de Cristo) affected by P.L.106-530) and make corrections to the Alternative G map. This will be done after the Baca land transfer is finalized. The wilderness team is assessing those compartments where some standards are being exceeded and developing recommended management actions. No changes are needed to the monitoring indicators outlined in the

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				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 Widlerness Coordinators)	Forestwide Wilderness Management-areas.	The Wilderness team has prioritized and monitored wilderness compartments to evaluate whether standards are being met or exceeded.	Continue to monitor wilderness compartments in FY04.
Research and Information Needs				
Determine progress of accomplishing needed research. (Items listed on the top of page V-16 of the Forest Plan).	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 ethnographic overview at the Great Sand Dunes National Monument. Under NRIS, a civil rights project was initiated to develop methods of identifying underserved communities.	No changes in the Forest Plan recommended.
Research Natural Areas (RNAs)				
Evaluate RNAs relative to 36 CFR 219.12 (k).	Ocular, plots, transects, GIS. (Ecologist: D. Erhard)	Designated Research Natural Areas.	The Spring Branch RNA was visited and visually evaluated. Unauthorized off road travel continues to be an issue off FDR 327 (Cedar Spring Road) in places, but this has improved over the last several years. The District staff have a done a good job of signage to clearly indicate where motorized travel is authorized. Otherwise, the majority of RNA appears to be minimally impacted by humans. Natural processes are the prevailing influence. There was no evidence of any conflict with 36 CFR 219.12 (k).	No changes in the Forest Plan recommended.
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. Ortiz)	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 2003 are the same sites monitored in 2002 (relative to meeting Scenic Integrity Objectives). Wolf Creek Ski Area: site visits showed that the 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 continues with the Wolf Creek Ski Area operator to make the necessary changes. Mountain Lion/Lookout Timber Sale: there are notable contrasts	No changes needed in the Forest Plan.

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			during the winter months on the landscape as viewed from the highway. This area will continue to be monitored. Hwy. 160 Project: has some rock walls that do not come into compliance with Scenic Integrity Objectives, since pre split holes can be seen. These will continue to be monitored. Windy Point to Lonesome Dove phase of the Hwy 160 Project: this area will continue to be monitored through 2004. Stock tank on the FDR250 road: this did not meet Scenic Integrity Objectives, but it has been removed.	
Determine if SIOs were met. Assess Constituent Survey information	Constituent surveys, visitor observations, interviews, and public participation. (Landscape Architect: K. Ortiz)	Ranger District roads, trails, and recreation sites.	Constituent Surveys were not completed in FY 2003, 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 2003. 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)	Hydro Axe project	This area is in properly functioning condition. Soil compaction 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. Monitoring revealed most of the area looks Properly Functioning with a few remaining small areas of erosion/compaction concerns.	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 Salvage Timber Sale	The Water Erosion Prediction Program modelled erosion potentials off the proposed logging area. The model seems to be an effective tool for estimating differences between treatments.	No change needed.
	(3) Ocular estimates, pace transects, on-site, professional judgements to monitor fertility, erosion, mass movement. (Soil Scientist: J. Rawinski)	Coolbroth Canyon Burn	Soils are healthy.	No change needed.

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	(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. Rawinski.)	On-site and/or randomtransects, review District project records and erosion models. (Soil Scientist: J. Rawinski)	Monitored the Million Fire reseeding 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. The Pinos Creek gravel pit is being scheduled for reclamation with topsoil .	No changes needed. The Forest Plan gives appropriate direction to reclaim damaged soils.
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	The botanical area at Hick's Canyon was visited and visually inspected. *Astragalus ripleyi* plants were relatively infrequent with dimished plant vigor (plant heights noticeably shorter). Continued drought in 2003 is probably negatively affecting plants. Otherwise, no new concerns. Special Interest Areas associated with historical and geological values were not monitored in FY2003 Monitoring is scheduled to resume in FY 2004.	No changes in the Forest Plan recommended.
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	The botanical area at Hick's Canyon was evaluated for this component. Monitoring did not reveal that this SIA for items in 36 CFR 219.12 (k) were in need of change. Special Interest Areas associated with historical and geological values were not monitored in FY2003. Monitoring is scheduled to resume in FY 2004.	No changes in the Forest Plan recommended.
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 montiored. 36 CFR 219.12.
Assess timber suitability. 36 CFR 219.12; 219.27	(1) Standard suitability determination at Forestwide level.	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	Continue to assess timber suitability at the project level. 36 CFR 219.12; 219.27

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	(Analyst/Silviculturist)		Soils direction for Suitable lands. Timber lands in the Los Pinos/Cumbres/LaManga-Grouse areas on the Conejos 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 catergorized 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. (Silicuturalists.: {J. Griffin, J Murphy}; Foresters and /or Techniicians 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 Milllion 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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		Post-Sale: Twister Sales, Grouse, Million Salvage	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. 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 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. The firewood permits to be sold in 2003 were modified to exclude firewood cutting in riparain areas.	
Assess output performance of TS program quantity components as compared /outputs. 36 CFR 219.12	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)	Various Forest offices.	Planned outputs were accomplished for reforestion and timber offer follwing the fire borrow.	Continue to assess output performance of timber program quantity components as compared /outputs. 36 CFR 219.12
Assess Timber program relative to 36 CFR 219.12 (k).	Comparative evaluations. (TCE Team)	Various Forest offices.	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.	Continue to assess timber program relative to 36 CFR 219.12 (k).

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