Monitoring and Evaluation Report
FY 2000

Rio Grande National Forest, Colorado

United States Forest Service
Rocky Mountain Region
Region Two

April 2001

CERTIFICATION

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

Overall, the 2000 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. New recommendations for amendments in FY 00 are as follows:

- Unroaded area mapping errors need to be identified, analyzed for cumulative effects and scoped with our publics to propose making corrections to Alternative G and Forest travel maps.
- As a result of PL 106-530, Great Sand Dunes National Park and Preserve Act, there is a need to correct our Alternative G and Forest travel maps to reflect the Park Preserve within the Sangre de Cristo Wilderness.
- On January 19, 2001, the Washington Office made a decision on Appeal #97-13-00-0057 (Colorado Environmental Coalition *et al.)* of Record of Decision for the Rio Grande National Forest Revised Land and Resource Management Plan. On March 29, 2001 the Secretary issued a Discretionary Review Decision on the Chief's Appeal Decision. The Forest Plan will have to be revised in accordance with these decisions.

I have reviewed the annual Monitoring and Evaluation Report for the Rio Grande National Forest for fiscal year 2000. 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.

Peter L. Clark 04/13/01
PETER L. CLARK Date
Forest Supervisor

2000 Monitoring & Evaluation Report

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This report was compiled, edited, and formatted by Vince Spero and Dean Erhard. Cover photograph by John Rawinski – late winter snow on the Rio Grande National Forest.

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Introduction

The organization of this report is as follows. First, there is a discussion covering the basis for monitoring on the Rio Grande National Forest. Next, is a discussion covering amendments followed by potential amendments to the Land and Resource Management Plan (Forest Plan). Next, is a resource-by-resource discussion of the monitoring requirements. Finally, a "State of the Resource FY 2000" section describes the results of monitoring by each resource area. An appendix provides additional detail on this past year's monitoring results.

On January 19, 2001, the Washington Office made a decision on Appeal #97-13-00-0057 (Colorado Environmental Coalition *et al.*) of the Record of Decision for the Rio Grande National Forest Revised Land and Resource Management Plan. Specifically, the Chief's Office stated:

> I affirm the Regional Forester with respect to the wilderness, winter recreation impacts on resources, wilderness fish stocking, travel management, Section 401 of the Clean Water Act, maximum size of created openings, and supplemental DEIS issues raised in the NOA and find that these portions of her November 7, 1996 decision comply with applicable federal law, regulations, and agency policy. I affirm with instructions the Regional Forester with respect to the continuous monitoring, and find that this portion of her November 7, 1996 decision complies with applicable federal law, regulations, and agency policy. However, I reverse the Regional Forester with respect to the conditioning at re-issuance and issuance of FLPMA (Federal Lands Policy Management Act) authorizations, viability and diversity, and livestock grazing suitability determination issues raised in the NOA, and find that these portions of her November 7, 1996 decision do not comply with applicable federal law and agency policy. The explanation for my decisions to affirm, affirm with instructions, or reverse on each of the issues presented in the NOA is set forth in detail below.

On March 27, 2001, the Secretary's Office issued a Discretionary Review Decision of the Chief's Appeal Decision. Specifically, the Secretary stated:

> The Chief's appeal decision identifies eleven issues raised in the NOA. The appeal decision also contains an analysis of the appeal points for each issue, and the Chief's decision. All this information was analyzed and considered during my discretionary review of the appeal record. I have decided to affirm in part and reverse in part the Chief's January 19, 2001 appeal decision. My decision on each issue discussed in the Chief's appeal decision is as follows:
>
> 1. Viability and Diversity..Chief is affirmed, instructions are vacated, different instructions are provided.
> 2. Livestock Grazing Capability and Suitability Determination..Chief is affirmed.
> 3. Wilderness..Chief is affirmed.
> 4. Wilderness Fish Stocking..Chief is affirmed.
> 5. Travel management..Chief is affirmed.
> 6. Winter Recreation Impacts on Resources..Chief is affirmed.
> 7. Conditioning at Re-issuance and Issuance of FLPMA authorizations..Chief is affirmed with instructions.

8. Clean Water Act..Chief is affirmed.
9. Continuous Monitoring..Chief is affirmed, instructions are vacated.
10. Supplemental DEIS..Chief is affirmed.
11. Maximum size of Created Openings..Chief is affirmed.

Monitoring on the Rio Grande National Forest

In November 1996, the Revised Land and Resource Management Plan (Forest Plan) for the Rio Grande National Forest (RGNF or Forest) was approved. 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 after four years of Forest Plan implementation. The report is key to the concept of adaptive management (the ability to change as new information or technology is developed) and is the feedback mechanism for improved resource management. The information presented in this report will be used to determine if an amendment or revision of the Forest Plan is needed.

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

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

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

Three types of monitoring are described for Forest management:

- **Implementation Monitoring.** This includes periodic monitoring of project activities to determine if they have been designed and carried out in compliance with Forest Plan direction and management requirements.
- **Effectiveness Monitoring.** This level of monitoring is used to determine if management activities are effective in achieving the Desired Future Condition described for each of the various management areas.

- **Validation Monitoring.** This level of monitoring is used to determine whether the initial data, assumptions, and coefficients used in the development of the Forest Plan are correct, or if there is a better way to meet Goals and Objectives and Desired Future Conditions.

Because the Forest Plan has been implemented for a relatively short time, this FY 2000 report focuses primarily on implementation and effectiveness monitoring. As trends develop and conclusions are validated, the third level of monitoring will be addressed.

Forest Plan Amendments

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

Amendment # 1

Twister Blowdown Temporary Exception applied to Management-area Prescription 3.3. On 3/2/98 a Decision Notice was signed that amended the Forest Plan to allow for timber salvage harvesting on approximately 60 acres within Management-area Prescription 3.3 (Backcountry) in the Twister Blowdown area. The amendment lifted the no harvest Forest Plan Standard by exception, so that salvage of blowdown could occur on this site. The timber harvest has been completed and consistent with the decision, the area is again being managed as backcountry. The constructed skid trail still needs to be decommissioned and affected sites reforested.

Amendment # 2

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

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

Amendment # 3

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

Amendment # 4)

Timber Suitability Amendment. On March 2, 2000, a Decision Notice was signed to amend the Forest Plan in regard to the suitable timber lands on the Rio Grande National Forest. The Amendment corrects omissions made between the publication of the Draft and Final Environmental Impact Statements for the Revised Forest Plan. Net adjustments of acres to the suitable timber land base result in an 8.3 percent increase in suitable lands, which was determined to not be a significant change. The amendment becomes effective upon completion of the consultation process with US Fish and Wildlife Service regarding the adequacy of the Forest Plan biological assessment and evaluation. Consultation is pending a proposed Regional amendment for lynx consultation and a revised analysis of the LMRP in response to the appeal decision of January 19, 2001.

Status of Previous Recommendations

There have been several recommendations for changing the wording of some of the silivcultural Guidelines (FY 97, FY 98, FY 99). There has been a recommendation for changing monitoring requirements for fish and birds (FY 98). 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 (FY 98 and FY 99). 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 (FY 99).

These recommendations can be addressed through the amendment process necessary to respond to the appeal decision of January 19, 2001 and the discretionary review decision of March 27, 2001.

Potential Forest Plan Amendments

Unroaded area mapping errors need to be identified, analyzed for cumulative effects and scoped with our publics to propose making corrections to Alternative G and Forest travel maps. The Fox Mountain unroaded mapping error was addressed in the Handkerchief-Mesa environmental assessment, but decisions related to the environmental assessment have been withdrawn in response to a settlement agreement on an appeal of those decisions (Civil Action No. 00-K-1329 effective December 1, 2000). The settlement defers these decisions, pending the appeal decision of January 19, 2001.

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

The appeal decision and the discretionary review decision will require Regional and/or LRMP amendment(s).

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 will be monitored three times per summer.

Aquatic Resources

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

Monitoring and evaluation of stream health, water quality, and riparian conditions occur as Level III watershed assessments. Watershed assessments are completed on at least one stream and riparian area per Analysis Area for each land-disturbing Environmental Analysis. Monitoring of streams within watersheds that have been identified as "at risk'" will be reported based on Level II watershed assessments. Monitoring of the six streams identified as damaged in the Monitoring Plan, to evaluate improvement over time, will be reported based on long-term assessments (two streams will be evaluated each year).

Biodiversity

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

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

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

Fire and Fuel Management

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

General Infrastructure

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

Health and Safety

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

Heritage (Cultural) Resources

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

Minerals

Monitoring will be reported based on a verification process to determine if the conditions in the Forest Plan are still valid, and whether oil and gas operations could be allowed somewhere on a proposed lease tract. Monitoring of oil and gas will occur if such activities are developed.

Monitoring of locatable minerals will be reported based on the inspection and enforcement of operation plans to assure compliance with the Forest Plan.

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

<u>Developed Recreation</u>

Developed recreation monitoring will be reported based on the routine inspection and maintenance report for each facility.

Visitor expectations will be monitored and reported based on customer surveys to evaluate actual use of the forest's campgrounds, to determine if resource damage or overuse is occurring, to assess the Forest Plan recreation objectives and standards and guidelines, and to conduct developed site hazard inspections for health and safety purposes.

Dispersed Recreation

The Forest will monitor and evaluate the Travel Management Plan for compliance with the Forest Plan to ensure the general infrastructure is meeting the needs of Forest users for access and multiple-use management.

Unroaded Areas

Monitoring will be reported based on a representative assessment of backcountry areas. This will include the assessment of activities including motorized and nonmotorized recreation trail use, levels and type of use, and recreation settings. The assessment will also address conflicts, identification of areas of concentrated use, and measurement of other resource activities.

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 actions and thresholds (specific indicators) to determine if wilderness guidelines or standards are being met.

Research and Information Needs

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

Research Natural Areas

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

Road Construction, Closures, and Decommissioning

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

Scenic Resources

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

Soil Productivity

The protection of soil productivity will be monitored based on the requirements of 36 CFR 219.12(k)(2). The Forest will use several tools for soil monitoring, including the collection and analysis of core soil samples, erosion modeling, ocular estimates, transects, investigations, and professional judgment. Soil health assessments will be made to determine whether long-term soil productivity is maintained or improved. 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 2000

Summary statements, pertaining to the results of monitoring efforts done in Fiscal Year 2000, for each specific resource are presented below. The statements are based on the information presented in Appendix A entitled, "Monitoring & Evaluation Table, Rio Grande National Forest, Fiscal Year 2000."

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 are being monitored. Lake, visibility and particulate data is used 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

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

"Adequate" to "Robust" stream health is the norm, although the health of some streams has been diminished from management activities. Several streams monitored this year showed impacts from livestock and wildlife grazing. It was an extremely dry year and many sources of water that are normally available for animals were not available this year. This condition probably forced animals to concentrate more around available water and probably accounts for a high level of bank disturbance on streams listed below. Most of the problems identified will be dealt with in EAs that are still to be written for those allotments. BLM problems on Garner Creek have already been addressed in an EA and with construction of a riparian pasture fence.

The Twister timber sale had a few mishaps that are described in a separate monitoring report. In summary, one stream crossing was improperly constructed and required some reclamation work that occurred while the sale was ongoing. One new culvert was installed that caused a small slump. This culvert was removed and ditch water was directed into a sedimentation pond. Standards and guidelines that were properly implanted were effective in protecting stream health.

The Forest has been working on three different abandoned mine land reclamation projects that involve improving water quality and health of streams, riparian areas and watersheds. In the Alamosa River drainage, all abandoned mines have been evaluated. One mine in particular, the Pass-Me-By, is causing most impacts to water quality. This mine is on private land, but impacts National Forest System lands. The Forest will be exploring opportunities to get the State and EPA involved in possible reclamation of this mine. Most work has been completed in the Bonanza mining district; however, the Forest will be working on a few problems that remain. The main reclamation project for the Forest right now is the Willow Creek project. The Forest is working with the Willow Creek Reclamation Steering Committee to characterize problems for follow-up reclamation. A high-flow surface water characterization effort was completed in 2000.

The Forest has also been assessing streams to document impacts from existing diversions as part of an instream flow negotiation effort with local water users. All streams and all existing diversions were assessed at the end of 1999. The Forest coordinated with Colorado Division of Water Resources and engineers for different water user organizations for a thorough review of the draft decree. A final court decree for this settlement was signed in March 2000. Final settlement gives the Forest substantial instream flow protection for virtually all streams on the National Forest.

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*, but the data evaluation stills needs to be completed. On population of *Gilia penstemonoides* was visited and appeared to be stable. The IRI center in Dolores continues to improve the Forest's vegetation inventory data. One special-status plant community was visited and it appeared stable with no apparent threats. Old-growth inventories were completed for several small timber sales (on all Districts). To date, Mehl (1992)-defined old growth continues to be uncommon. On the Divide and Conejos Peak RDs, 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 lack the productive capability to meet the Mehl old-growth descriptions. The most significant finding this year was a new population of echo moonwort (*Botrychium echo*).

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. Some population level monitoring is conducted on the Forest, but is limited due to prohibitive costs for obtaining statistically sound data. Presence/absence data is also collected as funding allows.

The Forest is a part of a Statewide effort to monitor population trends for various bird species found within the State. The plots selected will be monitored once a year for the next few years (5 years total data) to help determine status and trends for these species. This is the second year of data collection. The Forest's biologists also surveyed for presence or absence of boreal owl and goshawk at several locations on the Forest in 1999. Other work included creating cavities for boreal and flammulated owls, as well as other cavity nesters.

At this time, available information suggests no changes to Forest Plan Goals, Objectives, Standards and Guidelines, and Management-area Prescriptions are warranted. Continued monitoring will allow Forest biologists to assess the need for changes, as more projects are implemented using Forest Plan direction.

Fisheries Program

The Desired Condition for Biodiversity is to maintain viable populations of native species. The following paragraphs summarize the state of the fisheries resource on the RGNF relative to biodiversity and the 2000 Monitoring Plan.

USFS and DOW personnel monitored eleven historic and five transplanted populations of Rio Grande cutthroat trout (RGN) on the Rio Grande National Forest in 2000. Two additional historic populations on private property were also monitored. For the 18 sites that were monitored, population status was identified as follows: 7 sites data not yet analyzed, 2 populations “secure-expanding”, 3 populations "secure-stable", 2 populations "at risk-stable", 1 population "at risk-declining", and 3 populations are presumed extirpated.

All the following definitions are from "Status of Rio Grande Cutthroat Trout in Colorado" (Colorado Division of Wildlife, 1998):

- "At risk-stable": a self-sustaining population that is impacted by habitat degradation or encroachment by non-native trout. Population trend is not increasing or decreasing in biomass and density.
- "Secure-stable": a self-sustaining population that is secure from impacts of habitat degradation or encroachment by non-native trout. Population trend is not increasing or decreasing in biomass or density.
- "Secure-expanding": a self-sustaining population that is secure from impacts of habitat degradation or encroachment by non-native trout. Population trends indicate increasing biomass and density.
- "At risk-declining": a population that is impacted by habitat degradation or encroachment by non-native trout. Population trends indicate decreases in recruitment, biomass and density.

Threats to populations include non-native trout and insufficient habitat. Of the 18 RGN populations sampled in 2000, non-natives were present in 11 populations. Two of the three sites where RGN was extirpated now host non-native trout fisheries; one supports no fish.

Because non-native trout are a primary threat to the stability of RGN populations, continual monitoring of these populations will ensure rapid detection of invasion by non-natives. FS biologists are working with the DOW to install barriers where none currently exist, or improve barriers that have failed. Two barriers are planned for installation in 2001-2002. Additional work includes establishing new populations of RGN. The DOW established two new management populations of RGN in Forest lakes during 2000.

An additional threat to RGN populations is habitat loss or degradation. Continued evaluation regarding the decline of populations and the role that habitat may play in this decline is necessary. Habitat evaluations are ongoing, and the DOW and the FS are working together to identify and address habitat concerns. Several habitat improvement projects on native fish streams have been completed, and more are planned.

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 will allow FS biologists to assess the need for changes, 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 2000, 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, treatment planned, and/or treatment implemented. Where treatments were implemented, results were favorable.

On-going fuels/forest health surveys and evaluations provide land managers with valuable insight into the state of the resource as relates to the potential for wildland fires to create unacceptable resource impacts. Though some areas have been identified as such, the Forest Plan provides adequate direction and needs no significant changes in fire and fuels management. An amendment to the Forest Plan may be needed to reflect some revised terminology and definitions contained in the 1996 <u>Federal Wildland Fire Management Policy Action Plan</u>, the 1998 <u>Wildland and Prescribed Fire Implementation Procedures Guide</u>, and the <u>Review and Update of the 1995 Federal Wildland Fire Management Policy</u> (January 2001).

State of the Resource: General Infrastructure

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

State of the Resource: Health and Safety

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

State of the Resource: Heritage Resources

The Forest made good progress in conducting the Heritage Resource monitoring called for in the FY 2000 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 Program 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 2000 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 a vehicle 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. Additional face-to-face consultation should also be done to supplement the TCB for certain projects.

State of the Resource: Minerals

The minerals monitoring program requires us to validate leasing activities as well as standards and guidelines. A number of lease applications were processed and prepared for leasing by the BLM. Leases were verified and appropriate stipulations were attached to protect important resource values. There were no major proposals in the locatable minerals program. In the common variety mineral program, the Forest Service cooperated with the Colorado Department of Health and Environment and provided rock materials, free of charge, for needed reclamation work at the Summitville mine. The Forest Service monitored that project and the implementation was done according to 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 FY 2000. Those species, which appear to have increased or have been inventoried more thoroughly, are yellow toadflax, oxeye daisy, whitetop, and Canada thistle. The thirteen acres of leafy spurge that had been identified on the Conejos Peak Public Lands have been removed from the inventory. The identified infestation is on lands that have become part of the Great Sand Dunes National Monument and Preserve and are now part of the Park Service land base.

State of the Resource: Range

Rangelands are being managed for a variety of seral stages with most of them being in upper mid-seral to high-seral condition. Inventory of rangelands conducted in FY2000 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 improve management and correct deficiencies.

State of the Resource: Recreation

Developed Recreation

Developed Sites:

The Forest participated in a nationwide recreation use survey throughout calendar year 2000. The purpose of the recreation surveys was to determine visitor use and where they were occurring. Two hundred and eight (208) exit interviews were conducted on the Forest which included the following use categories: (a) General Forest Areas (general roads and trails); (b) Developed sites (day use and overnight); (c) Wilderness (trails); (d) Visitor Centers and Ski Areas, and (e) Viewing scenery along highways. There were three types of exit interviews that included: basic, economic and satisfaction information. The interview information collected from the scheduled interview days was sent to the Southern Research Station in Athens, Ga. where it is being compiled for a report that will be published in May 2001.

The Forest accomplished rehabilitation work at the Elk Creek trailhead, Trujillo Meadows campground (lower campground loop), and Marshall Park campground in FY00. The Aspen Glade water system was planned for replacement, but no successful bid was made to do this work. This project will be included with the campground rehabilitation project scheduled in FY01. Campground reconstruction and complying with accessibility standards remain a high priority when our developed sites are scheduled for improvement work.

Ski Area:

The Wolf Creek Ski Area continued to upgrade some of the existing ski area infrastructure. Improvement work included paving of several gravel parking lots and the construction of the Simpatico Trail, which is a main collector trial for accessing the new Alberta lift. Preliminary development plans for the Village at Wolf Creek were approved by Mineral County in the fall of 2000. The project developer for the Village of Wolf Creek submitted a conceptual drawing to the Forest Service for approval of the design guides and development regulations. Approval was given by the Forest Service for the architectural style and design guide for the Village at Wolf Creek. Further meetings and development of working agreements will take place in FY01 related to the assessment work needed for the Village at Wolf Creek.

Special Uses:
The new 36 CFR 251 Cost Recovery regulations were finalized. The regulations outline a process for determining categories of permits and their costs; screening process for handling permit applications, and the need for a forest estimator to oversee the cost recovery permit categories and handle disputes. Permit holders were again reminded of their need to comply with Title VI requirements and how to address complaints. Title VI posters were again issued to our permit holders and audits conducted.

Meaningful Measures:
The Forest continued its deferred maintenance inventories for recreation buildings and water systems in FY00. This information was inputted into the Infra database.

Dispersed Recreation

Trails: Deferred maintenance inventories were completed on 20% of the Forest's system trails. Inventories were done on 274 miles of Forest trails including 41.2 miles (15%) on the Conejos Peak RD; 150.2 miles (55%) on the Divide RD, and 82.6 miles (30%) on the Saguache RD. The information was placed in electronic trail folders, summarized on the MM trail inventory forms, and given to each District for input into the District MM database.

Travel Management:
Travel management remains a big challenge both in educating Forest users and in funding personnel to administer the program, especially during the hunting season. Errors remain in our Forest's travel map and corresponding Forest Plan Alternative G map and in the Infrastructure section of the FEIS. Work is needed to clean up and correct these errors.

Unroaded Areas

Integrated Forest monitoring was conducted on the Twister Timber Sale including the Snowshoe Mountain Backcountry area. Documentation of this monitoring trip is on file at the Supervisor's Office. Recreation recommendations included: rescinding the Backcountry Amendment, decommissioning the motorized skid trail and re-designing it to a 4-foot width, designation of the Pierce Creek trail and signing it as a non-motorized trail, and determining the status of FDR 528.1z and whether to construct a trailhead at the top of the saddle to access the Pierce Creek trail. The ROD directs reforestation of the Backcountry Area; management needs to decide whether to implement the decision or to amend the ROD to not reforest and let it revegetate naturally.

The Pole Creek Mountain situation remains contentious. Representative Diane DeGett is working on a wilderness legislation bill for 2001which includes Pole Creek Mountain (Handies Peak) to be included as designated wilderness.

During FY 2000, the President initiated the Roadless Area Conservation Initiaitve, Draft and Final EIS's were written and the final rule (36 CFR Part 294 – Special Areas: Roadless Area Conservation) was published in the Federal Register on January 12, 2001. The final rule was to take effect on March 13, 2001, but has been delayed until May 13, 2001 by administrative order. Dependent upon administrative

APPENDIX A
Monitoring and Evaluation Table
Rio Grande National Forest
Fiscal Year 2000

This appendix synopsizes the monitoring actions and results for fiscal year 2000. The monitoring items listed below correspond with the components listed in Table V-1 from the 1996 revised Forest Plan.

MONITORING ITEM	METHOD and (CONTACT)	PLANNED LOCATIONS	MONITORING ACCOMPLISHED (what, where, results, summarize, references)	EVALUATION (What are the recommendations based on monitoring? Changes needed to the Plan?)
Air Quality				
Monitor & Evaluate (M & E) visibility, lake chemistry, and terrestrial systems. 36 CFR 219.27 (a).	(1) Photographic documentation of visibility. Coordinate with NPS. (L. Dobson)	Great Sand Dunes National Monument.	Visibility and particulate monitoring was completed. Data documents that visibility and particulate levels are among the best in the country. Particulate data collected in 2000 was slightly higher than that in recent years, due to the fire that occurred at the Monument in 2000.	No changes in the Forest Plan needed.
	(2) Chemistry of most sensitive lakes. (K. Garcia, J. Fairchild, S. Hall, L. Dobson)	Three lakes in the Weminuche WA; 2 in the S. San Juan WA; 2 in the La Garita WA; and 2 in the Sangre de Cristo WA.	Samples were collected at all 9 lakes. Lake chemistry was analyzed by the Rocky Mountation Station lab. Data collected at these lakes indicates a static trend in lake chemistry.	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 by measuring concentration of chemical elements to begin measuring trends.	No additional monitoring of lichen occurred on the Rio Grande NF in FY99 or FY2000.	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. Data collected has been used to evaluate permit applications for 2 major polluting facilities – The Nixon Power Plant and the Rio Grande Portland Cement Company. Data was used in modelling of impacts and in establishing best available control technology.	No changes in the Forest Plan needed.

MONITORING ITEM	***METHOD and (CONTACT)***	***PLANNED LOCATIONS***	***MONITORING ACCOMPLISHED (what, where, results, summarize, references)***	***EVALUATION (What are the recommendations based on monitoring? Changes needed to the Plan?)***
S&Gs; (c) Management-area Prescription allocations and monitoring methods (36 CFR 219.12 (k))				
Aquatic Resources				
M&E Watershed Disturbances. 36 CFR 219.27.	Level I watershed assessment to measure total and connected watershed disturbance and compare to concern levels. Measure acres of disturbance in each 6th/7th level watershed. Use runoff curve numbers to equate all disturbances to an equivalent roaded area. Assess risk to watershed health from increased runoff. (Hydrologist: L. Dobson)	Timber Sales: Grouse Range Allotments: South San Juan	One new timber sale EA was completed in 2000. The Rio de los Pinos watershed analysis for that EA showed that total disturbance in the watershed was below Forest Plan concern levels. For the South San Juan EA, several watersheds were assessed including El Rito Azul, Lake Fork Cr., Saddle Cr., Hansen Cr., Canon Rincon, S.Fk, Conejos R., Elk Cr., Rio Chama, La Manga Cr., and Rio de los Pinos. All of these watersheds are well below concern levels.	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)	N.Fk. Carnero Cr., Spring Cr., Willow Creek (trib to Spr Cr), Bennet Cr., Corral Cr., Porcupine Gulch, Grouse Cr., Mason Cr., Fir Cr., Bear Cr., Aspen Cr., Short Cr., West Frisco Cr., Middle Frisco Cr., San Luis Cr., Dorsey Cr., Eaglebrook Cr., Butterfly Cr., Lone Tree Cr., N. Decker Cr., N., Decker Cr., N. Rock Cr., w/ BLM – Garner Cr., Hot Spr. Cr., La Garita Cr., Coolbroth Can., Dry Gulch, Biedell Cr., and other tribs to Carnero Cr. & Rio Grande	Stream health was adequate to robust for all except the following. Two pastures on Garner Creek had diminished health. These conditions were addressed in the EA. Corral Creek had bank damage that appeared to be caused by elk. Upper Fir Cr, Upper Aspen Cr., and streams in Ruston Park all had high bank alteration that appeared to be primarily caused by cows. West and Middle Frisco Creeks had high bank alteration that appeared to be caused by cows. Parts of Dorsey Creek, San Luis Creek, Lone Tree Creek, N. and S. Decker Creeks all had high bank alteration that appeared to be caused by cows. This was a very dry year, with limited water availability, possibly causing higher concentrations of animals next to streams. A second evaluation of these streams may be appropriate before alternative development in applicable EAs. 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. Monitoring in 2000 focused on surface water quality. Problems will be coorelated with specific mine sites as work continues.	Stream health direction in the Plan is appropriate. No changes are needed.

MONITORING ITEM	METHOD and (CONTACT)	PLANNED LOCATIONS	MONITORING ACCOMPLISHED (what, where, results, summarize, references)	EVALUATION (What are the recommendations based on monitoring? Changes needed to the Plan?)
	(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; Fish biologist: S. Swift)	Kitty Cr., North Fork Saguache Cr.	North Fork Saguache Creek also has had highly altered stream banks in some segments. Exclosures have been constructed to allow measurement of stream health with and without livestock and wildlife grazing. Bank stability has been increasing in the elk and cow exclosures, but remaining static in the reference reach. Kitty Creek continues to get high bank alteration near the headcut control structure. Both bank alteration and the structure needs management attention.	No changes in the Forest Plan are needed.
	(3) Level II stream assessment to see if watersheds of concern experience stream/riparian damage. Look for visible evidence of channel damage or water pollution. If visible evidence exists, document with a level II stream health assessment. (Hydrologist: L. Dobson; Fish biologist: S. Swift)	Streams within watersheds of concern that are identified during level I Watershed assessments.	No additional watersheds of concern were identified during FY2000.	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; Fish Biologist: S. Swift)	Examine implementation of S & Gs in the Twister Timber Sale.	Standards and guidelines had been implemented in most streams monitored. Standards and guidelines were effective in protecting stream channels, when properly implemented. A few minor problems were noted where S&Gs had not been followed and those are described in a group monitoring report. Problems that were noted have been corrected.	Aquatic S&Gs: No changes in the Forest Plan needed. Additional mitigation was needed for recovery of an improperly constructed road crossing and a culvert installation.
Biodiversity				
Monitor change in occurrence of selected native species. 36 CFR 219.27	(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 evaluation in progress.	No changes recommended in the Forest Plan at this time until the data are evaluated.
	(2) Native Fish Population Monitoring. (Fish Biologist: Sue Swift-Miller; FS Seasonal employees; DOW)	Alder Cr., West Fork; Bear Cr.; Benito Cr.; Carnero Cr., South Fork; Cascade Cr.; Cave Cr.; Cross Cr.; Deep Cr.; Jack’s Cr.; John’s Cr.; Osier Cr.; Rhodes Gulch; Rock	USFS and DOW personnel monitored eleven historic and five transplanted populations of Rio Grande cutthroat trout (RGN) on the Rio Grande National Forest in 2000. Two additional historic populations on private property were also monitored. For the 18 sites that were monitored, population status was identified as follows: 7 sites data not yet analyzed, 2 populations “secure-expanding”, 3 populations "secure-stable", 2 populations "at risk-stable",	No changes in the Forest Plan recommended.

MONITORING ITEM	METHOD and (CONTACT)	PLANNED LOCATIONS	MONITORING ACCOMPLISHED (what, where, results, summarize, references)	EVALUATION (What are the recommendations based on monitoring? Changes needed to the Plan?)
		Cr., South Fork; Torsido Cr.; Tuttle Cr.; Wannamaker Cr.	1 population "at risk-declining", and 3 populations are presumed extirpated. Threats to populations include non-native trout and insufficient habitat. Of the 18 RGN populations sampled in 2000, non-natives were present in 11 populations. Two of the three sites where RGN was extirpated now host non-native trout fisheries; one supports no fish. Habitat and population assessment work is ongoing, and the USFS and CDOW are working together to address these threats, through habitat improvement projects, barrier repair/ construction, and reclamation work. The CDOW established two new management populations of RGN in Forest lakes during 2000. Rio Grande sucker populations were monitored in Cascade Creek and Osier Creek (both are transplanted populations). Only 2 suckers were captured in Cascade Creek and none in Osier Creek. Status of both populations is considered unknown at this time, and additional assessment work is needed. However, evidence of reproduction of Rio Grande sucker was documented at Medano Creek (also a transplanted population).	
	(3) Peregrine falcon - Ocular surveys of nests. (DOW Peregrine crew)	Four known nest sites. One on Divide and 3 on Conejos Peak.	Four nest sites were monitored: Information regarding nesting success can be obtained from the Division of Wildlife.	No changes in the Forest Plan needed .
	(4) Black swift - surveys of nests. (Schultz)	One suspected nesting location.	An assessment of suitable habitat was conducted at one site.	No changes in the Forest Plan needed.
	(6) Additional - Boreal owl nest box surveys (Schultz)	Forty nest boxes were checked and an additional fifty nest boxes were installed.	No evidence of nesting owls was detected. A graduate student is beginning work on a nest box utilization study on the Forest.	No changes in the Forest Plan needed.
	(5) Bats – Surveys of mine sites. (Navo, DOW)	Willow Creek Project and Alamosa Project	48 sites were surveyed and evaluated: 41 sites had poor or no habitat avaiable and were recommended to be dropped from future surveys; 4 sites had no use; 1 site had no signifcant use; 1 site was recommneded for a bat gate; 1 site had numerous Myotis volans in the area but no documented use of the mine.	No changes in the Forest Plan needed.
Monitor the change	(1) Other EIS special-status	Special-status plants	Visited one of the known Black Canyon gilia (Gilia	No changes in the Forest Plan

MONITORING ITEM	METHOD and (CONTACT)	PLANNED LOCATIONS	MONITORING ACCOMPLISHED (what, where, results, summarize, references)	EVALUATION (What are the recommendations based on monitoring? Changes needed to the Plan?)
in selected native species habitat. 36 CFR 219.27.	plants. Photo interp., site visits, GIS, satellite imagery. (Ecologist: D. Erhard)	are at various sites over the Forest.	penstemonoides) sites on the Forest. The population appears to be stable. Due to the rocky habitat that this plant grows in, threats are minimal. New populations of Botrychium echo (Sensitive plant) were discovered and documented with CNHP.	recommended.
	(2) Snag-dependent species - aerial mapping of current insect, disease, and fire events. (Wildlife biologist)	Forest-wide	No analysis initiated this year. Yearly flights by the Gunnison Research Station are completed to help identify disease, bug and defoliation problem areas.	No changes in the Forest Plan needed.
	(3) Animals listed in the EIS – T&E and Sensitive animals. (Wildlife Biologist)	Forest-wide	No analysis initiated this year; scheduled for year 2006.	No changes in the Forest Plan needed.
Monitor changes in composition, structure, and pattern for each Landtype Association. 36 CFR 219.27.	Photo interp, GIS, satellite imagery, and/or spatial analysis. (Ecologist/Wildlife Biologist)	All Landtype Associations over the entire Forest.	No monitoring 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 landscape. 36 CFR 219.27.	Photo interp, 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 in Dolores has completed year three of 3 ½ years of contract mapping and attributing Common Veg. Unit (CVU) polygons on the Forest. A combination of contractor and IRI Center personnel will complete this work over the next 3-4 years. As part of this work, better inventory data will be collected in LTA1 landscapes. Once the IRI inventory is complete, we will determine whether this new information changes our assumptions of LTA1 reference landscapes.	No changes in the Forest Plan recommended.
Monitor changes in CNHP Significant Plant Communities listed in EIS. 36 CFR219.12 (k).	Photo interp, site visits, GIS, and/or satellite imagery. (Ecologist: D.Erhard)	Special-status plant communities are at various sites over the entire Forest.	Visited the documented ponderosa pine / Arizona fescue plant community. It appears stable and there are no apparent threats to it.	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 several small timber sales (on all Districts). To date, Mehl (1992)-defined old growth remains uncommon. On the Divide and Conejos Peak RDs, 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 lack the productive capability to meet the Mehl old-growth descriptions.	No changes in the Forest Plan recommended. The Forest continued its progress toward inventorying old growth this year.

MONITORING ITEM	METHOD and (CONTACT)	PLANNED LOCATIONS	MONITORING ACCOMPLISHED (what, where, results, summarize, references)	EVALUATION (What are the recommendations based on monitoring? Changes needed to the Plan?)
Evaluate Biodiversity and Wildlife relative to 36 CFR 219.12 (k).	Ocular, plots, transects. (D. Erhard, District wildlife biologist, Sue Swift-Miller)	Forestwide.	One project was monitored this year (Twister Blow Down salvage area). Monitoring did not reveal that biodiveristy and/or wildlife items in 36 CFR 219.12 (k) were in need of change.	No changes in the Forest Plan recommended.
Fire and Fuels Management				
Assess Fire/Fuels relative to: 36 CFR 219.12 (k).	Ocular estimates using photo guides for estimating downed woody fuels. Fuel transects and surveys to determine actual loading and arrangement. On-site inspections. (FMO, Ecologist, & Silviculturist)	Ponderosa pine and mixed-conifer cover types (fire regimes 1 & 3, condition class 2 & 3) – Forestwide.	Analysis and evaluation of fuel profiles (loading, arrangement, continuity) was conducted in various mid to low elevation areas (mixed conifer, ponderosa pine, Douglas fir) of the Cochetopa Hills, the Alamosa River drainage, and in the Conejos River drainage. Treatment methods (RX fire, mechanical) have been developed and appropriate project plans (i.e. Burn plans) have been implemented. Due to the severe fire season, plus insufficient staffing, only half of the projected implementation acres were completed, predominantly in the Cochetopa Hills area.	No changes needed in the Forest Plan
General Infrastructure				
Assess facilities for compliance with state & federal requirements & FS Handbook/Manual direction.	(1) Inspect dams, facilities, drinking water, road & trail bridges, and FDRs for safety and maintenance. (Forest Engineer)	50% of Forest bridges, all high-hazard dams, 33% of medium-hazard dams, 20% of low- hazard dams, 25% of all trail bridges, all drinking-water systems as required by the Safe Drinking Water Act, all facilities and all Level 3, 4, and 5 roads.	Bridge inspections were completed as scheduled by contract; dam inspections were completed as scheduled by the State Engineer's office; 10% of the trail bridges were inspected. All water systems were sampled and tested in accordance with the Safe Drinking Water Act; 50% of the facilities were inspected; and all of the Level 3, 4, and 5 roads were maintained and inspected.	No changes needed in Forest Plan monitoring requirements. Inspections and testing will continue as outlined.
	(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, constituent surveys, 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 2000. Twenty-six miles of unclassified road decomissioning was accomplish in FY 2000.	No Forest Plan changes needed.
M & E Infrastructure relative to: 36 CFR	Review and monitor infrastructure-related	As outlined in the Infrastructure section	The Forest Engineer reviewed the infrastructure monitoring that occurred in FY 2000 to determine if any	No changes in the Forest Plan recommended.

MONITORING ITEM	***METHOD and (CONTACT)***	***PLANNED LOCATIONS***	***MONITORING ACCOMPLISHED (what, where, results, summarize, references)***	***EVALUATION (What are the recommendations based on monitoring? Changes needed to the Plan?)***
219.12 (k).	inspections and reports for compliance with Forest Plan Guidelines and Objectives. (Forest Engineer)	of the AMOP.	changes were needed relative to 36 CFR 219.12 (k).	
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: National Register-eligible heritage resources identified for protection from project activities and selected highly significant heritage resources. Review timber sale EAs and other major-project EAs. (Heritage Specialist: V. Spero)	Heritage resources located on range allotments, past timber sales, historic townsites, historic buildings, rock art, and prehistoric stone structures.	Monitored were: 5 prehistoric open lithic sites on the Cow Camp Timber Sale, 16 open lithic sites on the Fox Creek Allotment, 8 open lithic sites on the La Garita Allotment, 12 sites on the Martinez-Underwood Allotment, site 5RN330, the Big Bird pertroglyph, as-yet unrecorded stone structures near Creede, and 5RN323 the Sentinel Mountain Stone Fortification. Historic buitldings or facilities monitored included: the Clay Mine Site, Off Cow Camp, Fitton Guard Station, Alder Guard Station, Alamosa Ranger Station, and the Rock Creek Ranger Station. All prehistoric heriatge reources monitiored were reported to be in good condition. All historic structures monitored were experiencing some form of weathering of varying degrees.	No changes needed in the Forest Plan.
M&E Consultations with American Indians.	Assess proposed management activities to determine if American Indian consultation was accomplished. (Heritage Specialist: V. Spero)	Proposed project areas with sites or geographic features that are, or have the potential to be, considered culturally sensitive to American Indians.	The Tribal Consultation Bulletin (TCB) was issued in February 2000 for the following project proposals: the Grouse Creek Timber Salvage, The Jarosa Timber Environmental Analysis including the Bristol Head Timber Sale, the Finger Mesa Timber Sale, and the Black Mountain Timber Sale. The TCB iincludes project proposals that have areas with the potential to be considered culturally sensitive to American Indians. Tribal Consultaion is also initiated by project “Scoping” letters and by the the RGNF Quarterly Scoping Document (SOPA).	No changes to the Forest Plan are needed. The Tribal Consulation Bulletin (TCB) should continue to be issued as the initial Tribal contact for project proposals. The TCB should include more projects and be issued more regularly. Additional follow-up, including phone calls to arrange visits to project areas, should be increased.
M & E Heritage Resource progam	Review of all Heritage Resource Reports done in FY	Review of all Heritage Resource Reports	Reports for proposed projects sent to the Colorado State Historic Preservation Officer for concurrence were	No changes needed in the Forest Plan. Proposed projects comply with

MONITORING ITEM	METHOD and (CONTACT)	PLANNED LOCATIONS	MONITORING ACCOMPLISHED (what, where, results, summarize, references)	EVALUATION (What are the recommendations based on monitoring? Changes needed to the Plan?)
relative to 36 CFR 219.12 (k).	2000. (Heritage Specialist: V. Spero)	done in FY 2000.	reviewed.	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 2000. The Forest Plan resaonable 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 were a number of lease parcels made available and pending for lease. Because leases have no impact to the land themselves, the Forest Plan forecast of activity is still valid..	No changes needed.
M & E Minerals program relative to 36 CFR 219.12 (k).	On-site inspections of mineral activities; review reports. (Minerals specialist)	Forest Summary.	There are some errata on the oil and gas leasing map. These need to be corrected and noted. Also monitored the proposal for Summitville reclamation and rock needs. Proposed plan will meet FS standards for reclamation, and other resource standards.	No changes or additional analysis needed.
Noxious Weeds				
M & E Noxious Weeds relative to: 36 CFR 219.12 (k).	Monitoring of noxious weeds (where and to what extent they are present) will be reported based on the evaluation of control methods on infested areas on the forest. (Forest and Ranger District Weed Coordinators)	Inventory efforts focused primarily on FDR road systems.	Forestwide inventories were conducted on all three Ranger Districts in 2000. Specific information on species found and areas infested and treated/inventoried can be found in Ranger District records. Area inventoried totaled 260 acres: Conejos Peak RD, 225 acres; Divide RD, 10 acres; Saguache RD, 25 acres.	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	(1) Various methods and techniques will be derived from RAMTG. MAR Target # 76.1.	California Gulch, Saguache Park, Spanish Creek,	Aproximately 30960 acres were identified and 137 cover frequency transects installed on the Forest.	No changes needed in the Forest Plan.

MONITORING ITEM	METHOD and (CONTACT)	PLANNED LOCATIONS	MONITORING ACCOMPLISHED (what, where, results, summarize, references)	EVALUATION (What are the recommendations based on monitoring? Changes needed to the Plan?)
Conditions.	(Primary: G. Poe; Secondary: G. Snell,T. Post)	Decker, Roaring Fork, Cumbres, Platoro, Bancos, Long Park.		
	(2) Monitor Desired Condition transects for trend. (Primary: G. Poe; Secondary: G. Snell, T. Post)	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. Poe; Secondary: G. Snell, T. Post)	Handkerchief Mesa, Little Beaver, Cattle Mountain, Cross/Race, Church, Shaw.	Rangeland Suitability/Capability determinationations were conducted on 26,461 acres and on the following allotments: Handkerchief Mesa, Little Beaver, Cattle Mountain, Cross/Race, Church, Shaw.	No changes needed in the Forest Plan.
	(2) Evaluate suitability of rangelands at the AMP level. (Primary Contact: G. Poe; Secondary: G. Snell, T. Post)	Shaw	Shaw.	No changes needed in the Forest Plan.
Monitor utilization of rangelands.	Various mehods will be used including: P/U cages, height-weight, stubble height, and ocular estimates. MAR target #75.1. (Primary Contact: G. Poe; Secondary: G. Snell, K. Garcia, T. Post, T. Post)	Conejos Peak Ranger District: Cumbres, Conejos Canyon, La Jara, Bancos, Platoro, Fox Creek, Cat Creek, Glacier, Twin Lakes, Roaring Fork, Jarosa Mesa, Long Park, Bancos Alazon, Dipping Lakes, North Fork/Middle Fork, Mesa. Divide Ranger District: Roaring Fork, Decker, Trout, Embargo, Rock Creek, Cattle Mountain, Church, Cross/Race, Handkerchief Mesa, W. Pinos. Saguache Ranger District: Alder, Calfornia Gulch, Carnero, Cottonwood, Klondyke, Mill Creek,	Monitoring for vegetation utilization was conducted on all three Ranger Districts. About 264,549 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.

MONITORING ITEM	METHOD and (CONTACT)	PLANNED LOCATIONS	MONITORING ACCOMPLISHED (what, where, results, summarize, references)	EVALUATION (What are the recommendations based on monitoring? Changes needed to the Plan?)
		Middle Creek, Saguache Park, Spaanish Creek		
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.	The RGNF was selected to participate in a nationwide recreation use survey in FY 2000. 208 exit interviews were conducted associated with general forest areas (roads/trails); developed sites (day use and overnight); wilderness (trials); visitor centers and the ski area, and Viewing scernery along highways.	Exit interviews were conducted throughout the Forest and data sent to the Southern Research Station. Report is due out in May. No changes needed in the Forest Plan.
	(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. Hazard tree inspection reports are on file at Ranger District offices.	Preseason inspections are working well and will continue. No Forest Plan changes needed.
	(3) Monitor Ski Area Summer and Winter Activities. Monitor Wolf Creek Ski Area for compliance with approved summer/winter operating plans. (J. Flaget)	Wolf Creek Ski Area.	FY 2000 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, and annual billings and payments. Summer activities included an approved EA and the paving construction of several existing ski area parking lots and an approved EA and the construction of the Simpatico Collector Trail to the new Alberta lift.	Planning Team needs to review the Desired Condition ski area development statement for MA 8.22 and consider making necessary revision. 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	Concession Campground meeting was held with Area Mgrs and site mgrs. All permit holderns were again reminded of their need to comply with Title VI regulations and how to handle complaints. Title VI posters were again distrubuted and audits conducted. The new 36 CFR 251 regulations were reviewed and the Forest implemented the special use application screening.	Continue to monitor Special-Use permits in FY01. No changes in Forest Plan 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	Visitor use in the Forest campgrounds was recorded by our concession campground mgrs. Use reports on file at the RGNF Supervisors Office	Campground use and revenues were up in FY00 compared with FY99. No Forest Plan changes needed.
Evaluate developed	Comparative evaluation for	Forestwide Developed-	Forest Recreation Objectives, Forestwide Standards,	No Forest Plan changes needed.

MONITORING ITEM	METHOD and (CONTACT)	PLANNED LOCATIONS	MONITORING ACCOMPLISHED (what, where, results, summarize, references)	EVALUATION (What are the recommendations based on monitoring? Changes needed to the Plan?)
recreation relative to 36 CFR 219.12 (k).	M&E Report. (Forest and District Recreation Personnel)	Recreation Prescription Areas.	recreation Management-Area allocations, Desired Conditions, Standards and Guidelines, and Monitoring Items were used in project EAs and reviewed, and no changes are needed.	
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. Dispersed-campsite inventories throughout the Forest.	Deferred mtce trail inventories were completed on 20% (274 miles) of the Forest's trails in FY00. 41.2 miles (15%) on the Conejos Peak RD; 150.2 miles (55%) on the Divide RD, and 82.6 m iles(30%) on the Saguache RD. Records on file at the RGNF Supervisor's Office and Ranger District Offices.	Noted inventory defeciencies include poor or need signing and heavy maintenance work needed. Another 20% of the Forest trail inventory will be done in FY01. No change in the Forest Plan is needed.
	(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 Rec. Personnel/RSST)	Forestwide institutional-use permits.	No specific area was monitored in FY00 to assess the baseline allocation capacity.	No 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 Rec Specialist/RSST)	Hunter patrols during hunting season.	Boundary corrections are needed in some Backcountry areas; update the Forest Plan FEIS section and correct the Alternative G and Forest Travel map to reflect correct on-the-ground conditions.	Identify the remaining backcountry boundary corrections needed and conduct the necessary analysis to amend the Alternative G and Forest travel maps. No other changes in Forest Plan needed.
Evaluate Dispersed Recreation relative to 36 CFR 219.12 (k).	Comparative evaluation for M&E Report. (Forest and District Rec Personnel)	Forestwide Dispersed Rx Areas.	Forest dispersed-recreation Objectives, Forestwide and Management-area Standards and Guidelines, Desired Conditions, and Monitoring Items were used in project EAs and reviewed, and no changes are needed.	No Forest Plan changes needed.
Recreation -- *Unroaded Areas*				
Assess the physical, biological, and social resources within Backcountry Areas.	Assess the impacts on the physical, biological, and social resources (indicators). (Forest Rec Specialist and RSST)	Snowshoe Mtn	An integrated field review was made of the Twister Timber Sale including the Snowshoe Backcountry Area. Recreation recommendations included rescinding the Backcountry amendment; re-designing the skid trail to a 4 ft. trail width and designating this the Pierce Crk trail and making it a non-motorized trail. A decision needs to be made to decommission FDR 528.1z or keep it a system road and construct a trailhead (gravel parking area, fence and bulletin board) at the top of the saddle to access the Pierce Crk trail.	Upon completion of the Twister Timber Sale, the Backcountry amendment was rescinded. No Forest Plan changes needed.

MONITORING ITEM	***METHOD and (CONTACT)***	***PLANNED LOCATIONS***	***MONITORING ACCOMPLISHED (what, where, results, summarize, references)***	***EVALUATION (What are the recommendations based on monitoring? Changes needed to the Plan?)***
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.	The Backcountry Area Desired Conditons, Standards and Guidelines, Allocations, and Monitoring Items were reviewed and do not need to be changed. In the initial stages of the Handkerchief Mesa EA assessment work, an error was found in the Fox Mountain (020948) unroaded area. Two areas within this unroaded area have system roads in them, as well as past logging. The Handkerchief Mesa EA will deal with this error, and an amendment in the acreage and area boundary will be needed before the Alternative G and Forest travel map can be corrected.	Decisions related to the Handkerchief Mesa EA are pending the appeal decision of January 19, 2001 in keeping with the settlement agreement of December 1, 2000. No other Forest Plan changes are needed.
Recreation -- ***Wild and Scenic Rivers***				
Assess the physical, biological and social resources within W/S River corridors.	Assess impacts on the physical, biological, and social resources (Indicators). (Forest / District Rec. Personnel and Core Team)		No Wild and Scenic river corridor was assessed in FY00.	No Forest Plan changes are needed.
Evaluate W/S River Mgmt Rx Objectives, Desired Conditions, and S&Gs. 36 CFR 219.12 (k)	Comparative evaluation for the M & E Report. (Forest Rec. Specialist and District Rec. personnel)	Forestwide W/S River Mgmt Rx Areas.	The W/S River Standards, Desired Conditions, Allocations and Monitoring Items were reviewed, and no changes are needed.	No Forest Plan changes needed.
Recreation -- ***Wilderness***				
Monitor and evaluate visitor-use levels and other Wilderness resources. 36 CFR 293.2	Schedule for implementation those Priority 1 items outlined in each wilderness Area WIS. Surveys, data gathering, and reports. (District Wilderness Coordinators, Wilderness Rangers, and Resource Specialists)	South San Juan, Weminuche, La Garita, and Sangre de Cristo Wilderness Areas	Monitoring items for the Weminuche and South San Juan Wilderness Areas included campsite condition class, campsite density, meadow health, encounters, dogs not under control and high-lake surveys. Results of this monitoring indicates the management-area standards are being met. In a few incidences where monitoring shows that standards are exceeded (campsite conditions, camp density) will need additional assessment to determine if the next level of management action is required. Some initial monitoring was started in the La Garita and Sangres. Need another year or two of monitoring to establish baseline information.	No changes needed in the indicators to be monitored per the wilderness EA.
Evaluate Wilderness Forestwide Goals, Objectives, S&Gs and Wilderness Mgmt Rx Objectives,	Comparative evaluation for the M&E Report. (Forest Rec. Specialist and District Widlerness Coordinators)	Forestwide Wilderness Mgmt Rx Areas	The Wilderness EA was completed and Decision Notice issued which amended the Forest Plan to include the wilderness desired conditions, management area prescriptions, standards and guidelines and management actions (indicators to be monitored).	A wilderness amendment has been made. No other Forest Plan changes are needed.

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Desired Conditions, and S&Gs. 36 CFR 219.12 (k).				
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 Planner)	Poll individual RSST members 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				
Evaluate RNAs relative to 36 CFR 219.12 (k).	Ocular, plots, transects, GIS. (Ecologist: D. Erhard)	Designated Research Natural Areas.	The Finger Mesa RNA was visited and visually evaluated. It appears to be receiving low use and minimal impact by humans. 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. Clum)	Projects where Scenic Resources is a key issue, and special areas such as campgrounds, gravel pits, and utility sites.	On-site monitoring at the Kelly Creek Trailhead, the Wolf Creek Ski Area, the Blue Creek Post and Pole Sale, and the Twister Timber Sale. The Kelly Creek Trailhead is in compliance with Scenic Integrity Objectives. The color of a retaining wall beneath the Knife Ridge Area will need to be changed (to be completed in 2001). Monitoring at the Blue Creek Post and Pole Sale revealed that excessive trees were cut, stumps were in the direct critical viewing angle and slash was left along the roadside and riverside (measures to recify the problems are to be taken in 2001). Monitoring of the Twister Timber Sale indicated that the area has not yet come into compliance with Scenic Integrity Objectives. Inspections revealed large slash piles located beside the road. It is expected that the Twister Timber Sale project will come into compliance with Scenic Integrity Objectives within the next 2 years.	No changes needed in the Forest Plan.
Determine if SIOs were met. Assess Constituent Survey information	Constituent surveys, visitor observations, interviews, and public participation. (Landscape Architect: K. Clum)	Ranger District roads, trails, and recreation sites.	Constituent Surveys were not completed in FY 2000, since the surveys are awaiting Region-wide approval. However, information was gathered during public contact were made during site visits to Como Lake Trail, Medano Pass, Alamosa Canyon, and the Conejos Canyon, to discuss	No changes needed in the Forest Plan.

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			visitor perceptions and expectations and the current status of Scenic Resources for these areas. Currently, these areas come into compliance with sensitivity levels assigned to these areas.	
Evaluate scenic resources relative to 36 CFR 219.12 (k).	Summarize report	Forest	Three separate areas were monitored for Scenic Resource compliance during FY 2000. 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. All areas were in compliance with the Scenic Resource Objectives, Standard and Guidelines and Management Prescriptions.	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)	FY 00 fire projects monitored include Spanish Creek and Marshall Gulch.	Soils within the Spanish Creek wildfire area are "at-risk" meaning soil health may be threatened by erosion. Until natural revegetation occurs (which is progressing nicely) monitor closely. The Marshall Gulch prescribed natural fire occured in the Sangre de Cristo mountains on steep slopes. It has "at-risk" soil health for erosion concerns. It also is revegetating naturally very well and is trending toward stability.	No changes in Forest Plan needed. Standards and assessments seem to be working.
		FY00 Range projects	Roaring Fork. No soil problems encountered.	No changes in Forest Plan needed. Standards and assessments seem to be working.
		FY 00 Timber Projects monitored: Twister Salvage Sale	Twister Salvage Sale incurred soil impacts from logging. Regional Office validated the soil impact with a site visit and review in August 2000. Management was presented the information. Restoration measures planned for 2001.	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)	Projects where high erosion or mass-movement potential exists. Projects where soils is a key issue.	The Forest soil scientist was given WEPP training, which is the new Water Erosion Prediction Program. We are starting to use this in EA's and is proving to be a valuable tool. The tool predicts erosion from roads and when compared to actual erosion, was reasonable.	No change needed.
	(3) Ocular estimates, pace transects, on-site, professional judgements to monitor fertility, erosion, mass movement. (Soil Scientist: J. Rawinski)	See soils projects mentioned above. Plus projects on this row.	FY 00: In addition to above, looked at revegtation, soil erosion projects in the Difficult and Cave Creek watersheds.	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.	FY 00: Inspected the West Lost Trail and 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 random transects, review District project records and erosion models. (Soil Scientist: J. Rawinski)	FY 00 revegetation monitoring.	Monitored the Treasure Trove remediation. Grass responded very well, much improved in vigor. The remediation effort used concentrated livestock feedlot to add organic matter and nutrients to an impoverished site. Results are favorable.	No changes needed. We are implementing native plant guidelines.
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)	None	No monitoring required this year. This item is to be done once every five years. Due in FY 2001.	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)	None	No monitoring required this year. This item is to be done once every five years. Due in FY 2001.	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 00, a total of 690 acres were certified as being fully stocked. Areas to be planted are noted in the column to the right.	No changes needed. Followup surveys to 1st- and 3rd-year surveys will continue. All areas sampled in FY 2000 met stocking requirements.
Assess timber suitability. 36 CFR 219.12; 219.27	(1) Standard suitability determination at Forestwide level. (Analyst/Silviculturist)	None.	An analytical error was found in the FEIS timber suitability assessment for the revised Forest Plan. The Forest's analyst failed to include Suitable timber lands based on Soils direction for Suitable lands. Timber lands in the Los Pinos/Cumbres/LaManga-Grouse areas on the Conejos Peak RD formerly deemed Tentatively Suitable and/or Suitable and Scheduled (in the draft EIS) were errantly identified as Unsuitable.	A Forest Plan amendment has been completed to correct the suitability error and will take effect after appropriate consultation with the US Fish and Wildlife Service regarding species viability. This amendment is pending the January 19, 2001 appeal decision.
	(2) On-site inspection, inventory/growth-yield exams, soil sampling. (Proj. Silviculturalists {J. Griffin, J.	Pre-sale: West Park Creek, Long Lost Cabin, Blowout, Puddles, Shaw Divide,	Preparing for stand inventory and gate 1 analysis, an area on the Divide district including the Geronimo and Benino Timber Sales was analyzed and is believed to be suitable but is currently catergorized as unsuitable.	Areas previously entered for harvest should not be assumed to be suitable for timber management; conversely, some areas not selected by the

MONITORING ITEM	***METHOD and (CONTACT)***	***PLANNED LOCATIONS***	***MONITORING ACCOMPLISHED (what, where, results, summarize, references)***	***EVALUATION (What are the recommendations based on monitoring? Changes needed to the Plan?)***
	Murphy}, Proj. Foresters and/or Technicians. Timber Sale Administrators {J. Flaget,+ B. Valasquez}. Soil: J. Rawinski)	Grouse, Trujillo Meadows Harvest Operations: Beaver Mountain II Park Creek Salvage, Pinochle Park Stocking Surveys – Cecelia, Part Stowe, Royal Park Survival Surveys – Grouse Soil Surveys – Twister Grouse Salvage	All sales in the Black Mountain area on the Divide Ranger District have been assessed for suitability.	suitability assessment for entry (i.e., “scheduled" by FORPLAN) should not be assumed to be unsuitable. When suitability status is uncertain, on-site investigations and/or stand exams, coupled with site-specific economic analysis, are necessary to determine appropriate management opportunities or constraints. Stand exam will be completed in the Geronimo / Benino area to be available for the next round of planning. Additionally, the lack of recent or current stand-exam inventory data in some areas has reduced the reliability of FVS and FORPLAN results, thereby requiring more field time by silviculturists and foresters to ensure timber suitability status is accurate.
Assess I & D infestations relative to endemic levels prior to and following management activities. 36 CFR 219.12	On-site observation and limited sampling. Can include stat. accurate plots. (Proj. Silvi.: {J. Griffin, J Murphy}; Proj. Foresters and /or Techniicians Sale-Admin {J. Flaget, B. Velasquez}. R2 I&D {R. Mask, T. Eager})	Active TS's & ongoing Landscape Analyses & post-sale. Also areas undergoing extensive natural disturbance. Dendrochronology Studies	I&D infestations were observed in and around the proposed or upcoming Houselog Vegetative Mgt. Area and Park Creek Salvage TS and in/around the Cochetopa Hills area (Saguache RD), Handkerchief Mesa Mgt. Area and Twister TS(s) and the Wolf Creek Ski Area (Divide RD); Low Country Mgt. Area, November TS and Grouse TS (Conejos Peak RD); These observations indicate that Western Spruce Budworm (WSB) is even more widespread than previously realized, and we can say that virtually all of the Mixed Conifer type on the Forest has budworm at some level. Douglas-fir beetle has been sighted in stands previously infested with WSB on the Saguache District. An increase in the level of Mountain Pine Beetle was again noted in the Ponderosa Pine zone on the Saguache District. Dendrochronology studies pertaining to the Western	Areas found to be exhibiting increasing and/or potentially damaging infestations were, Grouse, and Cross TSs for spruce beetle; Park Creek, November TSs and the Houselog areas, and the Mixed Conifer portion of the Handkerchief Mesa area. This last area was found to exhibit high endemic levels of Western Spruce Budworm. Silvicultural techniques should be used, whether in timber sale or other resource emphasis areas, that serve to reduce host habitat for these insects. No changes are needed in the Forest Plan.

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			Spruce Budworm infestation cycle were completed by the Rocky Mountain Experiment Station based in part on samples taken on the Rio Grande NF. Published results are being processed.	
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: Park Creek Salvage, Pinochle Park, Beaver Mountain II Timber Sales. No harvest openings were found to exceed the 40-acre maximum	The 40-acre-maximum size limit for even-aged individual cut block, patch, or strip openings has not been approached or exceeded since the 1970s. Most harvest openings created prior to NFMA ('76) are fully stocked and meet or exceed tree heights and % distribution, as noted in Forestwide Silviculture Guideline #4. No change needed in Forest Plan.
Assess implementation of silvicultural objectives during pre-sale, harvesting, and post-sale periods	On-site, photo points, density measurements. (Pre-Sale: Proj and consulting Silvi/Prep Forester/Forest Techs & ID team members from EA teams tied to specific TSs. Active contracts: Sale Admin. Post-sale: Same as pre-sale)	Pre-sale: West Park Creek, Long Lost Cabin, Blowout, Puddles, Shaw Divide, Grouse, Trujillo Meadows, Personal &Commercial Use firewood & Post/Pole sales. Post-Sale: Twister Sales, Park Creek Salvage, Pinochle Park	On site observations in the Park Creek Salvage Timber Sale show a significant reduction in the habitat available for the Western Spruce Budworm. Some large Douglas-fir leave-trees have been found infected with the Douglas-fir beetle, which may result in mortality of the leave trees resulting in difficult restocking of the stands. Improvement cut prescriptions in the Pinochle Park timber sale will allow the future manager to implement a wide variety of prescriptions. Risk of WSB infection from the adjacent Park Creek Salvage Timber sale has been minimized by the reduction in stand densities in the Pinochle Park TS. West Park Creek and Long Lost Cabin Timber Sales were prepared in accordance with the Mountain Lion Lookout EA. There is a mixture of even and un-even aged treatments, both focusing on removal of small (1/4 to 1/3 acre) groups to accomplish treatment objectives. Many of the un-even aged prescriptions were applied to stands that were previously treated with even-aged shelterwood methods; this resulted in the need for trees to be removed between groups in some West Park Creek stands to ensure that a uniform diameter distribution will await future managers. .	Post-harvest assessments are key to adaptive mgt. Older ('80s) sales appeared to focus on products removed from stands, rather than residual/future stand condition and future management. Retain high-quality spruce, ponderosa pine, and Douglas-fir in shelterwood-system prep/seed cuts; avoid conversion to fir-dominated stands in timber-emphasis areas. As soon as possible, post-treatment burning should occur in the Park Creek Salvage Timber Sale to complete the intent of this treatment. Use overstory-removal cuts where healthy, fully stocked understory stands exist. Provide resources for updating stand-exam inventories, particularly where harvesting has occurred since inventory data were collected. Could add emphasis in FP & FEIS/FEIS App. indicating that most patch clearcuts are actually simulated shelterwoods whereby a fully stocked understory is being

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				released by removal of overstory.
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 not accomplished for reforestion or timber volume offered. There was no timber stand improvement accomplished.	The low percentage of timber volume offered is due in part to the carry-over volume responsibility from FY1999. A severe fire season removed field personnel from timber sale prep and reforestation activities. TSI is not consistent with lynx conservation assessment strategy & did not get USFWS concurrence.
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 Mgt.-area Allocations, Prescriptions, and Standards/Guidelines for Mgt. Areas including Suitable timberlands (4.21, 4.3, 5.11, 5.13, and 5.41); and reviewed monitoring approaches to timber-related Desired Conditions.	Some minor editorial changes are still recommended for Forestwide Silvicultural Standards 1, 2, 8; for Guideline 2, and for Management-Area Prescriptions for 5.11, 5.13, and 5.41.

direction, the Forest Plan and FEIS may have to be amended in the Unroaded section to incorporate the Rule.

Wild and Scenic Rivers

There was no assessment of a Wild and Scenic corridor done in FY00.

Wilderness

The new Wilderness Standards and Guidelines were implemented in FY 2000. Monitoring indicated that most compartments were within the established monitoring standards however, there were some areas within some compartments that appear to exceed the established standards. These areas are being assessed to determine if they do exceed standard and if management options need to be presented to line officers to implement more stringent management actions. Monitoring of the wilderness management actions (specified indicators) has occurred for the last several years in the South San Juan and Weminuche Wilderness Areas to establish baseline data. Last year monitoring was done in the La Garita Wilderness. The monitoring data is being assessed to determine if wilderness standards and guidelines have been exceeded and additional management action is needed.

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 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.

State of the Resource: Research Natural Areas

The Finger Mesa Research Natural Area was visited and visually evaluated. It appears to be receiving low use and minimal impact by humans. No changes in management direction are needed.

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

No planned timber sale road closures were conducted in FY 2000. Twenty-six miles of unclassified road decommissioning was accomplished in FY 2000.

State of the Resource: Scenic Resources

Four separate areas were monitored for Scenic Resource compliance during FY 2000. 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. All areas were in compliance with the Scenic Resource Objectives, Standard and Guidelines and Management Prescriptions. 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 soil resource of the Rio Grande National Forest is carefully monitored through project work and soil health assessments. In FY 2000 numerous soil health assessments were completed on rangeland, timber sales, and burned areas.

Most of the Forest’s soil monitoring showed soils to be in properly functioning condition. However, in the Twister Timber Sale, a salvage operation of trees that blew down during a tornado event, soil health concerns were identified. Soil quality standards were exceeded and management adjustments were necessary. Soil compaction was estimated between 30 and 50 percent of the harvested area, which exceeds the 15 percent allowable soil damages. Soils data is available at the RGNF Headquarters. Restoration of soil health in the Twister Timber Sale is planned for FY01. While the Forest Plan provides sufficient direction to protect soils, implementation needs to be improved so that soil damages are prevented rather than corrected after-the-fact.

State of the Resource: Special Interest Areas

Monitoring of Special Interest Areas was not required in FY 2000. Monitoring, to be done once every five years, is due in FY 2001.

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 1999-2000 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. Four areas that have not regenerated to meet minimum stocking standards and were scheduled for planting in the late summer of 2000 are as follows:

- **Wolf Creek (within the proposed El Lobo Timber Sale).** A 10-acre area that was illegally harvested around 1970 had logs skidded onto, and hauled from, adjacent private land. This area was planted in 2000.

- **The Royal Pain Fire (within the Royal Park Timber Sale)**. A wildfire began in or near the then active timber sale. Logging slash burned extremely hot and the existing advanced regeneration was destroyed. This area was planted in 2000.

- **Grouse Timber Sale.** Some patch clearcuts in this former timber sale are not expected to regenerate fully. This area was planted in 2000.

- **Cumbres Timber Sale**. Some patch clear cuts in this former timber sale are not expected to fully regenerate. This area was not planted, but is planned for planting in FY 2002.

The Twister blow-down on the Divide Ranger District has created a need for restocking. 300 acres of the area is planned for planting over three years, beginning in FY 2002. Mechanical Site Preparation for planting/reforestation is planned on 75 acres in FY 2001.

Timber Suitability

The Forest amended the Revised Forest Plan in the year 2000. The changes were necessary to make corrections and adjustments to the suitable lands base. The net effect was an 8.3 percent increase in suitable lands. A Forest Plan standard dealing with timber management was dropped to reflect a more current direction. Timber management personnel on the Forest will continue to gauge the timber-suitability assessment against observed forest conditions and make adjustments where appropriate. The suitability amendment will take effect after appropriate consultation with the US Fish and Wildlife Service regarding species viability.

Insect and Disease Infestations

There remains a potential for future spruce beetle infestations of high endemic or epidemic proportions in some former and/or future timber sale areas. Over the last 4 years, Forest Service entomologists have observed increasing populations of spruce beetle, and associated killing of overstory spruce, in the Cliff, Grouse, and Twister Timber Sale areas and also in the vicinity of Trujillo Meadows, Cornwall Mountain, and Shaw Lake. Attempts to actively manage spruce beetle infestation in the Grouse Timber Sale area have been hampered by an appeal of the Timber Suitability Amendment. The Grouse area is still a high-risk area for spread of the spruce beetle.

New spruce blow-down was found in the Cliff Timber Sale area. Surveys are ongoing in this area and active management of the area is being considered.

Monitoring by trapping of beetle populations in the Twister Timber Sale has shown lower than expected populations of the spruce beetle. Further monitoring is ongoing to determine if swift management actions were partly responsible for the low populations.

Western spruce budworm (WSB) populations are at high endemic levels in many of the Forest's mixed-conifer stands, and are being found at moderate levels in subalpine fir in the lower or warmer bands within the spruce-fir zone. Limited harvesting and/or burning of these sites, coupled with continued fire suppression, and perhaps grazing by domestic livestock and elk, is maintaining or increasing readily available host habitat for WSB and resulting in continued moderate to severe defoliation of true firs and Douglas-fir. High stocking levels, compositional shifts to greater proportions of favored host tree species (e.g., Douglas-fir and true firs), and changing stand structure to more small-diameter stems and uneven-aged/multi-canopied conditions are together resulting in favoring WSB survival.

Douglas-fir beetle has been observed on the Saguache District in Douglas-fir stands that were heavily infested with WSB. This is an expected event given the widespread WSB infestation.

Mountain Pine Beetle has moved into the Ponderosa Pine stands, most noticeably in the northern portion of the Saguache Ranger District. Most of the infected stands fall within the proposed Cochetopa Hills and Poncha Pass Lynx Corridors. Direction for management in this area hinges on comprehensive plans for the Lynx Corridors.

Harvest Openings

Harvest openings from recent, current, 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. An exception to this is the Twister Timber Sale(s) arising from the Fisher Mountain blowdown. This exception is authorized under 36 CFR 219.27(d)(2)(iii).)

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 FY00 are displayed in the table below:

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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).

Item	Measure	Planned	Accomplished	% Accomplishment
Reforestation	Acres	100	69	69%
TSI*	Acres	53	0	0%**
Timber Volume Offer	CCF	16000	4592	29%

**Timber Stand Improvement (usually thinning)*
***TSI is not consistent with lynx conservation assessment strategy & did not get USF&WLS concurrence*

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.

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