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Forest Plan Monitoring & Evaluation Report

Fiscal Year 2008

**Rio Grande National Forest,
Colorado**

Cover photograph of ancient rock art, an important heritage resource in the San Luis Valley. This one has been marred by vandals; illustrating the continuing need for monitoring of heritage resources.

CERTIFICATION

The Rio Grande National Forest's (RGNF or Forest) Land and Resource Management Plan (Forest Plan), approved on November 7, 1996, is a dynamic, evolving document subject to change. Monitoring of the Forest Plan is essential in evaluating its effectiveness and making necessary adaptive management changes; it has been amended six times to date. An additional amendment is ongoing.

Overall, the 2008 monitoring & evaluation results indicate that the management of the Forest is meeting goals, desired conditions, standards and guidelines (S&Gs), and prescriptive allocations (per 36 CFR 219.12 (k)).

My recommendations for future Forest Plan assessments or amendments are as follows:

- Inventoried Roadless Area (IRA) mapping errors were identified in the Forest Roads Analysis Report (2004) and documented in the Rio Grande National Forest Colorado Roadless Review Taskforce Briefing Paper and Colorado Roadless Rule DEIS. These are included in the ongoing Colorado Roadless Rule EIS analysis which is expected to be completed in 2010. The outcome of that analysis may require minor corrections to the Roadless Area maps.
- As a result of the P.L.106-530, Great Sand Dunes National Park and Preserve Act of 2000, there is a need to correct the Forest Plan map to reflect the Park Preserve created from former National Forest lands within the Sangre de Cristo Wilderness and the newly acquired Baca Mountain Tract. The related Baca Land Exchange has been completed and the proposed Baca Mountain Tract Amendment #6 to the Forest Plan is currently undergoing an Environmental Assessment (EA) to include the newly acquired land into the Forest Plan. This amendment is being done through a joint EA with the Great Sand Dunes National Park and Preserve and is expected to be completed in 2009.
- The Forest Plan was amended through the Southern Rockies Lynx Management Direction Record of Decision signed by Regional Forester Rick Cables on October 28, 2008. This amendment incorporated lynx conservation measures through the application of revised Standards and Guidelines into the Forest Plan. This is Amendment # 7 to the Plan.
- The Forest continues to suffer from the effects of epidemic-level insect infestations which have reached catastrophic levels. The Forest continues to assess forest health conditions and may propose Forest Plan amendments to allow for necessary vegetation treatments.
- The Forest needs to re-assess the recreation standard specifying camping stay duration limits for standard consistency with other Forests in the Region.

I have reviewed the annual monitoring & evaluation report for the RGNF for Fiscal Year (FY) 2008. I believe that the monitoring & 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 RGNF and, after further analysis and required public notification and involvement, will implement those that I decide are appropriate.

Dan S. Dallas
Forest Supervisor

9/28/2009
Date

Table of Contents

INTRODUCTION AND STATUS

On November 7, 1996, the Revised Land and Resource Management Plan (Forest Plan) for the Rio Grande National Forest (RGNF or Forest) was approved by Regional Forester Elizabeth Estill. The Forest Plan establishes the management direction for all future activities, to ensure that an interdisciplinary approach is used to achieve the desired conditions described for all areas of the Forest.

This monitoring & evaluation report is based on the RGNF Monitoring Plan, as described in Chapter V of the Forest Plan for the RGNF. This report is not a list of outputs; rather, it describes conditions of the various resources on the Forest. The report is key to the concept of adaptive management (the ability to change as new information or technology is developed) and is the feedback mechanism for improved resource management. The information presented in this report will be used to determine if an amendment or revision of the Forest Plan is needed.

The organization of this report is as follows. First, there is a brief discussion of the status of the Forest Plan appeals, followed by a discussion of amendments and potential amendments. Next are monitoring requirements and results, by resource (results are called “State of the Resource”). An appendix provides a detailed summary of this past year’s monitoring results.

APPEALS

There are no outstanding appeals to the RGNF Forest Plan at this time.

FOREST PLAN AMENDMENTS

Six Forest Plan Amendments have been occurred to date. One proposed amendment is underway. There are also several amendments, corrections, or other actions that have been recommended. These are outlined below.

Completed Amendments

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

Amendment # 1

Twister Blowdown Management-area Prescription 3.3. This amendment provided a temporary exception to Management-area (MA) Prescription 3.3. On March 2, 1998, a Decision Notice was signed that amended the Forest Plan to allow for timber salvage harvesting on approximately 60 acres within MA Prescription 3.3 (Backcountry) in the Twister Blowdown area. The non-significant amendment changed the “no harvest” Forest Plan Standard in this prescription, so that salvage of blowdown timber could occur to reduce the risk of bark beetle infestation and spread. The timber harvest was completed and the area is again managed as backcountry. Spruce beetle monitoring is continuing in the backcountry area.

Amendment # 2

Wilderness Management Direction. The scope of Forest Plan direction for Wilderness management was limited in the 1996 revised Forest Plan due to ongoing wilderness planning efforts. It was recognized that population growth in Colorado has affected the amount and type of recreation use within the South San Juan

and the Weminuche Wilderness Area, the most visited wilderness area in the state. Forest Plan direction pertaining to the management of recreation use, changes in recreational use patterns, and preservation of the wilderness character of these areas, were reviewed. A Limits of Acceptable Change (LAC) analysis; 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; was used to help formulate a Forest Plan amendment pertaining to Wilderness management direction. On August 3, 1998, 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 S&Gs,
- to define thresholds and possible management actions within Wilderness when thresholds are exceeded,
- to add Wilderness monitoring requirements, and
- to add Wilderness management to the Forest Plan.

This amendment also clarified the stocking of indigenous fish in wilderness. The Forest Plan amendment and implementation of the Wilderness management direction and action items began on October 1, 1998.

Amendment # 3

Adjustment of a Botanical Special Interest Area Boundary. On June 18, 1999, a Decision Notice was signed approving the adjustment of a special interest area (SIA) boundary. The SIA was originally designed to protect a sensitive plant (Ripley milkvetch), and the adjustment was made to more accurately 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 percent 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 SIA boundary. The analysis to support the non-significant amendment, done as a part of the November Analysis Area Environmental Assessment, resulted in reducing the acreage of the botanical SIA from 2,076 acres to 910 acres. The reduced acreage (1,166 acres) was included in a Bighorn Sheep MA Prescription (5.42). The location of the botanical SIA 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 to correct suitable timber lands on the RGNF. The non-significant amendment corrects omissions made between the publication of the draft and final environmental impact statements (EISs) for the revised Forest Plan. Net adjustments of acres to the suitable timber land base result in an 8.3 percent increase in suitable lands, which was determined to not be a significant change. The amendment became effective upon completion of the consultation process with U.S. Fish and Wildlife Service (USFWS) regarding the adequacy of the Forest Plan biological assessment and evaluation.

Amendment # 5

Management Indicator Species (MIS) Amendment. A Decision Notice for a non-significant amendment to the Forest Plan was signed on October 24, 2003, which designates nine management indicator species (MIS), and adds or modifies the associated Standards and Guidelines and monitoring & evaluation strategy in the Forest Plan.

Amendment # 7

Southern Rockies Lynx Management Direction Amendment. A non-significant amendment to all the Forest Plans in Colorado was signed on October 28, 2008 by Rick Cables, Regional Forester. This amendment added lynx conservation measures through the application of revised Standards and Guidelines to the Forest Plan.

Ongoing Proposed Amendments

Proposed Amendment # 6

Baca Mountain Tract. This proposed amendment will address the ownership and jurisdictional changes due to the P.L.106-530, Great Sand Dunes National Park and Preserve Act of 2000. Portions of the Sangre de Christo Wilderness within the RGNF became the Great Sand Dunes Preserve. The RGNF also obtained a portion of the Baca Grande Land Grant called the Baca Mountain Tract. There is a need to correct the Forest Plan map to reflect the new RGNF boundaries and to incorporate the Baca Mountain Tract into the Forest Plan. The proposed Baca Mountain Tract Amendment #6 to the Forest Plan is being analyzed in the Baca Mountain Tract/Camino Chamisa Environmental Assessment (EA), a joint EA with the Great Sand Dunes National Park and Preserve. The Great Sand Dunes National Park and Preserve, Saguache County, US Fish and Wildlife Service and Colorado Division of Wildlife are cooperating agencies in this EA. This amendment is expected in fall of 2009.

Status of Previous Recommendations - Potential Forest Plan Amendments, Administrative Corrections, or Other Actions

- There were several recommendations for changing the wording of some of the silvicultural guidelines and for changing monitoring requirements for fish and birds in the Forest Plan. Some of these were addressed in the MIS amendment discussed above.
- There have been recommendations for correcting mapping errors in the Inventoried Roadless Area (IRA) boundaries. IRA mapping errors were identified in the Forest Roads Analysis Report (2004) and documented in the RGNF Colorado Roadless Review Taskforce Briefing Paper and presentation dated June 7, 2006, and the Colorado Roadless Rule DEIS. These are currently being analyzed in the ongoing Colorado Roadless Rule EIS, which may result in a correction to the roadless area maps
- The Forest continues to suffer from catestrophic level epidemic-level insect infestations. The Forest continues to assess forest health and may propose plan amendments to allow for vegetation treatments where necessary.
- The Forest needs to assess the Forest Plan recreation standard which dictates recreational stay duration limits to make the standard consistent with other Forests in the Region.
- The Village at Wolf Creek access analysis identified the need to change the scenic integrity objective (SIO) at the Wolf Creek Ski Area to make it compatible with the existing visual situation which has been highly modified due to the Ski Area development, Highway 160 and its improvements, and the Colorado Department of Transportation (CDOT) maintenance facilities. This will be done in the next NEPA analysis for Ski Area development.
- There also was a recommendation to update the desired conditions statement for the Ski Area.
- The Forest recently conducted an analysis to assess Forest Plan consistency with the 2005 Travel Management Rule. The analysis concluded that the Forest Plan, including the afternoon ATV big

game retrieval direction, is in compliance with the 2005 Travel Management Rule and no changes to the Forest Plan are needed.

- A recommendation has been made to incorporate current terminology and definitions for wildland fire and prescribed fire management policy and implementation into the Forest Plan. This may be addressed as an administrative correction to the Forest Plan.

MONITORING REQUIREMENTS AND STATE OF THE RESOURCE

Introduction

Monitoring & evaluation criteria are based on national policies, regional monitoring emphasis items, interdisciplinary-team concepts, and legal and other policy requirements. The monitoring & 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,
- MA prescriptions, as well as the Forest-wide and MA-specific S&Gs,
- The monitoring plan and,
- Congressional recommendations

Annual monitoring goals are described in the annual monitoring operation plan (AMOP) detailing monitoring expected to be completed in the upcoming year.

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.

The Monitoring and Evaluation Report focuses primarily on implementation and effectiveness monitoring. It also addresses validation monitoring which involves more of a long-term analysis.

FY 2008 Monitoring & Evaluation by Resource

This section (1) briefly synopsizes the minimum level of monitoring identified for each resource component of the monitoring plan (under "Monitoring Requirements" subheading); and (2) summarizes FY 2008 monitoring results for each resource component (under "State of the Resource" subheading). More detail on monitoring requirements is included in the Forest Plan (Chapter V, pp. V-4 through V-16).

Note that Forest monitoring efforts are focused on meeting these requirements; however, the amount of monitoring accomplished for each element is a function of available funding.

Air Quality

Monitoring Requirements

Maintaining air quality at a level 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 Park. Surveys conducted at the same time in all four wilderness areas on the RGNF and Great Sand Dunes National Park have identified the lakes most sensitive to changes in acidity; these have been selected for long-term trend monitoring. Regional protocols and the Forest Air-Quality-Monitoring Plan stipulate that these lakes should be monitored three times per summer to be most effective.

State of the Resource

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

The most sensitive high-elevation lakes have been monitored in the past, but funding and emphasis for lake monitoring in 2002 was preempted by priorities given to firefighting and reclamation of the Million Burn. Monitoring resumed in 2003 and has been completed each year through 2008 with samples collected from eight established long-term sampling sites. Lake visibility and particulate data are useful in modeling to predict impacts from proposed facilities that could impact air quality. These data are also used to prescribe pollution control technology for new major polluting facilities. No additional information is available from lichen monitoring.

Aquatic Resources

Monitoring Requirements

Watershed health is a primary focus of the Forest Service, so particular emphasis will be placed on monitoring. 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 resource managers.

Monitoring & evaluation of stream health, water quality, and riparian conditions will be included in watershed assessments. Watershed assessments are to be completed on at least one stream and riparian area per analysis area for each environmental analysis (EA) project involving land disturbance. Monitoring of streams within watersheds that have been identified as “at risk” will occur, and be reported in, watershed assessment sections of appropriate EAs. Monitoring to evaluate improvement over time of six streams identified as damaged in the Monitoring Plan, will be reported based on long-term assessments (two streams will be evaluated each year).

State of the Resource

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

Drought conditions suffered from 1999-2004 improved in 2005 through 2008. Near normal moisture was received in much of the San Luis Valley.

"Adequate" to "robust" stream health is the norm, although the health of some streams was diminished during the drought. Range specialists continue to make adjustments in grazing systems to deal with impacts and avoid excessive concentration of animals in sensitive riparian areas that were impacted during the drought, but are now recovering. Stream health is determined by comparing channel conditions to a similar reference stream that shows what a stream can look like. Sometimes this comparison is made visually and sometimes with more, in-depth measurements.

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

Construction work on Highway 160 is a potential source of sedimentation, but sediment retention measures are a routine part of that operation. Construction work on Highway 160 did not occur in FY 2008 but will be starting again in the summer of 2009.

Streams within the Million Burn continue to be in different states of adjustment. The watershed is healing nicely, but stream channels are naturally down-cutting in places while aggrading in others. Million Reservoir is full again and the public has total access for recreation.

Several fuel reduction projects occurred in 2008. Stability and general condition of streams within these project areas were evaluated prior to the projects. Where necessary, channels were identified for buffering from the burns. Additional monitoring will occur subsequent to the burns to evaluate effects. The Forest also assessed stream condition for timber sale projects and range allotment renewals. Minor problems were noted in some cases and changes in management are expected to produce improvement in those areas. We also returned to some long-term monitoring streams to document changes.

The Forest continued work on abandoned mine land reclamation projects that involve improving water quality and health of streams, riparian areas, and watersheds. These projects are within the Willow Creek Watershed.

Biodiversity

Monitoring Requirements

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

To determine if the Forest Plan is meeting this objective, the Forest uses several monitoring tools. Forest specialists will monitor those species and/or habitats about which there are some questions as to their potential viability. Species monitored are found on the Threatened and Endangered list, the Regional Sensitive Species list; and for plants, the Colorado Natural Heritage Program's list of Species of Special Concern and Significant Plant Communities. MIS are being monitored beginning in 2004.

Monitoring will occur at two different scales. The “fine-filter” scale will focus on particular plant and wildlife species that generally occupy distinct habitats which cannot be accurately monitored at the landscape level. MIS were specifically selected as one tool to help evaluate diversity and species viability Forest-wide. The rest of the fine-filter work is specific to the known location(s) of the particular plant or animal. The intent of the fine-filter work is to track the species' population trends over time. The “coarse-filter” work focuses on tracking the changes in gross habitat conditions (such as cover type and structural changes).

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

MIS will also be used to monitor the Forest’s objective for providing for and maintaining diversity and to assess species viability. Project-level MIS analyses will address species viability within the context of the entire Forest. MIS analysis at the project level focuses on habitat and its availability and occupancy to support a minimum number of reproductive individuals that are well-distributed so that interactions can occur within the planning area (i.e., at the Forest level). MIS data collected at the project-level is a key component for assessing the relationship between the Forest-level MIS population trends and habitat changes. MIS analysis at the Forest level focuses on population trend data for the selected MIS, which is the appropriate level for biological populations and the cumulative effects to habitat across the Forest. A multitude of information can be used for MIS monitoring which makes possible the evaluation of diversity in terms of its prior and present condition (36 CFR 219.26).

State of the Resource

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, S&Gs, 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. Additional detail is provided in Appendix A. Overall, the Forest appears to be generally meeting the goals, desired conditions, and S&Gs 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 MA prescription allocation is needed relative to the ecology resource.

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

A site visit was made to known *Astragalus ripleyi* sites (a Forest Service designated sensitive plant) and they appeared stable and secure. No new special status plants were found this year.

The IRI Center in Dolores has completed the contract mapping and attributing of common vegetation unit (CVU) polygons on the Forest. The updated vegetation data are being used for project analysis work.

Several Colorado Natural Heritage Program (CNHP) plant communities of special interest were visited as follows: (1) *Salix monticola* / Mesic Graminoids Shrubland; (2) *Populus angustifolia* / *Salix exigua* Woodland; and (3) *Populus angustifolia* / *Alnus incana* Woodland. The sites appeared stable and there were no apparent threats.

Old-growth inventories were completed for the following projects: Ruston Aspen Sale, Big Meadows II Timber Sale, Sietz Mech. P/J thinning, Divide Fuel Breaks, Alder Rx burn, Powderhouse Rx burn unit 2, Rio de los Pinos Veg Mgmt., North Park Comm. Firewood, and Vulcan Cross Comm. Firewood. To date, old growth (Mehl 1992) on the RGNF remains uncommon. On the Divide and Conejos Peak Ranger Districts, old growth appears to be limited due to a lack of patchiness, lack of structural diversity, and/or net productivity being too high. Because the Mehl criteria are biased toward more productive sites, the Saguache Ranger District appears to generally lack the productive capability to meet the Mehl old-growth descriptions.

The Forest ecologist visited more than 20 percent of the Forest's ongoing projects (site visits made in conjunction with project-level plant biological evaluations [BEs]). Monitoring did not show a need for change in the biodiversity items in 36 CFR 219.12 (k).

Wildlife Program.

The Wildlife Program was responsible for the terrestrial wildlife-related items in the Biodiversity section of the Monitoring Plan. This includes a determination of whether the biodiversity-related goals, desired conditions, Standards and Guidelines, and prescription allocations (36 CFR 219.12 (k)) are being met or are still appropriate.

The Forest contains a variety of habitats that support approximately 196 species of birds, 69 species of mammals, and 15 species of amphibians/reptiles. Sustainability of this diverse resource is primarily related to the maintenance of a desired vegetative condition, or combination of conditions, that achieve the habitat requirements for specific species or groups of species (Regional Objective 2 of the Forest Plan). For some species, however, viability is tied to geological features such as rock cliffs (e.g. peregrine falcon), waterfalls (e.g. black swift), caves or mines (e.g. Townsend's big-eared bat), or specific structural attributes such as snags (e.g. 63 species in Colorado) or downed wood (e.g. Canada lynx denning habitat). Evaluation of habitat conditions across the Forest is primarily associated with timber sales, range allotment revisions, and other project activities which provide an opportunity for both coarse- and fine-scale assessments. Proposed management activities are evaluated for their effects on wildlife and their habitats with larger activities often accompanied by site-specific surveys for some species. For groups such as Threatened, Endangered, and Sensitive species (TES), specific survey and management direction are applied. Based on the survey and habitat evaluations, conservation measures intended to provide for species viability and habitat sustainability are incorporated, as appropriate.

The Rio Grande National Forest is primarily comprised of high-elevation spruce-fir forest and aspen (53 and 20% of the plant community types, respectively) and thus has a high conservation responsibility for species associated with these forest types. In 2008, there was no change in the amount of spruce-fir forest or aspen available to dependent wildlife species and little change in the structural composition of this forest type from management activities on the Rio Grande NF. Rather, natural disturbance events associated with bark beetles continued to be the primary influence on habitat conditions in spruce-fir, especially in older stands. In 2008, over 46,500 additional acres of spruce were killed by high levels of spruce beetle activity. Bark beetle influences are known to have positive effects on habitat for some species (e.g., woodpeckers) and negative

effects on others (e.g., canopy-dwelling birds). Timber salvage sales were planned and/or implemented across the Forest in response to the bark beetle mortality. The overall acreage trend of salvage sales in the planning stages in response to the bark beetle epidemic increased from previous years, suggesting that a greater need for Forest Plan effectiveness monitoring for the wildlife resource as associated with this activity. These sales successfully incorporated conservation measures during the planning phases. Implementation monitoring occurred during timber sale administration and program review. Range implementation occurred during grazing permit administration and program review. Additional efforts to assess effectiveness monitoring for vegetation management projects are needed.

In 2008, the wildlife program conducted habitat improvement projects on 960 acres of National Forest Systems land. These projects included vegetative treatments (i.e., mechanical and prescribed burns) in lower elevation vegetation types, birdbox and guzzler installations, and road closures. Habitat improvement projects were targeted at big game species and cavity-nesters. Pre- and post-burn monitoring was conducted on 175 acres of big game winter range, with photo-points established for long-term monitoring purposes on one ranger district.

Inventories and/or population monitoring for TES species were primarily related to project activities such as timber sales. In 2008, the Forest moved wildlife observation and survey data from the FAUNA database into the new NRIS Wildlife database. The corrections and attention associated with the data migration reduced the need for entry of new Forest data into the NRIS database. Lynx habitat baseline data were updated based on proposed projects and management activities, and reported to the U. S. Fish and Wildlife Service (FWS) in an annual report. In addition, a new lynx habitat mapping iteration was completed using the R2 Veg GIS layer. The amount of Southwestern willow flycatcher surveys decreased Forest-wide in 2008, but continued in association with project activities (primarily range) to determine presence and distribution of suitable habitat on the Forest and whether suitable sites are occupied. Results continued to be reported annually to the FWS. In 2008, the first southwestern willow flycatcher was detected on Forest land. This individual is suspected to have been an early migrant, and did not nest on Forest land. In 2008, the Forest remained a primary cooperator with multiple other entities in the development of a Habitat Conservation Plan (HCP) for the Southwestern willow flycatcher in the San Luis Valley. However, no activity occurred in 2008 concerning the HCP, and its status is unclear at this time. The Forest also continued to cooperate with adjacent Forests and the FWS in conducting population and habitat monitoring for Uncompaghre fritillary Butterfly (UFB). To date, the number of occupied colonies on the Forest remains at six and habitat surveys remain ongoing. The one colony area reported to have experienced impacts from livestock trampling in 2007 displayed no evidence of livestock impacts in 2008. Mexican spotted owl surveys continued in one potential habitat area associated with proposed fuel treatment activities. To date, the presence of this species remains unconfirmed on the Forest.

The current status of the Forest's T&E species is detailed in the annual reports produced for each species. There was no change in species status since the 2007 update to the R2 Regional Forester's Sensitive Species list.

Raptor surveys in 2008 documented breeding of some local species such as northern goshawk and peregrine falcon in both new and known sites. The Forest also received monitoring reports from the Colorado Division of Wildlife (CDOW) on Canada lynx, peregrine falcons, boreal toads, bats, bald eagles and game species such as elk, mule deer, and bighorn sheep.

MIS monitoring was again conducted in 2008 on a Forest-wide scale consistent with our Forest monitoring protocols. In 2008, the Rocky Mountain Bird Observatory (RMBO) implemented a new grid-based survey design for state-wide avian monitoring under the Monitoring Colorado Birds (MCB) program. This new program will no longer monitor the 22 habitat-based transects on the Forest but instead monitor 16 new grid-based sites on the Forest. In 2008, 10 grid-based sites were monitored under the MCB program. Despite the

statewide conversion to a sampling design, the Forest continued to monitor the 15 supplemental MIS transects that we established in 2004 until the new sampling design is fully tested and implemented. A final report was received that described survey results for the Forest for the new 2008 effort. In 2008, a status report on the status and trend of the Forest avian MIS as sampled from 1998-2007 under the original transect-based design was received from the Rocky Mountain Bird Observatory. This report indicates that none of the six Forest avian MIS displayed any evidence of population decline at the state-wide level but that one species (hermit thrush) displayed potential decreases at the local level. Sampling intensity was sufficient to detect population trends for all MIS at an acceptable level except one species (Wilson's warbler). Monitoring data for mammalian MIS (mule deer and elk) populations for 2008 was again supplied by the Colorado Division of Wildlife (CDOW). Based on information from 2008, most deer populations remain at or below objective while elk populations remain above objective. This consistent pattern is of concern to the Forest and has been discussed with local DOW biologists. One mule deer Data Analysis Unit (D-37) on the east side of the Forest remains consistently far below objective and is recommended for additional analysis and evaluation with the local CDOW to determine if habitat concerns are involved in this pattern. Because of key changes in some MIS programs (e.g. MCB program), lack of some habitat information, and some consistent population patterns (e.g. mule deer and elk), an interdisciplinary Forest-wide MIS Status Assessment is recommended to determine what, if any, changes are needed to improve the MIS program. The status assessment recommended for MIS should also include the following items: 1) review the Forest Avian Monitoring Protocol (2005) to determine if an update is needed to incorporate the new MCB sampling design; 2) rework the existing Forest avian MIS transects to be consistent with the new MCB sampling design; 3) improve habitat monitoring and reporting for avian MIS, especially riparian-willow species that may be influenced by range activities; 4) review mule deer population status with the local DOW to determine why some populations remain below objective and what role habitat may play, if any, in this consistent pattern.

A format for reporting Forest Plan monitoring information for the wildlife resource was established for 2008. Overall, the Forest appears to be meeting most of the goals and desired conditions for the Wildlife resource as intended in the revised, amended Forest Plan. Conservation measures and Forest Plan standards and guidelines appear to be incorporated into project planning as appropriate. Implementation monitoring occurred during contract and permit administration and program review. Continuing efforts to assess Forest Plan effectiveness monitoring are needed.

Fisheries Program. The desired condition for biodiversity is to maintain viable populations of native and desired nonnative species. The following is a summary of the state of the fisheries resource on the RGNF.

An above average snow pack on the Forest resulted in good stream flows with good-to-excellent fishing reported on most streams and reservoirs. Fish management activities conducted in 2008 include: sportfish and native fish inventories; sportfish/native fish stockings; habitat evaluations; and stream crossing inventories. These activities were completed in partnership with Bureau of Land Management (BLM) and Colorado Division of Wildlife.

Sport fishing is a major activity on the Forest. The Forest offers a variety of fishing opportunities ranging from high mountain lakes and streams to rivers and reservoirs. CDOW maintains an active hatchery program supporting recreational fishing on the forest and stocks a variety of native and desirable nonnative fish species. Stocked fish include Rio Grande cutthroat trout (RGCT), rainbow trout, brown trout, brook trout, Snake River cutthroat trout, kokanee salmon, and splake. Sportfish inventories on the Forest, utilizing electrofishing and gill nets, were conducted on ten streams and four reservoirs. Results from these inventories confirmed stable populations of desirable nonnative trout species.

Native fish management and restoration is a high priority on the Forest. Management activities completed in 2008 for native fish include population monitoring & evaluation, wilderness stockings, stream crossing inventories, and assisting in finalizing a range-wide Rio Grande cutthroat trout status report. Density,

biomass, and population estimates were conducted on one RGCT stream and two reservoirs. Approximately 100,000 fingerling RGCT were stocked into Forest lakes and streams in 2008.

RGCT are currently found in 62 streams and 63 lakes/reservoirs on the Forest, totaling approximately 366 stream miles and 2,470 surface acres, respectively. RGCT populations are divided into three categories based upon genetic purity: core populations (>99 percent pure), conservation populations (>90 percent pure), and recreation populations (RGCT coexisting with nonnative trout species). Of the 57 streams, 37 of the streams and 5 lakes are considered core or conservation populations and 25 streams and 58 lakes/reservoirs are considered recreation populations. The number of RGCT recreation populations should remain fairly constant on the Forest as these are supported by CDOW hatchery stockings. These numbers differ slightly from 2007 due to updated genetic results and new stocking locations. Three RGCT recreation populations were surveyed in 2008. Two of the locations failed to document RGCT presence despite annual stockings, while the other location documented three age classes with quality size fish reaching 17 inches.

In 2002, Rio Grande suckers were found in five streams on the Forest. Since 2002, three additional streams, Big Springs Creek, Lake Fork Conejos River, and Cottonwood Creek have been stocked with Rio Grande suckers. Big Springs Creek was stocked with Rio Grande suckers in 2003, 2004, and 2006; and Lake Fork was stocked in 2005, 2006, and 2007; and Cottonwood Creek was stocked in 2008.

Only one viable population of Rio Grande chub is known to exist on the RGNF. A small self-sustaining population of Rio Grande chub exists in the Alamosa River drainage from Silver Lakes to Terrace Reservoir. A new stream, Cottonwood Creek, was stocked with 4,000 three inch Rio Grande chubs in 2008.

Stream crossing inventories were conducted on two streams in 2008 with both culverts meeting fish passage criteria. In 2008, six crossings that were identified in 2007 as failing to meet passage criteria were funded for replacement through the Forest Service's Legacy Roads Initiative and Western Native Trout Initiative. Crossing design and specifications were developed in 2008 with culvert replacement scheduled for summer/fall of 2009.

Extremely low stream flows during the period from 2001 through 2003, and competition with nonnative species, appear to have had some impact on native fish distribution and abundance on the Forest. Impacts ranges from less than desirable population parameters, to increased populations of nonnative species, to entire loss of populations. Habitat problems appear to be site specific and not an overall threat to trout populations across the Forest. The Forest-wide abundance and distribution of Rio Grande cutthroat trout appear to be stable, although the USFWS listed them in 2008 as a Candidate Species with a listing priority number 9. This determination was based primarily upon impacts from nonnative trout and relatively short occupied stream lengths, not on impacts from Forest related activities or projects. Self sustaining nonnative trout populations are wide spread throughout the perennial streams across the Forest.

The information available for the fishery resources on the Forest suggests that when properly implemented, the revised Forest Plan direction, desired conditions, and S&Gs, are effective in protecting biodiversity. However, this should continue to be evaluated to determine if there is any need for change; but at this time, no changes to Forest Plan direction, desired conditions or S&Gs are warranted.

Fire and Fuels Management

Monitoring Requirements

"Serious or long-lasting hazard" potential is reported based on a determination of "relative resource values." Hazard potential from wildfire will be determined through ocular estimates, fuel transects, onsite inspections,

and/or surveys. Areas determined to have high hazard potential from wildfire and high relative resource value will be the focus areas for the fuels management program.

State of the Resource

The fuels resource can best be represented as a component of Forest health. In FY 08, several areas within Fire Regime 1 (High Frequency/Low Severity) and Fire Regime 3 (Medium Frequency/Mixed Severity) and in Condition Class 2 or 3 were identified, evaluated, and planned for treatment. Though the residual effects from the previous drought appear to be on the decline, prescribed fire treatment options must continue to consider effects carefully and apply fire judiciously. The Forest treated approximately 3,900 acres of hazardous fuels. Where fire treatments were implemented (approx. 2,700 acres), results were favorable. Mechanical fuels treatment options continue to be used (approx. 1,200 acres); both to address the lack of appropriate burn windows, alleviate concerns for burn projects near developments, and maintain the focus on Key point #3 of the National Fire Plan: Hazardous Fuels Reduction for "communities at risk." Planning and implementation in these areas has addressed the silvicultural and fuel hazard mitigation objectives.

On-going fuels/forest health surveys and evaluations continue to provide land managers with valuable insight into the state of the resource as it 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 addendum or errata sheet to the Forest Plan was created to reflect some revised terminology and definitions contained in the 1996 Federal Wildland Fire Management Policy Action Plan, the Review and Update of the 1995 Federal Wildland Fire Management Policy (January 2001), the 2005 Wildland Fire Use Implementation Procedures Guide, and the 2006 Interagency Prescribed Fire Planning and Implementation Procedures Reference Guide.

General Infrastructure

Monitoring Requirements

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.

State of the Resource

Monitoring, based on the results of routine inspections of all facilities listed above, indicates the general infrastructure is meeting the needs of Forest users for access and multiple-use management.

Health and Safety

Monitoring Requirements

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

State of the Resource

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

Heritage (Cultural) Resources

Monitoring Requirements

Monitoring is based on the evaluation of protection measures for resources discovered during project proposal evaluations or during or after the implementation of the project. In addition, monitoring of selected significant heritage resources, also known as Priority Heritage Assets (PHAs), not associated with specific project proposals will be implemented and reported. Consultation efforts with recognized American Indian Tribes and Nations demonstrating concern for areas of cultural importance will also be monitored and reported.

State of the Resource

The monitoring of several completed projects where heritage resource sites were identified for protection indicates that protective measures were adequate with the exception of two cases. During a monitoring trip in November 2008, it was discovered that an area of the Rito Hondo Prescribed Fire of June 2008 burned with high intensity during implementation. The sagebrush burn exposed an archaeological component previously un-identified and very close to eligible site 5CN.823.

Because almost 85% of the sagebrush vegetation was burned, the site was vulnerable to potential heavy rains and subsequent erosional events, to cattle that were put out on to the Fox Creek Allotment shortly after the burn, and visible to collectors. Two artifacts were noted as having been broken by the extreme heat. The site was monitored throughout the next spring and summer (2009) to determine if mitigation was needed to protect the site. Fortunately, no extreme erosion was occurring on the site and vegetation was re-emerging to keep the site matrix in place. Cattle impacted the surface matrix of the site through compaction and trailing, but not to adverse degree. Therefore, adverse effects to the significant site were narrowly avoided.

An interdisciplinary field review was undertaken to monitor the success and effects of the Rito Hondo Prescribed Burn Project. The review found that the area of the burn that impacted the undocumented archaeological site occurred outside of the originally proposed Area of Potential Effect (APE). The burn boundary had been changed during implementation as the original burn boundary was found to have inadequate control points to control the burn however a heritage survey was not completed on the changed area. The field review illustrated how a small boundary change to a project can result in potential adverse effects to significant heritage resources. The review concluded that there should have been more up front coordination between archeologists and project personnel and that in the proximity to eligible sites such as site 5CN823, and that buffers should be created around these sites if there is any chance that the prescribed burn would impact them, even if unanticipated. There needs to be closer interaction between archeologists and prescribed burning personnel on all prescribed burns in the proximity of significant heritage site in future projects.

During the monitoring of the Black Mountain Folsom site (5HN.55), it was noted that the closed road the bisecting the site is still being illegally used, resulting in impacts to the site matrix. The existing barrier and sign are not working to eliminate illegal road use. Additional protection and law enforcement actions need to occur to prevent the use of the road currently impacting the Black Mountain site.

The monitoring of heritage resource sites not associated with a specific project and that have the potential to be vandalized should be continued to further comply with established Standards and Guidelines. A review of project-level Heritage Resource Inventory Reports for FY 08 indicates that projects with the potential to impact heritage resources are being inventoried and protective measures are adequate.

The Tribal Consultation Bulletin is used for initial consultation with American Indian people concerning project proposals that may impact cultural sites important to them. Expansion of the numbers and the types of projects included in the Tribal Consultation Bulletin is recommended to further comply with Standards and Guidelines.

Minerals

Monitoring Requirements

Monitoring is 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 on a proposed lease tract. Monitoring of oil and gas will occur if such activities are developed—to date, no oil and gas development has occurred on the Forest, which is well below the potential level analyzed in the Forest Plan. Monitoring of locatable minerals will be reported based on the inspection and enforcement of operation plans to assure compliance with the Forest Plan.

State of the Resource

The minerals monitoring program requires the Forest to validate leasing activities as well as S&Gs. The Bureau of Land Management deferred offering 84 oil and gas lease parcels of Forest Service land at the May 8, 2008, oil and gas lease sale. These parcels were deferred indefinitely until additional analysis can be completed. Two plans of operations for exploration drilling in Mineral County were approved. The Forest continued to monitor water quality in Windy Gulch below the Bulldog Mine in Mineral County. In the mineral materials program, the Forest Service administers a number of in-service, free-use, and commercial common variety mineral operations. All are in compliance with Forest Plan S&Gs.

Noxious Weeds

Monitoring Requirements

Monitoring of the location and extent of noxious weeds will be reported based on the evaluation of control methods on infested areas on the Forest.

State of the Resource

Noxious weeds are a persistent concern on the Forest. Inventories and control were conducted in FY 08. Those species that have increased or have been inventoried more thoroughly are: toadflax, oxeye daisy, short whitetop (also known as hoary crest), Canada thistle, black henbane, Russian knapweed, and Downy brome (also known as cheat grass). The Forest treated 330 acres of noxious weeds in 2008. Acres treated were funded ny NFVW-161 acres, NFN3- 30 acres, and CWKV-139 acres. Chemical weed treatment near Platoro continues to be controversial with some local residents, for the past several years we have utilized domestic sheep to treat this location but due to recent observations and documentation of the presence of Big Horn Sheep we can no l0onger utilize domestic sheep for treatment. We will revert back to the use of approved chemicals in the Platoro area for the treatment of oxeye daisy.

Overall, the Forest Plan noxious weed management objectives are being met. At this time, there is no need to make changes to the Forest Plan noxious weed management direction, but the existing 1996 weed treatment EA needs to be updated and, due to budget issues, the planned update of the Rio Grande weed EA will not be completed until after the 2010 treatment season. A draft is currently being prepared. To better coordinate the treatment efforts and to improve the efficiency of the FS and BLM to meet targets, a jointly funded Valley-wide Weed Coordinator has been hired for 5 months of the year. This is part of the Valley's Service First Agreement. An accurate treatment map was obtained for the second time this year as a result of requiring the

use of a Geo Explorer GPS [global positioning system] unit and a data dictionary prepared by the Forest Service and made part of the weed treatment/inventory bid package and contract.

Inventory for new infestations continued with no previous undetected infestations found but an increase in the total acres of downey brome was detected.

Range

Monitoring Requirements

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 EAs and allotment management plans (AMPs) for each allotment. Range utilization will be reported based on the results of routine field analysis.

State of the Resource

Rangelands are being managed for a variety of seral stages, with most being managed for upper mid-seral to high-seral status. Continued inventory of rangelands conducted in FY 08 indicated that while there are a variety of seral stages found throughout the Forest, there is an imbalance of seral-stage classes. There is not enough representation in the upper-seral condition classes. Environmental analyses have been initiated to identify areas needing improved management and to correct management deficiencies. During the 2008 grazing season, only about 98 percent of the allowable numbers of livestock were placed on the Forest to further help with range recover from long term drought and extended delays in the summer rainy season. For the past several years the normal rainy season as arrived 2-3 weeks later and have been more scattered than was experienced prior to the 2002 drought. Allotment analysis data collection and getting the Forest back on track with the Rescissions Act schedule was been a major emphasis for this year. NEPA [National Environmental Policy Act] decisions were signed affecting 21 individual allotments in FY 08. This effort has resulted in the completion of 60 allotment decisions in the past three years compared to 17 in the previous 10 years 1996-2006.

Overall, the Forest Plan Range Objectives are being met, but as a result of a FY 07 Regional Office Functional Assistance Review, several changes have been implemented to improve the efficiencies of the Forest range program. There is an additional emphasis on data collection and the TEAMS group has improved our ability to complete NEPA projects on time. None of these changes have required any adjustments in the Forest Plan range objectives.

Recreation

Monitoring Requirements

Developed Recreation. Developed recreation sites are monitored to assess the following: a) visitor expectations, trends, and customer satisfaction, and b) quality and safe facilities. Visitor use and expectations will be monitored and reported based on customer surveys and/or customer comment cards. Developed recreation site monitoring will be based on facility condition surveys and hazard inspections. Wolf Creek Ski Area monitoring will be done through approved summer and winter operating plans. Special uses will be monitored through permit compliance and evaluations. Developed sites will be monitored for use compared with projected outputs in the Forest Plan. Developed sites will be evaluated relative to Forest Plan Goals and Objectives and Standards and Guidelines.

Dispersed Recreation. The Forest will monitor effects of its travel management plan, including ATV game retrieval and snowmobile use, during routine summer inspections, winter inspections, and fall big game hunter patrols. The Forest will monitor trail conditions and trail needs based on trail inventories and logs. Dispersed recreation will be evaluated relative to Forest Plan Goals and Objectives and Standards and Guidelines.

Unroaded Areas. Monitoring will be reported based on a representative assessment of two backcountry areas per year. This will include the assessment of motorized and non-motorized recreation trail use, levels and type of use, areas of conflicts, identification of areas of concentrated use, and other resource impacts (biological and physical). Backcountry Areas will be evaluated relative to Forest Plan Goals and Objectives and Standards and Guidelines.

Wild and Scenic Rivers. Monitoring will be reported based on the assessment of resource-management activities that occur within one river corridor every three years. River corridors will be evaluated relative to Forest Plan Goals and Objectives and Standards and Guidelines every three years.

Wilderness. Monitoring will be reported based on the evaluation of wilderness management thresholds (specific indicators) and appropriate management actions to determine if wilderness S&Gs are being met. Wilderness Areas will be evaluated relative to Forest Plan Goals and Objectives and Standards and Guidelines.

State of the Resource

Developed Recreation

Customer Satisfaction: Customer comment cards received by American Land & Leisure (AL&L) campground concessionaire indicate that most users rate the service as excellent and that they would return to the site in the future.

Developed Sites: The Saguache Ranger District maintained 6 campgrounds, 2 picnic areas, 2 rental cabins, and 12 trailheads to standard. This included an assessment of hazard trees and the removal of hazard trees at 6 campgrounds. AL&L, campground concessionaire on the Conejos Peak and Divide Ranger Districts, operated 26 campgrounds, 6 picnic areas, 5 trailheads, and 2 boat ramps to standard. In addition to the sites maintained by AL&L, the Divide Ranger District maintained 17 trailheads to standard. The District also maintained 10 day-use recreation sites and one additional campground to standard.

Ski Area: Summer and winter operating plans for Wolf Creek Ski Area were completed and approved in FY 08. The master development plan (MDP) needs to be updated before any further development is authorized at the ski area..

Special Uses: The Divide Ranger District administered 11 outfitter/guide special use permits to standard and 59 recreation special use permits to standard; the Saguache Ranger District administered 5 outfitter/guide permits to standard and 1 recreation special use permit to standard; and the Conejos Peak Ranger District administered 2 outfitter/guide permits and 22 recreation special use permits to standard.

Dispersed Recreation

Trails: Trail condition surveys were completed on five trails which included Major Creek, North Zapata Falls, Pole Creek, Love lake and South Crestone trails. Approximately 366 miles of trails on the Forest received maintenance while more than 400 miles of trail, both motorized and non-motorized met standard. Additional work was performed on about 14 miles of trail re-route on the Continental Divide National Scenic Trail. This work began about two miles south of Stoney Pass and ended at Cataract Lake.

Travel Management: The Forest continued to update the INFRA database to accurately reflect previous travel management decisions in preparation for publication of Motor Vehicle Use Maps in 2008. Implementation of the 2005 Travel Rule is scheduled for January 1, 2009 when Motor Vehicle Use Maps will be posted on the Rio Grande National Forest web page and maps will be available to the public.

ATV Big Game Retrieval: The Forest continued efforts to monitor ATV big game retrieval in 2008. Informal interviews were conducted with hunters to determine the extent to which they understood the afternoon big game retrieval policy. One half of the hunters interviewed were aware of this policy and about 4% of the hunters came to the Rio Grande National Forest because of this policy. Seven percent of the hunters interviewed said that they would hunt elsewhere if the ATV big game retrieval was no longer permitted. About 13% of the hunters interviewed used ATV's to retrieve legally killed game. No resource impacts were observed as a result of legally retrieving game. Resource impacts were observed from the use of ATVs on the forest but it could not be attributed to afternoon big game retrieval.

Unroaded Areas. The Governor of Colorado submitted a roadless area petition to the Secretary of Agriculture in 2007 which was accepted. An EIS and rule proposal was initiated to address the petition which is ongoing. The Forest continued to work to correct errors to roadless area boundaries following acceptance of the petition.

Wild and Scenic Rivers. Wild and scenic river corridor monitoring was not performed in FY 08 as originally planned. One river corridor should be monitored every three years or during project level planning within a river corridor. Wild and Scenic River Corridor monitoring is scheduled for 2009.

Wilderness. Wilderness monitoring took place in the Needle Creek, Granite, Blanco River, Four Mile and Elk Creek compartments of the South San Juan Wilderness area. This monitoring included campsite density monitoring and trailhead registration monitoring. Results indicate that resource standards are being met in the South San Juan Wilderness Area. Overall, the Forest Plan recreation and wilderness objectives are being met.

Noxious weeds are the element addressed in the 2007 Chief's Ten Year Wilderness Stewardship Challenge. The South San Juan and Weminuche Wilderness areas have approved noxious weed treatment plans. These plans were reviewed in 2007 to comply with the Chief's Ten Year Stewardship Challenge.

Research and Information Needs

Monitoring Requirements

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

State of the Resource

Progress is continuing on (1) watershed-based inventories for old growth in conjunction with proposed timber harvest activities; (2) Forest roads inventories; and (3) collection of floral and faunal occurrence data for inclusion in the Colorado Natural Heritage Program Biological Database. Under the National Resource Information System (NRIS), a civil rights project is ongoing to develop methods of identifying under-served communities.

Research Natural Areas (RNAs)

Monitoring Requirements

Monitoring will be reported based on inspections of established research natural areas (RNAs) every 5 years.

State of the Resource

The Hot Creek RNA was visited and visually evaluated. The majority of the RNA appears to be minimally impacted by human activity. Natural processes are the prevailing influence.

Road Construction, Closures, and Decommissioning

Monitoring Requirements

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

State of the Resource

In 2008, 35.7 miles of unclassified road were decommissioned on the Forest. Approximately 157 miles of classified and unclassified roads have been decommissioned since 1996.

Scenic Resources

Monitoring Requirements

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

State of the Resource

Forest areas were monitored for scenic resources and some were not in compliance during FY 08. In order to obtain scenic resources objectives, a project should comply with scenic integrity objectives (SIOs) within 2 years after project implementation. These areas will continue to be monitored for changes.

Wolf Creek Ski Area has been notified of the recommended changes to the entrance walls and has agreed to stain the concrete color to comply with SIOs. Newly built walls and warming huts are not yet in compliance; however, the plan is to modify the colors to bring the walls and facilities into compliance by FY 09. The Wolf Creek project is ongoing.

The Highway 160 Expansion Project is being monitored for SIOs. Retaining wall staining marginally meets the SIOs for the corridor above the new tunnel construction. Rock cuts across from the Fun Valley Campground Resort do not meet the Forest Plan SIOs as mapped “High”; however, the rock cuts can be considered to meet the SIO of “Moderate to Low.” Changes to the Colorado Department of Transportation (CDOT) specifications were made and the new phase of the project better meets the SIO by increasing texture on rock cuts, soil-nail walls, and the use of darker stains on rock walls near the ice age sign at the Lake Fork Trail Head. In addition, blasting techniques are being monitored to assess whether they meet SIOs due to the use of pre-slit blasting along a visually sensitive portion of Highway 160. Monitoring will continue along the highway on tree removal, storage areas, wall staining, seeding, and replanting to assess whether they meet the SIOs for the Highway 160 Corridor. The Rock Storage area is continually monitored and is coming into compliance as revegetation continues. However, the rock storage area is still in continual use. These areas will continue to be monitored through project completion approximately year 2011.

Range improvement features, such as corrals along the Los Caminos Scenic Byway, meet a condition of “Moderate”, but do not meet “High” as mapped. Efforts are underway to better meet both scenic and economic needs along the scenic byway. The County Line Timber Sale as of December 2008, has begun to come closer to compliance for Scenic Resources. Efforts in response to a second catastrophic event (blowdown) has caused the standing dead trees to fall onto the ground. This still provides texture on the landscape, but the vertical lines that contributed to the canopy are minimal. However, this catastrophic event

was anticipated during the planning. This area will be continually monitored throughout this year and next for changes to the Scenic Resources.

North Clear Creek Falls has improved since the new construction. The trail and the overlook are now in compliance with all Scenic Integrity Objectives along the Silver Thread Scenic Byway. In addition, it now meets the health and safety requirements (with the exception of an old toilet still in use-but this will be replaced this summer July 09). Additional construction will expand the parking and continue the trail. Visitors were driving off road at this site during FY08 while under construction, however, steps have been taken to improve this (including law enforcement). This site will be continuously monitored.

There is need to make changes to the Forest Plan's scenic resource direction during the next plan revision as the wording for Standards and Guidelines need to be updated.

Soil Productivity

Monitoring Requirements

The protection of soil productivity is monitored based on the requirements of 36 CFR 219.12(k)(2). The Forest uses several tools for soil monitoring, including the collection and analysis of core soil samples, erosion modeling, ocular estimates, transects, soil health assessments, investigations, and professional judgment. Soil health assessments have been completed to determine whether long-term soil productivity and soil health were maintained or improved. Management actions and effects are evaluated using existing Forest Plan S&Gs. Soil evaluation techniques were employed on ground-disturbing projects with potential for high soil-erosion, mass-movement hazards, or other soils concerns.

State of the Resource

The Forest soil resource is monitored through project evaluations and soil health assessments. In FY 08, several projects were reviewed. Soil health is the assessment of the current soil health condition and its ability to sustain the potential natural community of vegetation for the long term. The Forest uses the established Forest Plan S&Gs as a basis for evaluation. The three types of soil health ratings are as follows: 1) properly functioning, 2) at-risk, and 3) impaired. Properly functioning means that soil physical, biological, and chemical properties are functioning in a manner that maintains soil productivity. At-risk means that some soil feature has been changed to where there is a risk of losing productive capacity through erosion, nutrient losses, or loss of surface cover. Impaired means that erosion has been occurring at accelerated rates or that unmitigated impacts like compaction are present.

Monitoring Site #1: Rangeland Health Monitoring of Allotments within the Grayback-Pintada Analysis Area. Soil health assessment began on this analysis area in the summer of 2008. Over the broad extent, soils were meeting Forest Plan desired conditions within West and East Pinos allotments. Isolated concern areas were described and documented. Additional allotment areas will be evaluated in FY 2009.

Monitoring Site #2: Embargo Campground Ponderosa Small Sales. Harvest on this sale was completed in 2008. Waterbars had been installed and were placed well and constructed adequately. Slash was distributed well over the harvest area and disturbance was within Forest standards and guidelines.

Monitoring Site #3: McIntyre Gulch Small Sale for Soil Impacts. This small sale area was visited in May 08. Surface disturbance was within acceptable limits and slash was distributed well over the harvest area.

Monitoring Site #4: Long-term Monitoring of the success of watershed treatments over a 68 year period was completed in Cat Creek Park using historical photographs. The most evident change was the improvement in range condition as a result of these structures and treatments.

Example of a water spreader in Cat Creek Park taken in August 1940

May 2008, photo of same area showing the structure shown above.

Special Interest Areas (SIAs)

Monitoring Requirements

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

State of the Resource

The botanical area at Elephant Rocks was visually inspected. *Neoparrya lithophila* plants appear to be vigorous and robust. No new concerns were noted.

Timber

Monitoring Requirements

Restocking of final-harvest areas is required by 36 CFR 219.12(k). Monitoring consists of surveys conducted 1, 3, and 5 years after final harvest. First-year surveys are onsite inspections, while surveys after 3 and 5 years are statistically valid plot-inventory exams.

36 CFR 219.12(k) requires that all Forest lands be examined at least once every 10 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

Overall, timber resources across the Forest 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.

Onsite field monitoring during the summer of 2008, primarily within past timber sale boundaries are discussed in the following sections.

Restocking. Regeneration of areas harvested since the mid-1970s, when the Forest changed from mostly clearcutting to other regeneration harvest systems such as shelterwood and uneven-aged management, has been consistently successful with natural stocking from surrounding seed tree sources. The naturally occurring annual addition of new trees in mixed conifer forests has resulted in adequate stocking.

Reforestation activities were accomplished on 157 acres within the Million Fire Salvage area in the spring of 2008; and 1st-year survival surveys were completed at the end of the growing season in September 2008. Third-year stocking surveys were also completed on 3,928 additional acres, as follows: Buffalo Pass CG (164 ac), Little Kerber (84 ac), Grouse Salvage (810 ac), Wolf Beetle (289 ac), Black Mountain Beetle (672 ac), Drill Pad Salvage (77 ac), Marble Beetle (84 ac), Million Fire Salvage (748 ac), Shaw Lake (241 ac), Twister II Beetle (261 ac) and Finger Mesa Beetle (498 ac).

First- and 3rd-year surveys mentioned above are next planned to be re-surveyed in 2010.

Timber Suitability. The Forest amended the Forest Plan in 2000 with Amendment #4 to address timber suitability. The suitability amendment took effect in 2003 after USFWS consultation with the updated Forest Plan BA. Timber suitability has been, and will continue to be, evaluated during the landscape and project-level planning phase for all timber sales.

NEPA planning for the Big Moose Vegetation Project EIS began in 2008; and an evaluation of suitability occurred at the pre-NEPA or NFMA (gate 1) stage. No other planning projects were initiated in 2008. NEPA decisions on the Burro-Blowout Salvage EA and Rio de los Pinos EIS projects are expected in the spring of

2009. A determination of suitability for these projects was completed in previous years, which allowed the projects to move forward to the NEPA analysis stage.

Insect and Disease Infestations. Foresters and technicians, with the assistance of entomologists out of the Gunnison Forest Health Protection Service Center, have been actively monitoring insect and disease activities across the Forest. While there has been some success in control activities, the overall condition of forest health is declining with serious levels of insect outbreaks, likely related to the extended drought and mild winter temperatures. Additionally, many of the areas where insect and disease problems occur in the habitat and habitat linkages for the TES Canada lynx. Control strategies for effectively treating stands affected by insect and disease populations within lynx habitat are subsequently limited. A summary of the ongoing activities across the Forest follows:

Divide District – Del Norte, CO

- *Grouse Timber Sale* was sold in 2002 and harvesting of trees infected with spruce beetle on the first timber sale is complete. During the summer of 2005, monitoring of the site found that numerous additional trees had been infected with spruce beetle. These traps showed spruce beetle activity was still occurring, but at reduced levels from previous years. A new sanitation/salvage sale (*Grouse II Salvage TS*) was sold in 2006, focusing on the removal of the ongoing spruce beetle infestation. Based on monitoring, an additional *Grouse III Salvage TS* was offered for sale in 2008 to treat the ongoing spruce beetle infestation, but the apparent high bidder did not pass the financial audit, and so it will be re-offered in 2009. This and surrounding areas will continue to be monitored for beetle activity and disease in 2009.
- *Finger Mesa Beetle TS* was sold in 2004 and was monitored for spruce beetle in 2008. Additional beetle-infested trees were marked and added to the timber sale contract within the existing sale area boundary. These trees were cut and removed prior to the *contract termination on August 10, 2008.* This and surrounding areas will continue to be monitored for beetle activity and disease in 2009.
- *Twister II Beetle Salvage* was sold in 2004 and was monitored for spruce beetle in 2008. Additional beetle-infested trees were marked and added to the timber sale contract within the existing sale area boundary. These trees were cut and removed prior to the contract *termination on September 2, 2008*. This and surrounding areas will continue to be monitored for beetle activity and disease in 2009.
- *Shaw Lake Beetle Salvage TS* was sold in 2005. Minor harvest activity occurred in 2007 and 2008. This and surrounding areas will continue to be monitored for beetle activity and disease in 2009.
- *Blowout Pass Area*
    - *Blowout II Beetle Salvage TS* was sold in 2006 and was monitored for spruce beetle in 2008. Additional beetle-infested trees were marked and added to the timber sale contract within the existing sale area boundary. These trees were cut and removed prior to the contract *termination on January 23, 2008*. This and surrounding areas will continue to be monitored for beetle activity and disease in 2009.
    - *Marble Beetle Salvage TS* was also sold in 2006 to treat spruce beetle infested trees in the Blowout Pass Area. It was monitored for spruce beetle in 2008. This and surrounding areas will continue to be monitored for beetle activity and disease in 2009.
    - *Burro Blowout Analysis Area* – Burro Blowout EA was initiated in 2007 to treat the ongoing spruce beetle population in the Blowout Pass Area. A NEPA decision is planned for the spring of 2009, with harvest first beginning in 2010.This and surrounding areas will continue to be monitored for beetle activity and disease in 2009.

- *Wolf Beetle Salvage TS* was sold in 2006. Monitoring for spruce beetle occurred in 2007 and 2008. Harvest activities are planned to continue in 2009. This and surrounding areas will continue to be monitored for beetle activity and disease in 2009.
- *Rock Creek Beetle Salvage TS* was sold in 2008, after significant spruce beetle populations were discovered in 2005 and NEPA planning was finalized in 2007. Harvest is expected to begin in 2009. This and surrounding areas will continue to be monitored for beetle activity and disease in 2009.
- *Spruce Park Salvage TS* was sold in 2008. Harvest is planned in 2009. This and surrounding areas will continue to be monitored for beetle activity and disease in 2009.
- *Big Moose Analysis Area* – Big Moose Vegetation Project EIS was initiated in 2008 after a significant spruce beetle population was discovered in the Fern Creek and Love Lake area in 2007. A NEPA decision is planned for the spring of 2010, with harvest first beginning in 2011.This and surrounding areas will continue to be monitored for beetle activity and disease in 2009.
- *Wolf Creek Ski Area* experienced spruce beetle infestation in 2008. Surveys, marking and removal of infested trees occurred under permit in the summer of 2008. This and surrounding areas will continue to be monitored for beetle activity and disease in 2009.

Conejos Peak District – La Jara, CO

- *County Line Analysis* Area - Monitoring of the ongoing spruce beetle infestation continued in the County Line Analysis Area in 2008, with significant spruce beetle activity noted in the area. This and surrounding areas will continue to be monitored for beetle activity and disease in 2009.
    - *Escarabajo Salvage TS* was sold in 2007, the second salvage sale in the County Line Area. Harvest activities occurred in 2008, and it was monitored for spruce beetle activity in 2008. This sale had a CTA to July 2012.
- Spruce beetle activity was discovered in the Big Lake, Lake Fork and Red Mountain/Cornwall areas in 2005.
    - *Cerro Rojo Salvage TS* was offered in 2006. Treatment continued in 2008 with additional trees being marked for removal. Additional monitoring of this area is planned for 2008. This *sale terminated March 30, 2009*. This and surrounding areas will continue to be monitored for beetle activity and disease in 2009.
- *Neff II Salvage TS* was sold in 2008. Harvest activities are planned to start in 2009. This and surrounding areas will continue to be monitored for beetle activity and disease in 2009.

Saguache District – Saguache, CO

- *Antelope/Trickle Stewardship Contract* was sold in 2004. It was prepared for sale to treat mountain pine beetle (MPB) in ponderosa pine. The treatment area is located on both Forest Service and Bureau of Land Management lands and is in progress. Monitoring in 2007 indicates that mountain pine beetle is continuing to spread within the treatment areas. Additional volume was marked in 2007 and 2008 to address the additional mortality occurring in the project area. The *sale was terminated in 2008 for convenience of the government.* This and surrounding areas will continue to be monitored for beetle activity and disease in 2009.
- *McIntyre Gulch Salvage TS* was sold in 2007. It was prepared for sale to treat mountain pine beetle (MPB) in ponderosa pine and lodgepole pine and western spruce budworm in Douglas-fir. Harvest

activities began in 2008. This and surrounding areas will continue to be monitored for beetle activity and disease in 2009. Sale is scheduled to *terminate on September 30, 2009.*

- *Little Kerber Salvage TS* was sold in 2006. This and surrounding areas will continue to be monitored for beetle activity and disease in 2009. Sale is scheduled to *terminate on September 1, 2009.*
- *Bonanza Area* – I&D surveys will continue in the Little Kerber, Ute Pass and Columbia Gulch areas, as mountain pine beetle is still very active here.
- I&D surveys on BLM lands on the east side of the District identified a defoliator in the Oak Brush.
- I&D surveys confirmed suspected areas of sudden aspen decline (SAD) on the north end of the District.

Harvest Openings. Harvest openings from past, current, or proposed timber management have not approached, and are not expected to approach, the National Forest Management Act (NFMA) 40-acre limit. Harvest openings occurring as a result of uneven-aged management are generally less than 1 acre. Final harvest unit sizes for even-aged systems such as shelterwood harvests are designed to be less than 40 acres. Past openings exceeding the 40-acre limit generally trace back to clearcutting in the 1960s and early 1970s, and prior to enactment of NFMA. Most are fully stocked with sapling or pole-sized trees and are no longer determined to be openings.

Past harvest units are periodically inspected during routine reconnaissance visits that occur with monitoring stand development over time and to ensure they remain on planned trajectories. Any significant and noticeable changes potentially affecting stand development are brought to the attention of the attending silviculturist.

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 performance accomplishment report (PAR). PAR timber resource outputs for FY 2008 are displayed in the following table:

Item	Measure	Planned	Accomplished	% Accomplishment
FOR-VEG-EST Planting	Acres	157	157	100.0 %
FOR-VEG-EST Natural Regeneration Surveys & Certification	Acres	4,114	226	5.5 %
FOR-VEG-IMP Precommercial Thinning, Weeding, Cleaning, Release	Acres	798	899	113 %
Timber Volume Offer	CCF	26,000	21,431	82 %

FOR-VEG-EST = Forest Vegetation Establishment FOR-VEG-IMP = Forest Vegetation Improvement

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

- Continuing Forest-wide assessments of insect and disease infestation should occur to address the current outbreaks.

INTERDISCIPLINARY MONITORING TEAM CONTRIBUTORS

Robert Dalrymple, *Forest Planner*

Phil Reinholtz, *Hydrologist*

Dean Erhard, *Ecologist*

Theodore “Lary” Floyd, *Assistant Fire Management Officer*

Diann Gese, *Minerals*

Art Burbank, *Forest Engineer*

Kelly Ortiz, *Landscape Architect*

Gary Snell, *Range Conservationist*

Angie Krall, *Archaeologist*

John Murphy, *Recreation*

Randy Ghormley, *Wildlife Biologist*

Barry Wiley, *Fisheries Biologist*

George Panek, *Timber/Silviculture*

APPENDICES

Appendix A: Rio Grande National Forest Monitoring & Evaluation Accomplishments

This appendix synopsizes the monitoring actions and results for FY 07. The monitoring items listed below correspond with the components listed in Table V-1 from the 1996 revised Forest Plan, as amended.

Monitoring Item	Method and (Contact)	Planned Locations	Monitoring Accomplished (what, where, results, summary, and references)	Evaluation (what are the recommendations based on monitoring? Are changes needed to the Forest Plan?)
Air Quality				
Monitor and evaluate (M&E) visibility, lake chemistry, and terrestrial systems [36 CFR 219.27 (a)].	(1) Photographic documentation of visibility; coordinate with NPS [P.Reinholtz].	Great Sand Dunes National Park.	Visibility and particulate monitoring was completed.	No changes in the Forest Plan recommended.
	(2) Chemistry of most sensitive lakes [K. Garcia, J. Fairchild, Lisa McClure,K. Murphy, P.Reinholtz].	3 lakes in the Weminuche Watershed (WA); 2 in the South San Juan WA; 2 in the La Garita WA; and 1 in the Sangre de Cristo WA.	Sampling was completed at all 8 lakes. These results are available to define current good conditions and appropriate control technology when new major polluting sources are proposed that could impact these wilderness areas.	No changes in the Forest Plan recommended.
	(3) Health of terrestrial systems such as lichen communities [L. Stewart]	3 sites from the baseline survey will be reassessed over time by measuring concentration of chemical elements to begin measuring trends.	No additional monitoring of lichen occurred on the Rio Grande NF in FY 99–08.	No changes in the Forest Plan recommended.
M&E burn plan [36 CFR 219.27 (a)].	Visual verification of smoke dispersal [L. Floyd, P.Reinholtz] and compliance with Colorado APCD permit (L.Floyd).	Prescribed burn project locations.	Appropriate conditions existed on all burn projects, therefor no adverse smoke impaces occurred and smoke dispersal was adequate. No complaints were received from the public.	No changes in the Forest Plan recommended.
Assess air resources relative to (a) Forest-wide goals, objectives, S&Gs; (b) MA prescription	From monitoring results, conclude whether S&Gs and regulations are being followed, and if desired conditions are being met	As a result of monitoring all the above sites.	Forest management activities are following S&Gs; desired conditions are being achieved.	No changes in the Forest Plan recommended.

Monitoring Item	Method and (Contact)	Planned Locations	Monitoring Accomplished (what, where, results, summary, and references)	Evaluation (what are the recommendations based on monitoring? Are changes needed to the Forest Plan?)
objectives, DCs, and S&Gs; (c) MA prescription allocations and monitoring methods [36 CFR 219.12 (k)].	[P.Reinholtz].			
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: P. Reinholtz].	Timber sales: Big Moose	One larger timber sale that included watershed assessment was the Big Moose Timber Sale. Small timber sales that relied on a programmatic EA or Categorical Exclusion (CE) included Big Meadows II, North Park Commercial Firewood, and Lost Aspen. No new watersheds of concern.	From past work it appears that concern levels for total watershed disturbance have been set at a conservative level to ensure adequate watershed health. No changes in the Forest Plan recommended.
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 [Hydrologists: [P. Reinholtz].	As described in the next collumn.	Stream health assessments were completed on several streams during timber and range EA or CE analysis: Rio de Los Pinos Timber Sale EA: tributaries to Rio de los Pinos. Divide Ranger District Range EA: Bennett, Burrow, East Fork Pinos Creeks. Localized bank instability was attributed in part to livestock use. Overall stream health was adequate to robust with some exceptions. Pass Creek continues to be fully protected from Wolf Creek Ski Area activities. East and West Willow Creeks and Windy Gulch were monitored as part of the Willow Creek mined land reclamation project. The Forest is participating with the Willow Creek Reclamation Steering	Stream health direction in the Plan is appropriate. No changes in the Forest Plan recommended.

Monitoring Item	Method and (Contact)	Planned Locations	Monitoring Accomplished (what, where, results, summary, and references)	Evaluation (what are the recommendations based on monitoring? Are changes needed to the Forest Plan?)
			Committee.	
	(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 [Hydrologists: [P. Reinholtz].	Love Lake area (Middle Creek) Tributary to Rio de Los Pinos	Middle Creek above Love Lake was evaluated to document recovery from livestock utilization impacts noted during range EA evaluation in 2005. Static conditions were documented. Breached beaver dam areas beginning to heal, Stream morphology is continuing to adjust. A tributary included in a 7th level watershed of concern was evaluated in 2008 in association with the County Line Vegetation management project. A cross section and longitudinal profile established in 2003 were resurveyed in 2008 to monitor if changes in stream characteristics had occurred due to heavy beetle tree mortality and possible flow increase. No changes were noted.	No changes in the Forest Plan recommended. Continue monitoring to evaluate livestock use on recovery and recommend management changes if necessary. Continue monitoring of this site.
	(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: P.Reinholtz].	Streams within watersheds of concern that are identified during level I Watershed assessments.	No additional watersheds of concern were identified during FY 08.	No changes in the Forest Plan recommended.
Assess aquatic resources [36 CFR 219.12 (k)].	Visually determine if S&Gs have been implemented and are achieving the desired conditions [Hydrologist: P. Reinholtz].	Timber and range specialists routinely evaluate past and ongoing projects for compliance with Forest Plan direction.	Implementation monitoring occcured during timber sale and range allotment administration including: Wolf Beetle Timber Sale, Embargo small sale timber project; McIntyre Small Sales, and Finger Mesa small sale; S&Gs effective.	No changes in the Forest Plan recommended.

Monitoring Item	Method and (Contact)	Planned Locations	Monitoring Accomplished (what, where, results, summary, and references)	Evaluation (what are the recommendations based on monitoring? Are changes needed to the Forest Plan?)
Biodiversity				
Monitor change in occurrence of selected native species (fine filter) [36 CFR 219.27 and .19 (6)].	(a) 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. Data collection and evaluation finished. Results indicate that the population demographics for this species are primarily influenced by moisture availability. Results also indicate that grazing by domestic livestock does not reduce *Astragalus ripleyi* population viability, at least in the short term. The recommendation is to avoid season-long grazing and to incorporate rotation-grazing schemes so that this species is not grazed at the same time of year every year.	No changes in the Forest Plan recommended. Based on the results of this study, the Forest has decided to end intensive monitoring of this species. The Forest will continue extensive monitoring.
	(b) Rio Grande cutthroat trout (RGCT), chub, and sucker (native fish population monitoring); utilize electrofishing and gill nets. [Forest Fish Biologist: B. Wiley; FS/BLM Seasonal Employees, CDOW].	Numerous streams and lakes across the Forest are monitored for population status, genetic purity, and whirling disease.	RGCT populations monitored in 2008 include: West Fork Chama River, Cotton Lake, and Heart Lake. All population data were collected following CDOW protocols and entered into CDOW database. CDOW 2008 fisheries inventories Rio Grande Basin includes detailed analysis for these populations (unpublished). La Garita Creek drainage was evaluated as a possible reintroduction site for RGCT, Rio Grande sucker and Rio Grande chub. Evaluation will continue in 2009. Rio Grande sucker and Rio Grande chub were stocked in Cottonwood Creek. Nonnative trout fisheries monitored include Benino Cr., Canon Bonito, Conejos River, Groundhog Cr., Perry Cr., La Garita Cr., SF Rio Grande, Workman Cr. Woodfern Cr., Fern Cr., Big Meadows Reservoir, Love Lake, Platoro Reservoir, and Regan Lake. CDOW 2008 fisheries inventories Rio Grande Basin includes detailed analysis for these populations	No changes in the Forest Plan recommended.

Monitoring Item	Method and (Contact)	Planned Locations	Monitoring Accomplished (what, where, results, summary, and references)	Evaluation (what are the recommendations based on monitoring? Are changes needed to the Forest Plan?)
			(unpublished).	
	(c) Boreal toad: monitoring and survey [CDOW, FS].	Three existing sites were monitored (Jumper Creek , West Trout Creek, and Boots Pond). Two of the three sites monitored by USFS. Over 40 potential sites surveyed.	Known Sites: West Trout Crk visited 4 times and again supported the highest number of individuals, with at least 5 adults, and an estimated 3,000 tadpoles. Six visits were made to the Jumper Crk site. 12 toads noted (10 juv + 2 ad. females). Eight of 10 juvies tested positive for chytrid fungus (Bd). Boots Pond monitored by CDOW. One potential tadpole noted by inconclusive. New Sites: Jumper Crk #2 one ad. reported by Adams State but no toads noted on repeat surveys by FS. Goose Lake: 3 ad. females noted. Little Squaw Crk: 4 ad. noted by Truman State College class; 5 juv + 5 ad. noted by FS during subsequent surveys. Three of 4 ad. tested positive for Bd. Overall, 3 out of 4 sites with toads tested positive for Bd.	No changes in the Forest Plan recommended. The fact that 3 of the 4 occupied toad sites on the Forest tested positive for Bd is of concern and needs further evaluation to dtermine if additional monitoring and/or protection efforts are needed. Additional educational and awareness is recommended concerning Bd and 2001 Interagency Conservation Agreement for the species.
	(d) Peregrine falcon: ocular surveys of nests [CDOW, FS].	One new potential eyrie discovered on Forest in 2008. New total is potentially 9 known nest sites on Forest and 2 on other public lands within Forest administrative boundaries.	Of 9 known exisitng sites, 3 were monitored by FS. No CDOW monitoring reported. Of the sites monitored, two were suspected to be inactive. One adult noted at one site. No information on productivity. One new potential site located.	No changes in the Forest Plan recommended.
	(e) Southwest willow flycatcher [FS, USFWS, CDOW]	Mapped habitats on RGNF. Project-specific sites for range allotments were surveyed on a project-specific basis.	Surveys were conducted on one of 3 Districts, based on mapped habitat and project-specific range allotments. First individual WIFL detected on Forest near BLM boudary. Nesting not dtected in subsequent surveys. Ground-truthing of habitat maps continued on other 2 districts as a basis for future survey work. In-depth multi-year monitoring reports were completed by each District. Approximately 50% of the potential habitat on the RGNF has been surveyed to date,	No changes in the Forest Plan recommended.

Monitoring Item	Method and (Contact)	Planned Locations	Monitoring Accomplished (what, where, results, summary, and references)	Evaluation (what are the recommendations based on monitoring? Are changes needed to the Forest Plan?)
			and categorized to a habitat classification. Suitable habitat comprises approximately 10% of the mapped habitat surveyed to date.	
	(f) Black swift: surveys of nests [RMBO].	RGNF sites included in the state-wide Monitoring Colorado Birds (MCB) survey.	Little information on black swift surveys was available from the RMBO in 2008. One additional site (Three Fork Falls) was reported for the RGNF, resulting in a total of 9 breeding sites known on the RGNF. One additional site reported by FS but inconclusive. State-wide survey work continues to provide baseline data on population size and geographic (state-wide) distribution that will be needed to establish a (state-wide) population management plan. A local site on adjacent BLM lands was again used for banding of adults and young for a long-term assessment of productivity and survival.	No changes in the Forest Plan recommended.
	(g) Bats: surveys [CDOW]	CDOW and FS bat surveys of known mine locations and sample sites on the Forest.	In FY08, bat surveys were conducted at one site on the RGNF by the CDOW as part of the annual Bats In Abandoned Mines (BIMP) Project. One new species (*M. thysanoides*) was documented at one site. This is an R2 sensitive species. Bat agtes were recommended for one site. One additional bat survey was conducted by FS personnel in the Hot Creek RNA on the Conejos Peak RD. These surveys documented *Myotis volans*, *M. ciliolabrum*, *E. fuscus, M. lucifigus, and L. noctivagans* .	No changes in the Forest Plan recommended.
	(h) MIS birds [FS and RMBO]	The MCB implmented a new grid-based avian montoring program for Colorado in 2008. 10 grid sites were established and monitored on the RGNF. FS personnel and contractors also	The Rocky Mountain Bird Observatory (RMBO) established and conducted the MCB grid transects on the RGNF. Data were also collected by Forest personnel on the Forest supplemental transects designed to monitor Forest MIS avian	No changes in the Forest Plan recommended. Recommend a status assessment of Forest avian MIS Monitoring Protocol (2005)

Monitoring Item	Method and (Contact)	Planned Locations	Monitoring Accomplished (what, where, results, summary, and references)	Evaluation (what are the recommendations based on monitoring? Are changes needed to the Forest Plan?)
		surveyed the original 15 supplemental transects on the RGNF. Project-specific inventories continued to be conducted on the RGNF.	species over time. MIS avian species were confirmed on the supplemental transects. A Status and Population Trend report for the GRNF avian MIS was supplied by the RMBO. This report indicated that 1 of the 6 MIS (hermit thrush) displays a possible population decline. All species except one (Wilson's warbler) were adequately sampled by the Satewide and Forest protocol. Project-specific inventory results are incorporated into project analyses and data are recorded in unpublished reports and internal databases, such as NRIS Wildlife. Presence of MIS avian species were confirmed on proposed project sites on all districts.	to assess if changes are needed to incorporate the new MCB monitoring design and provide additional supplements.
	(i) MIS bird habitat [FS].	Available habitat on the Forest is estimated based on species habitat requirements and landtype associations (LTAs); habitat availability is ground-truthed at the project level.	Habitats for MIS and FS Sensitive bird species have been modeled to establish an estimated baseline for avian MIS. These habitat models and other GIS data sets were used during project-level surveys and analysis. Site-specific habitat availability and occupancy was documented through project inventories. However, habitat monitoring information to assess condition and trend over time is lacking, particularly for willow-riparian associated MIS.	No changes in the Forest Plan recommended. Recommend a status assessment for Forest MIS bird habitat monitoring, especially riparian-willow dependents (Wilson's warbler and Lincoln's sparrow).
	(j) Deer and elk [CDOW].	CDOW conducts population and harvest surveys by game management units (GMUs). CDOW models population estimates by data analysis units (DAUs).	Population estimates for mule deer in the Forest's 4 DAUs was not available at the time of this report. Based on the 1991-2007 data, populations have widely fluctuate over the last 20 years, but generally have not met herd objectives in each of the 4 DAUs. The population models conducted by the CDOW for 1991-2007 indicates that one of the four deer DAUs that occur on or partially on the RGNF is estimated to be near	No changes in the Forest Plan recommended. Recommend a status sssessment for mule deer populations in concert with the local CDOW office to determine if habitat conditions are contributing to consistently low mule deer numbers, particularly in DAU D-37 on the east side of

Monitoring Item	Method and (Contact)	Planned Locations	Monitoring Accomplished (what, where, results, summary, and references)	Evaluation (what are the recommendations based on monitoring? Are changes needed to the Forest Plan?)
			objective (99%), while the others are at 38%, 49%, and 61% of objective. Population estimates for elk in the Forest's 4 DAUs was not available at the time of this report. Based on the 1991-2007 data, population estimates for elk in the Forest's 4 DAUs widely fluctuate over the last 20 years, but are consistently above herd objectives. The population models conducted by the CDOW for 2007 indicates that all four elk DAUs remain above objective.	the Forest, or if there are other contributing factors.
	(k) Deer and elk habitat [FS]	Habitat effectiveness is evaluated on a site-specific basis by project.	General winter range assessments conducted concluded that habitat was adequate to support big game numbers. Road closures were implemented to reduce road effects on big game. Road density was not considered a major factor on habitat in the Forest Plan. Mule deer and elk habitat, based on road densities, generally are considered in the mid-range Forest-wide, but could be variable on a site-specific basis by project.	No changes in the Forest Plan recommended. Recommend a status sssessment for mule deer habitat conditions to determine if habitat is contributing to consistently low mule deer numbers, particularly in DAU D-37 on the east side of the Forest, or if there are other contributing factors.
Monitor the change in selected species habitat (coarse filter) [36 CFR 219.27].	(a) Other EIS special-status plants. Photo interpretaion site visits, GIS, satellite imagery [Ecologist: D. Erhard].	Special-status plants are at various sites over the Forest.	A site visit was made to known *Astragalus ripleyi* sites (a Forest Service designated sensitive plant) and they appeared stable and secure. No new special status plants were found this year.	No changes in the Forest Plan recommended.
	(b) Snag-dependent species [FS].	Species inventories by project. Habitat is Forest-wide.	There are at least 63 wildlife species in Colorado whose numbers are strongly associated with snag habitat. Variable observations of snag-dependent species were conducted in conjunction with some proposed projects. Local data were also collected during MCB program and supplemental MIS transects. Unusually high numbers of species such as American three-toed woodpeckers were	No changes in the Forest Plan recommended. Recommend effectivenss assessoment of snag retention associated with timber sales and firewood cutting. Complete Forest-wide Monitoring Assessment for

Monitoring Item	Method and (Contact)	Planned Locations	Monitoring Accomplished (what, where, results, summary, and references)	Evaluation (what are the recommendations based on monitoring? Are changes needed to the Forest Plan?)
			again noted in association with bark beetles in spruce-fir forest types. There are reports that ponderosa pine snags are cut down for firwood even when wildlife tags are attached. Concern was expressed concerning this particular snag habitat type. Habitat monitoring is scheduled every 5 years.	snags in 2010.
	(c) Animal TEPS except those addressed above and those that can be covered under the Riparian Wetland Objective [FS].	Species inventories by project or in cooperation with other agencies. Habitat is Forest-wide.	There were no changes to the Forest TES list in 2008. Species inventories were conducted in conjunction with proposed projects (raptor surveys were conducted within project areas to verify historical nest sites and current use, as possible). TEP surveys are ongoing (Canada lynx – CDOW; Uncomphagre fritillary butterfly – FWS; Mexican spotted owl and Southwestern willow flycatcher – FS, by project). Sensitive species surveys are by project or in conjunction with contracted surveys. RMBO and BBS surveys document presence of avian species on the Forest. Results for FY08 include: Lynx : as of August 2008 the CDOW was still tracking 45 of the 106 reintroduced lynx that could still be alive from the total of 218 animals. As with 2007, there were no dens or reproduction reported in 2008. Additional reports were released that reiterated the importance of mature spruce-fir forests to their primary prey species, snowshoe hare. Uncompahgre Frittilary Butterfly – Surveys in 2008 included additional inventories of the Conejos Peak site on the RGNF. However, no site visits resulted in the confirmation of any new UFB populations. Ongoing qualitative	No changes in the Forest Plan recommended.

Monitoring Item	Method and (Contact)	Planned Locations	Monitoring Accomplished (what, where, results, summary, and references)	Evaluation (what are the recommendations based on monitoring? Are changes needed to the Forest Plan?)
			monitoring of the eleven confirmed populations, icluding the 4 sites on the RGNF, indicated population persistence at all sites. The populations at 3 sites on the GMUG NF were again quantitatively sampled using previously placed transects to produce estimates of population size. Draft population estimates and trend analysis were conducted. The conservation issues (trespass cattle) reported for one site on the RGNF in 2007 were not observed in 2008. Section 7 consultation for this site is recommended.	Conduct analysis and section 7 consultation for the Halfmoon Pass UFB site on the Sauguach RD in association with on-going tressspass cattle issue.
			Mexican Spotted Owl – MSO surveys were conducted in the Hot Creek RNA on the CP District. This was the second year of surveys conducted by certified MSO surveyors which utilized U.S. Fish and Wildlife Service MSO survey protocol. No MSOs or response was detected. Ongoing results for the RGNF suggest the species could be removed from the Unit Species List for Section 7 consultation purposes.	Provide report to FWS that recommends removing the MSO from the PLC Unit Species List for section 7 consultation purposes.
			Additional surveys for certain R2 sensitive species were reported by 2 of 3 districts in 2008. Species and results include: Boreal owl – 1 project clearence (no detections) and nest boxes monitored. 11 chicks produced out of 11 existing boxes. Nest box monitoring in active timber sales indicate most boxes protected but improved communication with sale administration is needed. New boxes installed on SAG RD. Goshawk: project clearences conducted for 3 projects on 2 districts. Surveyed 1 historical nest and located 1 new nest in active timber sale area. Incorporated conservation measures for active nest. Nest territories and PFAs not established. Bighorn Sheep: Conducted inter-agency counts	Recommend review of communication procedures between timber sale administration and protection of wildlife sites in timber sale areas.

Monitoring Item	Method and (Contact)	Planned Locations	Monitoring Accomplished (what, where, results, summary, and references)	Evaluation (what are the recommendations based on monitoring? Are changes needed to the Forest Plan?)
			on 2 districts which contributed to population and distribution knowledge. Additional survey efforts reported by 2 districts for wolverine (bait stations), flammulated owls (nest boxes installed), northern leopard frogs (no detections), burrowing owl (no detections), blad eagle (no detections), 3-toed woodpecker (numerous detections), OS flycatcher (sparse detections), loggerhead shrike, and Brewer's sparrow.	
Monitor changes in composition, structure, and pattern for each LTA [36 CFR 219.27].	Photo interpretation, GIS, satellite imagery, and/or spatial analysis [Ecologist/Wildlife Biologist].	All LTAs over the entire Forest.	No monitoring was required this year. This item is evaluated once every 10 years and was accomplished in 2006.	No changes in the Forest Plan recommended.
Validate the vegetation composition and structure of LTA 1 reference landscapes [36 CFR 219.27].	Photo interpretaion, GIS, satellite imagery, and/or site visit [Ecologist: D. Erhard].	14 reference areas within Englemann spruce on Mountain Slopes LTA. Found throughout the upper elevations of the Forest.	The IRI Center has completed the contract mapping and attributing of Common Vegetative Unit (CVU) polygons on the Forest. The updated vegetation data is being used in relevant spatial analysis work, where feasible, and within the scope of the original modelling concept.	No changes in the Forest Plan recommended.
Monitor changes in CNHP Significant Plant Communities listed in EIS [36 CFR219.27].	Photo interpretaion, site visits, GIS, and/or satellite imagery [Ecologist: D.Erhard].	Special-status plant communities are at various sites over the entire Forest.	Several Colorado Natural Heritage Program (CNHP) plant communities of special interest were visited as follows: (1) *Salix monticola* / Mesic Graminoids Shrubland; (2) *Populus angustifolia* / *Salix exigua* Woodland; and (3) *Populus angustifolia* / *Alnus incana* Woodland. The sites appeared stable and there were no apparent threats.	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].	Forest-wide.	Old-growth inventories were completed for the following projects: Ruston Aspen Sale, Big Meadows II Timber Sale, Sietz Mech. P/J thinning, Divide Fuel Breaks, Alder Rx burn, Powderhouse Rx burn unit 2, Rio de los Pinos Veg Mgmt., North Park Comm. Firewood, and Vulcan Cross	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, summary, and references)	Evaluation (what are the recommendations based on monitoring? Are changes needed to the Forest Plan?)
			Comm. Firewood. To date, old growth (Mehl 1992) remains uncommon. On the Divide and Conejos Peak Ranger Districts, old growth appears to be limited due to a lack of patchiness, lack of structural diversity, and/or net productivity being too high. Because the Mehl criteria are biased toward more productive sites, the Saguache Ranger District appears to generally lack the productive capability to meet the Mehl old-growth descriptions.	
Evaluate biodiversity and wildlife [36 CFR 219.12 (k)].	Ocular, plots, transects [Ecologist, Wildlife Biologist].	Forest-wide.	The ecologist and District biologists visited more than 20% of the Forest's ongoing projects in conjunction with biological assessments and evaluations. Monitoring did not indicate that biodiversity items in 36 CFR 219.12 (k) were in need of change.	No changes in the Forest Plan recommended.
Fire and Fuels Management				
Assess fire/fuels [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. Onsite inspections [AFFMO, Ecologist, and Silviculturist].	Ponderosa pine and mixed-conifer cover types (fire regimes 1 & 3, condition class 2 & 3), Forest-wide. Wildland/urban interface/intermix (WUI) areas.	Analysis and evaluation of fuel profiles (loading, arrangement, continuity) was conducted in various mid to low elevation areas (mixed conifer, ponderosa pine, Douglas fir) of the Cochetopa Hills, the Alamosa and Upper Rio Grande River drainages and in the Conejos River drainage. Treatment methods (Rx fire, mechanical) have been developed and appropriate project plans (i.e., burn plans, thinning/mastication plans) have been implemented. Monitoring of WUI and non-WUI projects indicated treatment objectives were met. WUI project planning continues in the Kerber, Conejos River, Baca/Crestone and South Fork areas.	Continue focus on WUI areas and Fire Regimes 1 & 3 in Condition Classes 2 & 3. No changes in the Forest Plan recommended.

Monitoring Item	Method and (Contact)	Planned Locations	Monitoring Accomplished (what, where, results, summary, and references)	Evaluation (what are the recommendations based on monitoring? Are changes needed to the Forest Plan?)
General Infrastructure				
Assess facilities for compliance with state and Federal requirements and FS Handbook/Manual direction.	(1) Inspect dams, facilities, drinking water, road and trail bridges, and FDRs for safety and maintenance [Forest Engineer].	50% of Forest road bridges; each high-hazard dams every 3 years; each medium-low hazard dams every 5 years; 25% of all trail bridges; 25% all drinking-water systems as required by the Safe Drinking Water Act; 20% of all facilities and 20% of all Level 3, 4, and 5 roads as required by programs/per FSH and FSM.	50% of bridges inspected in FY08. No high hazard dams are located on the Forest: all moderate and low hazard dams were inspected in FY 06. All trail bridges were inspected in FY 05. 10% of facilities were inspected in 5 year FY08 period. 20% of water and wastewater systems were inspected in FY08 period. Level 3, 4, and 5 road inspections were determined by random statistical sample in FY08. All assigned targets were inspected in FY08.	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 (LEOs), District Level II Officers, and other personnel as assigned].	Various locations around the Forest as patrolled by Forest LEOs and other Forest Personnel.	Inspections were conducted through hunter patrols and day-to-day contacts by LEOs and other FS personnel. Numerous issues were raised and some citations issued. Forest continues to seek compliance with the current MVUM.	No changes in the Forest Plan recommended.
	(3) Assess planned road closures through onsite inspections [Engineering and Timber].	Various locations across the Forest.	Onsite inspections made by Forest Personel of proposed illegal route closures. In the fall of 2006 (FY 06), the Forest conducted an onsite investigation to evaluate illegal route closure activities. A combination of treatments that effectively closed illegal routes were implemented. The treatments included subsoiling, installing carsonite or cedar closure posts and signs, brushing in illegal routes, and physical rock barriers. The efforts continued in FY08. The ultimate success of such treatments is determined over time. Additional evaluation will be made in FY 09 to determine how well the	No changes in the Forest Plan recommended.

Monitoring Item	Method and (Contact)	Planned Locations	Monitoring Accomplished (what, where, results, summary, and references)	Evaluation (what are the recommendations based on monitoring? Are changes needed to the Forest Plan?)
			hunters and other recreationists complied with the closures.	
M&E infrastructure [36 CFR 219.12 (k)].	Review and monitor infrastructure-related inspections and reports for compliance with Forest Plan guidelines and objectives [Forest Engineer].	As outlined in the Infrastructure section of the AMOP.	50% of bridges inspected in FY 08. No high hazard dams are located on the Forest: all moderate and low hazard dams were inspected in FY 06. All trail bridges were inspected in FY 05. 10% of facilities were inspected in FY08 20% of water and wastewater systems were inspected in FY08. Level 3, 4, and 5 road inspections were determined by random statistical sample in FY08. All assigned targets were inspected in FY08.	No changes in the Forest Plan recommended.
Health and Safety				
M&E 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/Safety Officer].	Forest.	All contract Notice To Proceed meetings include a safety review. Road crew tailgate meetings are held weekly and include project work zone safety requirements discussion. Road crew supervisor ensures compliance. Monthly safety meetings are held to discuss accidents and near misses. Facilities safety inspections were completed in FY 08.	No changes in the Forest Plan recommended.
Heritage (Cultural) Resources				
M&E projects to assure heritage resources have been appropriately	Onsite inspection of selected significant heritage resources (Priority Heritage Assets). Onsite inspection of National	Identified significant heritage resources including prehistoric open lithic and camp sites, rock art, prehistoric stone structures	Significant rehistoric Heritage Resource sites monitored in FY 08: 5CN823: Fox Creek Site; 5SH3484: Duncan Town Site; 5RN330: Dog	No changes in the Forest Plan recommended.

Monitoring Item	Method and (Contact)	Planned Locations	Monitoring Accomplished (what, where, results, summary, and references)	Evaluation (what are the recommendations based on monitoring? Are changes needed to the Forest Plan?)
protected.	Register-eligible heritage resources identified for protection during ground-disturbing project-related activities [Heritage Specialist: V. Spero and A. Krall]	and historic buildings. Heritage resources located on selected range allotments, timber sales, and/or prescribed fire projects.	Mountain Petroglyphs; 5HN55: Black Mountain Folsom Site;: 5ML329: Clay Mine; 5RN488: Lizard Man Rock Art Site. Results: 5CN823 is experiencing potential adverse effects from unanticipated prescribed burn activities (high intesity burn creating erosion of site and artifact breakage). 5HN55 continues to experience heavy impact from illegal road through site; barrier is not working. 5SH3484 was found to have a hearth blowing out of an eroding historic road. An emergency excavation was implemented. All other heritage resources monitiored were reported to be in good or stable condition.	
M&E consultations with American Indians.	Assess proposed management activities and programs to determine if American Indian consultation was accomplished [Heritage Specialist: V. Spero and A. Krall].	Review proposed project EAs where there is a potential for sites or geographic features that are, or have the potential to be, considered culturally sensitive to American Indians.	In FY 08 Tribal consultation was initiated by the Tribal Consultation Bulletin (TCB), individual project scoping letters and by the RGNF Quarterly Scoping Document (SOPA).	No changes in the Forest Plan recommended. The Tribal Consulation Bulletin (TCB) should be issued as the initial Tribal contact for major projects or those smaller proposals with the potential to affect areas that are culturally sensitive to consulted America Indian Tribes.
M&E heritage resource program [36 CFR 219.12 (k)].	Review of all Heritage Resource reports done in FY 08 [Heritage Specialist: V. Spero and A. Krall].	Review of all Heritage Resource Reports done in FY 08.	Reports for proposed projects sent to the Colorado State Historic Preservation Officer for concurrence were reviewed.	No changes in the Forest Plan recommended. Proposed Projects comply with 36 CFR 219.2 (k).

Monitoring Item	Method and (Contact)	Planned Locations	Monitoring Accomplished (what, where, results, summary, and references)	Evaluation (what are the recommendations based on monitoring? Are changes needed to the Forest Plan?)
Minerals				
M&E oil & gas activities so effects do not exceed predicted by 10%.	Compare annual and cumulate OG activity [Minerals Specialist].	Forest summary.	There was no oil & gas development on the Forest in 2008. The Forest Plan reasonable and foreseeable development scenario and its effects are still valid as described in the Forest Plan.	No changes in the Forest Plan recommended.
Verify if areas are compatible with FP stipulations. 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 was no oil and gas development on the Forest in 2008. The Forest Plan reasonable and foreseeable development scenario and its effects are still valid as described in the Forest Plan.	No changes in the Forest Plan recommended. No additional analysis is needed.
M&E minerals program [36 CFR 219.12 (k)].	Onsite inspections of mineral activities; review reports [Minerals Specialist].	Forest Summary.	Two plans of operation for exploration drilling were approved. The Forest Plan is an effective tool for protecting resources while allowing mineral development.	No changes in the Forest Plan recommended. No additional analysis is needed.
Noxious Weeds				
M&E noxious weeds [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/BLM [Valley Wide Weed Coordinator].	Inventory efforts focused primarily on FDR road systems. Treatment and inventory work is continuing within the South San Juan Wilderness and inventories are being conducted within the Weminuche to locate and control infestation of yellow toad flax, canada thistle, and new infestations of downey brome (cheatgrass). Treatment continues on all three districts and on BLM Lands Ajacent to the Forest at known infestion sites.	Forest-wide inventories were conducted on all three Ranger Districts and ajacent BLM in 2008. Specific information on species found and areas infested and treated/inventoried can be found in Ranger District records. 330 acres were treated by chemical and biological control means on the Forest and 300 acres on BLM.	No changes in the Forest Plan recommended.

Monitoring Item	Method and (Contact)	Planned Locations	Monitoring Accomplished (what, where, results, summary, and references)	Evaluation (what are the recommendations based on monitoring? Are changes needed to 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.	The Forest and BLM have combined funding to hire a Valley wide Weed Coordinator to ensure a more coordinated treatment effort on Public Lands under jurisdiction	No changes in the Forest Plan recommended.
Range				
M&E range program [36 CFR 219.12 (k)].	Refer to monitoring items that follow (see below).	See below.		
M&E rangeland seral stage to ensure the desired conditions.	(1) Various methods and techniques will be derived from RAMTG [Primary: G. Snell; Secondary: T. Post].	Cumbres, Canon, NSJ Wilderness allotments, Platoro, Decker, Par, Mesa, Saguache Park, Cochetopa Hills.	Aproximately 23,500,000 acres were identified and 5 cover frequency transects and utilization cages were installed on the Forest.	No changes in the Forest Plan recommended.
	(2) Monitor desired condition for trend [Primary: G. Snell; Secondary: T. Post, Kelly Garcia, L. Van Amburg].	See above.	See above.	No changes in the Forest Plan recommended.
Assess rangeland suitability.	(1) Evaluate suitability of Forest Plan rangelands. Intensive review at site-specific areas while applying criteria for capability and ID Team determination of suitability [Primary Contact: G. Snell; Secondary: T. Post, K. Garcia, M. Swinney].	A rangeland suitability determination by specific allotments was undertaken for NEPA as per R2 RAMTAG.	Rangeland suitability assessments were initiated in 2005 and continued into 2008.	No changes in the Forest Plan recommended.
	(2) Evaluate suitability of rangelands at the AMP level [Primary Contact: G. Snell; Secondary: T. Post, K. Garcia, M. Swinney].	See above.	See above.	No changes in the Forest Plan recommended.
Monitor utilization of rangelands.	Various mehods will be used including: P/U cages, height-weight, stubble height, and ocular estimates [Primary Contact: G. Snell; Secondary: K. Garcia, T. Post, M. Swinney].	Each district will conduct analysis based on Forest Priority Rescission Act Allotments.	Monitoring for vegetation utilization was conducted on all 3 ranger districts. About 225,000 acres were monitored for vegetation utilization. Various methods were used, including P/U cages, height-weight, stubble height measurements,	No changes in the Forest Plan recommended.

Monitoring Item	Method and (Contact)	Planned Locations	Monitoring Accomplished (what, where, results, summary, and references)	Evaluation (what are the recommendations based on monitoring? Are changes needed to the Forest Plan?)
			and ocular estimates. Allotments monitored by ranger districts were the same as the planned locations in previous column.	
Recreation – Developed				
Assess developed sites for (a) visitor expectations, trends, and customer satisfaction; and (b) quality and safe facilities.	(1) Customer survey; Forest-wide Market and Customer Survey [Forest and District Recreational Personnel].	Forest-wide.	The last Forest-wide customer survey was completed in FY 05. The next survey is planned for FY 10. Information from the FY 05 customer survey on the Rio Grande NF is on the website at http://www.fs.fed.us/recreation/recuse/recuse.shtml.	No changes in the Forest Plan recommended.
	(2) Annual Developed-site Hazard Tree Inspections. Inspection of Forest's campgrounds and picnic areas for removal of hazard trees [I&D Specialist and District Recreation/Timber Personnel].	Campgrounds and picnic areas.	Annual hazard tree inspections of campgrounds and picnic areas were completed as part of the sites' preseason maintenance inspections. Hazard trees were marked and removed in FY 06. Hazard tree inspection reports are on file at ranger district offices. In addition, water sampling for safe drinking water is completed on a monthly basis.	No changes in the Forest Plan recommended.
	(3) Monitor ski area summer and winter activities. Monitor Wolf Creek Ski Area for compliance with approved summer/winter operating plans [S. Brigham].	Wolf Creek Ski Area.	FY 08 winter and summer operating plans were developed and approved and monitoring inspections made. Inspection reports are on file at the Divide Ranger District office. Winter inspections included lift operations, ski patrol operations and procedures, avalanche procedures and operations, ski school operations, annual billings and payments and the monitoring of the cross country ski trail and use. Continued activities include: construction of the new parking area access road and erosion control work in the vicinity of the parking lots.	Continue to work with the ski area in conjunction with planned projects. No other changes in the Forest Plan recommended.

Monitoring Item	Method and (Contact)	Planned Locations	Monitoring Accomplished (what, where, results, summary, and references)	Evaluation (what are the recommendations based on monitoring? Are changes needed to the Forest Plan?)
	(4) Monitor 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.	Annual billings and issuance of special use permits is now done in SUDS. The Forest continued to administer a majority of its special use permits in FY 08.	A screening checklist is also required when determining whether to permit recreation events for compliance with FSM2721.49, FSH 1909.15, 30.3-2 and the terrestrial BA/BE. No other Forest Plan changes are recommended.
Assess developed sites actual use compared with projected outputs [36 CFR 219.12 (k)].	Use figures collected by concession campground managers and FS campground hosts in our fee campgrounds.	All concession and FS campgrounds and picnic sites.	Campground use and occupancy rates were recorded in our Forest concession campgrounds by the concession managers. Use reports are on file at the Forest's Supervisor Office. The Saguache District does not have concession campgrounds. Three rental Granger-Thye Act cabins were maintenance and fee collection is completed force account. The Forest initiated work on the Recreation Site Facilities Analysis and reviewed occupancy rates for developed fee sites.	No changes in the Forest Plan recommended.
Evaluate developed recreation [36 CFR 219.12 (k)].	Comparative evaluation for M&E report [Forest and District Recreation Personnel].	Forest-wide developed-recreation prescription areas.	Forest recreation objectives, Forest-wide standards, Recreation Management Area standards, desired conditions, S&Gs and monitoring were assessed in conjunction with proposed project assessments. The Forest completed work on the Recreation Site Facilities Analysis. A five year program of work was approved in FY 08.	No changes in the Forest Plan recommended. We will plan to monitor this element in FY 09.
Recreation – Dispersed				
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.	By FY 08, approximately 90% of all Forest trails were inventoried for and entered into INFRA. No additional trail work was completed in FY-08.	No changes in the Forest Plan recommended.

Monitoring Item	Method and (Contact)	Planned Locations	Monitoring Accomplished (what, where, results, summary, and references)	Evaluation (what are the recommendations based on monitoring? Are changes needed to the Forest Plan?)
	(2) Monitor representative watersheds to assess baseline capacity allocation. Monitor the amount of public and outfitter/guide use occurring in identified watersheds [Forest and District Recreation Personnel/RSST].	Forest-wide compartments.	Commercial capacity is monitored in all compartments and there are several compartments indicating over-allocation, these will evaluated on permit re-issuance. Capacity associated with public use and is random and limited most information associated with wilderness registration.	We will look at our calculations to determine if our baseline figures are correct and if so, what management actions might be needed. No other changes in the Forest Plan recommended.
Monitor effects of off-road vehicle use of Forest trails and roads [36 CFR 295.5].	Assess impacts to physical, biological, and social resources (indicators) [Forest Recreation Specialist/RSST].	Hunter patrols during hunting season.	Hunter patrols were implemented again during the hunting season. Patrols indicate we are getting high levels of use and impacts off designated roads and trails. The Forest emphasized monitoring of afternoon big game retrieval. This will continue in FY09.	No changes in the Forest Plan recommended. The Forest is working on the publication of District Motor Vehicle Use Maps. Future travel management planning efforts are planned.
Evaluate dispersed recreation [36 CFR 219.12 (k)].	Comparative evaluation for M&E report [Forest and District Recreation Personnel].	Forest-wide dispersed Rx areas.	Forest dispersed-recreation objectives, Forest-wide standards, management area S&Gs and guidelines, desired conditions and monitoring were assessed in conjunction with proposed project assessments.	No changes in the Forest Plan recommended. We will plan to monitor this element in FY 09.
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 Recreation Specialist and RSST].	Forest-wide backcountry areas.	The Forest worked with the Regional Office to support the State of Colorado Roadless Rule Environmental Impact Statement. This work included corrections made to mapping errors.	No changes in the Forest Plan recommended at this time pending the completion of the Colorado Roadless Rule Environmental Impact Statement.

Monitoring Item	Method and (Contact)	Planned Locations	Monitoring Accomplished (what, where, results, summary, and references)	Evaluation (what are the recommendations based on monitoring? Are changes needed to the Forest Plan?)
Evaluate backcountry areas [36 CFR 219.12 (k)].	Comparative evaluation for the M&E report [Forest and District Recreation Personnel].	Forest-wide backcountry areas.	Forest backcountry area objectives, Forest-wide standards, management area S&Gs, desired conditions and monitoring were assessed by district staff. The 2001 Roadless Area Final Rule was replaced by the 2005 Roadless Rule. The 2005 Roadless Area Rule allows states to petition the Secretary of Agriculture on roadless area management. The State of Colorado completed the Colorado State Roadless Review Process in 2006. Mapping errors in the backcountry boundaries have been corrected during the initial work to support the Colorado roadless rule EIS.	Corrections to the Forest Plan map for roadless area boundaries were submitted for the Colorado roadless rule EIS that is in progress.
Recreation – Wild and Scenic Rivers				
Assess the physical, biological, and social resources within wild and scenic river corridors.	Assess impacts on the physical, biological, and social resources (Indicators) [Forest/district Recreation Personnel and Core Team].		The enactment of P.L. 106-530, the Great Sand Dunes National Park and Preserve Act, created the need for the Forest Plan to be amended to address the changes to Forest Boundary and the transfer of the Medano Creek Scenic River which became part of the Great Sand Dunes Preserve. No wild and scenic river corridors were monitored in FY 08.	The Forest Plan is currently undergoing an analysis in the Baca Mountain Tract Amendment to address the Forest boundary and management changes due to the Act in FY09. No other changes in the Forest Plan recommended.
Evaluate Wild and Scenic River MA prescription objectives, desired conditions, and S&Gs [36 CFR 219.12 (k)].	Comparative evaluation for the M&E report [Forest and District Recreation Personnel].	Forest-wide Wild and Scenic River MA.	The Wild and Scenic River standards, desired conditions, allocation and monitoring were reviewed.	No changes in the Forest Plan recommended.

Monitoring Item	Method and (Contact)	Planned Locations	Monitoring Accomplished (what, where, results, summary, and references)	Evaluation (what are the recommendations based on monitoring? Are changes needed to the Forest Plan?)
Recreation – Wilderness				
M&E visitor-use levels and other wilderness resources [36 CFR 293.2].	Schedule for implementation those priority 1 items outlined in each wilderness area Wilderness Implementation Schedule. Surveys, data gathering, and reports [District Wilderness Coordinators, Wilderness Rangers, and Resource Specialists).	South San Juan, Weminuche Sangre d Cristo and La Garita Wilderness Areas.	With the enactment of P.L. 106-530, the Great Sand Dunes National Park and Preserve Act, documented changes need to be written that addresses the changes to the Wilderness section of the Forest Plan in addition to the map correction changes to the Forest Plan map. Fish stocking in wilderness areas was previously addressed through the Wilderness Management Direction EA. A typographical error in the Forest Plan regarding stocking of indigenous fish in wilderness was corrected with an errata sheet. In the La Garita Wilderness, Saguache implented new special orders and high lake water sampling for air quality. The Sangre de Cristo area is continually monitored by the recreation staff in Saguache.	The Forest Plan needs to address the wilderness area (Sangre de Cristo) changes affected by P.L..106-530) and make corrections to the Forest Plan map. This is expected to be accomplished through the Baca Mountain Tract Amendment in FY 09. The wilderness team is assessing those compartments where some standards have been exceeded and developing recommended management actions. No changes are needed to the monitoring indicators outlined in the wilderness EA.
Evaluate wilderness Forest-wide goals, objectives, S&Gs, and wilderness MA objectives, desired conditions, and S&Gs [36 CFR 219.12 (k)].	Comparative evaluation for the M&E report [Forest Recreation Specialist and District Wilderness Coordinators].	Forest-wide wilderness MAs.	The wilderness team has prioritized and monitored wilderness compartments to evaluate whether standards are being met or exceeded.	Continue to monitor wilderness compartments in FY 09.
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 Staff].	Poll Forest resource specialists on progress.	Progress is continuing on (1) watershed-based inventories for old growth in conjunction with proposed timber harvest activities; (2) Forest roads inventories; and (3) collection of floral and faunal occurrence data for inclusion in the Colorado Natural Heritage Program Biological Database. Under the National Resource Information System (NRIS), a	No changes in the Forest Plan recommended.

Monitoring Item	Method and (Contact)	Planned Locations	Monitoring Accomplished (what, where, results, summary, and references)	Evaluation (what are the recommendations based on monitoring? Are changes needed to the Forest Plan?)
			civil rights project is ongoing to develop methods of identifying under-served communities.	
Research Natural Areas (RNAs)				
Evaluate RNAs [36 CFR 219.12 (k)].	Ocular, plots, transects, GIS [Ecologist: D. Erhard].	Designated RNAs.	The Hot Creek RNA was visited and visually evaluated. The majority of the RNA appears to be minimally impacted by human activity. Natural processes are the prevailing influence. There was no evidence of any conflict with 36 CFR 219.12 (k).	No changes in the Forest Plan recommended.
Scenic Resources				
Determine if project scenic integrity objectives (SIOs) were met. Assess changes in SIO with respect to ROS.	Onsite or photo-point monitoring [Landscape Architect: K. Ortiz].	Projects where scenic resources is a key issue, and special areas such as campgrounds, gravel pits, and utility sites.	Many of the sites monitored for 2008 are the same sites monitored in 2007 (relative to meeting SIOs). *Wolf Creek Ski Area*: site visits showed that the new exterior entrance walls were not in compliance with the SIOs for the site. The color does not borrow from the characteristic landscape. Consultation continues with the Wolf Creek Ski Area operator to make the necessary changes. *Mountain Lion/Lookout Timber Sale*: there are notable contrasts during the winter months on the landscape as viewed from the highway. This area will continue to be monitored. *Hwy. 160 Project*: some rock walls do not come into compliance with SIOs, since pre split holes can be seen. These will continue to be monitored. *Windy Point to Lonesome Dove phase of the Hwy 160 Project*: this area will continue to be monitored. The Village at Wolf Creek access analysis identified the need to change the SIO at the Wolf Creek Ski Area to make it compatible with the existing visual situation.	No changes in the Forest Plan recommended. Additional assessment of visual effects from the bark beetle epidemic need to occur during project analysis.

Monitoring Item	Method and (Contact)	Planned Locations	Monitoring Accomplished (what, where, results, summary, and references)	Evaluation (what are the recommendations based on monitoring? Are changes needed to the Forest Plan?)
			The *County Line Timber Sale* is currently in compliance. This area will be continued to be monitored throughout 2008 and 2009 for any changes to Scenic Resources. The rock site along Hwy 160 West of South Fork has revegeteated but is still in use for construction.	
Determine if SIOs were met. Assess Constituent Survey information.	Constituent surveys, visitor observations, interviews, and public participation [Landscape Architect: K. Ortiz].	Ranger district roads, trails, and recreation sites.	Constituent surveys were not completed in FY 08, since the surveys are awaiting Washington Office approval.	No changes in the Forest Plan recommended.
Evaluate scenic resources [36 CFR 219.12 (k)].	Summarize report.	Forest.	Three separate areas were monitored for scenic resource compliance during FY 08. Under the terms of scenic resources, all areas have 2 years to come into compliance with the SIOs for any area after project implementation. These projects will continue to be monitored over the next year.	No changes in the Forest Plan recommended. However, terminology in the Forest Plan with respect to the scenic Standards and Guidelines should be be updated during the next plan revision.
Soil Productivity				
Assure that land productivity is maintained or improved.	(1) Monitor soil quality standards [(Soil Scientist: J. Rawinski)	McIntyre Sale monitoring	This area is in properly functioning condition.	No changes in the Forest Plan recommended. Standards and assessments are adequately working.
	(2) Use erosion model to predict erosion or analyze projects after completion [Soil Scientist: J. Rawinski].	No new projects requiring WEPP analysis		No changes in the Forest Plan recommended.
	(3) Ocular estimates, pace transects, on-site, professional judgements to monitor fertility, erosion, mass movement [Soil Scientist: J. Rawinski].	Provided on a number of timber and range projects.		No changes in the Forest Plan recommended.

Monitoring Item	Method and (Contact)	Planned Locations	Monitoring Accomplished (what, where, results, summary, and references)	Evaluation (what are the recommendations based on monitoring? Are changes needed to the Forest Plan?)
	(4) Mass-movement evaluation by monitoring existing and potential problem areas [Soil Scientist: J. Rawinski].	Did not get out to inspect this. However, no new reports of new activity.		No changes in the Forest Plan recommended.
M&E soil productivity [36 CFR 219.12 (k)].	Onsite review and use of pre-existing photo points [Soil Scientist: J. Rawinski].	Cat Creek Park	Monitored the long-term success of watershed restoration techniques used by the CCC in 1940 and changes over a 68 year period.	No changes in the Forest Plan recommended.
Special Interest Areas (SIAs)				
Assess protective measures and interpretive efforts.	Ocular surveys [Ecologist: D. Erhard; Heritage Resource Specialist: A. Krall].	SIAs.	The botanical area at Elephant Rocks was visually inspected. *Neoparrya lithophila* plants appear to be vigorous and robust. No new concerns were noted. The Wagon Wheel Gap Watershed Experiment Station SIA (Historical) was visually monitored in FY 07. There were no noticeable impacts relating to the area noted during the SIA review.	No changes in the Forest Plan recommended.
Evaluate Special Interest Areas [36 CFR 219.12 (k)].	Summarize reports or information from districts [Ecologist: D. Erhard; Heritage Resource Specialist: A. Krall].	SIAs.	The botanical area at Elephant Rocks was evaluated for this component. Monitoring did not reveal that this SIA for items in 36 CFR 219.12 (k) were in need of change.	No changes in the Forest Plan recommended.
Timber				
Restocking of harvest areas [36 CFR 219.12].	Stocking surveys [Forest Silviculturist:/Program Manager]	All locations/sites planned for 1st-, 3rd-, and/or 5th-year surveys	In 2008, a total of 226 acres were surveyed for or certified as fully stocked within the Million Fire Salvage Area.	Restocking of harvest areas [36 CFR 219.12].
Assess timber suitability [36 CFR 219.12; 219.27].	(1) Standard suitability determination at the forest-wide level [Forest Silviculturist:/Program Manager]	Forest Supervisor's Office, Monte Vista, CO	Forest-wide suitability assessments were not planned or completed in 2008.	Assess timber suitability [36 CFR 219.12; 219.27].

Monitoring Item	Method and (Contact)	Planned Locations	Monitoring Accomplished (what, where, results, summary, and references)	Evaluation (what are the recommendations based on monitoring? Are changes needed to the Forest Plan?)
	(2) Standard suitability determination at landscape or project level [Forest Silviculturist/ Program Manager]	Forest Supervisor's Office, Monte Vista, CO and District Offices: Conejos Peak – La Jara, CO; Divide – Del Norte, CO; Saquache – Saguache, CO	Landscape or project-level suitability assessments were also not planned or completed in 2008. Suitability for current projects under analysis were previously assessed for suitability in 2007.	
Assess insect and disease infestations relative to endemic levels prior to and following management activities [36 CFR 219.12].	Onsite inspections, observations and limited sampling Can include statistically accurate plots [Forest Silviculturist:/Program Manager]	All active timber sales, post-sales and ongoing landscape analyses Areas undergoing extensive natural disturbance	Insect and disease infestations were surveyed on 3,928 acres. See the narrative description for details. Surveys were conducted to validate aerial photo flight data and to assess current infestation locations and extent. Surevys corroborated aerial flight data and other observations passed on by forest personnel. Surveys indicate a large growing population of spruce bark beetle, western balsm bark beetle, western spruce budworm; a moderate growing population of mountain pine beetle, Douglas-fir bark beetle and a moderate infection of sudden aspen decline. Other endemic populations of various insects were also noted in the surveys.	Assess insect and disease infestations relative to endemic levels prior to and following management activities [36 CFR 219.12].
Monitor size of harvest openings [36 CFR 219.27]	GPS traverses and onsite inspections and reconnaissance [Forest Silviculturist/ Program Manager]	All current active timber sales and timber sale preparation projects.	All active timber sales boundaries are monitored by sale administrators and harvest inspectors to ensure boundaries have not been altered during harvest operations. At final acceptance of harvest units, boundaries are once again checked, including tests for tracer paint. No irregularity in pre-sale boundary location were noted in inspection reports in 2008. Planned timber sale harvest units that were layed out in 2008 were checked to ensure harvest unit sizes meet accepted opening standards as documented in NEPA decisions. No irregularities were noted. And all units prepared in 2008 meet accepted standards. Some minor amounts of blowdown have occurred around harvest unit openings, but not in sufficient	Monitor size of harvest openings [36 CFR 219.27]

Monitoring Item	Method and (Contact)	Planned Locations	Monitoring Accomplished (what, where, results, summary, and references)	Evaluation (what are the recommendations based on monitoring? Are changes needed to the Forest Plan?)
			amounts that would create openings in excess of accepted standards for opening sizes.	
Assess implementation of silvicultural objectives during pre-sale, harvesting, and post-sale review periods.	Review silvicultural prescription, onsite inspections, validate before/after photo points, density measurements [Forest Silviculturist/ Program Manager]	**Pre-sale:** La Manga II Salvage, Grouse III Salvage, Neff II Salvage, Spruce Park Salvage, Cathedral Salvage, Ruston Salvage, Rock Creek Beetle Salvage, Spanish Poles 4, Duck Pond, Brown's Creek A & B, Bennet Beetle Salvage, Lost Aspen, Moab Salvage **Harvesting:** Beaver Mountain II, Escarabajo Salvage, Grouse II Salvage, Little Kerber Salvage, Marble Beetle Salvage, McIntyre Gulch Salvage, Long Lost Cabin, Antelope/Trickle, Shaw Lake Beetle Salvage, Willow Aspen, Wolf Beetle Salvage **Post-sale:** Blowout II Salvage, Cerro Rojo Salvage, Finger Mesa Beetle Salvage	**Pre-sale** reviews indicated that the sales were being prepared to achieve the silvicultural objectives for sales evaluated. **Harvesting** reviews indicated that the sales were being implemented in accordance with the silvicultural objectives for the sales evaluated. **Post-sale** reviews indicated that the sales met the silvicultural objectives for the sales evaluated.	Assess implementation of silvicultural objectives during pre-sale, harvesting, and post-sale review periods.
Assess output performance of timber sale program quantity components [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 [Forest Silviculturist/ Program Manager]	Forest Supervisor's Office, Monte Vista, CO and District Offices: Conejos Peak – La Jara, CO; Divide – Del Norte, CO; Saquache – Saguache, CO	**Silviculture Program:** Forest achieved 383 acres of a 4271 acre planned FOR-VEG-EST target (9%). Shortfall Reason: 3888 acres were incorrectly coded as FOR-VEG-EST due to misunderstanding of FACTS coding by Forest personnel. Forest achieved 899 acres of a 798 acre planned FOR-VEG-IMP target (113%). Cone Collection project was not implemented due to poor cone crop. Will attempt collection again in 2009. **Timber Program:** The timber sale award was 82% of what was planned (21,431 CCF awarded versus 26,000 planned). Forest agreed to an additional 2000 CCF target, from its normal 24,000 CCF	Assess output performance of timber sale program quantity components [36 CFR 219.12].

Monitoring Item	Method and (Contact)	Planned Locations	Monitoring Accomplished (what, where, results, summary, and references)	Evaluation (what are the recommendations based on monitoring? Are changes needed to the Forest Plan?)
			program, but could not achieve due to the following reasons. Shortfall Reason: Apparent high bidder for Grouse III Salvage (454 CCF) did not pass financial review and so award could not be processed. No bids received for Duck Pond (1462 CCF); Final cruises on several sales were less than originally estimated by 2653 CCF.	
Assess timber program [36 CFR 219.12 (k)].	Comparative evaluations [Forest Silviculturist/ Program Manager]	Forest Supervisor's Office, Monte Vista, CO and District Offices: Conejos Peak – La Jara, CO; Divide – Del Norte, CO; Saquache – Saguache, CO	The Forest reviewed Forest Plan (Forest-wide) desired conditions (goals), objectives, and S&Gs (for Silviculture); reviewed MA, prescriptions, and S&Gs for MAs including suitable timberlands (4.21, 4.3, 5.11, 5.13, and 5.41); and reviewed monitoring approaches to timber-related desired conditions. A Regional Log Accountability Audit was conducted on the Forest in 2008. Results of the audit, and Action Items needing attention, were sent to the Forest Supervisor. The Forest responded to the Action Items in a response letter. Most of the Action Items have been completed, some are ongoing activities needing further attention. A Regional Trust Fund Audit was conducted on the Forest in 2008. Results of the audit, and Action Items needing attention, were sent to the Forest. The Forest responded to the Action Items in a response letter in 2009. Most of the Action Items have been completed, some are ongoing activities needing further attention.	Assess timber program [36 CFR 219.12 (k)].