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# Forest Plan Monitoring and Evaluation Report

## Fiscal Year 2010

**Rio Grande National Forest,
Colorado**

*Cover photograph of a bighorn ewe on Long Ridge near Creede, Colorado.*

# 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 and evolving document. Monitoring of the Forest Plan is essential in evaluating its effectiveness and making necessary adaptive management changes. The Forest Plan has been amended seven times to date. Overall, the 2010 monitoring and 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 late 2011. The outcome of that analysis and decision may require minor corrections to the roadless area maps and possible changes in Forest Plan direction.
- The Forest should conduct a management indicator species (MIS) status assessment for avian species, mule deer, and elk to determine if any changes are needed to improve the effectiveness of this monitoring and whether any changes to the Forest Plan are needed.
- The Forest should update the Forest Plan biological evaluation for wildlife to reflect the current Regional Forester's sensitive species list.
- 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 changes to the Forest Plan to allow for necessary vegetation treatments.
- The Forest continues to update the motor vehicle use maps. Future travel management planning may propose changes to the Forest Plan.
- 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 and evaluation report for the RGNF for FY 2010. I believe that the monitoring and evaluation requirements of the Forest Plan have been met and that the decisions in the Forest Plan are still valid. I have noted and considered the recommendations for the RGNF and, after further analysis and required public notification and involvement, will implement those that I decide are appropriate.

**Dan S. Dallas**
**Forest Supervisor**

09/28/2011
**Date**

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# 1. 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 and 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.

# 2. Appeals

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

# 3. Forest Plan Amendments

Seven Forest Plan amendments have occurred to date. There are also several amendments, corrections, or other actions that have been recommended. These are outlined below.

## Completed Amendments

There have been seven 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 Areas, 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" 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,
- change MA prescription definitions and locations,
- add wilderness MA prescription and Forestwide standards and guidelines (S&Gs),
- define thresholds and possible management actions within wilderness when thresholds are exceeded,
- add wilderness monitoring requirements, and
- 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 (EA), resulted in reducing the acreage of the botanical SIA from 2,076 acres to 910 acres. The acreage excluded from the SIA (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 corrected 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 designated nine MIS, and added or modified the associated S&Gs and monitoring and evaluation strategy in the Forest Plan.

## *Amendment # 6*

**Baca Mountain Tract.** This amendment addressed the ownership and jurisdictional changes due to Public Law 106-530, Great Sand Dunes National Park and Preserve Act of 2000. Portions of the Sangre de Cristo 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. This amendment corrected the Forest Plan map to reflect the new RGNF boundaries and to incorporate the Baca Mountain Tract into the Forest Plan. The Baca Mountain Tract Amendment to the Forest Plan was 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, USFWS, and CDOW were cooperating agencies in this EA. The amendment was completed in November 2009.

### *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 S&Gs to the Forest Plan.

## 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. 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 final Rule may also require changes in Forest Plan direction.
- The Forest continues to suffer from catastrophic, epidemic-level insect infestations. The Forest continues to assess forest health and may propose changes to the Forest Plan 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. There was also a recommendation to update the desired condition statement for the ski area. These items will be addressed when the next NEPA analysis for ski area development is completed.
- 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 in the future.
- A recommendation has been made to update the Scenic Resources standards and guidelines terminology. This might be accomplished through an administrative correction or during Forest Plan revision.
- The Forest continues to update the motor vehicle use maps. Future travel management planning may propose changes to the Forest Plan.

- A recommendation has been made to conduct a management indicator species (MIS) status assessment for avian species, mule deer, and elk to determine if changes are needed in monitoring.
- A recommendation has been made to update the Forest Plan biological evaluation for wildlife to reflect the current Regional Forester's sensitive species list.

# 4. Monitoring Requirements and State of the Resource

## Introduction

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

- Goals, objectives, and desired conditions identified in the Forest Plan,
- Forest management direction,
- land suitability,
- MA prescriptions, as well as the Forestwide and MA-specific S&Gs,
- the monitoring plan, and
- congressional recommendations.

Annual monitoring goals can be described in the annual monitoring operation plan detailing monitoring expected to be completed in the upcoming year. Chapter V of the Forest Plan outlines the monitoring task, precision, frequency, reporting method, and the responsible party.

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 2010 Monitoring and 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 2009 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, pages 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 prescribed burning or wildfire, but are quickly dissipated by stable atmospheric conditions. Regional haze diminishes visibility in some areas, but visual distances remain among the best in the country. Prescribed burn operations that occurred in 2010 included the Mill Creek Project on the Saguache District; the English Valley and Embargo projects on the Divide District, and the Alamaditas/November projects on the Conejos Peak District. All operations were compliant with burn permits and several were observed by State air quality personnel.

In the summer of 2010, samples were collected from eight sensitive high-elevation lakes at 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 and evaluation of stream health, water quality, and riparian conditions will be included in watershed assessments. Watershed assessments are to be completed on at least one stream and riparian area per analysis area for each EA project involving land disturbance. Monitoring of streams identified as “at risk” within watersheds 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

Watershed disturbance is highest in areas of past timber harvest activities. Areas of low precipitation, such as 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. Forest S&Gs and design criteria to protect stream and soil health have proven effective in recent timber NEPA documents in regard to the spruce beetle epidemic.

The spruce beetle epidemic continued on the RGNF in 2010 and is reducing live basal area in watersheds on the Divide District. Approximately 196,000 acres of spruce stands have been impacted to date. These losses are likely resulting in minor to moderate increases in total runoff and peak flows. However, direct impacts to channel stability or slope erosion from these effects were not noted during field evaluations. Research has shown healthy streams with stable banks can accommodate these moderate changes in stream flow dynamics. In the coming years, excessive woody debris from falling trees could present problems at culverts and cause erosion of roads at these stream crossings.

Stream health on range allotments evaluated for range rescission in 2010 varied from robust to at-risk in more highly utilized areas. Stream health was determined by comparing channel conditions to a similar "reference stream" that represents expected conditions. This comparison is either made visually or by using bank stability and other measurements. Good stream health and riparian conditions were found on Piedrosa Creek, upstream Hot Creek, Jim Creek, Deer Creek, Cat Creek, Pasture Creek, House Canyon, Shallow Creek, Sawmill Gulch, Horsethief Creek, Sevenmile Creek, Kid Gulch, Deep Creek, Saguache Creek, Jakes Creek, Fourmile Creek, East Fork Buck Creek, Bear Creek, and Johns Creek. Localized areas with bank alteration exceeding Forest guidelines, caused by livestock congregating along the riparian zones, were noted on Middle Fork Carnero Creek, Mill Creek, Crooked Creek, Mann Creek, and Sawmill Canyon above Road Canyon Reservoir. Isolated hoof alteration was noted on Cave, Jakes, and Fourmile creeks. These problems were noted mainly in small open meadows where drainages are narrow. Livestock missed during pasture cleaning contribute to these impacts. Range specialists have made and will continue to make adjustments to address these impacts in 2011 to avoid excessive concentration of animals in sensitive riparian areas. Streambank erosion problems related to improper culvert installations or road crossings were noted on Long Canyon, Crooked Creek, and Ojito Creek.

Two long-term monitoring sites were revisited to document changes in riparian and stream health condition. These included sites on Leopard and Middle Creeks. At both of these creeks, riparian vegetation and bank conditions have improved, but unstable bank percentage remains higher than Forest Plan guidelines on reaches evaluated. Monitoring continues to show that when bank alteration remains within or near Forest Plan guidelines, bank stability and riparian vegetation are in a healthy condition. Cleaning pastures and removing livestock when guidelines are met will continue to be key in maintaining stream health.

Recovery of a portion of the Million Fire burn area in the Church Creek drainage was evaluated in 2010. This drainage had a high percentage of high-severity burned areas. Since 2002, vegetation has reestablished both on slope areas and along stream channels. The helicopter seeding and mulching completed after the fire appears to have been an important factor in this vegetation recovery. Ground cover was high overall and erosion appeared to be minimal. Channel stability along Church Creek in the area evaluated was good, with vegetation covering a high percentage of bank area.

The Wolf Creek Ski Area continues to exceed Forest Plan sediment control requirements. Activities that occurred in 2010 to improve sediment and drainage control included:

(1) Mushroom compost placed on the Divide Trail, Powder Puff Trail, and Lower Tranquility Trail to promote vegetation growth;

(2) rock placed on sections of the Navajo/Park Ave. Trails;

(3) culvert replacement and new drainage installed to improve drainage in the spring around buildings in the Base Camp area;

(4) hay bales placed in various locations to reduce sediment transport; and

(5) seeding and fertilizing in various locations.

There were fuel reduction projects conducted in 2010, including a burn in English Valley near Del Norte. Impacts to soil resources were minimal because the burn was patchy and of a low severity over a majority of the project area. Several small areas where burn severity was higher were documented and will be monitored for recovery in 2011. Three timber sale project areas including Rock Creek, Burrow-Blowout, and County Line were visited and stream protection best management practices were assessed. Buffers along streams were followed well by the logging operators and sediment input to streams was minimal. Some additional work on skid trails in the Rock Creek sale will be required to minimize future erosion potential.

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 and Kerber Creek watersheds. At the Last Chance Mine above Creede an additional retaining wall was constructed to further minimize mine tailings that enter West Willow Creek. A stream stabilization project was also completed in the Alamosa Watershed above Wightman Fork. Work included two j-hooks, channel realignment, and riparian plantings. Two other projects completed in 2009, one at Alamosa Campground and another 0.5 mile upstream, were revisited. Willow clumps were planted at these sites and some additional rock work/maintenance performed on structures previously constructed.

## *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. For plants, species monitored are found on 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 Forestwide. 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; they were: (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). The ecology program was also 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 the appendix). 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* (a Forest Service-designated sensitive plant). 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 and they appeared stable and secure. New occurrences of *Astragalus ripleyi* 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 plant communities of special interest were visited as follows: (1) *Populus angustifolia/Alnus incana* woodland; (2) *Salix planifolia/Caltha leptosepala* shrubland; and (3) *Salix planifolia* mesic forb shrubland. The sites appeared stable and there were no apparent threats.

Old-growth inventories were completed for the following projects: Del Norte Peak blowdown salvage; Rio de los Pinos; Big Moose; Alamaditas Fox Creek; Powderhouse units 4 and 5; Bighorn Mtn. Stateline Fuel Treatment; and Hot Creek Fuel Treatment. 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 is responsible for the terrestrial wildlife-related items in the "Biodiversity" section of the Monitoring Plan. This includes some aquatic or semi-aquatic species such as amphibians. These responsibilities also include a determination of whether the biodiversity-related goals, desired conditions, S&Gs, 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 provide 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 geologic or physical features such as rock cliffs (e.g., peregrine falcon), talus (e.g., pika), 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 wildlife species in Colorado) or high concentrations of downed wood (e.g., Canada lynx denning habitat). Evaluation of habitat conditions across the Forest are primarily limited to support funding associated with timber sales, range allotment management plan revisions, and other project activities that provide an opportunity for both coarse- and fine-scale assessments. Proposed management activities are evaluated for effects on wildlife and their habitats commensurate to the risk associated with the activity, with large-scale activities often accompanied by site-specific surveys and/or habitat evaluations for some species. For groups such as threatened, endangered, and sensitive species (TES), specific survey and management direction are applied as directed in Forest Service Manual 2670. Based on the outcome of the evaluation, conservation measures intended to provide for species viability and habitat sustainability are incorporated, as appropriate. Project-level monitoring is intended to complement the additional monitoring efforts accomplished for species and/or species groups of particular interest as directed in Table V-1 from Chapter 5 (Monitoring) of the Forest Plan.

The RGNF is primarily comprised of high-elevation spruce-fir forest and aspen (53 and 20 percent of the plant community types, respectively) and thus has a high conservation responsibility for species associated with these forest types. In 2010 there was no change in the amount of spruce-fir forest or aspen available to dependent wildlife species and minor changes in the structural composition of these forest types from management activities on the RGNF. Rather, natural disturbance events associated with bark beetles continued to be the primary influence on habitat conditions in spruce-fir, especially in older stands. Based on 2010 aerial flight data, well over 200,000 acres of spruce forest on the RGNF now exhibits high levels of spruce beetle activity. While bark beetle outbreaks of this scale are known to have occurred historically in the Southern Rockies, it is likely that this event will have detectable positive effects on habitat for some species (e.g., woodpeckers) and negative effects on others (e.g., canopy-dwelling birds). Timber salvage sales continue to be planned and/or implemented across the Forest in response to the bark beetle mortality. The overall acreage trend in salvage sales in response to the bark beetle activity has increased several-fold and is expected to increase more so in the future, suggesting that implementation and effectiveness monitoring of design criteria and S&Gs for the wildlife resource as associated with salvage sales may also be increasing in importance. The increase in salvage sale activities in the spruce-fir zone, in concert with the rapid change in tree canopy conditions, suggests that additional information may be needed to assess habitat conditions for several species of conservation concern. For example, additional understory information may be important to assess where salvage treatments should be focused to protect and/or promote cover needs for snowshoe hare, which is the primary winter prey species for Canada lynx. As reported in 2009, a need has also been identified to determine if a correlation exists between summer and winter understory cover measurements in local spruce/fir types. Additional training and consistency regarding the use of the understory cover boards

amongst Region 2 lynx forests also remains an important need. Overall, all available information suggests that FY 2010 salvage sales successfully incorporated conservation measures during the planning and implementation phases. However, one district reports that improvements and additional communication regarding Forest Plan S&Gs for snag retention is needed, particularly in regards to retaining adequate snag sizes of the most desirable sizes and species mixes. One district also recommends training for the seasonal timber marking crew to help better identify and protect active nest trees as directed in the Forest Plan.

On some portions of the Forest, the range resource continues to be a potential primary factor that influences the Forest's ability to meet desired conditions for riparian-associated wildlife species, particularly MIS birds. As noted in the range resources section of this report, the Forest continues to have an imbalance in regards to the structural stages of desired rangeland vegetation, with no improving trend reported towards meeting late-seral stage conditions that are important for providing nesting, cover, and foraging values for wildlife. The range and wildlife programs will meet in FY12 and will begin a dialogue to eventually reach resolution on this issue. Numerous environmental analyses that contain provisions for riparian habitat improvement were accomplished in FY 2010. This suggests that increased monitoring of the assumptions associated with adaptive management principles will be important in future years and may require additional time and funding. Currently, rangeland conditions and trends are primarily assessed during grazing permit administration and program review, and the ability of wildlife staff to assess if conditions for wildlife species (e.g., MIS) are being met in important habitats, such as willow-riparian habitats, remains limited. This issue appears to be prevalent on one ranger district, and efforts to resolve it suggest that Wildlife Standard 21 and to some degree, Wildlife Standard 20, may not sufficiently describe desirable and/or quantifiable conditions for riparian associated wildlife species. Additional efforts (e.g., the browse evaluation training scheduled in early FY12) to define desirable conditions relative to these S&Gs are therefore recommended. The wildlife and range programs will meet in FY12 to assess these concerns and make recommendations for change, if needed. As reported in 2009, the recommendation from one district that prescribed fire projects should be allowed up to two growing seasons of rest prior to allowing livestock to graze should be carried forward for additional discussion and potential resolution in 2011. The fire/range/wildlife programs will meet in FY12 to address this concern. In 2010, one district reports difficulties in incorporating alternative options for livestock grazing on big game winter range emphasis areas (MA 5.41), which suggests that clarification may be needed regarding the emphasis associated with big game winter range S&Gs. The range and wildlife programs will meet in FY12 to address this concern. In 2010, the Forest exerted numerous efforts to better address potential conflicts between domestic sheep and native bighorn sheep through analysis and field efforts that included permit administration and monitoring and an annual interagency ground count. One district also completed an internal report describing the extensive survey efforts and findings. As reported in 2009, the 2010 monitoring information suggests that additional efforts to define and assess riparian habitat conditions for wildlife in relationship to the riparian-willow component are needed. The wildlife program intends to put additional monitoring emphasis toward this concern in the future, but will need interdisciplinary and management support to do so. Concerns from the wildlife program will be presented to the Forest Leadership Team in FY12 for discussion and resolution.

In 2010, the wildlife program conducted habitat improvement projects on 1,786 acres of National Forest Systems land. Examples of these projects include vegetative treatments (i.e., mechanical and prescribed burns) in lower elevation vegetation types and willow, owl box installations, shrub planting and pruning, wetland enclosure, noxious weed eradication, guzzler installations, beaver removals and reintroductions, and road closures and barricades. Partnership contributions remained a critical component for completing priority projects within the wildlife program, with approximately $209,000 of partnership funding and/or in-kind support reported. Habitat improvement projects were targeted at big game species, cavity-nesting birds, and riparian habitats. Post-treatment monitoring was conducted on at least 1,233 acres of big game winter range and moose browse, with new photo monitoring points established or taken of post-project conditions on two of three ranger districts.

Inventories and/or population monitoring for TES species were primarily related to project activities such as timber sales, although increased accomplishments under the Forest Monitoring and Inventory (NFIM) program were also reported. In 2010, one district on the Forest entered numerous new observation, site, and/or survey data information into the new Natural Resource Inventory System (NRIS) wildlife database. However, the numerical effort is unclear at this time as it appears the input was not finalized. The 2010 efforts indicate that improvement still needs to occur in regards to utilizing the new NRIS database. The wildlife program will continue to emphasize this need with the Forest Leadership Team. Lynx habitat baseline data were updated based on proposed projects and management activities, with projects utilizing the Programmatic Consultation Agreement (i.e., lynx screens) reported to the USFWS in an annual report. The Forest also completed and reported monitoring information associated with the use of exemptions and exceptions for the Southern Rockies Lynx Amendment. In 2010, the CDOW declared the lynx reintroduction program to be a success, and formally ended their efforts to monitor the species via the radio-collar detection and tracking program that had been in place since 2000. Although some aerial flight data continued to be gathered in 2010, the CDOW implemented a test program to detect lynx use based on a passive monitoring design comparing remote cameras, hair snares, and snow tracking techniques. The RGNF participated in this effort by providing oversight to the effort and housing for the CDOW crew. If successful, one or a combination of the techniques is expected to be used in future years to monitor lynx use and determine population trend over time. However, habitat-specific data from radio-collared lynx such as kill locations and species, den site locations, mortality, and reproduction will no longer be available unless found opportunistically during the passive monitoring efforts.

Approximately 260 acres of potential southwestern willow flycatcher habitat was surveyed to protocol in 2010, primarily in association with range activities, 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 USFWS through our year-end report to the regional office. In 2010, no individual southwestern willow flycatchers were detected on Forest land. Cooperative efforts began again regarding the development of a habitat conservation plan for the southwestern willow flycatcher in the San Luis Valley. In 2010, the Forest continued to contribute funds to and cooperate with adjacent Forests, the BLM, USFWS, Western State College, and other partners in conducting population and habitat monitoring for the endangered Uncompahgre fritillary butterfly. For the second year in a row, numbers were down at the three quantitatively sampled sites and presence could only be detected at 6 of the 11 known Uncompahgre fritillary butterfly sites. Presence on the Forest could only be detected at one of five known sites. This finding is of concern to the Uncompahgre fritillary butterfly recovery team, and will be further evaluated during and after the continued monitoring efforts for FY 2011. The one colony area on the Forest reported to have experienced impacts from livestock trampling in 2007 displayed no evidence of livestock impacts in 2010. There were no Mexican spotted owl surveys conducted on Forest land in 2010, and surveys were also limited on adjacent BLM lands. To date, the presence of this species remains unconfirmed on the Forest or in the San Luis Valley area.

In FY 2010, the Forest completed 67 biological evaluations/assessments for TES species. There were three requests for concurrence from the USFWS for project determinations and no formal consultations. The current status of the Forest's T&E species is detailed in the annual reports produced for each species and in the Wildlife, Fish, and Rare Plant (WFRP) database. One additional species, the mountain plover, was added to the Forest T&E list as a proposed species. There were also two new additions to the Forest list of candidate species (Gunnison sage-grouse and North American wolverine). Extensive small mammal surveys were conducted for one candidate species, the New Mexico meadow jumping mouse; none were detected. There was no change to the Region 2 sensitive species list for the Forest in FY 2010 except for the inclusion of the New Mexico meadow jumping mouse as a candidate. Additional interagency discussions about keeping the New Mexico meadow jumping mouse on the Forest unit species list appear warranted.

Surveys and/or monitoring for sensitive raptor species occurred on all ranger districts in 2010. In total, the districts surveyed 21 known goshawk territories and located 2 new possible nest sites. Five of the 21 territories were determined to be active, with productivity documented at 2 sites. The Forest did not receive any monitoring reports from the CDOW on boreal toads, but did receive them for game species such as elk, mule deer, pronghorn, and bighorn sheep. Information was not reported for species such as bats in 2010 due to the reorganization of the Bats/Inactive Mines Project previously associated with the CDOW and now coordinated by the Colorado Natural Heritage Program. After being detected in the eastern U.S. in the winter of 2007−08, white-nosed syndrome in bats elevated to a key issue in 2010 in Colorado after the disease was detected in nearby northwest Oklahoma. Forest Service Region 2 responded with a regionwide closure of all caves and mines, with access by humans limited to a managed permit system and strict decontamination protocols. As of this writing, white-nosed syndrome has not yet been detected in Region 2 or Colorado and the Forest is actively participating in efforts to prevent and detect it.

Survey and monitoring efforts for MIS were again conducted in 2010 on a Forestwide scale and at the project level in conjunction with some land use activities. In 2010, the Rocky Mountain Bird Observatory (RMBO) continued Statewide avian monitoring efforts using the grid-based monitoring design established in 2008 under the Monitoring Colorado Birds (MCB) program. In 2010, 9 of the 10 grid-based sites were monitored under the Monitoring Colorado Birds program. The Forest did not monitor any of the 15 supplemental MIS transects that were established in 2004 under the original Monitoring Colorado Birds program, which have been replaced by the grid transects. Based on the Monitoring Colorado Birds report for the 2010 survey effort, 63 species were detected on the Forest. Species detected include one Region 2 sensitive species, one USFWS bird of conservation concern, and four of our six avian MIS. Sampling efforts through 2008–10 appear adequate to detect desired population trends on two of the six MIS species, with two species again not being detected. No additional reports regarding status of avian MIS were received in 2010.

Monitoring data for mammalian MIS (mule deer and elk) populations for 2010 was again furnished by the CDOW. In 2010, based on recommendations that the Forest agreed with, the CDOW reduced the population objectives for mule deer in D-31 (from 6,000 to 2,000−2,500), D-36 (from 4,000 to 2,000−2,500), and D-37 (from 4,500 to 1,500−2,000). For several years previous, mule deer populations had remained consistently below objectives and the Forest conducted meetings with the CDOW to determine if habitat might be a factor. The change in mule deer population objectives now represent more realistic and achievable population objectives based on available habitat. Based on information from 2010 CDOW data, two mule deer DAUs (data analysis units) now meet population objectives, one slightly exceeds population objectives, and two remain slightly below population objectives. Overall mule deer numbers on the Forest now meet the mean population objectives established by the CDOW. In 2010, based on recommendations that the Forest agreed with, the CDOW increased the population objectives for elk in E-11 (from 1,500 to 3,000−4,000) and E-34 (from 3,700 to 4,000−5,500). The population objectives for two elk DAUs (E-26 and E-32) remained unchanged. Overall elk numbers on the Forest now exceed mean population objectives by approximately 17 percent, which is a decrease over previous years, but may warrant additional attention in some local game management units where potential habitat impacts and conflicts with domestic livestock use may be occurring.

Because of key changes in some MIS programs (e.g., Monitoring Colorado Birds program), lack of habitat information for some species, and population patterns of others (e.g., mule deer and elk), a Forestwide MIS status assessment is scheduled to be completed in FY 2012 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 and update of the Forest Avian Monitoring Protocol (2005) to incorporate the new Monitoring Colorado Birds sampling design and analyze the current sampling effort for sufficiency;

2) improve habitat monitoring and reporting for some avian MIS, especially riparian-willow species that may be influenced by program activities; and
3) review big game population status to determine if additional efforts are desired to manage elk populations, assess potential travel management impacts, and to assess what efforts could be conducted to improve habitat conditions, if needed, to better maintain mule deer populations.

In 2010, all ranger districts were successful at providing Forest Plan monitoring information for the wildlife resource. However, district responses varied and suggest that both Forest-level and project implementation monitoring would benefit from increased emphasis. The Forest wildlife biologist will continue to work with the ranger districts to emphasize the importance of the Forest monitoring program. Continued efforts to assess and improve Forest Plan implementation and effectiveness monitoring are recommended, particularly in regards to potential range influences on riparian-willow habitat goals and bark beetle/forest management influences on Forest MIS birds.

Overall, the Forest appears to be meeting the goals and desired conditions for the wildlife resource as intended in the amended Forest Plan. Conservation measures and Forest Plan S&Gs appear to be incorporated into project planning as appropriate.

**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 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 2010 include: sportfish and native fish inventories; sportfish/native fish stockings; habitat evaluations; stream culvert replacement, and a fish barrier repair. Some of these activities were completed in partnership with BLM and CDOW.

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, rainbow trout, brown trout, brook trout, Snake River cutthroat trout, kokanee salmon, and splake. Sportfish inventories on the Forest using electrofishing and gill nets were conducted on nine streams and four reservoirs/lakes. 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 2010 for native fish include population monitoring and evaluation, wilderness stockings, stream crossing inventories and culvert replacement, and stream migration barrier repair. Density, biomass, and population estimates were conducted on four Rio Grande cutthroat trout streams. Approximately 100,000 fingerling Rio Grande cutthroat trout were stocked into Forest lakes and streams in 2010.

Rio Grande cutthroat trout are currently found in 57 streams and 62 lakes/reservoirs on the Forest, totaling approximately 350 stream miles and 1,900 surface acres, respectively. Rio Grande cutthroat trout populations are divided into three categories based upon genetic purity: core populations (greater than 99 percent pure), conservation populations (greater than 90 percent pure), and recreation populations (Rio Grande cutthroat trout coexisting with nonnative trout species). Of the 57 streams, 30 of the streams and 3 lakes are considered core or conservation populations and 27 streams and 59 lakes/reservoirs are considered recreation populations. The number of Rio Grande cutthroat trout recreation populations should remain fairly constant on the Forest because they are stocked by CDOW.

Eight streams on the Forest support small, introduced Rio Grande sucker populations. Only one viable population of Rio Grande chub is known to exist on the Forest and it is located in the Alamosa River between Silver Lakes and Terrace Reservoir.

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 range from less than desirable population parameters, to increased populations of nonnative species, to entire loss of populations. The Forestwide 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 on impacts from nonnative trout and relatively short occupied stream lengths (and not from impacts from Forest-related activities or projects). Self-sustaining nonnative trout populations are widespread throughout the perennial streams across the Forest. Habitat concerns appear to be site specific and not an overall threat to trout populations across the Forest; although some sections of Middle Fork Carnero Creek (native trout fishery) and Road Canyon Reservoir (nonnative fishery) are experiencing degraded conditions that appear to be impacting trout density and biomass.

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

## *Fire and Fuels Management*

### Monitoring Requirements

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 2010, 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. The Forest fuels program treated approximately 2,300 acres of hazardous fuels. Where fire treatments were implemented (approximately 1,680 acres), results were favorable. Mechanical fuels treatment options continue to be used (approximately 620 acres). Mechanical treatments 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. Planning and implementation in these areas has addressed the silvicultural and fuel hazard mitigation objectives. Approximately 300 additional acres received secondary fuels treatment, primarily through the timber sale program.

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 having the potential for unacceptable resource impacts, the Forest Plan provides adequate direction and needs no significant changes in fire and fuels management.

The February 13, 2009, document “Guidance for Implementation of Federal Wildland Fire Management Policy” and the April 9, 2009, WO memo “Updated Guidance for Implementation of Federal Wildland Fire Management Policy” have been incorporated into the Forest’s program. There are still some terminology changes that may need to be addressed regarding terms used in the Forest Plan.

## 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 RGNF is unable to meet general infrastructure maintenance and survey needs due to personnel shortage but is working on filling key vacancies.

## 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 through monthly safety sessions and daily tailgate sessions.

## Heritage (Cultural) Resources

### Monitoring Requirements

Monitoring is based on the condition evaluation for heritage 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, 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 monitoring in 2009, it was discovered the Off Cow Camp cabin and barn (5RN315) and the Fitton Guard Station barn (5RN314) were being adversely impacted by cattle grazing. The Off Cow Camp and the Fitton Guard Station Complex are both eligible to the National Register of Historic Places. To address the impacts, American Recovery and Restoration Act funding was secured to restore the structures and construct fencing to prevent cattle from encroaching. This work was achieved in 2010 through a partnership with *Historicorps;* a public/private organization committed to historic preservation. Monitoring in 2010 revealed that the work on the Off Cow Camp and the Fitton Guard Station Complex was done to the Secretary of the Interior's Standards for Historic Preservation and that the structures are being protected from cattle impacts.

Monitoring of the River Springs CCC Work Station (5CN794) in 2010 revealed a serious problem with ice dams forming on the Ranger's House that was causing water damage to interior walls. It was also noted that the exterior paint and trim on all the buildings was peeling profusely. To address the impacts, American Recovery and Restoration Act funding was secured to replace interior dry wall, to install heat tape on the roof, and to re-paint all the structures to the original Forest Service colors of yellow and brown. This work was achieved in 2010 through a partnership with *Historicorps* and the Conejos County Community Youth Corps.

Monitoring in 2010 revealed that the work on the River Springs Work center was done to the Secretary of the Interior's Standards for Historic Preservation. No ice dams are currently forming on the roof of the Ranger House due to the installation of the heat tape.

During a monitoring trip in 2009 for the South Saguache Range Analysis (Saguache Ranger District), eligible prehistoric site 5SH1446 was monitored. The visit revealed that livestock are loafing on the site and causing substantial soil erosion. To mitigate for adverse effects, trees were felled on the site in 2010 to discourage use by livestock. Monitoring in 2010 ensured that the felling of trees on site would not damage it in anyway. The site will be monitored in 2011 to gauge the efficacy of the mitigation.

In April of 2009, a Condition Assessment was completed for the Creede Clay Mine (5ML329) that is eligible to the National Register of Historic Places and consisdered a Forest Priority Heritage Asset. During the Assessment, it came to the Forest's attention that the private land owner that owns the short strip of land between Highway 149 (Silver Thread) and the Clay Mine on Forest land will not grant access to the site to fascilitate historc restoration or rehabilitation. In 2010, the district ranger and the heritage program manager made contact with the land owner and negotiatiated access so that the Clay Mine could be stabilized in 2011.

An historic culvert associated with the Cumbres & Toltec Railroad was also monitored in 2010. Consultation with Coloroado State Historic Preservation Office on the installation of a fish barrier adjacent to the culvert determined that the splash pad will not impact the culvert and may infact help stabilize sagging concrete wing walls aattached to the culvert over Wolf Creek.

The eligible Duncan Cabin (5SH3484) was monitored in 2010 and it was noted that the Liberty Road directly adjacent to the structure may be having an impact on its foundation. Additionally, within the associated Duncan Gold Camp, there needs to be one designated route through the site to the inholdings above, as opposed to the spider web of roads that currently criss-cross the site.

In January of 2010, the Rio Grande County Museum, where the RGNF housed the bulk of its artifact assemblage, suddenly closed its doors. Monitoring of the facility revealed that, without a curator on staff, the RGNF would be out of compliance with 36 CFR 79 (Curation of federally-owned and administered archaeological collections) that provides standards for Federal collections and curation facilities. To address the problem, the agreement with Rio Grande County Museum was cancelled and a new agreement was developed with the Great Sand Dunes National Park and their curation facility. All RGNF artifacts are now housed at the Great Sand Dunes National Park and are now in compliance with 36 CFR 79.

The monitoring of heritage resources not associated with a specific project and that have the potential to be vandalized will continue to be monitored in compliance with established S&Gs. A review of project-level heritage resource inventory reports for FY 2010 indicates that projects with the potential to impact heritage resources are being inventoried and protective measures are adequate.

The Tribal Consultation Bulletin was not completed during FY 2010 due to ARRA workloads within the Heritage Program. However, initial consultation occurred on a project-by-project basis. Final signatures were secured for the San Luis Valley Interagency (NPS, FS, BLM, USFWS) and Intertribal (Ute, Jicarilla Apache, Eastern/Western Pueblos) Native American Graves Protection and Repatriation Act (NAGPRA) Memorandum of Understanding (MOU) that guides the treatment of inadvertent discoveries and culturally unidentifiable human remains within the San Luis Valley. Several sets of culturally unidentifiable human remains from RGNF are currently housed at the Anasazi Heritage Museum in Dolores, Colorado. Consultation to repatriate the remains is planned during 2011.

## *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. There was no oil and gas leasing or development on the Forest in 2010. The Rio Grande National Forest approved one plan of operations for exploration of locatable minerals, in Mineral County, following an Environmental Assessment completed in the summer of 2010.

Reclamation activities from mineral exploration conducted in both 2009 and 2010 were monitored. A portion of the final reclamation at the Big 6 Mine was completed and surface water sampling was no longer required as it was in the previous report. Further monitoring of the surface disturbance illustrated a need for continued efforts to manage a small portion of noxious weeds located on site. Bonding for this project will not be released until the reclamation efforts have exhibited signs of success. Water sampling and monitoring was conducted periodically along Miner's Creek and one monitoring well was drilled down gradient between the Big 6 Mine and Miner's Creek. Water levels at this monitoring well were determined to be far below the inferred water table and the well was abandoned.

The monitoring of reclamation activities conducted on drill pads and road construction in Windy Gulch area have been determined to be moderately successful, however, additional work is required as re-vegetation has not been successful due to insufficient or ineffective seeding tactics. Reseeding will occur in the fall of 2011 and will be monitored prior to bond release.

The continued monitoring of the reclamation associated with the two approved plans of operations from 2009 will be ongoing for multiple years following the cessation of operations. Surface disturbing activities associated with the one approved locatable minerals exploration plan from 2010 include road maintenance and construction, as well as, drill pad construction have been inspected and monitored periodically for operating plan conformance and compliance. Issues associated with the exploration activities have been minimal and the operation is in compliance with regulations and the Forest Plan.

The Forest continued to monitor water quality in Windy Gulch below the Bulldog Mine in Mineral County. In addition, the reclamation, re-vegetation, and monitoring of abandoned mine sites in the Embargo Creek area, Liberty Mining District, Wild Cherry Mining District, and the Bonanza Mining District took place throughout the summer and fall of 2010. 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 2010 on a very limited scale due to a severe reduction in the NFVW noxious weed budget. 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 cheatgrass). The Forest treated 29 acres of noxious weeds in 2010. Acres treated were funded by NFVW (20 acres) and CWKV (9 acres). This reduction in treated acres is the result of a severe cut in the NFVW budget due to the regional office redirecting NFVW funds to the "bark beetle forests" within the region. No seasonal work force was funded for the program. "Pulling for Colorado" volunteers (30) accounted for 8 of the NFVW acres treated. When/if weed dollars become available chemical treatment of weeds will resume around Platoro because of the increase in oxeye daisy and Canada thistle in the area. We have tried mechanical (hand pulling and insects) to no avail; but will continue working with the community of Platoro.

Prior to 2010 the Forest Plan noxious weed management objectives were being met, but due to future budget declines, we probably will not meet the objectives. At this time, there is no need to make changes to the Forest Plan noxious weed management direction. We are currently working with the San Juan National Forest to update the existing 1996 weed treatment Environmental Assessment (EA) which was a joint effort between the two forests in 1996. Updated biological assessments/evaluations (BAs/BEs) for plants, fish, and wildlife have been or are nearly completed. The wildlife BA/BE has already been through consultation with the USFWS. The new BLM invasives EA, completed in 2009, has been fully implemented on BLM lands within the PLC.

There continues to be an increase in noxious weeds, in particular cheatgrass (downy brome) and black henbane within the PLC. These and other species will spread rapidly if we are unable to resume an aggressive treatment program in the very near future.

## *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 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 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 2009 indicated that while there are a variety of seral stages found throughout the Forest, there is an imbalance of seral-stage classes with 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 2010 grazing season, about 97 percent of the allowable numbers of livestock were grazed on the RGNF. During the past several years the rainy season has arrived 2 to 3 weeks later than normal. During 2010 the Forest and adjacent BLM lands were experiencing a below average rainfall (rains were a month late and very spotty). The rainfall was better than that experienced during the 2002−2003 drought, but was even more scattered and undependable than was experienced prior to the 2002 drought. Several allotments brought their cattle home early to reduce the risk of damaging the vegetation. Allotment analysis, data collection, and getting the Forest back on track with the Rescissions Act schedule has been a major emphasis for this year. NEPA decisions

were signed affecting 33 individual allotments in FY 2010. This effort has resulted in the completion of 99 allotment decisions in the past 4 years compared to 17 in the previous 10 years (1996–2006). Due to the severe reduction in the 2010 NFRG and NFVW budgets for range, new data was collected on only two range allotments scheduled for completion in 2011. Completion of these two allotments will depend entirely on the outcome of the 2011 budget for range. As of the end of 2010, the RGNF has eight cattle and eight sheep allotments without current NEPA decisions; of these, one cattle allotment is a vacant and four sheep allotments are vacant.

The range program has determined there is a need for a lead in the data management portion of the program since we are not up to date on several of our required data bases. We have assigned one range conservationist to take the lead and work with the other offices to help update and maintain the NRIS, Infra, and FACT's data bases. This will decrease the individual's other range-related work, but it is important to remedy several of the deficiencies we have identified in the range program. The range program has proposed to fill two range positions (a GS-454 and a GS-455) when /if funding becomes available.

Overall, the Forest Plan objectives for range are being met and no changes or adjustments in the Forest Plan have been identified.

## *Recreation*

### Monitoring Requirements

**Developed Recreation.** Developed recreation sites are monitored to assess: (1) visitor expectations, trends, and customer satisfaction; and (2) 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 S&Gs.

**Dispersed Recreation.** The Forest will monitor effects of its travel management plan, including all-terrain vehicle 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 S&Gs.

**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 nonmotorized recreation trail use, levels and type of use, areas of conflicts, identification of areas of concentrated use, and other resource impacts (biological and physical). Backcountry areas will be evaluated relative to Forest Plan goals and objectives and S&Gs.

**Wild and Scenic Rivers.** Monitoring will be reported based on the assessment of resource management activities that occur within one river corridor every 3 years. River corridors will be evaluated relative to Forest Plan goals and objectives and S&Gs every 3 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 S&Gs.

### 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. Additionally, the initial perception from the National Visitor Use Monitoring completed in 2010 suggests that the majority of users are satisfied with the Forest recreation sites.

***Developed Sites*:** The campground concessionaire, AL&L, operated to standard on the Conejos Peak and Divide Ranger districts:

- 26 campgrounds,
- 6 picnic areas,
- 5 trailheads,
- 2 boat ramps, and 1 observation site.

In addition to the sites maintained by AL&L, the Divide Ranger District maintained to standard:

- 34 trailheads
- 4 boating sites,
- 7 additional campgrounds (Cathedral, Ivy Creek, Lost Trail, Road Canyon, Hanson's Mill, Crooked Creek, and Rio Grande campgrounds),
- 7 fishing sites (Road Canyon, Continental Reservoir, Million Reservoir, Poage Lake, Pass Creek, Tucker Ponds, and Alberta Lake),
- 1 observation site (Lobo Overlook),
- 6 interpretive sites (Highway 149 Moose, Bachelor Loop, Wagon Wheel Gap, Highway 149, Brown/Hermit Lakes, and Columbine),
- 1 rental cabin (Alder), and
- 3 picnic sites (Love Lake, Road Canyon, and Rio Grande Reservoir).

Aside from AL&L, the Conejos Peak Ranger District maintained to standard:

- 16 trailheads (Hot Creek, Valdez, Tobacco Lake, Bear Lake, Cumbres Pass, Duck Lake, Cat Creek, Chama Basin, Adams Fork, Three Forks, Ruybalid, Red Lake, Continental Divide National Scenic Trail #813, South Fork, Rock Creek, and Elk Creek trailheads),
- the Alamosa and Stunner campgrounds, and
- 3 rental cabins.

Additionally, AL&L also monitored the Alamosa and Stunner campgrounds by helping to clean bathrooms and clean camping areas. The district also maintained one BLM day use site.

The Saguache Ranger District operated and maintained to standard:

- 7 campgrounds (including one BLM campground),
- 2 picnic areas,
- 16 trailheads, and
- 4 rental cabins.

The district also maintained one BLM day-use recreation site and campground to standard.

***American Recovery and Reinvestment Act*:** In 2010, the American Reinvestment and Recovery Act funded a number of recreation site improvement projects across the Forest to reduce deferred maintenance and improve

accessibility. Across the Forest, 25 campgrounds, 6 picnic areas, 16 trail heads, 5 river access points were improved and 5 trail bridges replaced. American Reinvestment and Recovery Act-funded projects were the Forest priority in FY 2010. This significant increase in workload left some areas of monitoring incomplete, such as the monitoring for wild and scenic rivers (which will resume in FY2011).

***Ski Area*:** Summer and winter operating plans for the Wolf Creek Ski Area were completed and approved in FY 2010. The master development plan needs to be updated before any further development is authorized at the ski area.

***Special Uses***: The Divide Ranger District administered 44 of 86 recreation special use permits to standard. The Conejos Peak Ranger District administered 25 permits with 12 to standard.

***Outfitter/Guides***:

*Divide Ranger District:*

- Outfitter/Guides: 1 of 25 administered to standard
- Recreation Events: 2 of 5 administered to standard
- Organized Camps: 1 of 1 administered to standard
- Shelters (Yurts): 0 of 3 administered to standard
- Recreation Residences: 38 of 42 administered to standard
- Resorts: 0 of 1 administered to standard
- Target Range: 0 of 1 administered to standard
- Snow Play: 0 of 4 administered to standard
- Non-commercial group use: 2 of 2 administered to standard
- Summary for FY 2009: 44 special-use permits administered to standard

*Conejos Peak Ranger District*:

- Outfitter/Guides: 11 permits
- Recreation Events: 3 permits (3 to standard)
- Recreation Residences: 9 permits ( 9 to standard)
- Shelter (Yurts): 1 permit
- Non-commercial Group: 1 permit

**Dispersed Recreation.**

***Trails*:** Trail condition surveys were completed as follows. Divide Ranger District completed two trails, Frisco Fitton #984 Trail and West Frisco #850 Trail. Conejos Peak Ranger District completed Hot Creek Trail #708.

Approximately 250 miles of trail, both motorized and nonmotorized were maintained to standard. The majority of trail maintenance was completed by the use of Colorado State Parks OHV grants and American Reinvestment and Recovery Act-funded Southwest Conservation Corps trail crews. Trail maintenance was completed on the following trails:

South Zapata #82,
North Fork Zapata #868,
Silver Mountain #704,
Ruybalid Trail #855;

Bear Lake and Bear Lake Cut-off #721 and #721.1,
North Fork Trail and North Fork Cut-off #714 and #714.1,
El Rito Azul #718,
Ivy Creek Trail #805,
Sawtooth Trail #828,
East Trout #810,
Middle Frisco Trail #879,
Trout Creek Trail #811 and Wheel Trail #790 & Loop 790.1,
Hope Creek Trail,
Squaw Creek Trail,
Squaw Lake Trail,
Highline Trail,
Ute Creek Trail,
Weminuche Creek Trail,
Archuleta Creek Trail,
Castle Rock Trail,
Schrader Trail,
Alder Bench Trail,
West Alder Trail,
Trout Creek #831,
West Lost Trail,
Pole Creek Trail,
Groundhog Trail,
Benino Creek Trail,
LaGarita Creek cutoff trail,
Shady Creek Trail,
Middle Alder Creek Trail,
West Bear Creek Trail,
Bear Creek Trail, and
Deep Creek Trail.

Additional work was performed on the Continental Divide National Scenic Trail. The southern portion of the Continental Divide National Scenic Trail #813 was re-routed in FY 2008 due to a timber sale to remove beetle infested timber. In FY 2010 the original section of trail was reopened and the temporary re-routed section closed. Trail maintenance was completed on the Continental Divide National Scenic Trail #813 at Piedra Pass by the Continental Divide Trail Alliance volunteer crew.

***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 2010. The ranger districts are continuing to review and update the maps for the public annually.

***All-terrain Vehicle Big Game Retrieval***: The Forest continued efforts to monitor ATV big game retrieval in FY 2010. Informal interviews were conducted with hunters to determine the extent to which they understood the afternoon big game retrieval policy. 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 specifically 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 continues to work to correct errors to the inventoried roadless area boundaries.

***Wild and Scenic Rivers***: Wild and scenic river corridor monitoring was not performed in FY 2010. One river corridor should be monitored every 3 years or during project-level planning within a river corridor. Wild and scenic river corridor monitoring is scheduled for 2011.

***Wilderness***: Wilderness monitoring took place on the South San Juan and the Weminuche Wilderness area. Air quality or atmospheric conditions were monitored through the high lake monitoring program. Campsite inventories occurred as well as encounters and trailhead registration monitoring. Overall, the Forest Plan recreation and wilderness objectives are being met.

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

## *Research and Information Needs*

### Monitoring Requirements

There is no specific legal requirement to monitor progress on research and information needs. However, the Forest believes it is wise to identify important needs and to track them in the monitoring report.

### 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, (3) collection of floral and faunal occurrence data for inclusion in the Colorado Natural Heritage Program Biological Database, (4) updating and improving the infrastructure (INFRA) database, and (5) range condition baseline data.

## *Research Natural Areas (RNAs)*

### Monitoring Requirements

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

### State of the Resource

The Mill Creek Research Natural Area was visited and visually evaluated. The majority of the research natural area 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 2010, 10.1 miles of unclassified road were decommissioned on the Forest. Approximately 198 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 2010. In order to obtain scenic resources objectives, a project should comply with scenic integrity objectives 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 scenic integrity objectives. The Wolf Creek project is ongoing as development continues.

The Highway 160 Expansion Project is being monitored for scenic integrity objectives. The new construction at the Lake Fork Trailhead and parking area is complete as of November 2009 and meets the scenic integrity objective of "high." Previous construction projects are as follows: retaining wall staining marginally meets the scenic integrity objectives for the corridor above the new tunnel construction. Rock cuts across from the Fun Valley Campground Resort do not meet the Forest Plan scenic integrity objectives as mapped "high"; however, the rock cuts can be considered to meet the objective of "moderate" to "low." Changes to the Colorado Department of Transportation specifications were made and the new phase of the project better meets the scenic integrity objective 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 scenic integrity objectives 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 scenic integrity objectives for the Highway 160 corridor. The rock storage area is continually monitored and is coming into compliance as revegetation continues; however, the rock storage is still in continual use. As of fall of 2010, the rock storage area has new growth along the berms on the Highway 160 corridor. These areas will continue to be monitored through project completion (approximately during the year 2015). County Line Timber Sale is still being monitored since 2008 for changes to the scenic integrity objective. It currently does not meet the objective of moderate because of the harvesting activities and a blowdown event. This area will be continually monitored for changes to the scenic resources.

North Clear Creek Falls meets the scenic integrity objective of "high" along the Silver Thread Scenic Byway. Due to new construction, it now meets the health and safety requirements. This site will be continuously monitored until the project is closed out in 2012.

There is a need to make changes to the Forest Plan's scenic resource direction during the next Forest Plan revision to update the S&Gs.

## *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 2010, 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 over 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 erosion has been occurring at accelerated rates or there are unmitigated impacts, such as compaction.

**Monitoring Site #1**: *Rangeland Health Monitoring of Allotments within the Sagauche Park, Crooked Creek and Shallow Creek areas*. Soil health assessment continued on these analysis areas in the summer of 2010. Over the broad extent, soils met Forest Plan desired conditions within the allotments. Isolated concern areas were described and documented.

**Monitoring Site #2**: *Burro-Blowout Analysis Area*. Soil health was evaluated in the analysis area, focusing on harvested units. One unit that was being harvested and one that was winter logged were evaluated to ensure that Forest Plan standards were met and if mitigation measures would be needed. In general detrimental soil disturbances were within Forest Plan standards.

**Monitoring Site # 3:** *Divide High Country Sheep Allotments – Stoney Pass.* Soils health assessments indicate that the soils generally are in a properly functioning condition, with minor areas of concern which are documented and described. These are generally associated with small areas along streams, stream crossings, and trails to water sources.

## *Special Interest Areas (SIAs)*

### Monitoring Requirements

Monitoring will be reported based on on-site inspections of designated special interest areas every 5 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.

The Wagon Wheel Gap Watershed Experiment Station Special Interest Area (historical) was visually monitored. There were no noticeable impacts relating to the area noted during the review.

The RGNF has recently received 13,000 acres of new land into the National Forest System known as the Baca Mountain Tract. A portion of this land was designated as a special interest area due to its unique cultural values. The Heritage Program will be submitting a grant to the State Historic Fund in 2011. If the funding is received, the Forest will implement a cultural landscape survey that will aid in the understanding of the land's culture history. From these data, a special interest area management plan will be written.

## *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

Forested lands across the Forest are generally assumed to reflect composition, structure, and pattern with a natural range of variability as described in Appendix A of the Final Environmental Impact Statement for the 1996 Revised Land and Resource Management Plan.

The current insect epidemic affecting forests across the Rocky Mountain Region, including the Rio Grande National Forest, is not unusual. According to Romme *et al.* (2006)[1] it is not unprecedented to have roughly a 100-year period of low insect activity followed by an extensive insect outbreak. Furthermore, the initiation of bark beetle outbreaks is often associated with drought, which the Forest experienced in the early 2000s.

Some short-term human influences have affected, and are still affecting, the composition, structure, and pattern of forested communities, particularly lower-elevation forest cover types that typically experience higher rates of fire return interval disturbance, for example. Human influences can include either management action, such as timber harvest, or inaction that allows other disturbance factors to dominate across the landscape.

Onsite field monitoring during the spring-to-fall field season of 2010 occurred primarily within past timber sale boundaries, or other areas being planned for future timber sales, and are discussed in the following sections.

**Restocking*:*** Reforestation of areas harvested since the mid-1970s, when the Forest changed from mostly even-aged clearcutting to other regeneration harvest systems, such as two-aged shelterwood and uneven-aged management systems, have been consistently successful with natural regeneration establishment occurring from retained seed tree and surrounding seedwalls sources. Artificial planting after clearcutting has also been consistently successful. The naturally developing annual addition of germinants that commonly develop into seedlings and then saplings, etc., often referred to as advanced regeneration in more mature stands, continues to add to stocking levels in most conifer types regardless whether stands were naturally regenerated or planted. Most conifers begin to develop cones with viable seed by about 20 years of age. The determinant whether trees establish in these smaller openings or not is largely controlled by available growing space, competition factors (i.e., sunlight, moisture, and nutrients), and the silvics of the tree itself (i.e., tolerance or intolerance to shade). Where supplemental stocking has been needed, either to meet species diversity objectives or the 5-year reforestation timeframe requirement specified in NFMA, artificial planting is prescribed, planned and implemented. It should be noted that the 5-year timeframe is a legal requirement, not a biological capability of some tree species whose reforestation timeframes are longer and largely dependent on “good seed years.”

Recently, only the Million Fire salvage sale has required some artificial planting of locally adapted tree species to meet adequately stocked conditions, resulting from the landscape-level deforestation caused by the Million Fire in 2002 that impacted over 11,000 acres.

[1] Romme, W.H., J. Clement, J. Hicke, D. Kulakowski, L. H. MacDonald, T. Schoennagel, and T. T. Veblen. 2006. Recent forest insect outbreaks and fire risk in Colorado forests: a brief synthesis of relevant research. Colorado Forest Restoration Institute, Fort Collins, CO.

A recent need has been identified to assess the development and stocking levels of seedlings/saplings within group selection harvest units across the Forest to ensure they are satisfactorily progressing as prescribed in silvicultural prescriptions.

Table 1 below lists projects/sales where stocking surveys were needed and/or conducted to assess reforestation success, whether reforestation was by natural regeneration or artificial planting, as well as the percent survival by survey-year type. In general, reforestation progress is proceeding as planned. Where stocking anomalies occur that affect the planned trajectory to certification of reforestation establishment, appropriate measures (e.g., planting) would be undertaken to ensure stands are adequately stocked within the 5-year reforestation timeframe requirement. Example of anomalies include mortality caused by animal damage, insects, disease, other disturbance, or other changed conditions such as those resulting from a change in climate, or wildfire. An assessment of suitable and adequate stocking occurs throughout the life of managed stands.

A summary of 2010 stocking survey and survival percent accomplishments is displayed in table 1, along with previous survey results and future planned surveys.

**Table 1. Stocking survey and survival percent table, 2010**

| Project/ Sale | Acres | Units | Plant or NR | Stocking Surveys & Survival % | | | Comments |
|---|---|---|---|---|---|---|---|
| | | | | 1st | 3rd | 5th | |
| Wolf Beetle Salvage | 289 | | NR | TBD | TBD | TBD | Sale is still active with all units being treated. |
| Grouse Salvage | 810 | | NR | 2011<br>Rng=<br>X= | 2013<br>Rng=<br>X= | 2015 | Sale is still active with all units being treated. |
| Marble Beetle Salvage | 84 | | NR | 2011<br>Rng=<br>X= | 2013<br>Rng=<br>X= | 2015 | |
| Long Lost Cabin | 1,341 | all | NR | 2010<br>Rng=39−94%<br>X= | 2012 | 2014 | First year assessment not yet completed. |
| Little Kerber Salvage | 83 | All | NR | 2010<br>Rng=0−22%<br>X= | 2012 | 2014 | Need for planting will be assessed in 2012. Ongoing mountain pine beetle infestation continues to impact stocking levels. |
| Million Fire Salvage [1] | 160 | 4 | 2008 fall plant | 2009<br>Rng=12−76%<br>X=59% | 2011<br>Rng=<br>X= | 2013 | |
| Twister II Salvage | 261 | | NR | 2009<br>Rng=<br>X=95% | 2011<br>Rng=<br>X= | 2011 | |
| November Salvage | 25 | 5 | NR | 2008 | 2010<br>Rng=<br>X= | n/a | Certification of NR w/ site prep in 2010. |
| Million Fire Salvage | 748 | | NR | 2008<br>Rng=<br>X= | 2010<br>Rng=<br>X=100% | n/a | Certification of NR w/o site prep |
| Black Mountain Beetle Salvage | 672 | | NR | 2008<br>Rng=<br>X= | 2010<br>Rng=<br>X= | 2012 | Walkthrough survey conducted in 2008. General observations and no data gathered. Appeared adequately stocked. |
| Drill Pad Salvage | 77 | 1 | NR | 2008<br>Rng=<br>X= | 2010<br>Rng=<br>X= | 2012 | 48 acres planted in 2005. Replanted 25 acres in 2007. |
| Drill Pad Salvage | 48 | 1 | NR | 2008<br>Rng=<br>X= 35% | 2010<br>Rng=<br>X= | 2012 | Certified as adequately stocked. Aspen sprouting ongoing. |
| Shaw Lake Salvage | 241 | | NR | 2008<br>Rng=<br>X=80% | 2010<br>Rng=<br>X=80% | 2012 | 40 acres of walkthrough completed in 2010. |

| Project/ Sale | Acres | Units | Plant or NR | Stocking Surveys & Survival % | | | Comments |
|---|---|---|---|---|---|---|---|
| | | | | 1st | 3rd | 5th | |
| Finger Mesa Salvage | 498 | | NR | 2008<br>Rng=<br>X=74% | 2010<br>Rng=<br>X= | 2012 | |
| Buffalo Pass Salvage | 164 | | NR | 2008<br>Rng=<br>X= | 2010<br>Rng=<br>X= | 2012 | |
| Twister Salvage | 60 | 5 | NR | 2006<br>Rng=<br>X= | 2008<br>Rng=<br>X= | 2010<br>Rng=67−91%<br>X=79% | Certified as adequately stocked. |
| Drill Pad Salvage | 17 | 1 | NR | 2006<br>Rng=<br>X= | 2008<br>Rng=<br>X= | 2010<br>Rng=<br>X=26% | Aspen sprouting ongoing. Will assess in 2011. |
| Million Fire Salvage | 1,985 | | NR | 2005<br>Rng=<br>X= | 2007<br>Rng=<br>X= | 2009<br>Rng=<br>X=100% | Certification of NR w/o site prep |

[1] A combination of poor planting stock, heavy competition from grass and forbs, or harsh planting sites attribute to the poor survival rates in some of the units. An assessment will be made in the spring of 2011 on the steps needed to ensure an adequate stocking level.

*Source:* Annual Forest Health Protection Report submitted to the Gunnison Service Center, on file at the Headquarters of the Rio Grande National Forest, Monte Vista, Colo.

**Harvest Openings and Size of Openings*:*** Harvest openings after the enactment of NFMA in 1976 have been designed to be less than the 40-acre limit set for the Rocky Mountain Region. Past openings exceeding the 40-acre limit generally trace back to clearcutting in the 1960s and early 1970s, and prior to enactment of NFMA. The vast majority of these pre-NFMA harvested areas is adequately stocked with sapling or pole-sized trees and are no longer determined to be openings.

Past harvest units are periodically inspected during routine silvicultural monitoring surveys to assess stand development over time and to ensure they remain on planned trajectories to meet desired stand and landscape conditions outlined in site-specific silvicultural prescriptions and described in the Forest Plan. Any significant change potentially affecting stand development is brought to the attention of the attending silviculturist for potential treatment remediation.

**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 biological assessment. Timber suitability has been, and will continue to be, evaluated during the landscape and project-level planning phase for all timber sales.

The Del Norte Peak Blowdown Salvage EA Decision Notice was signed in February 2010 and the Rio de los Pinos FEIS Record of Decision was signed in April 2010. NEPA planning and analysis continued on the proposed Big Moose Vegetation Project EIS begun in 2008, with a decision expected in March 2011. Determinations of suitability for these projects were completed in previous years, which allowed the projects to move forward to the NEPA analysis stage and finally a decision. A NFMA assessment and determination of suitability was conducted on both the Black Mesa and Cumbres Vegetation Projects in late 2010, both new starts. NEPA planning and analysis is underway on both of these projects in 2011, with decisions expected in mid 2013.

**Insect and Disease Infestation:** Forestry personnel have been actively monitoring insect and disease activities across the Forest, with the assistance from entomologists and pathologists working out of the Gunnison Forest Health Protection Service Center in Gunnison, Colorado. While there has been some success in control activities, the overall condition of forest health is declining with serious levels of recent insect outbreaks, likely related to the extended drought and mild winter temperatures. Additionally, many of the areas with insect and disease problems occur in the habitat and habitat linkages for the TES Canada lynx. Control strategies for effectively treating stands negatively impacted by insect and disease populations within lynx habitat are severely limited.

***Forest–wide Assessments:***

The Forest is working with the Gunnison Service Center in preparing a Forestwide Insect and Disease Condition Assessment. This project was initiated in early spring of 2009 and is expected to be completed by early spring of 2011. Information from this assessment will be used to better evaluate forest health conditions and to help focus needed management treatment in the future.

The Forest also plans to initiate a Bark Beetle Rapid Assessment Project in FY2011 to identify priority treatment needs and to develop response options to the rapidly expanding spruce bark beetle epidemic that has affected about 350,000 acres in the high elevation spruce-fir cover type. Other bark beetle-affected cover types will be assessed as well. Information from the assessment will be used to focus NEPA planning efforts and to direct treatment to areas where human health and safety is at greatest risk from large numbers of standing dead trees that will eventually fall down; as well as where infrastructure developments, such as powerlines, campgrounds, picnic areas, hiking trails, and heavily traveled roads, etc., are also at great risk from large numbers of standing dead trees that will eventually fall down.

Spruce bark beetle populations and infested acres have expanded from 2002 to 2010 across the Forest, as displayed in table 2.

**Table 2. Spruce bark beetle infested and cumulative infested acres by year, 2002−2010**

| Year | Infested Acres | Cumulative Infested Acres |
|---|---|---|
| 2002 | 324 | 324 |
| 2003 | n/a | 324 |
| 2004 | 156 | 480 |
| 2005 | 54,344 | 54,824 |
| 2006 | 13,226 | 68,050 |
| 2007 | 47.836 | 115,886 |
| 2008 | 38,598 | 154,484 |
| 2009 | 79,970 | 234,454 |
| 2010 | 100,318 | 334,772 |
| **Total** | **334,772** | **334,772** |

*Source:* Annual aerial detection survey results, conducted by Forest Health Protection, on file at the Headquarters of the Rio Grande National Forest, Monte Vista, Colo.

***Ranger District Surveys and Treatments:***

Divide Ranger District – Del Norte, CO

A summary of 2010 project/sale survey and treatment acre accomplishments is displayed in table 3. A summary of the ongoing treatment and monitoring activities by year is displayed in table 4.

Table 3. 2010 project/sale survey and treatment acre accomplishments

| Project/Sale | Pre-treatment Surveys Acres | Treated Acres | Post-treatment Surveys/ Monitoring Acres |
|---|---|---|---|
| Big Meadows Campground Salvage | - | - | 30 |
| Marble Beetle Salvage | - | - | 85 |
| Rock Creek Beetle Salvage | - | 143 | - |
| Bennett I Beetle Salvage | - | 173 | - |
| Kolish Sawlogs | - | 10 | - |
| Del Norte Peak Blowdown Salvage | 30 | - | - |
| Baldy Beetle Salvage | 349 | - | - |
| Broken Whiskey Beetle Salvage | 256 | - | - |
| Fox Mountain | 376 | - | - |
| Bristol Head/Spring Creek | 750 | - | - |
| Horsethief | 1,000 | - | - |
| Hunters Lake/ Shaw Lake Metroz | 1,700 | - | - |
| Lobo/Alberta Lake | 500 | - | - |
| Fox Mountain | 1,000 | - | - |
| Heart Mountain/Big Meadows | 1,000 | - | - |
| Pool Table | 1,000 | - | - |
| Tiny Beaver/Demijohn | 1,000 | - | - |
| Campo Molino | 800 | - | - |
| Seven Park | 1,000 | - | - |
| Ford/Five Mile | 500 | - | - |
| Poage Lake/Cross Creek | 1,500 | - | - |
| Summitville/Elwood/ Grayback Mountain | 2,000 | - | - |
| Tucker Ponds/Campo Molino | 500 | - | - |
| Ground Hog | 1,000 | - | - |
| **Totals** | **16,261** | **326** | **115** |

*Source:* Annual Forest Health Protection Report submitted to the Gunnison Service Center, on file. At the Headquarters of the Rio Grande National Forest, Monte Vista, Colo.

Table 4. Ongoing treatment and monitoring activities by year

| Project/Sale | Contract Sold | Treatments [1] | Bark Beetle Monitoring | Contract Termination | Comments |
|---|---|---|---|---|---|
| Del Norte Peak Blowdown Salvage | 2011 | Expected 2011 | 2009−2010 | TBD | 75 acres affected, 30 acres planned treatment. |
| Bennett I Beetle Salvage | 2009 | 2010 | 2009−2010 | March 2014 | |
| Rock Creek Trap Tree | 2009 | | 2009−2010 | October 2011 | |
| Big Meadows Campground | 2009 | 2009−2010 | 2009−2010 | May 2010 | |
| (Wolf Creek) Ski Area Blowdown | 2008 | 2008−2009 | 2007−2010 | June 2010 | New 2400-4 contract to be awarded to remove recent blowdown. |
| Rock Creek Beetle Salvage | 2008 | 2009−2010 | 2008−2010 | June 2008 | Beetle infestation began in Rock Creek drainage in 2005; NEPA decision 2007. |
| Cathedral Salvage | 2007 | 2008 | 2007−2010 | January 2009 | |
| Blowout II Beetle Salvage | 2006 | 2006−2008 | 2006−2010 | October 2008 | |
| Marble Beetle Salvage | 2006 | 2006−2009 | 2006−2010 | June 2010 | |
| Shaw Lake Beetle Salvage | 2005 | 2007−2008 | 2005−2010 | September 2010 | Planned 2011 monitoring surveys and reoffer defaulted sale. |
| Black Mountain Salvage | 2005 | 2006−2007 | 2005−2010 | October 2007 | Included in Black Mesa analysis. |
| Finger Mesa Beetle Salvage | 2004 | 2005−2008 | 2004−2010 | August 2008 | Included in Black Mesa analysis. |
| Twister II Beetle Salvage | 2004 | 2005−2008 | 2004−2010 | September 2008 | |
| Million Fire Salvage | 2004 | 2004−2005 | 2004−2010 | December 2005 | Third year on 160 acres. |
| Fern Creek Beetle Salvage | 2003 | 2003−2004 | 2003−2010 | April 2005 | Assessed with Big Moose project. |
| Drill Pad Fire Salvage | 2003 | 2003−2004 | 2003–2010 | October 2004 | |
| West Fork Fire Salvage | 2003 | 2003 | 2003–2010 | December 2003 | |
| Twister Beetle Salvage | 2003 | 2003−2004 | 2003–2010 | March 2005 | No survey in 2011 planned. |

[1] Spruce Bark Beetle Salvage.

*Source:* Annual Forest Health Protection Report submitted to the Gunnison Service Center, on file at the Headquarters of the Rio Grande National Forest, Monte Vista, Colo.

Several other surveys/projects are taking place as follows:

- **Burro Blowout Analysis Area:** Burro Blowout NFMA/NEPA was initiated in 2007 to treat an ongoing spruce beetle population expansion in the Blowout Pass Area, which affected spruce stands on both the Divide and Conejos Peak Ranger Districts. A NEPA decision was made in June 2009. The first district sale from this decision, Bennett I Beetle Salvage TS, was sold in September 2009 and first salvage harvest occurred in 2010. A second sale, La Besouro Salvage TS, is planned for 2011.

- **Big Moose Analysis Area:** Big Moose Vegetation Project NFMA/NEPA 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 FY2011, with harvest activities first beginning in 2012.
- **Black Mesa Analysis Area**: Black Mesa Vegetation Project NFMA Assessment was initiated in late 2010 to assess further treatment in the Upper Rio Grande area being impacted by the spruce bark beetle epidemic. A NEPA decision is planned for the spring of 2013, with harvest activities expected to begin in 2014.

Conejos Peak Ranger District – La Jara, CO

A summary of 2010 project/sale survey and treatment acre accomplishments is displayed in table 5. A summary of the ongoing treatment and monitoring activities by year is displayed in table 6.

**Table 5. 2010 project/sale survey and treatment acre accomplishments**

| Project/Sale | Pre-treatment Surveys Acres | Treated Acres | Post-treatment Surveys/ Monitoring Acres |
|---|---|---|---|
| Grouse II Salvage | - | - | 234 |
| La Manga II Salvage | - | - | 36 |
| Neff II Salvage | - | 42 | - |
| Wolf Beetle Salvage | - | 289 | - |
| Neff Mountain | 3,000 | - | - |
| Other Districtwide | 25,500 | - | - |
| **Total** | **28,500** | **331** | **270** |

*Source:* Annual Forest Health Protection Report submitted to the Gunnison Service Center, on file at the Headquarters of the Rio Grande National Forest, Monte Vista, Colo..

**Table 6. Ongoing treatment and monitoring activities by year**

| Project/Sale | Contract Sold | Treatments [1] | Bark Beetle Monitoring | Contract Termination | Comments |
|---|---|---|---|---|---|
| El Gato Salvage | 2011 | 2011–2015 | 2007–2010 | 2015 | Bark beetle activity high in 2010 |
| Grouse III Salvage | 2009 | 2009, 2010 | 2009–2010 | September 2012 | Bark beetle activity medium in 2010 (an increase). |
| Neff II Salvage | 2009 | 2009, 2010 | 2009–2010 | July 2011 | Bark beetle activity high in 2010 (an increase). |
| Spruce Park Salvage | 2008 | | 2008–2010 | August 2012 | Bark beetle activity high in 2010. |
| La Manga III Salvage | 2008 | 2008–2009 | 2008–2010 | August 2009 | Bark beetle activity low in 2010. |
| Escarabajo Salvage | 2007 | 2008, 2009, 2010 | 2007–2010 | August 2012 | Bark beetle activity high in 2010. |
| La Manga II Salvage | 2007 | 2007–2008 | 2007–2010 | November 2008 | Bark beetle activity low in 2010. |
| Wolf Beetle Salvage | 2006 | 2007, 2008, 2009 | 2006–2010 | August 2012 | Bark beetle activity high in 2010. |
| Grouse II Salvage | 2006 | 2006 | 2006–2010 | October 2009 | Bark beetle activity medium in 2010 (an increase). |
| Cerro Rojo Salvage | 2006 | 2006–2008 | 2006–2010 | December 2008 | Bark beetle activity medium in 2010. |
| Neff Mountain Beetle Salvage | 2005 | 2005 | 2005–2010 | December 2005 | Bark beetle activity high in 2010 (an increase). |
| Spruce Hole Beetle Salvage | 2004 | 2004–2005 | 2004–2010 | March 2006 | Bark beetle activity low in 2010. |

| | | | | | |
|---|---|---|---|---|---|
| La Manga Beetle Salvage | 2004 | 2004–2005 | 2004–2010 | September 2005 | Bark beetle activity low in 2010. |
| November Salvage | 2003 | 2003–2004 | 2003–2010 | August 2004 | Bark beetle activity low in 2010. |
| Grouse Creek Salvage | 2002 | 2002–2005 | 2002–2010 | April 2006 | Bark beetle activity medium in 2010. |

[1] Spruce Bark Beetle Salvage.

*Source:* Annual Forest Health Protection Report submitted to the Gunnison Service Center, on file at the Headquarters of the Rio Grande National Forest, Monte Vista, Colo.

Several other surveys/projects are taking place as follows:

- **Burro Blowout Analysis Area:** Burro Blowout NFMA/NEPA was initiated in 2007 to treat the expanding spruce beetle population in the Blowout Pass Area, which affected spruce stands on both the Divide and Conejos Peak Ranger Districts. A NEPA decision was made in June 2009. The first district sale from this NEPA decision is planned for 2014.
- **Rio de los Pinos Analysis Area:** Rio de los Pinos Vegetation Project NFMA/NEPA was initiated in 2008, and a NEPA decision was made in 2010. The first district sale from this decision, El Gato Salvage TS, was sold in March 2011 and first salvage harvest is expected to begin in 2011.
- **Cumbres Analysis Area:** Cumbres Vegetation Project NFMA Assessment was initiated in late 2010 to assess further treatment in the Cumbres River area being impacted by the spruce bark beetle epidemic. A NEPA decision is planned for the spring of 2013, with harvest expected to begin in 2014.
- **Lake Fork Area:** A small sales checklist was completed for this area in 2007 due to spruce beetle activity, but no harvesting was conducted due to salability. Insect & disease surveys were conducted in this area in 2010.

- **Hillman Park Area:** A small sales checklist was completed for this area in 2007 due to spruce beetle activity, but no harvesting was conducted due to salability. Insect & disease surveys were conducted in this area in 2010.
- **Trail Gulch Area:** A feasibility study was initiated in 2009 to treat stands affected by western spruce budworm. However, no further analysis has been conducted in this area, due to spruce beetle impacts in other areas of the district having higher priority for specialist time and funding. Insect and disease surveys were conducted in this area in 2010.

Saguache Ranger District – Saguache, CO

A summary of 2010 project/sale survey and treatment acre accomplishments is displayed in table 7. A summary of the ongoing treatment and monitoring activities by year is displayed in table 8.

**Table 7. 2010 project/sale survey and treatment acre accomplishments**

| Project/Sale | Pre-treatment Surveys Acres | Treated Acres | Post-treatment Surveys/ Monitoring Acres |
|---|---|---|---|
| Little Kerber Salvage | - | - | 232 |
| Antelope Trickle | - | - | 712 |
| Moab Salvage | - | 57 | |
| Brown's Creek B Salvage | - | 10 | |
| Sheep Creek, East Sheep Creek, Bear Creek, Spruce Creek | 5,800 | - | - |
| **Total** | **5,800** | **67** | **944** |

*Source:* Annual Forest Health Protection Report submitted to the Gunnison Service Center, on file at the Headquarters of the Rio Grande National Forest, Monte Vista, Colo.

**Table 8. Ongoing treatment and monitoring activities by year**

| Project/Sale | Contract Sold | Treatments | Bark Beetle Monitoring | Contract Termination | Comments |
|---|---|---|---|---|---|
| Brown's Creek B Salvage | 2009 | 2009−2010 | 2009−2010 | March 2012 | |
| Moab Salvage | 2009 | 2009−2010 | 2009−2010 | September 2011 | SBB in windthrown ES |
| McIntyre Gulch Salvage | 2007 | 2008−2009 | 2007−2010 | September 2010 | MPB in PP & LP, WSBW in DF |
| Little Kerber Salvage | 2006 | 2006−2009 | 2006−2010 | April 2010 | |
| Long Lost Cabin | 2005 | 2005−2009 | 2005−2010 | May 2010 | |
| Antelope Trickle Stewardship | 2005 | 2005−2009 | 2004−2010 | October 2009 | MPB in PP |
| Buffalo Pass Campground Salvage | 2004 | 2004−2006 | 2004−2010 | March 2007 | |
| Park Creek Salvage | 1998 | 1998−2004 | 1998−2008 | October 2004 | |

*Source:* Annual Forest Health Protection Report submitted to the Gunnison Service Center, on file at the Headquarters of the Rio Grande National Forest, Monte Vista, Colo.

Several other surveys/projects are taking place as follows*:*

- **Bowers Peak Blowdown:** Approximately 50 acres of irregularly distributed spruce blowdown occurred in the area surrounding Bowers Peak in early fall of 2009. Some heavy blowdown occurred along a heavily used recreation trail, which subsequently was cut-out to re-open the trail for use. An assessment was made as to whether the spruce was salvageable. Due to the steepness of the terrain, difficult access requiring several miles of constructed roads, location near streams and other sensitive areas, and the relatively small amount of volume (estimated at 100 mbf, although some large size spruce were involved), it was decided not to pursue a salvage operation. This and surrounding areas were surveyed in the fall of 2010 for spruce bark beetle activity. A few infested trees were located. Treatment options and economics still limit cost-effective salvage or treatment options.
- **Bonanza Area:** Insect and disease surveys will continue in the Little Kerber, Ute Pass and Columbia Gulch areas, because mountain pine beetle is still very active there. Surveys during the summer and fall of 2010 showed that these areas are still experiencing mountain pine beetle infestations. Infestation of smaller diameter trees was noted. Many of these beetle-killed trees have been removed by personal use firewood gatherers.
- Walk-through surveys of spruce and lodgepole pine stands in the Bear Creek, Sergeants Mesa, Poncha Pass, Bear and John's Creek and Table Mountain areas on the north and west side of the district were completed in September and October of 2010. Pockets of mountain pine beetle were found in the Poncha Pass area where ponderosa pine and lodgepole pine are inter-mixed. No large infestations of mountain pine beetle were noted in the pure lodgepole pine stands along the Continental Divide. Heavy infestations of spruce beetle were located within the Table Mountain area of Saguache Park and the Bear and Johns Creek areas on the west side of the district. These infestations were not picked up during the 2010 aerial survey.
- Insect and disease surveys confirmed suspected areas of sudden aspen decline on the north end of the district.
- In 2009, insect and disease surveys on the east side of the district identified a defoliator in the oak brush on BLM lands, which is part of the Service First organization in the San Luis Valley Public Lands Center. A severe outbreak of western spruce budworm was also observed, impacting Douglas-fir across the west side of the Sangre de Cristo Mountains and in the wilderness. Juniper trees within

riparian areas on the district and across the Forest are also experiencing a severe decline suspected to be caused by wind-borne fungi. These and surrounding areas were monitored for continuing insect and disease infestations in 2010, and will continue to be monitored in 2011.

**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/summary. Performance accomplishment report/summary timber resource outputs for FY 2010 are displayed in table 9.

**Table 9. Performance accomplishment report/summary timber resource outputs for FY 2010**

| Item [1] | Measure | Planned | Accomplished | % Accomplishment |
|---|---|---|---|---|
| FOR-VEG-EST Planting | Acres | 0 | 0 | 0.0 % |
| FOR-VEG-EST Natural Regeneration Surveys & Certification | Acres | 1,912 | 1,985 | 104 % |
| FOR-VEG-IMP Precommercial Thinning, Weeding, Cleaning, Release | Acres | 940 | 1,159 | 123.0 % |
| Timber Volume Offer | CCF | 26,500 | 26,584 | 100.3 % |
| Timber Volume Sold | CCF | 26,500 | 7,560 [2] | 28.5 % |

[1] FOR-VEG-EST = Forest Vegetation Establishment; FOR-VEG-IMP = Forest Vegetation Improvement.

[2] El Gato Salvage (18,474 ccf) and Del Norte Peak Blowdown Salvage (550 ccf) Timber Sales were awarded in February and March 2011, respectively, bringing the overall FY 2010 planned accomplishment to 98.2%.

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

- Continuing Forestwide assessments of insect and disease infestation should occur to address the expansion of the current spruce bark beetle epidemic, as well as effects from climate change.

# 5. Interdisciplinary Monitoring Team Contributors

Art Burbank, *Forest Engineer*
Theresa Corless, *Environmental Coordinator*
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George Panek, *Timber/Silviculture*
Crystal Powell, *Recreation lead*
Phil Reinholtz, *Hydrologist*
Nic Sandoval, *Minerals*
Gary Snell, *Range Conservationist*
Barry Wiley, *Fisheries Biologist*

# Appendix: Rio Grande National Forest Monitoring and Evaluation Accomplishments

This appendix synopsizes the monitoring actions and results for FY 2010. 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)].<br>M&E burn plan [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 Wilderness Area (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 in 2010. 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. |
| | Visual verification of smoke dispersal [L. Floyd, P. Reinholtz] and compliance with Colorado APCD permit [L. Floyd]. | Prescribed burn project locations on all 3 ranger districts. | Appropriate conditions existed on all burn projects, therefore no adverse smoke impacts 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) Forestwide goals, objectives, S&Gs; (b) MA prescription objectives, DCs, and S&Gs; (c) MA prescription allocations and monitoring methods [36 CFR 219.12 (k)]. | From monitoring results, conclude whether S&Gs and regulations are being followed, and if desired conditions are being met [P. Reinholtz]. | As a result of monitoring all of the above sites. | Forest management activities are following S&Gs; desired conditions are being achieved. | No changes in the Forest Plan recommended. |
| Monitor and evaluate (M&E) visibility, lake chemistry, and | (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. |

| 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?) |
|---|---|---|---|---|
| terrestrial systems [36 CFR 219.27 (a)]. | | | | |
| **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: Evaluation of the Cumbres and Black Mesa Projects began in 2010. | Two new large timber project analysis areas were initiated. 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 1 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, N. Tedela]. | As described in the next column. | Stream health assessments were completed on several streams during range EA analysis. Reaches with high bank alteration or other problems were noted on creeks and noted in the "State of the Resource" section. Historical and long-term impacts, including increased stream width and hummocks, remain to varying degrees on these creeks.<br><br>*Divide RD Range EA*: Road/Sawmill Canyon, Long Canyon, House Canyon, Crooked Creek, Shallow Creek, Sawmill Gulch, Horsethief Creek, Sevenmile Creek, and Kid Gulch.<br><br>*Saguache Park Range EA*: Jakes Creek, Fourmile Creek, Elk Creek, East Fork Buck Creek, Horse Canyon, Bear Creek, Johns Creek, and North Fork Saguache Creek.<br><br>*Conejos Peak RD Range EA*: Piedrosa Creek, Hot Creek, Positio Creek, Pasture Creek, Deer Creek, and Cat Creek.<br><br>Pass Creek continues to be fully protected from Wolf Creek Ski Area activities. | 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?) |
|---|---|---|---|---|
| | | | 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 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]. | Leopard Creek and Middle Creek above Love Lake. | Riparian conditions have improved, but bank stability issues remain. Alteration guidelines likely exceeded at times, slowing recovery. | No changes in the Forest Plan recommended.<br>Continue monitoring to evaluate livestock use on recovery and recommend management changes if necessary. |
| | (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 [hydrologists: P. Reinholtz, N. Tedela]. | California Gulch and Cave Creek within the South Saguache analysis area. | Stream health in California Gulch and Cave Creek drainages was assessed for range recission. Riparian and stream health was found to be robust with some at risk areas due to sediment and stream width issues. Road erosion contributes sediment load. Width data was collected at California Gulch to monitor long-term trends. | 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 [hydrologists: P. Reinholtz, N. Tedela]. | Timber, range, and watershed specialists routinely evaluate past and ongoing projects for compliance with Forest Plan direction. | Implementation monitoring occcured during timber sale administration including: Wolf Beetle Timber Sale, Burrow-Blowout Timber Sale, Rock Creek Timber Sale; S&Gs effective in protecting stream channels. | No changes in the Forest Plan recommended. |
| **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 Ripley milkvetch (*Astragalus* | 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. |

| 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?) |
|---|---|---|---|---|
| | | | *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. | |
| | (b) Rio Grande cutthroat trout, 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. | Rio Grande cutthroat trout populations monitored include Lake Fork Conejos, Osier Creek, Adams Fork Conejos and Wolf Creek. Nonnative trout fisheries monitored include House Canyon, Crooked Creek, Four Mile Creek, Long Canyon, Ivy Creek, Sheep Creek, Conejos River, Rio Grande River, Mill Creek, Road Canyon Reservoir, Rio Grande Reservoir, Blue Lake, and Lake Ann. All population data were collected following CDOW protocols and entered into CDOW database. CDOW "2010 Fisheries Inventories Rio Grande Basin" includes detailed analysis for these populations (unpublished).<br><br>A stream culvert that was a fish migration barrier was replaced on Middle Fork Carnero Creek. Another fish migration barrier was repaired on Wolf Creek. | No changes in the Forest Plan recommended. |
| | (c) Boreal toad: monitoring and survey [CDOW, FS]. | 3 of 4 existing breeding sites were monitored (Jumper Creek , West Trout Creek, and Little Squaw Creek). One additional potential site (Fisher Creek) monitored. All four of these sites monitored by USFS. No known monitoring by CDOW occurred in 2010.<br><br>Cursory surveys were also completed at Love Lake and Fox Mountain for the Big Moose TS area, and the Stoney Grazing Allotment. Surveys | *Known Sites*: West Trout Creek visited 1 time and again supported the highest number of individuals, with 4 adults, 1 sub-adult, and an estimated 750 tadpoles. 3 visits were made to the Jumper Creek site, all negative. Habitat improvement on the primary pond was completed. The Little Squaw Creek site was visited twice in 2010, with 3 males, I female, 1 metamorph, and about 200 tadpoles noted. 1 visit to the Fisher Creek site yielded 1 adult toad.<br><br>Adult toads reported present and photographed at Goose Lake site by a | No changes in the Forest Plan recommended.<br><br>The fact that 3 of the 4 occupied toad sites on the Forest are known to be positive for chytrid fungus (*Batrachochytrium dendrobatidis*) or "Bd" remains a concern and needs further evaluation to determine if additional monitoring and/or protection efforts are needed.<br><br>Additional educational awareness is recommended concerning Bd and the 2001 |

| 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?) |
|---|---|---|---|---|
| | | also conducted at the historic site along Miners Creek. All were negative. | private citizen. Two additional visits by USFS later in the year failed to locate any toads in 2010. Presence of 1 adult toad reported by a private citizen at Jumper Lake in 2010. Not verified. Private citizens overall reported 8 adult and 1 adult toad at Goose Lake and Jumper Lake, respectively. No new sites discovered in 2010. | Interagency Conservation Agreement for this species. |
| | (d) Peregrine falcon: ocular surveys of nests [CDOW, FS]. | All known sites on the RGNF. 1 new eyrie discovered on Forest in 2010. New total is potentially 10 known nest sites on Forest and 2 on other public lands within Forest administrative boundaries. | Of 10 known exisitng sites, 5 were monitored by FS, all on one district. No CDOW monitoring reported. Of the sites monitored, 4 were active with 2 known to produce young. 2 others apparently failed nest attempts. | No changes in the Forest Plan recommended. |
| | (e) Southwest willow flycatcher (SWFL) [FS, USFWS, CDOW] | Mapped habitats on RGNF. Project-specific sites for range allotments were surveyed on a project-specific basis. | Surveys were conducted on 2 of 3 ranger districts, based on mapped habitat and project-specific range allotments. None were detected. Ground-truthing of habitat maps continued on 2 ranger districts. In-depth multi-year monitoring reports were completed by each ranger district and reported to the regional office. Approximately 81% of the suitable habitat on the RGNF has been surveyed to date, with an additional 10% of all potential habitat completed. | No changes in the Forest Plan recommended. However, we intend to provide information to the USFWS that the Forest has conducted adequate surveys for this species and that requirements for section 7 consultation should be relaxed. |
| | (f) Black swift (BLSW): surveys of nests [RMBO]. | All sites on the RGNF. Sites are located on all ranger districts. Currently 9 breeding sites known on the RGNF, with no new definitive sites reported. | No information on black swift surveys was available from the RMBO in 2010. In 2010, the Divide Ranger District conducted additional efforts at the potential waterfall on East Trout Creek. Although nesting could not be verified, at least 8 indiviudals utilized the waterfall site suggesting that nesting is probable. 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. However, RMBO is no longer actively monitoring BLSW on the Forest and the criteria in Table V-1 are not being met. In concert with the Regional Avian Program Manager, a Medicine Bow-Routt NF employee will conduct BLSW monitoring for the Forest in FY 2011. Recommend a long-term solution and funding to meet Forest Plan monitoring |

| 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?) |
|---|---|---|---|---|
| | | | | requirements. |
| | (g) Bats: surveys [CDOW] | CDOW and USFS bat surveys of known mine locations and sample sites on the Forest. | In July 2010, USFS Region 2 implemented a region-wide emergency closure regarding human entry into caves and mines to help prevent the spread of white-nose syndrome (WNS) into local bat populations. In winter 2010, WNS had been detected in the adjacent panhandle of Oklahoma, but to date has not been detected in Colorado. In FY 2010, information collected on local bat species decreased significantly due to the adjustments being made to the BIMP Program and interagency discussions about how to best address WNS. Local surveys for bat species did not occur on Forest and no additional information was provided. Interagency protocols to continue bat inventories and monitor for WNS are currently being developed. | No changes in the Forest Plan recommended.<br><br>Additional NFIM funding recommended to supplement the bat inventory program and continue the effort to monitor for potential WNS. |
| | (h) MIS birds [FS and RMBO] | The RMBO implemented a new grid-based avian montoring program for Colorado in 2008. 10 grid sites were established on the RGNF, with 9 sites monitored in 2010. All 10 sites are planned for monitoring on an annual basis. The 15 supplemental transects associated with the original MCB program on the RGNF were not monitored in 2010.<br><br>Project-specific inventories continued to be conducted on the RGNF. | The RMBO conducted the third year of surveys for the MCB program using the new grid design on the RGNF. None of the Forest supplemental transects were monitored.<br><br>Based on the 2010 MCB Report, 63 avian species were detected on the Forest. These include 1 Region 2 sensitive species, 1 USFWS bird of conservation concern, and 4 of our 6 MIS. Sampling efforts through 2008–10 appear adequate to detect desired population trends on 2 of the 6 MIS species, with 2 species again not being detected.<br><br>Project-specific inventory results are incorporated into project analyses and data are recorded in unpublished reports and internal databases, such as NRIS Wildlife. Although variable by location and project type, presence of MIS avian | No changes in the Forest Plan recommended.<br><br>Discussions are underway with the Regional Avian Program Manager to supplement the grid-based MCB program to increase sample size for both pygmy nuthatch and Wilson's warbler. Additional NFIM funding may be needed to increase sample size.<br><br>A Forestwide MIS status assessment is scheduled to be completed in FY 2011 to determine what, if any, changes are needed to improve the MIS program in regards to avian species. |

| 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?) |
|---|---|---|---|---|
| | | | species were confirmed on proposed project sites on all ranger districts. The brown creeper appears to be the most difficult species for districts to detect at the project level. | |
| | (i) MIS bird habitat [FS]. | Available habitat on the Forest as estimated based on species habitat requirements, species habitat models, and/or landtype associations (LTAs); habitat availability is ground-truthed at the project level. | Habitats for most 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 available for use during project-level surveys and analysis.<br><br>Site-specific habitat availability and occupancy was documented through project inventories. Difficulties in defining and assessing the desired habitat condition for willow-riparian associated MIS became evident. Concerns regarding riparian habitat conditions for MIS birds continued to be reported by one ranger district. The extensive canopy cover change occurring on the Forest within the spruce-fir zone was assessed and may warrant additional efforts in regards to avian species of concern. | No changes in the Forest Plan recommended.<br><br>A status assessment for Forest MIS bird habitat monitoring, especially riparian-willow dependents (Wilson's warbler and Lincoln's sparrow) is planned for 2011. Based on 2010 data, it is recommended that the assessment also focus on spruce-fir species that may be influenced by the bark beetle outbreak. |
| | (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 for 2010 are provided by the CDOW. In 2010, the CDOW reduced the population objectives for mule deer in DAU D-31, D-36, and D-37. The change in mule deer population objectives now represent more realistic and achievable population objectives based on available habitat. Based on the 1991–2010 data, 2 deer DAUs now meet population objectives, 1 slightly exceeds, and 2 remain slightly below population objectives. Overall mule deer numbers on the Forest now meet the mean population objectives established by the CDOW. | No changes in the Forest Plan recommended.<br><br>A Forestwide MIS status assessment is scheduled to be completed in FY 2011 to determine what, if any, changes are needed to improve the MIS program in regards to mule deer and elk populations. |

| 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?) |
|---|---|---|---|---|
| | | | Population estimates for elk in the Forest's 4 DAUs for 2009 are provided by the CDOW. In 2010, the CDOW increased the population objectives for elk in DAU E-11 and E-34. The population objectives for 2 elk DAUs (E-26 and E-32) remained unchanged. Overall elk numbers on the Forest now exceed mean population objectives by approximately 17%, which is a decrease over previous years, but may warrant attention in some local game management units. | |
| | (k) Deer and elk habitat [FS] | Habitat condition is evaluated on a site-specific basis by project. Overall trends are evaluated at the Forest level in concert with CDOW. | General winter range assessments were conducted on at least 2 ranger districts and concluded that winter range habitat was adequate to support big game numbers. However, 1 ranger district reported concerns with a lack of early seral habitat for mule deer summer range. Road closures were implemented to reduce road effects on big game.<br><br>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 Forestwide, but could be variable on a site-specific basis by project. No ranger districts reported road densities as a primary concern for big game species. However, off-road vehicle use and potential disturbance continued to be reported as a concern on one ranger district. | No changes in the Forest Plan recommended.<br><br>A Forestwide MIS status assessment is scheduled to be completed in FY 2011 to determine what, if any, changes are needed to improve the MIS program in regards to mule deer and elk habitat. |
| 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. New occurrences of *Astragalus ripleyi* were found this year. | No changes in the Forest Plan recommended. |
| | (b) Snag-dependent species [FS]. | Species and snag inventories are conducted at the project | There are at least 63 wildlife species in Colorado whose numbers are strongly | No changes in the Forest Plan |

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| | | level.<br><br>Habitat is Forestwide by cover type. | associated with snag habitat. Variable observations of snag-dependent species were conducted in conjunction with some proposed projects. All districts reported that the desired conditions for snag habitat appear to met, although 1 district reported that snag sizes and species retained in the post-harvest condition frequently do not meet the conditions set forth in the Forest S&Gs.<br><br>Local data were also collected during MCB program. Unusually high numbers of species such as American three-toed woodpeckers continued to be noted in association with bark beetles in spruce-fir forest types.<br><br>Habitat monitoring is scheduled every 5 years. | recommended.<br><br>Recommend educational outreach to ranger districts and the timber program regarding snag retention requirements as associated with Biodiversity Standard 1, as amended, and for identifying and protecting active nest trees. Again recommend an effectivenss assessment of snag retention associated with timber sales and firewood cutting.<br><br>Complete Forestwide monitoring assessment for snags in 2011. |
| | (c) Animal TES except those addressed above and those that can be covered under the riparian wetland objective [FS]. | Species inventories by project, in associaton with the Forest I&M program, or in cooperation with other agencies.<br><br>Assessment is Forestwide. | 1 species, New Mexico meadow jumping mouse, was added to the Forest TES list in 2009.<br><br>Species inventories were conducted in conjunction with proposed projects and at the Forestwide scale. TEP surveys are ongoing (Canada lynx, CDOW; Uncomphagre fritillary butterfly, USFWS & partners; Mexican spotted owl and southwestern willow flycatcher, FS, by project). Sensitive species surveys are conducted by project, at the Forestwide scale, or in conjunction with contracted surveys. RMBO and BBS surveys document presence of avian species on the Forest.<br><br>*Results for FY 2010 include*:<br><br>*Lynx*–In 2010, CDOW declared the lynx reintroduction program a success and formally ended efforts to monitor the species via the radio-collar detection and tracking program that had been in place | No changes in the Forest Plan recommended.<br><br>*For Uncomphagre fritillary butterfly*: Conduct analysis and possible section 7 consultation for the Halfmoon Pass site on the Sauguach Ranger District when that particular allotment is up for renewal.<br><br>*For Mexican spotted owl*: Provide report to USFWS that recommends removing the species from the PLC Unit.<br><br>*For boreal owl and goshawk*: Recommend review of communication procedures between timber sale administration and protection of wildlife sites in timber sale areas.<br><br>*For sensitive and other species*: |

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| | | | since 2000. Although some aerial flight data continued to be gathered in 2010, the CDOW implemented a test program to detect lynx use based on a passive monitoring design comparing remote cameras, hair snares, and snow tracking techniques. The RGNF participated in this effort. It is anticipated that one or a combination of the techniques will be used in future years to monitor lynx and determine population trend over time. However, habitat-specific data from radio-collared lynx such as kill locations and species, den site locations, mortality, and reproduction will no longer be available unless found opportunistically during the passive monitoring efforts.<br><br>*Uncompahgre Frittilary Butterfly*–Surveys in 2010 included additional inventories of the Continental Divide National Scenic Trail Route in the Windy Peak/Long Branch Baldy area of the RGNF. No site visits to this area or elsewhere resulted in the confirmation of any new populations. Ongoing monitoring of the 11 confirmed populations, including the 5 sites on the RGNF, indicated population persistence at 6 of the 11 sites. Presence was not detected at 4 of the 5 sites on the RGNF. The populations at 3 sites on the Grand Mesa, Uncompahgre, and Gunnison National Forests 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 1 site on the RGNF in 2007 were not observed in 2010 by the Uncompahgre frittilary butterfly crew. Section 7 consultation for this site is still recommended when that particular allotment is updated. | Recommend funding and updating the Forest Plan BE to include new sensitive species from 2007 and 2009 regional updates, and update information on other species. |

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| | | | *Mexican Spotted Owl*–MSO surveys were not conducted on the RGNF in 2010. All available information suggests the species could be removed from the unit species list for section 7 consultation purposes.<br><br>*Additional surveys for certain Region 2 sensitive species were reported by 2 of 3 ranger districts in 2010; species and results include*:<br><br>*Boreal owl*–No specific surveys reported. Current nest boxes monitored on Divide Ranger District. No reproduction noted. 16 new boxes installed on Saguache Ranger District.<br><br>*Goshawk*–1 ranger district reports surveys conducted for project clearances. 21 known nesting territories monitored on the Forest; 2 possible new nests located; 5 nests active; 2 fledlings known produced from 2 nests.<br><br>*Bighorn Sheep*–All 3 ranger districts conducted some amount of survey and/or habitat assessment work for bighorn sheep. Conducted inter-agency counts and/or extensive new survey work on 2 ranger districts which contributed to population and distribution knowledge. A report of efforts provided by 1 ranger district.<br><br>*Other*–Additional survey efforts reported by all ranger districts for American three-toed woodpecker (becoming common in spruce-fir due to bark beetle), Brewer's sparrow (detections and nesting confirmed), sage grouse (in concert with BLM), Lewis' woodpecker (1 detection), loggerhead shrike (detections and nesting confirmed), olive-sided flycatcher (detections on 2 districts including confirmed nesting), white-tailed ptarmigan | |

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| | | | (contract work), American marten (track detections common in spruce-fir), Gunnison prairie dog (2 new colonies), wolverine (bait stations and general track surveys), and northern leopard frogs (no detections). Bat-related efforts generally related to abandoned mined land (AML) inspections; white-nose syndrome prevention signs placed at 1 location on 1 district. Additional attention and survey effort encouraged by 1 district for the flammulated owl. | |
| 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 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 Colorado Natural Heritage Program 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 plant communities of special interest were visited as follows: (1) *Populus angustifolia/Alnus incana* woodland; (2) *Salix planifolia/Caltha leptosepala* shrubland; and (3) *Salix planifolia* mesic forb shrubland. 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]. | Forestwide. | Old-growth inventories were completed for the following projects: Del Norte Peak blowdown salvage; Rio de los Pinos; Big Moose; Alamaditas Fox Creek; Powderhouse units 4 and 5; Bighorn Mountain, Stateline Fuel Treatment; and Hot Creek Fuel Treatment. | No changes in the Forest Plan recommended. The Forest continued its progress toward inventorying old growth this year. |

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| | | | 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]. | Forestwide. | 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), Forestwide.<br>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 wildland-urban interface and non-wildland-urban interface projects indicated treatment objectives were met. Wildland-urban interface project planning continues in the Kerber, Conejos River, Baca/Crestone and South Fork areas. | Continue focus on wildland-urban interface areas and fire regimes 1 & 3 in condition classes 2 & 3.<br>No changes in the Forest Plan recommended. |
| **General Infrastructure** | | | | |
| Assess facilities for compliance with state | (1) Inspect dams, facilities, drinking water, road and trail | 50% of Forest road bridges; high-hazard dams every 3 | 42% of bridges inspected in FY 2010. | No changes needed in Forest Plan monitoring requirements. |

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| and Federal requirements and FS Handbook/Manual direction. | bridges, and FDRs for safety and maintenance [Forest engineer]. | years; 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. | No high-hazard dams are located on the Forest: all moderate- and low-hazard dams were inspected in FY 2006, except Million Reservoir (medium hazard) was last safety inspected in 2003.<br>All trail bridges were inspected in FY 2005. We replaced 6 of the trail bridges in 2010.<br>8% of facilities were inspected in 5-year FY 2010 period.<br>0% of water and wastewater systems had sanitary surveys performed in FY 2010 period.<br>Level 3, 4, and 5 road inspections were determined by random statistical sample in FY 2010. No targets were assigned to be inspected in FY 2010. It is anticipated that there will be targets assigned in FY 2011. | 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 motor vehicle use map. | 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 were made by Forest personnel of proposed closures of illegal routes. In the fall of 2006 (FY 2006), the Forest conducted an onsite investigation to evaluate closure activities of illegal routes. 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 FY 2010. The ultimate success of such treatments is | No changes in the Forest Plan recommended. |

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| | | | determined over time. Additional evaluation will be made in FY 2011 to determine how well 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. | 42% of bridges inspected in FY 2010.<br>No high-hazard dams are located on the Forest: all moderate- and low-hazard dams were inspected in FY 2006, except Million Reservoir (medium hazard) was last safety inspected in 2003.<br>All trail bridges were inspected in FY 2005. We replaced 6 of the trail bridges in 2010.<br>8% of facilities were inspected in 5-year FY 2010 period.<br>0% of water and wastewater systems had sanitary surveys performed in FY 2010 period.<br>Level 3, 4, and 5 road inspections were determined by random statistical sample in FY 2010. No targets were assigned to be inspected in FY 2010. It is anticipated that there will be targets assigned in FY 2011. | 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.<br>Facilities safety inspections were completed in FY 2010. | No changes in the Forest Plan recommended. |
| **Heritage (Cultural) Resources** | | | | |

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| M&E projects to assure heritage resources have been appropriately protected. | Onsite inspection of selected significant heritage resources (Priority heritage assets).<br>Onsite inspection of National Register-eligible heritage resources identified for protection during ground-disturbing project-related activities [heritage specialist, A. Krall]. | Identified significant heritage resources including prehistoric open lithic and camp sites, rock art, prehistoric stone structures and historic buildings.<br>Heritage resources located on selected range allotments, timber sales, AML, ARRA recreation and prescribed fire projects. | Significant Heritage Resource sites monitored in FY 2010:<br>5RN314: Fitton GS<br>5RN315: Off Cow Camp<br>5RN330: Dog Mountain Petroglyphs<br>5AL664: Cumbres & Toltec RR<br>5SH1446: Prehistoric Lithic Site<br>5SH3484: Site is being impacted by Liberty Road and spider web of roads accessing in-holding up Pole Creek (work on-going to resolve this).<br>Results: 5RN314/5RN315 restored by ARRA fund will be utilized to restore and protect structures in 2010.<br>5SH1446: Trees will be felled on the site in 2010 to discourage use by livestock.<br>5RN330: In good condition. | No changes in the Forest Plan recommended. |
| M&E consultations with American Indians. | Assess proposed management activities and programs to determine if American Indian consultation was accomplished [heritage specialist: 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 Native American Indians. | In FY 2010 Tribal consultation was initiated on a project by project basis and via the RGNF Quarterly Scoping Document (SOPA). | No changes in the Forest Plan recommended. |
| M&E heritage resource program [36 CFR 219.12 (k)]. | Review of all heritage resource reports done in the current monitoring year [heritage specialist: A. Krall]. | Review of all heritage resource reports done in FY 2010. | 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). |
| **Minerals** | | | | |
| M&E oil & gas activities so effects do not exceed predicted by 10%. | Compare annual and cumulative oil and gas activity [minerals specialist]. | Forest summary. | There was no oil and gas development on the Forest in 2010. The Forest Plan reasonable and foreseeable development scenario and its predicted effects are still valid as described in the Forest Plan. | No changes in the Forest Plan recommended. |

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| Verify if areas are compatible with Forest Plan 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 2010. The Forest Plan reasonable and foreseeable development scenario and its predicted 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. | One plan of operations for locatable mineral exploration was approved. The total miles of new road construction is slightly above four miles, but is still within estimates in the Forest Plan for the first two decades. The Forest Plan is still valid. | 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]. | Only very limited treatment was conducted on the Forest in 2010 due to lack of weed budget. Full agressuve treatment continues on BLM Lands throughout the Public Lands Center. | No noxious weed inventories were conducted on the Forest in 2010. Specific information on species found and areas treated can be found in the FACTS data base. 29 acres of infestations were treated by chemical and hand pulling control methods on the Forest and 300 acres on BLM. | No changes in the Forest Plan recommended. |
| 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 & BLM continued to jointly fund a valley-wide weed coordinator to ensure a more coordinated weed program within the valley. | 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. | See below. | See below. |
| M&E rangeland seral stage to ensure the desired conditions. | (1) Various methods and techniques will be derived from RAMTAG [primary: G. Snell; secondary: T. Post]. | Cumbres, Fox Creek, Canon, San Juan Wilderness Sheep Allotments; Platoro, Decker, Park, Mesa, Saguache Park, South Sagauche Allotments. | Aproximately 32,000 acres were identified;15 cover frequency transects and 30 utilization cages were installed on the Forest. | No changes in the Forest Plan recommended. |

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| | (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 Region 2 RAMTAG. | Rangeland suitability assessments were initiated in 2005 and continued into 2010. | 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 ranger district will conduct analysis based on Forest Priority Rescission Act Allotments. | Monitoring for vegetation utilization was conducted on all 3 ranger districts. About 350,000 acres were monitored for vegetation utilization. Various methods were used, including P/U cages, height-weight, stubble height measurements, and ocular estimates. Allotments monitored by ranger districts were the same as the planned locations in previous column. | No changes in the Forest Plan recommended. |
| **Recreation – *Developed*** | | | | |
| Assess developed sites for (a) visitor expectations, trends, and customer satisfaction; and (b) quality and safe facilities. | (1) Customer survey; Forestwide market and customer survey [Forest and ranger district recreational personnel]. | Forestwide. | A Forestwide customer survey was completed in FY 2005 and again in FY 2010. The next survey will tentatively be FY 2015.<br>Information from the FY 2005 customer survey on the RGNF 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 | Campgrounds and picnic areas. | Annual hazard tree inspections of | No changes in the Forest Plan |

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| | tree inspections. Inspection of Forest's campgrounds and picnic areas for removal of hazard trees [I&D specialist and ranger district recreation/timber personnel]. | | campgrounds and picnic areas were completed as part of the sites' preseason maintenance inspections. In FY 2010 hazard tree identification and removal was a continual process throughout the season. There is a significant increase in tree mortality due to the bark beetle. In addition, water sampling for safe drinking water is completed on a monthly basis. | 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 2010 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.<br>No other changes in the Forest Plan recommended. |
| | (4) Monitor special use permits. Inspections documented and/or inspection reports MAR 62.5 [Forest and district recreation personnel]. | Forest recreation residences, outfitter guides, recreation events, and concession permits. | Annual billings and issuance of special use permits is done in the SUDS database.<br>The Forest continued to administer a majority of its special use permits. | 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.<br>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. | No changes in the Forest Plan recommended. |

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| | | | The Forest continued to implement the recreation facilities analysis and reviewed occupancy rates for developed fee sites. | |
| Evaluate developed recreation [36 CFR 219.12 (k)]. | Comparative evaluation for M&E report [Forest and district recreation personnel]. | Forestwide developed-recreation prescription areas. | Forest recreation objectives, Forestwide standards, recreation management area standards, desired conditions, S&Gs, and monitoring were assessed in conjunction with proposed project assessments. | No changes in the Forest Plan recommended. |
| **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. | Almost all Forest trails have been inventoried and entered into INFRA. Maintenance was completed on approximately 275 miles of trail. | No changes in the Forest Plan recommended. |
| | (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]. | Forestwide compartments. | Commercial capacity is monitored in all compartments and there are several compartments indicating over-allocation; these will be evaluated during permit re-issuance evaluation. | We will look at our calculations to determine if our baseline figures are correct and if so, what management actions might be needed.<br>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.<br>The Forest emphasized monitoring of afternoon ATV big-game retrieval. | No changes in the Forest Plan recommended.<br>The Forest continues updating the 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]. | Forestwide dispersed Rx areas. | Forest dispersed-recreation objectives, Forestwide 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. |
| **Recreation – *Unroaded Areas*** | | | | |
| Assess the physical, biological, and social | Assess the impacts on the physical, biological, and social | Forestwide backcountry areas. | The Forest worked with the regional office to support the State of Colorado Roadless | No changes in the Forest Plan recommended at this time |

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| resources within backcountry areas. | resources (indicators) [Forest recreation specialist and RSST]. | | Rule Environmental Impact Statement. This work included correcting previous mapping errors of inventoried roadless areas. | pending the completion of the Colorado Roadless Rule Environmental Impact Statement and ROD. |
| Evaluate backcountry areas [36 CFR 219.12 (k)]. | Comparative evaluation for the M&E report [Forest and district recreation personnel]. | Forestwide backcountry areas. | Forest backcountry area objectives, Forestwide standards, management area S&Gs, desired conditions and monitoring were assessed by ranger district staff. | No changes in the Forest Plan recommended.<br>Corrections to the Forest's inventoried roadless areas were completed to support the on-going Colorado Roadless Area rulemaking. |
| **Recreation – *Wild and Scenic Rivers*** | | | | |
| Assess the physical, biological, and social resources within wild and scenic river corridors. | Assess impacts on the physical, biological, and social resources (Indicators) [Forest/district recreation personnel and core team]. | | The enactment of P.L. 106-530, the Great Sand Dunes National Park and Preserve Act, created the need for the Forest Plan to be amended to address the changes to the Forest boundary and the transfer of the Medano Creek Scenic River to the National Park Service.<br>No wild and scenic river corridors were monitored this year. | The Baca Mountain Tract Amendment to the Forest Plan was completed in November 2009 (FY 2010). The Forest boundary and management adjustments were completed when the decision was signed.<br>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]. | Forestwide 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. |
| **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 de Cristo, and La Garita wilderness areas. | With the enactment of P.L. 106-530, the Great Sand Dunes National Park and Preserve Act, a need was created to address changes to the wilderness section of the Forest Plan in addition to adjusting the Forest Plan alternative G map.<br>The districts continually monitor the wilderness areas. Air quality, campsite | The Baca Mountain Tract Amendment to the Forest Plan was completed in November 2009 (FY 2010). The Forest boundary and management adjustments were completed when the decision was signed.<br>The wilderness team is assessing those compartments |

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| | | | and registration monitoring occurred in FY 2010. | where some standards have been exceeded and developing recommended management actions.<br>No changes are needed to the monitoring indicators outlined in the 9/1998 wilderness EA decision (which amended the Forest Plan). |
| Evaluate wilderness Forestwide 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]. | Forestwide 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.<br>No changes in the Forest Plan recommended. |
| **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; (3) collection of floral and faunal occurrence data for inclusion in the appropriate database; (4) updating and improving the infrastructure (INFRA) database, and (5) range condition baseline data. | No changes in the Forest Plan recommended. |
| **Research Natural Areas (RNAs)** | | | | |
| Evaluate RNAs [36 CFR 219.12 (k)]. | Ocular, plots, transects, GIS [ecologist: D. Erhard]. | Designated RNAs. | The Mill 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) | Onsite or photo-point monitoring [landscape architect: K. Ortiz]. | Projects where scenic resources is a key issue, and special areas such as campgrounds, gravel | Many of the sites monitored for 2010 are the same sites monitored in 2009 (relative | Additional assessment of visual effects from the bark beetle epidemic need to occur during |

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| were met. Assess changes in SIO with respect to ROS. | | pits, and utility sites. | to meeting SIOs).<br><br>*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.<br><br>*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.<br><br>*Highway 160 Project*: Some rock walls are not in compliance with SIOs, since pre-split holes can be seen. These will continue to be monitored.<br><br>*Windy Point to Lonesome Dove phase of the Highway 160 Project*: This area is now in compliance.<br><br>*Lake Fork Trailhead Highway 160 Project*: Is currently in compliance and meeting the SIO of high. The Wolf Creek Ski Area analysis identified the need to change the SIO at the Wolf Creek Ski Area to make it compatible with the existing visual situation.<br><br>North Clear Creek Falls Project Area is in compliance with the SIO of high.<br><br>The *County Line Timber Sale* is not currently in compliance due to unforseen circumstances with blowdown and harvesting on the private land adjacent to the County Line Timber Sale. This area will be continued to be monitored throughout 2011 and beyond for any changes to scenic resources. The rock site along Highway 160 west of South Fork has a berm along Highway 160 that | project analysis. In addition, more simulations can provide timber coeficients to determine the appropriate level of trees to be left during harvest to still meet the minimum requirements of the scenic integrity objectives.<br><br>No other changes in the Forest Plan recommended. |

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| | | | has revegetated but is still in use for construction. The wetland below is in compliance as all fencing was pulled in September of 2009. | |
| 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 2010 as there was no specific project related to this. | 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 2010. 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 S&Gs should be updated during the next plan revision. |
| **Soil Productivity** | | | | |
| Assure that land productivity is maintained or improved. | (1) Monitor soil quality standards [Soil Scientist: Dustin Walters (TEAMS EU)] | Burro Blowout. | Overall, potential harvested units checked within the analysis area are meeting the 15% limit for allowable detrimental soil conditions. | 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. | 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: Dustin Walters (TEAMS EU)]. | Provided on range projects. | Field review found the current grazing management on Saguache Park, Shallow and Crooked Creek and Stoney Pass allotments is maintaining and generally improving the soil productivity over the majority of the area and thereby meets the RGNF plan objectives. Areas of concern were discribed and documentated and will be addressed as per design criteria. | No changes in the Forest Plan recommended. |
| | (4) Mass-movement evaluation by monitoring existing and potential problem areas [soil scientist: | No new projects needing mass-movement evaluation. | | No changes in the Forest Plan recommended. |

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| | Michael McNamara (TEAMS EU)]. | | | |
| M&E soil productivity [36 CFR 219.12 (k)]. | Onsite review and use of pre-existing photo points [soil scientist]. | No new or continuing projects assessed. | | 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.<br>The Wagon Wheel Gap Watershed Experiment Station SIA (historical) was visually monitored. 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 and the Wagon Wheel Gap Watershed Experiment Station SIAs were evaluated for this component. Monitoring did not reveal that the 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 2010, a total of 1,985 acres were surveyed for or certified as fully stocked within the Million Fire Salvage Area. | No changes in the Forest Plan recommended. |
| Assess timber suitability [36 CFR 219.12; 219.27]. | (1) Standard suitability determination at the Forestwide level [Forest silviculturist/program manager]. | Forest Supervisor's Office, Monte Vista, Colorado. | Forestwide suitability assessments were not planned or completed in 2010. | No changes in the Forest Plan recommended. |
| | (2) Standard suitability determination at landscape or project level [Forest silviculturist/ program manager]. | Forest Supervisor's Office, Monte Vista, Colorado; and District Offices: Conejos Peak – La Jara, Colorado; Divide – Del Norte, Colorado; Saquache – Saguache, Colorado. | Landscape or project-level suitability assessments were not planned or completed in 2010. Suitability for current projects under analysis were previously assessed for suitability in 2007. | No changes in the Forest Plan recommended. |

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| 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<br><br>Areas undergoing extensive natural disturbance. | Insect and disease infestations were surveyed on 50,934 acres. See the narrative description for details. Surveys were conducted to validate aerial photo flight data and to assess current infestation locations and extent. Surveys 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. | Continue insect and disease assessments.<br><br>No changes in the Forest Plan recommended. |
| 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 locations were noted in inspection reports in 2010. Planned timber sale harvest units that were layed out in 2010 were checked to ensure harvest unit sizes meet accepted opening standards as documented in NEPA decisions. No irregularities were noted. All units prepared in 2010 meet accepted standards. Some minor amounts of blowdown have occurred around harvest unit openings, but not in sufficient amounts that would create openings in excess of accepted standards for opening sizes. | No changes in the Forest Plan recommended. |
| Assess implementation of silvicultural objectives during pre-sale, | Review silvicultural prescription, onsite inspections, validate before/after photo points, density measurements [Forest | *Pre-sale:* La Manga II Salvage, Grouse III Salvage, Neff II Salvage, Spruce Park Salvage, Cathedral Salvage, Ruston | *Pre-sale* reviews indicated that the sales were being prepared to achieve the silvicultural objectives for sales evaluated. | No changes in the Forest Plan recommended. |

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| harvesting, and post-sale review periods. | silviculturist/ program manager]. | Salvage, Rock Creek Beetle Salvage, Spanish Poles 4, Duck Pond, Brown's Creek A & B Salvage, Bennet I Beetle Salvage, Lost Aspen, Moab Salvage, Del Norte Peak Blowdown Salvage, El Gato Salvage<br><br>*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<br><br>*Post-sale:* Blowout II Salvage, Cerro Rojo Salvage, Finger Mesa Beetle Salvage | *Harvesting* reviews indicated that the sales were being implemented in accordance with the silvicultural objectives for the sales evaluated.<br><br>*Post-sale* reviews indicated that the sales met the silvicultural objectives for the sales evaluated. | |
| 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, Colorado; and District Offices: Conejos Peak – La Jara, Colorado; Divide – Del Norte, Colorado; Saquache – Saguache, Colorado. | *Silviculture Program:* Forest achieved 1,985 acres of a 1,912-acre planned FOR-VEG-EST target (104%). Forest achieved 1,159 acres of a 940-acre planned FOR-VEG-IMP target (123%). A Cone Collection project was not implemented due to poor cone crops. Will attempt collection again in 2011.<br><br>*Timber Program:* The amount of timber sale volume offerred was 100.3% (26,584 ccf), but award was only 28.5% (4,560 ccf) of what was planned (26,500 ccf). Award of two sales, El Gato Salvage (18,474 ccf) and Del Norte Peak Blowdown Salvage (550 ccf) were delayed due a turnback road situation on the former and an extended financial review requirement on the latter, which delayed award by 5−6 months, respectively. | No changes in the Forest Plan recommended. |

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| Assess timber program [36 CFR 219.12 (k)]. | Comparative evaluations [Forest silviculturist/program manager]. | Forest Supervisor's Office, Monte Vista, Colorado; and District Offices: Conejos Peak – La Jara, Colorado; Divide – Del Norte, Colorado; Saquache – Saguache, Colorado. | The Forest reviewed Forest Plan (Forestwide) 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.<br><br>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.<br><br>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. | No changes in the Forest Plan recommended. |