

## **Rio Grande National Forest – Assessment 8.1 Multiple Uses – Scenic Character**





## Introduction

This assessment will focus on the current condition of scenic resources on the Rio Grande National Forest as defined in the Multiple-Use Sustained-Yield Act with additional direction outlined in FSH 1909.12 Land Management Planning Handbook, Chapter 10 – The Assessment; Section 13.4 – Assessing Recreation Settings, Opportunities and Access, and Scenic Character. The Forest Service policy documented in Landscape Aesthetics: A Handbook for Scenery Management provides a systematic approach for determining the relative value and importance of scenery on National Forest System lands.

Ecosystems provide environmental context for the scenery management system. Ecosystems as recreational settings greatly affect the quality and effectiveness of the recreation experience. A key attribute of recreation settings is the quality of aesthetics. The scenery management system is used in the context of ecosystem management to inventory and analyze scenery on National Forest System lands, to establish overall resource goals and objectives, to monitor scenic resources and to ensure high quality scenery for future generations. The scenery management system “is a tool for integrating the benefits, values, desires, and preferences regarding aesthetics and scenery for all levels of land management planning” (USDA Forest Service 1995).

National Forest System Lands that are the backdrop of adjacent communities provide a sense of place and contribute to the identity of those communities, and provide an integral component of forest settings. The Sangre de Cristo Mountains jagged peaks are an integral part of the community of Crestone’s unique setting, while Bristol Head and Wason Park are integral parts of the scenery above Creede. These landscapes give these communities their identity. It is important to manage scenic resources to ensure quality sightseeing and other recreation opportunities for the public, as well as maintaining natural landscapes for communities adjacent to the forest.

Natural-appearing scenery provides the basis for high quality recreation experiences on the Rio Grande National Forest. The 1996 Forest Plan set standards and guidelines for scenic resources management across the forest that have high to low objectives. The highest categories for scenic character includes the forest’s wilderness areas, the Los Caminos and Silver Thread Scenic Byways, the Old Spanish National Historic Trail and Continental Divide National Scenic Trail, major travel corridors, trails, recreation destinations and several reaches of rivers managed for their wild and scenic values. Management of multiple resources has, to varying degrees, altered the natural landscape character. The most obvious effects to scenic resources have been from vegetation and landform alterations. Resource management activities that have altered scenic resources include but are not limited to timber management, oil and gas extraction, mining, roads and trail development, campgrounds and picnic grounds, ski area development, fire management (suppression and prescribed burning), and livestock grazing.

Since 1996, the overall scenic character on the Rio Grande National Forest has changed due to recent drought, large scale insect and disease epidemics covering viewsheds in the South San Juans and Weminuche wilderness, windthrow events and wildfire; including the Million Fire in 2002, and West Fork-Windy Pass-Papoose complex in 2013. In addition, ongoing road re-alignment work on US Highway 160 over Wolf Creek Pass, Colorado Highway 149 and FR 250 up Conejos Canyon continues to change the character of those travel corridors while still providing high-quality scenic resources. There will be 2 to 3 more phases of blasting and road re-alignment for the Highway 160/Wolf Creek Pass construction, and Forest Plan scenic standards will be critical to the completion of this project. The 1996 Forest Plan provided forestwide standards to protect scenic resources on the Rio Grande National Forest which have provided key direction for highway construction and blasting, harvesting along scenic byways, and salvage timber projects tied to insect and disease.

Similar to the recreation opportunity spectrum discussed as a tool for recreation management in Assessment 9, the forest uses the scenery management system as a tool for scenery management. The scenery management system and recreation opportunity spectrum are tools which need to work hand-in-hand in a compatible manner; the recreation opportunity spectrum considers levels of development and the scenery management system corresponds with levels of natural-appearing landscapes.

The 2012 Planning Rule defines scenic character as:

A combination of the physical, biological, and cultural images that gives an area its scenic identity and contributes to its sense of place. Scenic character provides a frame of reference from which to determine scenic attractiveness and to measure scenic integrity (36 CFR 219.19) (USDA Forest Service 2013).

## Information Sources and Gaps

This section identifies and evaluates existing information that is relevant to scenic character on the Rio Grande National Forest. Internal sources of existing information related to scenic character used include:

- Scenery Management System: The Forest Service uses the scenery management system principles and concepts from Landscape Aesthetics Handbook FSH 701 to inventory, plan for and manage scenic resources (USDA Forest Service 1995).
- National Visitor Use Monitoring Reports: 2005, and 2010 national visitor use monitoring data are used throughout this document and provide the most relevant, reliable and accurate information on forest visitation. National visitor use monitoring data are collected using a random sampling method that yields statistically valid results at the forest level.
- Forest Plan Monitoring Reports from 2005, 2009, 2010, and 2012
- Rio Grande National Forest Recreation Facilities Analysis 2008: The recreation facilities analysis guides the Forest in providing a quality, sustainable recreation sites program. It describes the vision for the overall Forest recreation program and outlines proposals specific to individual developed recreation sites.
- 1996 Land and Resource Management Plan (Forest Plan)

Additional sources of information include:

- 2014 State of Colorado Comprehensive Outdoor Recreation Report
- Outdoor Recreation, Sense of Place, and Aesthetics Research Papers
- State and Regional Travel and Tourism Reports
- Chamber of Commerce Information from local communities

### **Information Gaps**

- A review of real estate values and the association of the value of properties with views of the Forest was not conducted. This information could be helpful in displaying the importance of sustaining natural appearing landscapes
- Visibility mapping completed and digitized into GIS during the 1996 forest planning effort, essentially the map of the 1990 existing visual condition. Other map layers seem to be missing as well (distance zone mapping, and concern levels). To generate scenic classes the scenic attractiveness

inventory has to be geospatially combined with the visibility coverage which includes both concern levels and distance zones.

## Existing Forest Plan Direction

The Forest identified the two settings in the 1996 Forest Plan below based on scenic values.

**Scenic Corridors-** These paved corridors connect the forest and public lands to the San Luis Valley floor. Visitors have opportunities for adventure on the water and enjoying the scenic views, wildlife and history along these corridors. These corridors facilitate access to rivers and streams and opportunities for learning about the natural and cultural heritage of the forest. The main recreation activities in the scenic corridors include fishing, nonmotorized boating, driving for pleasure, viewing scenery and wildlife, developed camping, and picnicking.

**Scenic Backways/Forest Service Roads with High Sensitivity Levels-** These unpaved routes are more rugged and offer outstanding opportunities to get away, enjoy scenery, and learn about history. These backways provide forest visitors access to backcountry driving and opportunities to get away, view scenery and learn about history. Primary recreation opportunities along the backways are fishing, driving for pleasure (including OHV), viewing scenery and wildlife, developed and dispersed camping, and picnicking.

### ***Desired Conditions***

The outstanding scenery of the Rio Grande National Forest is a major attraction for visitors. Management is focused on maintaining this high scenic quality, especially of areas seen from road and trail corridors, developed recreation sites, administrative sites, and towns and cities near the Forest. Encourage vegetative diversity and feature scenic attractions. Areas exceeding unacceptably low scenic integrity levels are identified, mapped, and rehabilitated to a higher scenic integrity objective.

### ***Objectives***

4.1. Provide natural-appearing landscapes with diverse scenery, and increase access to recreation opportunities in attractive settings.

- Meet the scenic integrity objectives as described in the Forest Plan.

### ***Standards and Guidelines***

#### **Standards**

The scenic integrity levels, based on current landscape character, are usually accepted as the scenic integrity objectives unless highly unusual or special circumstances identify a need to change, and will be limited to:

- Treatment of small-diameter/suppressed lodgepole pine stands.
- Harvest as a result of a disturbance such as fire, windthrow, or insect and disease infestations.

Variations in the scenic integrity objectives may dominate the valued landscape character, but must borrow from the valued attributes such as size, shape, edge effect, and pattern of natural openings, and still meet the minimum requirements of the next-lower objective chosen.

Management activities inconsistent with the scenic integrity objective will be avoided unless a decision is made to change the scenic integrity level. A decision to change the scenic integrity objective will be documented in a project-level NEPA decision document.

If field analysis identifies a need to correct the inventory of scenic integrity objectives, the correction will be recorded in an environmental analysis document, approved, and the forest inventory will be updated. Conditions that could warrant a change in scenic condition levels are:

- Discrepancies in "inherent scenic attractiveness" classification.
- Changes in "viewer location" and "sensitivity level."
- Discrepancies in "seen area" mapping.

**Table 1. Scenic integrity levels**

Scenic Integrity Level	Very High	High	Moderate	Low	Very Low
Acres	429,477	1,078,284	342,090	6,939	0
Percent	22	56	18	<1	0

About 3 percent or 61,516 acres of the forest were identified for the interim objective of rehabilitation. All areas identified under the category “very high” are in designated wilderness areas.

## Guidelines

For areas which do not currently meet the scenic integrity level, use the interim objective of "rehabilitation."

Management Area 8.22 the Wolf Creek Ski Area manages its facilities to blend with the area’s natural background features. Lines and forms indicating past activities and geometric shapes associated with the ski trail and lift development are “softened” as opportunities become available.

Eligible wild rivers are managed to provide a naturally appearing landscapes along the streams. Eligible scenic rivers corridors are managed to be naturally appearing. Eligible recreation rivers corridors have a variety of multiple use management activities; however the landscapes along the stream should be naturally appearing.

## Management Area Direction

Each management area has a range or a mosaic of scenic integrity objectives. This range of scenic integrity objectives is due to topography, seen area, proximity to heavily used corridors or recreation sites, and scenic byways. The determination of scenic integrity objective relates to the theme, setting and desired conditions for the specific management area.

## Monitoring

The monitoring of scenic resources helps the Rio Grande National Forest landscape architect and the public determine the amount and duration of changes of the existing landscape character, and to determine if the landscape’s appearance is progressing toward the desired goal.

There is a two year natural rehabilitation period for all activities affecting scenic resources. Activities are expected to come into compliance with mapped scenic integrity objectives within this period. After the

two-year period, the landscape architect will monitor remaining disturbance levels, using on-site inspections and "before" and "after" photographs, to determine if scenic integrity objectives have been met.

## Scale of Analysis

The scale of analysis for this assessment is primarily the Rio Grande National Forest, the boundaries with the Pike San Isabel, Gunnison, San Juan National Forests, as well as the boundary with the state of New Mexico and the Carson National Forest with a few inclusions of Park Service, BLM and State and private lands, and national level travel associated with recreation activities.



**Figure 1. Photo of the community of Creede with the Bachelor Loop Historic Mining Landscape in the background**

## Scenic Character on the Rio Grande National Forest

The Rio Grande National Forest provides a scenic backdrop and sense of place for many communities in the San Luis Valley in Southern Colorado. This region is heavily influenced by early Spanish settlers who brought their culture and practices with them when they arrived. Originally, the valley belonged to the Spanish Crown; and historic buildings, communities, agricultural and irrigation practices are what give this valley its identity. The communities include, but are not limited to, Alamosa, Crestone, Hooper, Moffat, Villa Grove, Saguache, Monte Vista, Del Norte, South Fork, Creede, Antonito, Mogote, Horca, and Platoro. The San Luis Valley is over 8,000 square miles; bounded on the east side by the Sangre de Cristo Mountains, on the west by the South San Juan Mountains, and the New Mexico State border to the south. Many of these communities adjacent to National Forest System lands associate the forest with their identities. Creede is surrounded by the Rio Grande National Forest and has a history that relates to mining from the 1800s. It is adjacent to the Silver Thread Scenic Byway and is unique because it is isolated from other communities. Recreationists come here to take advantage of the big game hunting opportunities,

rafting on the Rio Grande, and access to Weminuche and La Garita Wilderness Areas. South Fork identifies itself with the skiing at Wolf Creek that claims “the most snow in Colorado”; numerous hiking, biking, horseback, and ATV riding trails; and blue ribbon fishing on the forest. Monte Vista was named for the views of the surrounding mountains and vistas. Crestone is unique in that it sits at the base of the Sangre de Cristo Mountains. The communities along the Conejos Canyon, Antonito, Mogote, Horca and Platoro identify themselves with access to abundant summer and winter recreation activities such as fishing, wilderness hiking and horseback riding as well as large high alpine meadows for spectacular cross-country skiing and snowmobiling opportunities in the South San Juan Mountains. Additionally, these communities are connected by the Los Caminos Antiguos Scenic Byway and the Cumbres and Toltec Narrow Gauge Railroad (figure 15 through figure 18)<sup>1</sup>.

Mosaics of forested stands and open meadows or parks occur across the forest. Lower elevations are dominated by pinyon-juniper stands. Riparian corridors are fringed with cottonwood and other riparian vegetation. Aspen stands are intermingled with mixed conifer; with spruce-fir stands dominating the middle-elevation forest. Topography varies from rugged peaks to rolling hills and some mesas with high deserts. Well known landforms include Natural Arch, Wheeler Geologic Area and Basin, and Summer Coon Volcanic Area. Penitente Canyon and the Rock Garden are a worldwide destination for sport rock climbing. Some of the highest summits in Colorado are in the Sangre de Cristo mountains including the rugged Kit Carson Peak at 14,165 feet, Mt. Adams at 13,937 feet, Columbia Point at 13,980 feet, Challenger Point at 14,801 feet, Humboldt Peak 14, 070 feet and Crestone Peak 14,294 feet elevation.



**Figure 2. Photo of the Wheeler Geologic Area**



**Figure 3. Photo of North Clear Creek Falls**

The Rio Grande National Forest encompasses the headwaters of the Rio Grande River at the top of Stoney Pass. Many visitors seek out a view of the 100 foot drop of North Clear Creek Falls. Other popular water falls include Piedra Falls, Saguache falls, Silver Falls, and South Clear Creek Falls. Many eligible wild, scenic and recreational rivers flow through the forest and all include scenery as an outstandingly

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<sup>1</sup> All maps are located at the end of this assessment. High-resolution maps are available electronically on the Rio Grande National Forest [website](#).

remarkable value. The eligible wild rivers are North Fork Conejos River, Middle Fork Conejos River, El Rito Azul, Toltec Creek, Hansen Creek, and Saguache Creek. Eligible scenic rivers are Archuleta Creek, West Fork Rio Chama, East Fork Rio Chama, Lower Rio de los Pinos, Portion of Medano Creek, Little Medano Creek, a portion of South Fork Rio Grande, Rio Grande (Box Canyon), and West Bellows. The eligible recreation rivers are Medano Creek, South Fork of the Rio Grande, Lower Rio Grande River, and Conejos River. Large reservoirs provide visual interested and special places in the Forest. These include Big Meadows, Santa Maria, Road Canyon, Rio Grande, Continental, Platoro, and La Jara.

Naturally evolving landscapes are showcased in the Sangre De Cristo, La Garita, Weminuche, and South San Juan Wilderness areas. There are numerous inventoried roadless areas across the forest providing natural appearing landscapes. The landscapes of the forest change throughout the year with the seasons providing excellent winter scenery and recreation opportunities as well as a spectacular display of wildflowers in the summer, and sight-seeing during the fall colors.



**Figure 4. Photo of the East Fork Rio Chama eligible wild and scenic river**

There are two scenic byways, the Silver Thread and Los Caminos Antiguos. The Silver Thread Scenic Byway runs through the communities of Creede, South Fork and Lake City up to Curcanti National Park on 75 miles of Colorado Highway 149. Views of the Forest include the resurgent dome near Creede, the Pyramid in the Weminuche Wilderness the Rio Grande River Corridor, and Bristol Head Overlook. Along the way visitors can take in geologic features, view historic sites and wildlife among many other recreation activities.

The Los Caminos Scenic Byway is also known as the Ancient Road. About 35 miles of the scenic byway are on the forest. Visitors can see the scenic Conejos River, Conejos Canyon Overlook, Rio de los Pinos, portions of the South San Juan Wilderness, and the Cumbres and Toltec Scenic Railroad. The portion of the Cumbres and Toltec Scenic Railroad and the scenic byways on the Forest are managed identically. The scenic railroad parallels Rio de los Pinos and the Toltec Canyon.

The train [climbs up] to the 10,015 foot high Cumbres Pass, the highest mountain pass reached by rail in the United States. The train hugs a sheer rock face as it reaches the summit, where there are alpine meadows sprinkled with wildflowers. The aspens have

given way to tall, dark green conifers that frame the spectacular vistas. High quality scenic landscapes surround these byways and scenic railroad ([cumbrestoltec.com](http://cumbrestoltec.com)).

A 170 mile portion of the Continental Divide National Scenic Trail runs along the western boundary of the forest. The Lake Fork and West Lost Creek National Recreation Trails are also on the forest. The Colorado Trail winds through the forest around 80 miles following the west side of the forest boundary.

Figure 6 and figure 7 portray the distinctive scenic characteristics of the Rio Grande National Forest.



**Figure 5. Photos of fall colors at Lookout Mountain**



**Figure 6. Photo of the Treasure Creek drainage looking at the South San Juan Wilderness**



**Figure 7. Photo of Chama Basin**

## Existing Conditions

Nearly 50 percent of National Forest System lands are either designated wilderness areas or are managed roadless areas. These areas of the forest provide an abundance of natural appearing landscapes. Between 1945 and 1993 approximately 8 percent of the forest had been managed for timber harvesting. No records of historical timber activities were kept prior to 1945. However, there is evidence that timber harvesting for railroad ties and mine timbers occurred prior to keeping records. Roughly thirty percent of National Forest System lands are suitable for timber harvesting in the following cover types Engelmann spruce/subalpine fir, aspen, Douglas-fir, lodgepole pine and ponderosa pine. The landscapes identified as suitable for timber harvesting may be viewed as slightly altered to heavily altered at any time depending on implementation of planned management activities.

Natural disturbances affect forest landscapes to varying degrees. Typically the events that create the most notable changes in the landscapes are insect and disease infestations, and fires that burn outside the range of historic variability.

In general, natural forest disturbances that result in extensive areas of dead or dying trees (Haider and Hunt 2002, Ribe 1990), such as the destruction of the forest by fire or flooding, are perceived negatively (Daniel 2001; Fanariotu and Skuras 2004; Gobster 1994, 1995). For example, unburned pine forests receive higher ratings on scenic quality than burned areas (Scott 1998, Taylor and Daniel 1984). Insect-damaged forests received negative ratings, especially when survey participants were informed beforehand of the cause of the deforestation and leafcolor change (Buhyoff et al. 1979, 1982; Hollenhorst et al. 1993). However, natural disturbance that is less severe, such as less intense fires that burn the understory but do not kill mature trees, often creates more preferred forests, especially over time (Patey and Evans 1979, Taylor and Daniel 1984) (Ryan 2005).

When the 1996 forest plan was finalized, the majority of the forest was in a natural appearing condition. Inventoried areas that appeared altered and heavily altered were present in a few viewsheds identified for

rehabilitation. Those viewsheds are Crystal Lakes, Pool Table, Love Lakes, Rawley Area, Lake Fork, Groundhog Park, Workman Creek, Trujillo Meadows, Antelope, Johns Creek, Houghland Gulch, North Pass, Hillman Park, Luders Creek, Sargents Mesa, Bear Creek, Bonito, Shawcroft Cow Camp, and Treasure Creek. Rehabilitation is a short-term management strategy used to restore landscapes containing undesirable visual impacts to a desired scenic quality.

Existing scenic integrity was evaluated in 1990 (Clum-Ortiz 1994). The results of that inventory by acres of existing scenic condition across the Forest are displayed in table 2.

**Table 2. Acres of existing scenic condition**

Existing Scenic Condition	Acres	% of Forest
1. Natural Appearing	1,506,638	81%
2. Slightly Altered	288,383	16%
3. Altered Appearing	34,674	2%
4. Heavily Altered	26,842	1%

**Natural Appearing:** A viewshed where no more than 5% of the area is visually modified.

**Slightly Altered:** A viewshed where no more than 10% of the area is visually modified.

**Moderately Altered:** A viewshed where no more than 20% of the area is visually modified.

**Heavily Altered:** A viewshed where no more than 20% of the area is visually modified.

This inventory was conducted during the Rio Grande National Forest planning process in the 1990s prior to the release of the Official Landscape Aesthetics Handbook 701 (FSH 701). Some of the processes and terminology are inconsistent with the handbook such as the categorization of existing scenic condition. The handbook provides inventory direction for existing scenic integrity of forest landscapes. However, there is some overlap since the terms in the definitions above are used in FSH 701 in the descriptions of existing scenic integrity.

A variety of landscapes across the forest are managed to appear natural. This is done through a variety of management scenarios including providing semiprimitive-nonmotorized recreation settings, roadless areas, and designated wilderness areas. Refer to figure 18 for a map showing the extent of natural landscapes.



**Figure 8. Photo example of a natural appearing landscape near Rio de Los Pinos drainage**



**Figure 9. Photo of a moderately altered landscape near Wolf Creek Pass**



**Figure 10. Example of a moderately to heavily altered landscape at Wolf Creek Ski Area**

## Trends

Since 1996, much of the characteristic landscape of the Rio Grande National Forest has changed due to drought conditions and insects and disease infestation on the forest, particularly in mature spruce stands. This has caused a jump in wildfire incidents culminating in the West Fork Fire Complex which burned over 80,000 acres of the Divide Ranger District in 2013. The spruce beetle epidemic has a nearly 100 percent mortality rate in the mature stands across the forest. It is expected that more significant fire incidents will occur based on fuel loads, weather patterns and changing climate conditions.

### ***Trends Affecting the Importance of Scenic Character in the Plan Area***

#### Changes in Tourism and Recreation Related to Sight Seeing

The 2005 and 2010 National Visitor Use Monitoring report showed that the majority of people recreating on the forest either live in communities within 50 miles of the forest, or they are from out of state and travel from over 500 miles away to enjoy the forest. Approximately 26 to 27 percent of recreation visitors traveled between 100 and 500 miles to the forest. The majority of visitors only spent time at a single recreation destination on the forest. In 2005, downhill skiing, hiking/walking and cross-country skiing were the primary recreation activities. In 2010, downhill skiing, viewing natural features, and hiking/walking were the primary recreation activities. For both reports, almost all of those who reported these as their primary activity also reported viewing scenery as a secondary activity. In 2005, about 66 percent of respondents reported that they participated in viewing natural features and driving for pleasure although these activities were not their primary activity. This changed in 2010, with about 71 percent of respondents reporting that they participated in viewing natural features and driving for pleasure, and about 20 percent of that group reporting it as the primary activity. The [national visitor use monitoring](#) surveys indicate a trend of increasing participation in viewing natural features and driving for pleasure over the five year period.

The Colorado 2014 State Comprehensive Outdoor Report includes a range of information regarding scenic resources and recreation activities across Colorado and on the Rio Grande National Forest. The Colorado Department of Wildlife and Parks defined seven outdoor recreation planning regions within the state. The Rio Grande National Forest falls within the southwest and south central regions. Findings of the report show that “Colorado’s population increased by 16.9 percent between 2000 and 2010—substantially higher than the national average of 9.7 percent. The state is expected to continue to grow by a similar rate, giving Colorado a population of just under 6 million people by 2020. Approximately 4 million Colorado residents participate in a form of outdoor recreation annually. With trends indicating increased participation rates nationwide, this is likely a conservative estimate. Residents from the Southwest Region are the least likely to travel to other regions for recreation” (State of Colorado 2014).

### ***Trends Affecting the Condition of Scenic Character in the Plan Area***

National Forest System Lands are managed for multiple uses. Those uses include and are not limited to oil and gas development, vegetation management, wildlife habitat improvements, developed recreation sites, trails and ski areas, and utility corridors. These management activities typically impact scenic resources, but not to the same extent for all activities. Therefore, it is important to consider scenic resources during project planning.

Natural events such as wildfire and insect epidemics can alter the vegetative composition of the landscape at varying scales and levels of intensity. A stand-replacing wildfire that burns outside of the natural range of variability could dramatically impact scenic resources over a long period of time. In contrast, localized patches of insect infestation may cause tree mortality in a random pattern across a landscape level area. The mortality would impact scenic character, but may not be a dramatic decline in the overall condition of the scenic character at the landscape level scale.



**Figure 11. Photo of the Papoose Wildfire burn area in 2014**

## Fire and Fuels Management

Since the Forest Service released the “Guidance for Implementation of Federal Wildland Fire Management Policy” on February 13, 2009 the forest has incorporated this direction into management of fire and fuels. 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. Refer to the fuel reduction treatments map figure 19, which is based on the Forest FACTS geographic information system (GIS) coverage for locations of treatments over the life of the Forest Plan.



**Figure 12. Photo of the County Line Timber Sale**

## Timber

The 2009 forest monitoring report states that timber resources across the forest reflect structure and composition within a natural range of variability. After the Forest changed from mostly clearcutting to other regeneration harvest systems such as shelterwood and uneven-aged management in the mid-1970s, regeneration has been consistently successful with natural stocking from surrounding seed tree sources. The naturally occurring annual addition of new trees in mixed conifer forests has resulted in adequate stocking (USDA Forest Service 2010).

Monitoring associated with timber harvest has identified some projects where design features have not been fully implemented, or require additional mitigation in order to comply with the forest plan.

Figure 20 and figure 21 map timber and wildlife habitat improvement projects that have been completed under the current forest plan. These maps were created based on the Forest FACTS GIS coverage. Figure 20 displays activities from 1993 to 2003. Some of these management activities have had time for regrowth and may now appear more natural since it has been quite a while since implementation. Figure

21 shows management activities that have occurred in the last decade. These activities may be more readily visible across the forest since they are more recent. Depending upon the activity itself and any design features applied to meet direction for scenic resources, the majority of activities should blend into the natural surrounding landscape.

### Insect and Disease

Forestry personnel, with the assistance of entomologists out of the Gunnison Forest Health Protection Service Center, have been actively monitoring insect and disease activities across the forest. While there has been some success in control activities, overall forest health is declining with serious levels of insect outbreaks, likely related to the extended drought and mild winter temperatures. Additionally, many of the areas with insect and disease problems occur in the habitat and habitat linkages for the Canada lynx. Control strategies for effectively treating stands affected by insect and disease populations are limited in lynx habitat, some forestwide prescription areas or areas with access issues. Impacts from the spruce beetle are expected to affect 100 percent of the mature spruce/fir stands across the Rio Grande National Forest based on flight data and expert projections. Insect and disease surveys on the east side of the Rio Grande National Forest identified a defoliator in the oak brush on BLM lands. A severe outbreak of western spruce budworm in the Sangre de Cristo Wilderness was also observed. Juniper trees within riparian areas across the forest are also experiencing a severe decline suspected to be caused by wind-borne fungi. Insect and disease surveys confirmed suspected areas of sudden aspen decline on the north end of the Rio Grande National Forest. In the 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 in those areas (USDA Forest Service 2010).



**Figure 13. Photo showing nearly every mature spruce killed by spruce beetle in the Creede Area of the Rio Grande National Forest. Photo Courtesy Brian Howell.**

The rapidly expanding spruce bark beetle epidemic has affected about 350,000 acres in the high elevation spruce-fir cover type (USDA Forest Service 2011). From 2002 to 2010 spruce bark beetle populations and infested areas expanded from 324 to 334,772 acres across the forest. The 2013 Forest Monitoring Report stated that additional assessment of visual effects from the bark beetle epidemic need to occur during

project analysis. Refer to figure 13 for an example of change in the landscape due to the epidemic. Figure 8 and figure 9 illustrates salvage treatment of stands affected by the epidemic.



**Figure 14. Photo of dead trees caused by the spruce bark beetle epidemic at Cumbres Pass**

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) 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. (USDA Forest Service 2011)

### Developed Recreation

Developed recreation facilities on the Forest can be designed to complement and blend into the landscape whether they are Forest owned and operated facilities or facilities under special use permit. The Forest plan provides direction for facilities in various locations on the forest regarding the scenic integrity objectives they must meet. Since at least 2009 and potentially earlier, specific facilities at the Wolf Creek Ski Area need to be mitigated in order to comply with Forest Plan direction. This situation has been recorded in Forest Monitoring Reports since 1997.

### Sustainability of Scenic Character

Planning and analysis of multiple uses and their potential impacts on scenic resources is important for the sustainability of scenery on the Rio Grande National Forest.

Forest managers are increasingly being charged to manage the forest for multiple benefits (Kimmins 2002). Although there is certainly a wide range of constituent groups, from environmental organizations to hunters and industry representatives, that weigh in on forest planning and management decisions, studies suggest that the general public embraces a multiple-use perspective on forest management (Gan et al. 2000, Ribe 2002). The importance of managing forests for timber, as well as other nontimber uses, has been recognized in many regions and forest types (Gan et al. 2000, Gobster 2001a). Nontimber uses include wildlife habitat, hiking, camping, aesthetics, hunting, wildlife and bird watching (USDA Forest Service 1986, Clark and Stankey 1979). For the public who visit the forests, scenic beauty is an important aspect of its experience (Ribe 1994, USDA Forest Service 1995). Therefore, incorporating aesthetics into forest management is becoming increasingly important (Bacon and Dell 1985; Litton 1968, 1972; Ribe 1989; Tlusty and Bacon 1989).... professional foresters are becoming aware that landscape aesthetics has a critical influence on the public's response and support for management decisions (Ryan, 2005).

During project level analysis it is important that planning documents for all land management activities disclose whether or not the activity will meet the forest plan direction for scenery management. Identification of design features and/or mitigation to sustain scenic character and natural appearing landscapes for project implementation is important.

Monitoring scenic character is an ongoing need to identify areas that need further rehabilitation or if there are concerns with forest plan direction.

Other factors that contribute to the challenge of managing scenic resources are outside of the control of the Rio Grande National Forest such as population growth in adjacent communities that leads to increased wildland-urban interface and user created trails. Forest managers can only react to natural processes and events that affect scenic character including fire, drought, invasive species, insects and disease that primarily affect vegetation. Other natural processes affecting sustainability of scenic resources are meadow encroachment and conifer encroachment on aspen. These processes take place over a long period of time and would result in natural appearing landscapes. Floods and landslide have the potential to affect landforms, however these events are infrequent.

## Potential Scenic Character of the Plan Area

As shown in figure 18, the forest is dominated by natural appearing landscapes. As long as the forest continues to implement management activities that meet the scenic integrity objectives; and react to natural disturbances such as insect epidemics and large scale fires in ways that would reduce the impacts to scenic character, natural appearing landscapes should continue to dominate the forest. When recreation facilities are updated or newly constructed, efforts should be made to ensure the facilities meet the scenic integrity objectives and the Forest Service Built Environment Image Guide.

## Contribution of Scenic Character to Social, Economic, and Ecological Sustainability

Since scenery is an integral component of all recreation settings it is logical to correlate the economic contributions of recreation use on the forest to the management of scenic natural appearing settings.

Current efforts to brand and promote the “Colorado lifestyle” as an economic asset center on our state's unique natural beauty and outdoor heritage. Outdoor recreation is also one of the fundamental ingredients of the Colorado brand. At the core of the funding issue is

the need for increased recognition of the contribution of outdoor recreation to Colorado's economy and overall quality of life (State of Colorado 2014).

Scenic beauty has an economic value. Studies have shown that forests considered more scenic have a higher economic value and that this value is related to large-scale panoramic views of the forest (Fanariotu and Skuras 2004). Although economists strive to put a dollar amount on the aesthetic and other non-commodity values of natural resources such as forests; anecdotal evidence related to property values, vacation destinations, and even advertising reveals that people are willing to pay top dollar to enjoy, reside near, and visit scenic natural resources, including the Nation's national forests (Ryan 2005).

Outdoor recreation enthusiasts spend both their time and money pursuing a variety of recreation opportunities across the state.

Tourism is the second largest industry in Colorado, and a considerable portion of Colorado's tourism economy relies on outdoor recreation resources and public lands. Outdoor trips, touring trips, and skiing trips accounted for about 7.3 million overnight visitors in 2011. The popularity of outdoor recreation by both Colorado residents and nonresidents leads to significant consumer spending in the Colorado economy. Outdoor recreationists in Colorado spent more than \$21 billion dollars on trips and equipment in 2012 (State of Colorado 2014).

## Summary / Conclusion

Natural appearing scenic character is a key component of recreation settings that attract outdoor recreation participants of all walks of life. The Forest has recognized the important contributions that scenic character plays by emphasizing it in the Forest recreation niche. Management of scenic character needs to be planned in concert with the various multiple-uses that occur across the Forest to sustain the natural appearance.

Because the current forest plan was developed at the same time the scenery management system was being developed, there is inconsistent terminology in use. The new Forest plan, needs to be consistent with terminology of the official scenery management system and the 2012 Planning Rule. Forest Plan monitoring reports for scenic resources also recommend a need to make changes to the Forest Plan's scenic resource mapping and objectives along the Continental Divide National Scenic Trail, Wolf Creek Ski Area, and wildland-urban interface areas.

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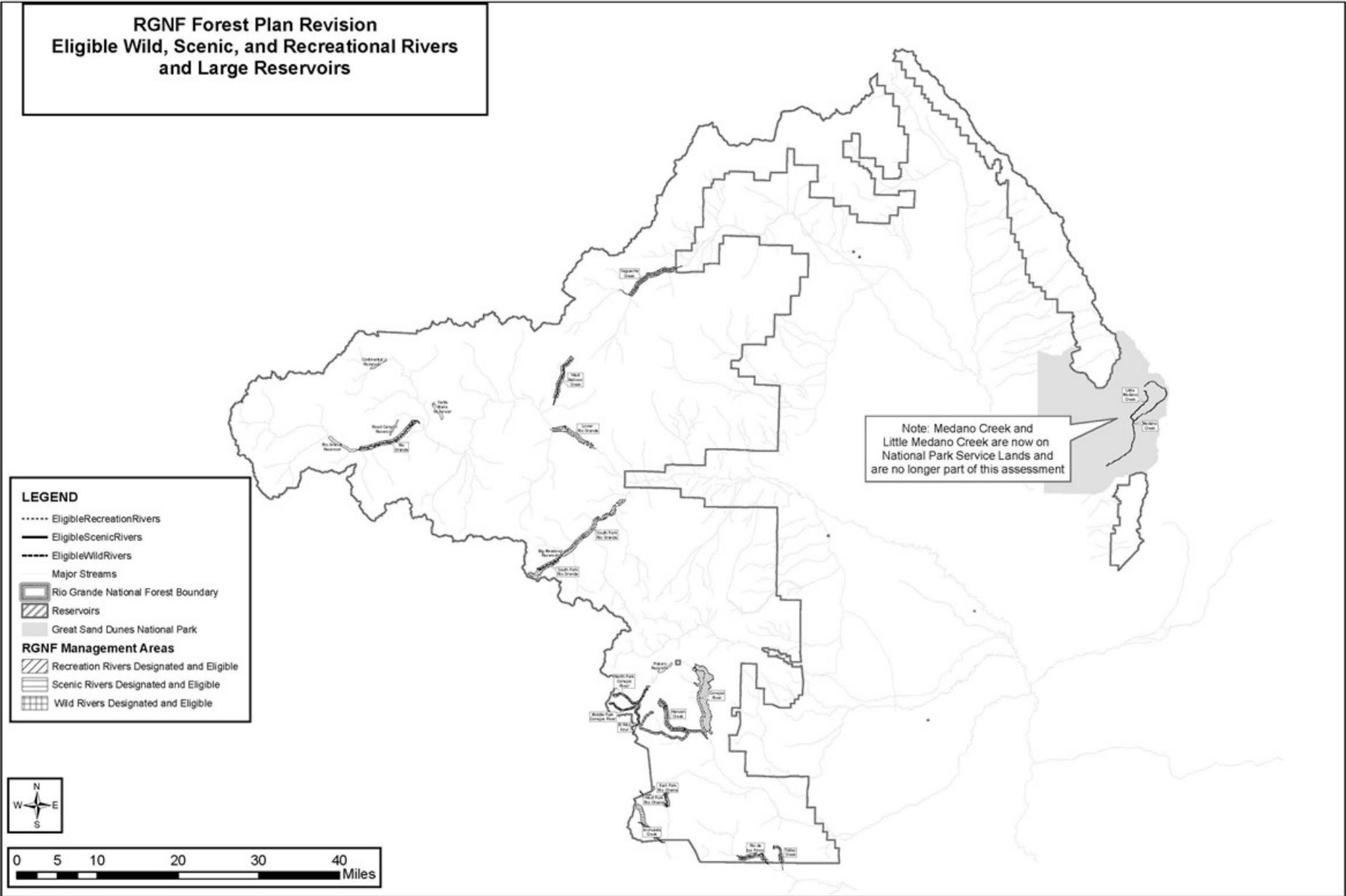


Figure 16. Map of eligible wild, scenic and recreational rivers and large reservoirs, and their current management status

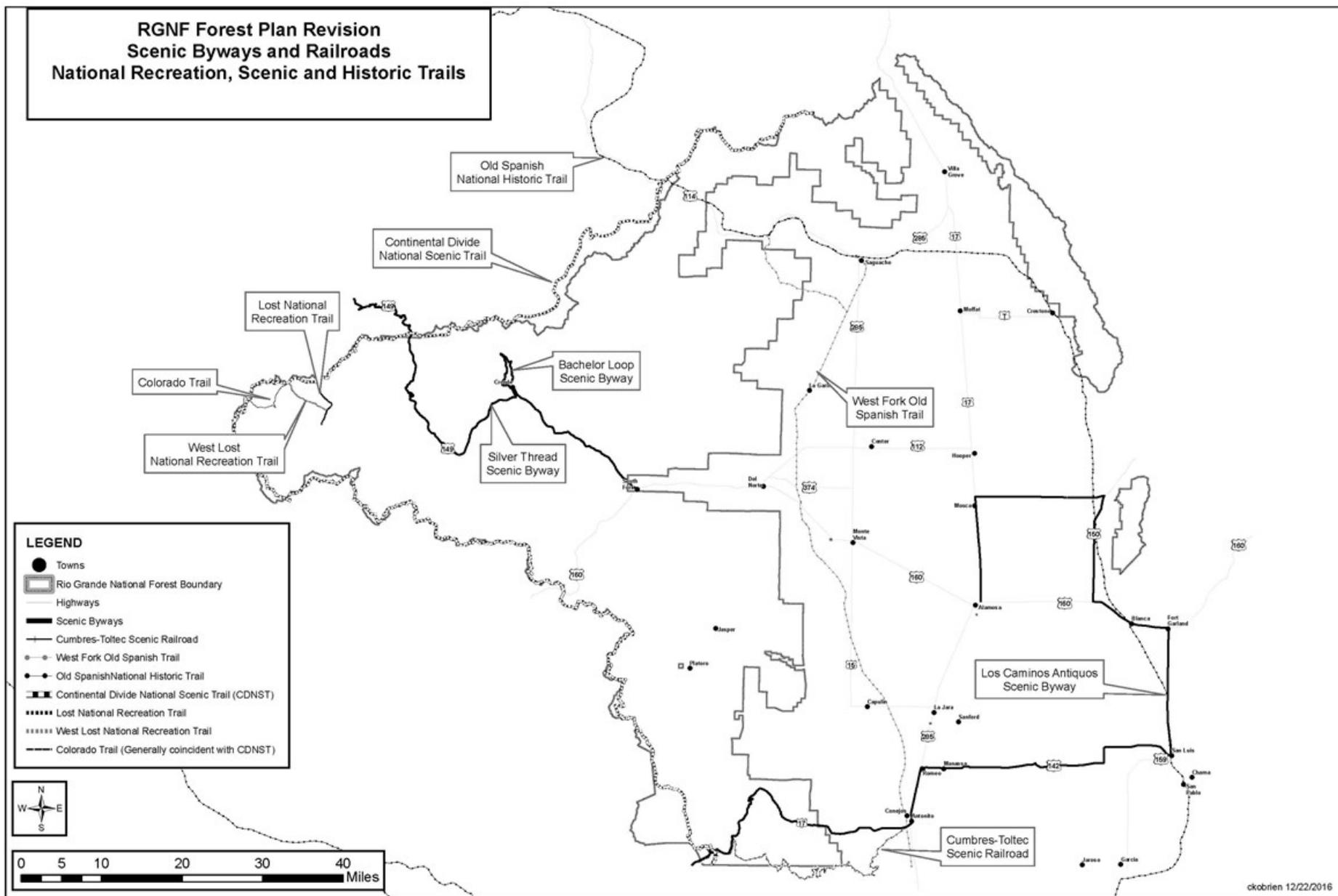


Figure 17. Map of scenic byways and railroad, national scenic and recreation trails, and State trails

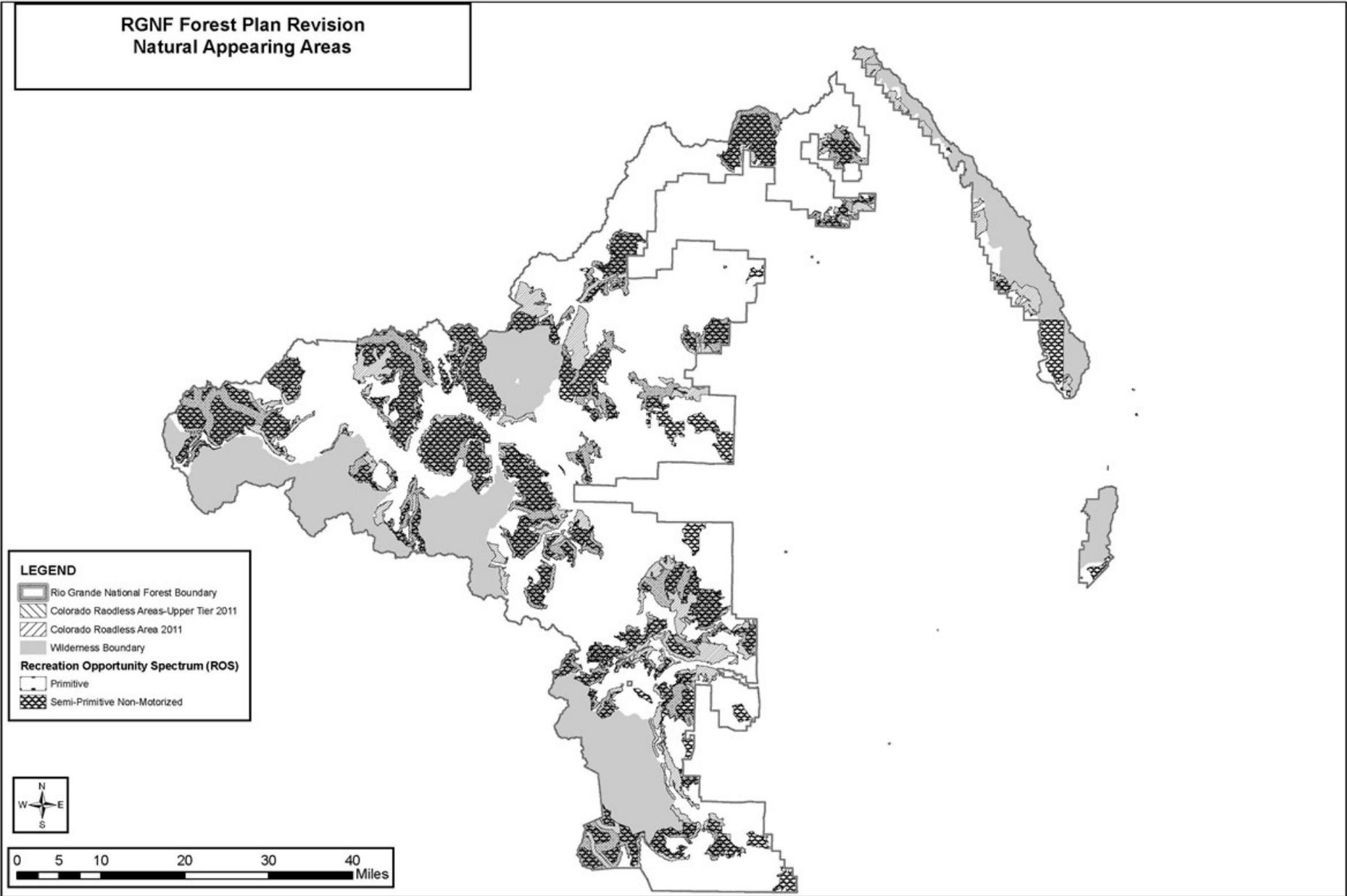


Figure 18. Map of areas that are natural appearing- wilderness, roadless, primitive and semiprimitive-nonmotorized recreation opportunity spectrum classes



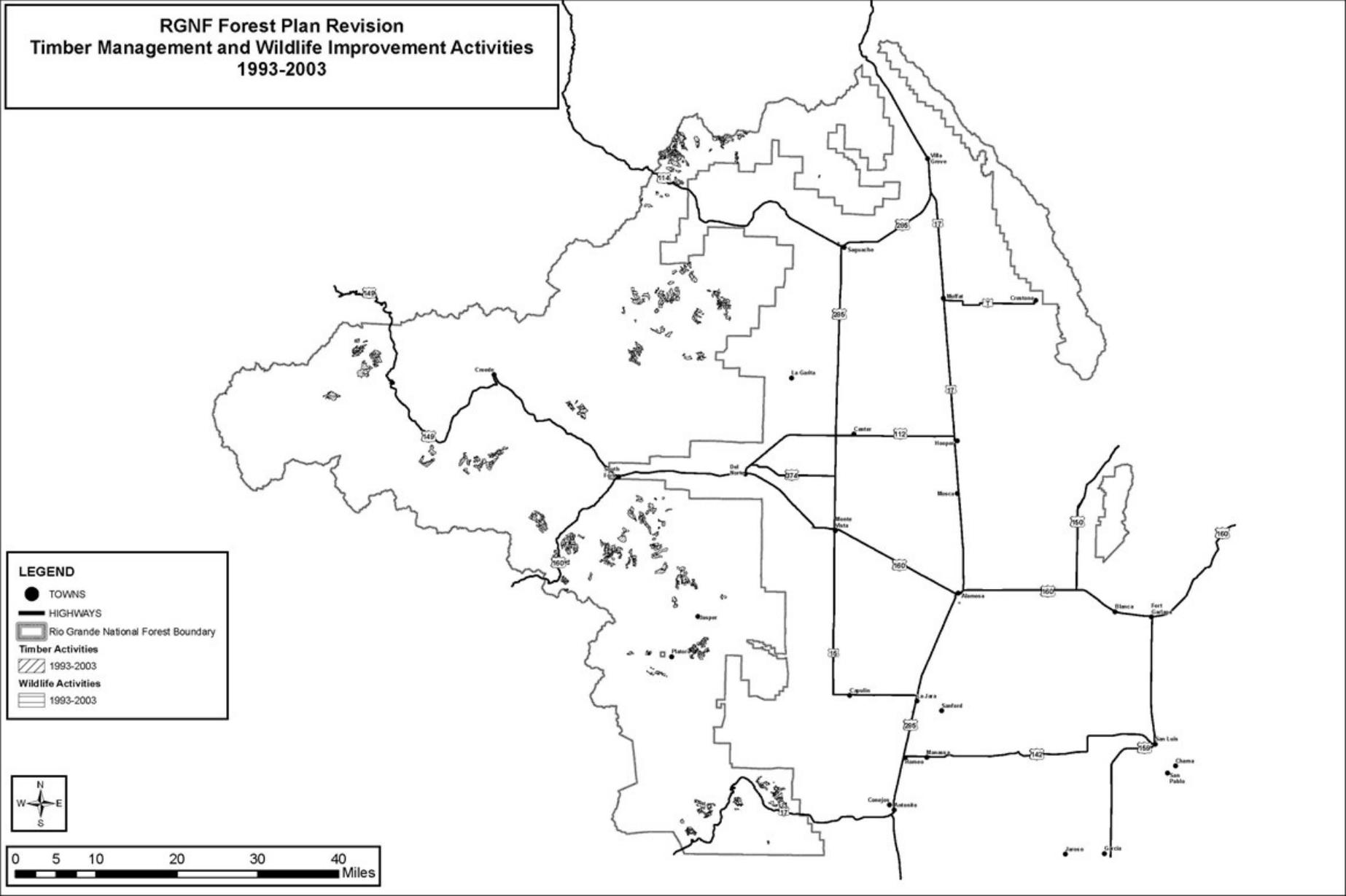


Figure 20. Map of timber management and wildlife habitat improvement activities from 1993 - 2003

