United States
Department of
Agriculture

Forest
Service

**Southwestern
Region**

Proposed Action for Southwest Jemez Mountains Restoration

Santa Fe National Forest
Sandoval County

Proposed Action for Southwest Jemez Mountains Landscape Restoration

Santa Fe National Forest
Sandoval County, New Mexico

What is the Southwest Jemez Mountains Landscape Restoration Project?

The Santa Fe National Forest proposes to conduct treatments that would make approximately 110,000 acres of the Jemez Ranger District (figure 1) less susceptible to undesirable, large-scale disturbances such as high-severity wildfire, climate change, or insect outbreaks. Proposed treatments include thinning, prescribed burning, meadow and riparian area restoration, road maintenance and decommissioning, cultural resource protection, invasive plant control, and terrestrial (land) and aquatic wildlife habitat improvement. Treatments would be implemented over 8–10 years. To help implement these treatments, we would also construct temporary roads and develop gravel pits.

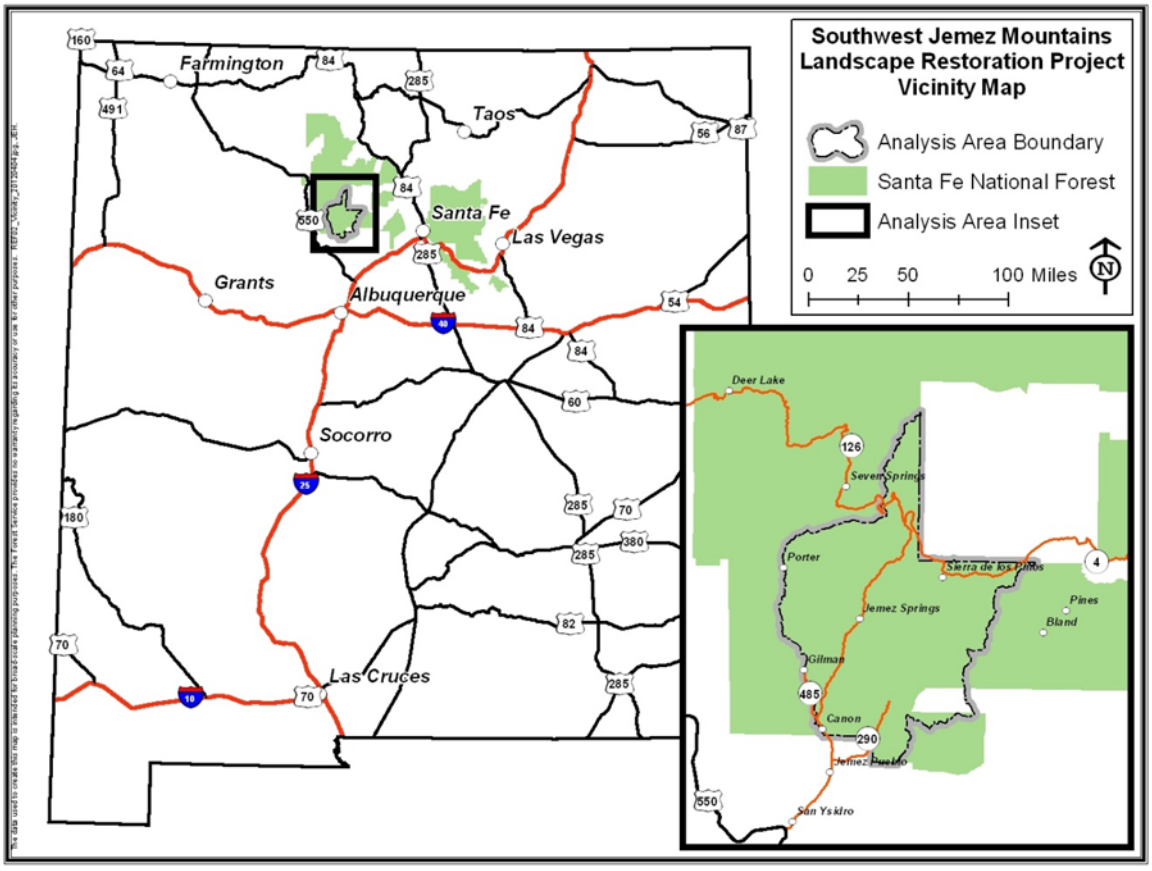

Figure 1. Map of the area: Jemez Springs is in the center of the analysis area; Valles Caldera National Preserve is the large white block in the upper right of the inset map.

This landscape restoration project is a long-term collaborative effort to improve the resilience and function of ecosystems in the Southwest Jemez Mountains.

Where is the project area?

The project area covers about 110,000 acres of National Forest System land and is located in the Middle Jemez River Watershed. The Village of Jemez Springs lies in the middle of the area; Jemez Pueblo and the Town of Ponderosa are 7 miles and 4 miles, respectively, to the south. There are also several small subdivisions and communities in the mountains around Jemez Springs, including Sierra de los Pinos and Thompson Ridge.

The Jemez River flows through the middle of the area; the East Fork of the Jemez River is a designated Wild and Scenic River. Other drainages include San Antonio Creek, Rio Guadalupe, and Rio Cebolla. South-to-southwest-facing canyons and mesas dominate the area and include Virgin Canyon and Virgin, Holiday, Schoolhouse, and Stable Mesas to the west of the Jemez River, and Paliza and San Juan Canyons and Cat and San Juan Mesas to the east. Elevations range from 10,109 feet at the top of Cerro Pelado to 5,500 feet in the canyon bottoms. Ponderosa pine is the predominant forest type in the area (48 percent), followed by piñon-juniper woodland (32 percent), mixed conifer (12 percent), and small patches of spruce-fir and aspen (<2 percent total) at higher elevations.

Why is this project needed?

These restoration treatments are needed because current forest conditions are “out of whack”, i.e., they do not meet and are not moving toward the conditions outlined in the forest plan. Current conditions are the result of past intensive logging and grazing, road building, and fire suppression. The combined effects from these activities since the late 1800s have changed the forests, grasslands, and riparian areas.

We consider the late 1800s as our benchmark for what the forests should look like because that is when the railroad arrived and intensive settlement and resource development began. The railroad made it easy to transport large numbers of cattle and sheep to the area and remove large quantities of timber. Native Americans certainly changed the landscape with their villages and farming, as did the Spanish and other European settlers. But the railroad greatly accelerated the pace of resource use and exploitation and the resulting environmental changes.

And today, the ecosystems are in a degraded condition and have lost resiliency. They are now more susceptible to severe and intense wildfires, insect and disease outbreaks, drought, and the effects of climate change. The forests today do not look like the forests we would have seen in the late 1800s, just before intensive and resource development began. When you walk through the forest today, you see:

- a dense, continuous blanket of trees instead of groups of trees and scattered, grassy openings,
- stands of mid-age, pole-size trees instead of groups of trees of different ages and sizes, including mature and old trees,
- a forest floor covered with a dense layer of conifer needles instead of openings filled with grasses, forbs, and shrubs,

- more white fir and less aspen,
- tree densities averaging more than 500 trees per acre instead of 15 to 56 trees per acre,
- and fires that are more intense (hotter) and severe (cause more damage) instead of low-intensity surface fires in ponderosa pine or mixed severity fires in the mixed conifer.

Figure 2. What we have (left): Typical ponderosa pine stand in the analysis area. Trees are even-aged and of similar size. Forest floor is covered with pine needles. There are no understory plants. What we want (right): Groups of trees with interspaces and an understory of bunchgrasses and shrubs. This is on the neighboring Española Ranger District.

The forest's riparian areas, streams, and grasslands are also out of whack:

- denuded streambanks and stream-road crossings add more sediment to streams,
- streams have fewer meanders, pools and riffles that provide quality habitat for fish,
- meadows are shrinking in size because of encroaching conifers,
- native meadow bunchgrasses have been displaced by Kentucky bluegrass,
- less rain and snowfall are absorbed into the ground because of the dense layer of trees,
- riparian and forest habitats are degraded,
- and there is less biodiversity (the variety and abundance of plant and animal species).

Figure 3. Entrenched channel on Rio Cebolla. Streambank erosion at top right.

What evidence do we have that things need to change?

In the last 12 years, land management agencies and conservation groups have conducted landscape and resource assessments including:

- Statewide Unified Watershed Assessment (New Mexico Environment Department 2005)

- Southern Rocky Mountains Eco-Regional Assessment (The Nature Conservancy 2001)
- Statewide Climate Change Impact and Vulnerability Assessment (The Nature Conservancy 2008)
- Statewide Natural Resources Assessment (New Mexico State Forestry 2010)
- Southwest Jemez Mountains Landscape Assessment Report (SFNF 2010)
- Out of Whack summaries for the Southwest Jemez Mountains (SFNF 2010)

The assessments describe how the landscape has changed and identify the Southwest Jemez Mountains as an area at risk and in need of restoration. These and other reports can be accessed on our website.

The southwestern U.S., including the Jemez Mountains, has been the focus of numerous research studies looking at forest ecosystems, fire history and behavior, climate change and hydrologic regimes, and wildlife. These studies have also documented the changes in the landscape since European settlement. Some of this vast body of research is listed in the bibliographies for the Landscape Strategy and Landscape Assessment, found on our website. Information specific to the Southwest can be found at the following websites:

- Ecological Restoration Institute
- New Mexico Forest and Watershed Restoration Institute

Finally, you realize that things need to change. Stakeholders spoke out on forest resources and management on the Santa Fe National Forest during focus group sessions held in 2007. People identified forest benefits including biodiversity, cultural and subsistence uses, water production and water quality, wildlife habitat, and timber. They recognized a need for change in forest health, wildlife habitat, and water quality and quantity. High tree density, poor forest health, and wildfire were prominent themes.

This is what you told us:

> "We have too many trees out there… Now, we need matches more than we need Smoky (sic). We need more controlled burning and we need to let wildfires go."
>
> "What we don't hear enough about is the value of the goshawk and clean water and undisturbed meadows. A tree is more than timber to cut. A meadow is more than grass to graze. They are part of the open spaces and wildlife habitat that is in short supply… All of us have a stake in those resources and we want to see all the values considered…"

Collaborators and partners working on the Southwest Jemez Mountains Collaborative Forest Landscape Strategy also voiced their desires. This is what they would like to see in 10 years:

> "Forests are more resilient, with better watersheds and water availability."
>
> "Ecosystems are functioning or moving closer to reference conditions."
>
> "We're celebrating accomplishments related to resilience of forests and economies."

What is the history of this project?

The 2000 Cerro Grande fire caused people in the area to start thinking about the forest's resilience to landscape disturbance. After that fire, staff from agencies, community and conservation groups, local and tribal governments teamed up to rehabilitate the fire-scarred land and to consider how to reduce the risk of high-severity fires. They met regularly and ten years later had completed a number of ecological assessments of the area. The assessments showed that the Southwest Jemez Mountains were in need of restoration.

In 2009, Congress authorized the Collaborative Forest Landscape Restoration Program, which encouraged agencies to focus on restoring forest ecosystems to reduce the risk of uncharacteristic wildfires, to improve watersheds and wildlife habitat, and to create jobs. This is a competitive program that awards funding to the top proposals nationwide. A main criterion is that projects be collaborative in nature.

The program provided a perfect opportunity for the Southwest Jemez Mountains Landscape Restoration group, which had already been meeting regularly. The key partners—Forest Service, Valles Caldera National Preserve, Jemez Pueblo, The Nature Conservancy, New Mexico Forest and Watershed Restoration Institute—decided to submit a proposal. In October 2009, over 40 agencies and groups began to meet and developed the Landscape Strategy and "Out of Whack" reports (available on our website). The group proposed to treat over 210,000 acres across multiple ownerships and integrate treatments for riparian and forest ecosystems, wildlife habitat, and cultural resources.

The Secretary of Agriculture selected the Southwest Jemez Mountains Landscape Restoration proposal in the first round of grant awards in 2010. The project could receive up to $33.7 million over 10 years to implement and monitor the proposed treatments. The initial funding came in 2010, and the partners purchased monitoring equipment and started 'shovel ready' projects already analyzed under the National Environmental Policy Act.

What is the purpose and need of the project?

Our goal, at the landscape level, is to restore ecosystem structure and function that would increase resilience to undesirable, large-scale disturbances such as high-severity wildfire, climate change, or insect outbreaks in the Southwest Jemez. To do this, we have identified four purposes:

Reduce the potential for uncharacteristically severe and intense wildfires while promoting the low-intensity, frequent surface fires that were common across this landscape. To achieve this, there is a need for:

- forest stands with a mosaic of grassy openings, shrubs, and groups of trees of various sizes and ages;

What is resilience?

Resilience is the "ability of a social or ecological system to absorb disturbance while retaining the same basic structure and ways of functioning, the capacity for self-organization, and the capacity to adapt to stress and change." Forest Service Manual 2020.5

In other words, resilience is the ability of a community or ecosystem to recover after a disturbance such as fire, insect or disease attack, or similar event.

- native perennial grasses, shrubs, and forbs that can carry low-severity fire across the landscape;
- more old-growth ponderosa pine and mixed conifer stands; and
- reduced amounts of live and dead fuels.

Improve the function of riparian ecosystems, streams, and wildlife habitat. To achieve this, there is a need for:

- native riparian vegetation along streams and more pools, riffles, and large woody debris within streams;
- fewer impacts from livestock and elk in riparian areas and along streambanks;
- less erosion, bare soil, and unstable or raw streambanks;
- less erosion and fewer headcuts and gullies in upland areas;
- fewer impacts from roads;
- fewer nonnative invasive plants;
- springs and seeps that function at or near their potential; and
- more structural and understory diversity in northern goshawk and Mexican spotted owl habitat.

Offset treatment costs and provide economic opportunity. To achieve this, there is a need for:

- a source of wood products for commercial and personal use, and
- a transportation system to implement activities and remove wood products.

Provide for the sustainability of archaeological sites, traditional cultural properties, sacred sites, and forest resources and areas associated with traditional practices. To do this, there is a need for:

- reduced amounts of fuel on archaeological sites;
- erosion control measures on archaeological sites;
- forests that provide continued availability to engage in traditional practices; and
- fewer road-related impacts on archaeological sites.

What happens if we don't do this restoration work?

Ecosystem conditions would continue to decline. In the forests, there would be more shade tolerant species, such as white fir, and fewer grasses, forbs, shrubs, meadows and aspen patches. As the understory plants disappear and meadows and aspen patches shrink, wildlife habitat would decline in quality or be lost entirely. The forests would continue to lose structural diversity, the

mix of trees of different ages and sizes, snags, and down woody debris. Instead, there would be too many small and mid-size trees and too few mature and old growth trees and snags.

In riparian areas, habitat for the New Mexico meadow jumping mouse, beavers, and leopard frogs would shrink. Habitat for native fish, especially Rio Grande cutthroat trout, would not improve. Some streams do not meet state water quality standards for temperature, turbidity (cloudiness of water) and sediment (soil in the stream), and these conditions are not likely to improve without the restoration treatments.

The area would continue to be at high risk for an uncharacteristically severe fire. Such a fire would result in the loss of habitat for the threatened and sensitive species living here such as the Mexican spotted owl, northern goshawk, peregrine falcon, and the Jemez Mountains salamander. We would also lose valuable archaeological sites and other cultural resources. The Cerro Grande (2000) and Las Conchas (2011) fires damaged the forests on the east side of the Southwest Jemez Mountains. We don't want similar fires to happen on the rest of the forest.

What other restoration work is being done in the area?

The Jemez Ranger District has been conducting restoration treatments for many years. Most of these projects have had a single emphasis, such as fuel reduction, and were not part of a landscape strategy. These projects include fuel reduction treatments (thinning and prescribed burning) around Thompson Ridge and Sierra los Pinos subdivisions, and aquatic and riparian restoration projects under the Respect the Rio program.

The Valles Caldera National Preserve, Bandelier National Monument, Pueblo of Jemez, and Santa Clara Pueblo are also implementing forest restoration treatments. These treatments are similar to those we are proposing and are part of the larger Southwest Jemez Mountains Collaborative Forest Landscape Restoration Strategy. These agencies will conduct environmental analyses for restoration treatments on their lands.

Figure 4. Thinning on the Valles Caldera. Our thinning projects would be similar to this. Left: before thinning, a dense stand of ponderosa pine. Center: during treatment, cut logs are stacked. Right: after thinning, a more open forest.

What is the proposed action?

This alternative would implement restoration treatments to restore the structure and function of forests and watersheds in the analysis area. The treatments are listed below. The restoration treatments and the general locations are described in more detail in appendix A.

Restore forests

- Cut trees to reduce tree density and provide age and size class diversity within the stands
- Prescribe burn to create and maintain open conditions, restore natural fire, and reduce activity fuels

Figure 5. Left: Low-intensity prescribed fire in ponderosa pine. Flames average 4-6" high. Right: Ponderosa pine after low-intensity burn. Lower branches of trees are scorched. Burned area is patchy.

Enhance and improve riparian areas

- Enhance native vegetation
- Revegetate degraded campsites and trails
- Stabilize streambanks and stream-road crossings
- Treat headcuts and arroyos in riparian meadows
- Thin toe slopes and create large woody debris
- Protect meadows

Improve and enhance habitat for terrestrial and aquatic wildlife

Increase water sources for wildlife

- Screen wildlife water sources
- Create snags
- Restore historic upland meadows
- Restore floodplain meadows
- Increase streamside vegetation
- Stabilize streambanks and stream-road crossings
- Remove Kentucky bluegrass and reestablish native bunchgrasses

- Restore instream fish habitat

Protect cultural resources

- Control and prevent erosion on archaeological sites, traditional cultural properties, and sacred sites
- Reduce fuel on archaeological sites
- Reduce fuel on traditional cultural properties and sacred sites

Reduce impacts from roads

- Decommission up to 150 miles of road not designated in the travel management decision
- Reconstruct and maintain existing system roads and closed roads used for access

To access treatment areas and remove wood products, we would also:

- Construct temporary roads
- Develop gravel pits
- Reopen closed roads and close them after use

Wood product harvest would occur on about 33,000acres. All proposed thinning, mowing (of tree seedlings), and prescribed fire treatments may be used indefinitely after the initial treatments to maintain or further reduce tree densities and fuel loads.

What forest plan amendments are needed and why?

We would need two site-specific forest plan amendments to implement the proposed action and achieve desired conditions. The proposed amendments are:

1. Cut trees up to 24-inch diameter in Mexican spotted owl protected activity centers. This diameter is the forest plan diameter limit for mixed conifer in restricted habitat.

   Treatments in ponderosa pine are designed to improve grass, forb, and shrub layers used by some of the northern goshawk's prey species. We want to restore a natural condition based on the characteristics of an open ponderosa pine forest. The desired condition is to restore grass and forb openings and restore forest structure and pattern. The forest plan standards and guidelines don't include interspaces, which are needed to meet the habitat requirement for goshawk.

2. Cut trees up to the forest plan diameter limit of 24inches for mixed conifer in restricted habitat. This would occur in Mexican spotted owl protected activity centers.

   Cutting larger trees within protected activity centers (PACs) will enhance nesting, roosting, and foraging habitat while reducing the risk of a severe fire. These treatments would also increase overall tree health, promote the development of larger diameter trees, improve health and longevity of existing old trees, and promote faster development of old growth forest structure within the protected activity centers. Reducing overgrown stands would also improve prey habitat, thus increasing food sources for the owl.

Are federal permits or licenses and consultation needed?

Yes. We would need the following permits, authorizations, and consultations for project implementation:

- The discharge of dredged and fill material resulting from the instream habitat improvement treatments requires a Section 404 permit from the U.S. Army Corps of Engineers.
- The discharge of pollutants (sediment) to waters of the U.S. requires a Clean Water Act 401 Water Quality Certification and a Clean Water Act 402 National Pollutant Discharge Elimination System (NDPES) permit from the New Mexico Environment Department.
- Consult with and obtain concurrence from the U.S. Fish and Wildlife Service on which listed species to address in the biological assessment, and continue consultation with the U.S. Fish and Wildlife Service in accordance with Section 7 of the Endangered Species Act.
- Consult with the New Mexico State Historic Preservation Officer, tribes, and consulting parties regarding identification, evaluation, and determination of effects of the project on cultural resources in accordance with Section 106 of the National Historic Preservation Act.

All standard resource protection measures listed in environmental regulations, Forest Service directives, and the Santa Fe Forest Plan would be applied. The proposed action is designed to follow the guidelines in the Collaborative Forest Landscape Restoration Strategy, including the New Mexico Forest Restoration Principles and the Sandoval County Community Wildfire Protection Plan.

Where are the treatment locations?

Treatments would occur throughout the entire analysis area. We did not prepare one map that shows all of the treatments; it would be difficult to read. The draft maps of the treatments by resource area can be found on our website.

How would impacts from the restoration treatments be minimized?

We would use the applicable forest plan standards and guidelines, mitigation measures, and Best Management Practices to minimize adverse effects from the treatments. These design features and mitigation measures have been successfully used on similar projects in the past.

Additional design features and best management practices for vegetation, soils and watershed, botany, wildlife, range, cultural, recreation, and visual resources are under development. Design features will be included in the draft environmental impact statement.

The effectiveness of the mitigation measures and design features will be evaluated in the draft environmental impact statement.

What else is going on in the area?

Other forest and watershed restoration treatments are planned to occur over the next 10–20 years on many of the neighboring forest lands. These activities will further support the success of our

effort. These projects include additional treatments on land to the north and east being planned by Los Alamos County, Los Alamos National Laboratory, Bandelier National Monument, Valles Caldera National Preserve, Santa Clara Pueblo, and to the south, by the Pueblo of Jemez.

Ongoing and planned projects on Jemez Ranger District include: fuel reduction treatments at Thompson Ridge, Los Griegos, and Sierra de los Pinos subdivisions, Respect the Rio, and the San Juan and Paliza prescribed burns. Environmental analysis of grazing allotment management plans will continue and scheduled range improvement projects will be implemented.

What is the decision to be made?

The Forest Supervisor – the Responsible Official for this project - will decide whether or not to implement the proposed activities on all or portions of the 110,000 acre analysis area using one or more of the methods described. She will also decide which forest plan amendments to adopt.

How will forest staff decide exactly where and how to treat?

This analysis is being done at a landscape level – we are analyzing a project area that is 110,000 acres. We do not have perfect information about the condition of every acre, but we do have enough data to make an informed decision about what kinds of treatments work best in certain conditions. We look at the kinds of landscape conditions that exist, identify the suite of "tools" we could use to treat those conditions, and then look at the effects caused by these different kinds of tools. This approach provides flexibility. Because landscape conditions are likely to change in the next decade, a tool that might be appropriate today may not be the right tool to use in the future.

Before implementing treatments, project leaders would carefully look at a *specific* area to be treated and select the appropriate treatment tool(s) listed in the environmental impact statement. Treatment areas and methods will be developed collaboratively with partners and the public. Appendix A lists the kinds of tools we anticipate using in different landscape conditions.

What are the next steps?

The formal, 30-day scoping period is expected to begin on July 14 with the publication of the Notice of Intent in the Federal Register. Your comments will be used to define issues and develop alternatives. After reviewing and analyzing the comments, we will prepare the draft environmental impact statement. The draft statement will be published around April 2013. After a second comment period, we will prepare the final environmental impact statement and record of decision and publish that, expected in August 2013. We can begin the restoration treatments as early as September 2013 if no appeals are received.

What are the opportunities for public involvement?

We are planning several public meetings in July and August 2012 (see below for details). We are also leading a field trip to the area on July 14. More information is available on our website. You will have more opportunities to participate and comment as we progress from scoping to the final environmental impact statement.

How do I comment on this proposed action?

We would like your comments. We prefer that you comment by email or with the online comment system. To comment, you may:

- Attend one of the four public meetings in July and August:

  Tuesday July 24, 6 to 8 p.m.
  Taylor Ranch Community Center, 4900 Kachina St., Albuquerque, NM

  Thursday July 26, 6 to 8 p.m.
  UNM Continuing Education Conference Center (south building), 1634 University Blvd, Albuquerque, NM

  Tuesday July 31, 1:30 to 3:30 p.m.
  Valles Caldera Science and Education Center, 90 Villa Louis Martin Dr., Jemez Springs, NM

  Thursday August 2, 1:30 to 3:30 p.m.
  Santa Fe National Forest Office, 11 Forest Lane, Santa Fe, NM

- Use the online comment system (this is our preferred method to receive your comments).
- Send an email to jemezrestoration@fs.fed.us (.doc, .txt, .pdf, or .rtf only) with "Southwest Jemez Mountains Landscape Restoration proposed action" in the subject line.
- Postal Mail:
  Southwest Jemez Mountains Restoration Project
  11 Forest Lane
  Santa Fe, NM 87508
- Comments may be delivered by hand to the Santa Fe National Forest Supervisor's Office (11 Forest Lane, Santa Fe) between 8 am and 4:30 pm.
- Facsimile: Fax to 505-438-5390

If you send a comment using email or the online comment system, you will receive an automatic reply once we have opened the email or received the comment. If you include an email address with a letter, we will send you an email acknowledging receipt of your letter.

What is the deadline for returning comments?

Comments must be received by the close of the comment period, which is 30 days and begins the day after the "Notice of Intent" is published in the Federal Register (**Federal Register** /Vol. 77, No. 133 / Wednesday, July 11, 2012 /Notices). Please submit your comments in a timely manner. This will help us prepare the draft environmental impact statement. It will be most helpful if you clearly state your concerns and contentions.

We will place all written and electronic comments received, including the names and addresses of those who comment, in the project file and that information will become a matter of public record.

We will accept and consider anonymous comments.

Who do I contact for more information?

Questions about the proposal may be directed to Julie Bain, Southwest Jemez Mountains Landscape Restoration Project Coordinator, at (505) 438-5443 or jbain@fs.fed.us.

We look forward to receiving your comments and to seeing you at a meeting.