

**SANTA FE NATIONAL FOREST  
FOREST PLAN  
MONITORING AND EVALUATION REPORT  
1998**

**Contents**

**FOREST SUPERVISOR'S CERTIFICATION AND INTRODUCTION**

Forest Plan Amendment  
Forest Plan Revision  
Inventory & Assessment

**SUMMARY OF MONITORING ACTIVITIES**

**EVALUATION OF MONITORING RESULTS**

What Did We Learn From Monitoring?  
What Are The Emerging Issues?  
What Are The Barriers To Effective Monitoring?  
What Research Is Needed?

What Is Our Progress In Moving Toward Desired Future Conditions?

PREPARERS

1998 FOREST PLAN MONITORING AND EVALUATION REPORT  
SANTA FE NATIONAL FOREST

***FOREST SUPERVISOR'S CERTIFICATION and INTRODUCTION***

*Forest Supervisor's Certification of Forest Plan Sufficiency*

I certify that the Santa Fe National Forest Plan as amended is sufficient to guide management of the Forest over the next year.

/s/ Leonard Attencio  
LEONARD ATENCIO  
Forest Supervisor

10/31/2000  
Date

This Monitoring and Evaluation Report meets regulatory requirements at 36 CFR 219 for completing annual Forest Plan monitoring and evaluation reports.

In September, 1994, the Santa Fe National Forest published a comprehensive monitoring and evaluation report entitled "Five-Year Review of the Forest Plan: 1988-1992. It included a complete re-analysis of the timber program. The resource conditions and land management trends described in that Five-Year Review have not significantly changed since that time.

*Forest Plan Amendments*

Early amendments made to the Forest Plan from 1988-1992 were:

Amendment #1- change in timber sale schedule (8/88)

Amendment #2- added management direction for recommended Wild and Scenic Rivers (1/89)

Amendment #3- change in timber sale schedule (5/89)

Amendment #4- added Pajarito Peak electronic site (2/90)

Amendment #5- adjusted mgt area boundaries between area "C" and "Q" (10/92)

In May of 1996, the Santa Fe National Forest (SFNF) Plan was amended by a Region-wide amendment (USFS, Record of Decision, pp. 77-79, 84-85). We distributed replacement pages for this amendment in October 1996 (Amendment #6). Amendment #6 included new standards and guidelines for managing spotted owl and goshawk habitats, livestock grazing, and old growth. It also included minor corrections to the SFNF Plan that eliminated vegetation manipulation tables for each management area, and replaced the out-dated Activity Schedules with a periodically updated "Schedule of Proposed Projects". That Schedule is posted on the Internet at: [www.fs.fed.us/r3/sfe](http://www.fs.fed.us/r3/sfe). No other amendments have been made to the Forest Plan.

*Forest Plan Revision*

Revision of the SFNF Forest Plan was originally scheduled for 1999 (Five Year Review Report), however, Congress put a hold on funding Forest Plan revisions until the updated forest planning regulations (36 CFR 219) become final. The SFNF Plan was based on data from the late 1970s, was published as a draft in 1982, then published as a final in 1983. However, portions of the Plan were revised, the decision was appealed, and the final Plan was not approved in 1987. It will be 15 years old in 2002.

1998 FOREST PLAN MONITORING AND EVALUATION REPORT  
SANTA FE NATIONAL FOREST

While the SFNF awaits final agency planning regulations and Congressional authorization for Forest Plan revisions, we are building the Forest's inventories and assessments, as a basis for future planning and analysis.

*Inventory & Assessment*

Following national and regional standards, we are developing a computerized inventory and database system that includes Geographic Information System (in ArcInfo) map layers, which are linked to tabular databases containing a multitude of attributes. For example, we have GIS layers for slope/elevation/aspect, soil survey, water bodies, management areas, scenery classifications, recreation opportunity classifications, range allotments, roads and facilities. We are completing layers for forest stands (cover types), threatened and endangered species habitats, archaeological sites, and recreation sites. Each map layer is being linked to a tabular database (in Oracle), filled with detailed information about that resource. For example, the forest stand map layer will soon be linked to a database containing attributes regarding forest species, canopy closure, age classification, and past vegetation management activities.

In conjunction with building a comprehensive computerized inventory-database system, we are conducting landscape (watershed) assessments of resource conditions and trends. The assessment process includes compiling the available inventory/monitoring data and field observations, and developing maps for incorporation into our inventory-database system. The assessments focus on identifying areas of concern that should be addressed by forest management activities and the Forest Plan. The assessments answer key forest planning and management questions such as:

- Where are roads, high road densities, or off-road vehicle uses causing resource damage or social conflicts? Are we effectively managing roads to achieve desired road conditions and densities? Are we providing the desired opportunities for motorized and non-motorized uses; where do these uses cause conflicts?
- Which watersheds or urban-interface areas face the biggest threat from high-intensity wildfire?
- Where are we experiencing conflicts between cattle grazing and recreation, wildlife, fish or water quality?
- Where are recreational or other forest uses causing water quality or riparian habitat problems?
- Where are there conflicts or concerns between forest uses and habitat for federally listed species?
- Where are archaeological sites located that need additional protection, stability enhancement, or nomination to the national register?
- What is the current balance between supply and demand for firewood and other forest products?

In summary, the inventory/assessment process provides the foundation for planning, analysis and monitoring activities, helps us prioritize our land management efforts, and identifies the changes needed to the Forest Plan.

1998 FOREST PLAN MONITORING AND EVALUATION REPORT  
SANTA FE NATIONAL FOREST

***SUMMARY OF MONITORING ACTIVITIES***

The following table summarizes monitoring activities performed. The four columns consist of:

1. The resource being monitored
2. The type of monitoring accomplished
3. The location of monitoring documentation: Ranger District (RD), Supervisor's Office (SO), or elsewhere
4. The resource areas (districts) where monitoring was conducted: Pecos/Las Vegas, Espanola/Coyote, or Jemez/Cuba.

<b>RESOURCE</b>	<b>MONITORING ACCOMPLISHED</b>	<b>RECORD</b>	<b>RES. AREAS</b>
Climate	Recorded weather data at RAWS station, including fuel moisture data, used primarily for fire/fuels mgt.	Database in SO-Fire	All
Customer Service	Collected and read visitor comments on fee envelopes and trailhead registers, and letters to District from forest visitors (kept for a few years).	Letters in RD-Correspondenc	All
Facilities	Inspected permit compliance for powerlines and electronic sites	Report in RD-permit files	Pecos-LV, Esp-Coy.
Fire	Inspected private homes within wildland interface for fire protection needs	No Record	Jemez-Cuba
Fire, Vegetation	Inventoried and mapped live fuel loadings using air photos & field checks.	Data & maps in RD-Fire	Jemez-Cuba
Heritage Resources	Collected and recorded historical data at HR sites (by volunteers, for research purposes)	Reports in RD-HR	Pecos-LV
Heritage Resources	Monitored specific HR sites for evidence of vandalism, damage, theft (by site stewards)	Site forms in SO-HR	All
Heritage Resources	Surveyed for HR sites in project areas.	Reports in SO-HR	All
Heritage Resources	Collected data and evaluated effects of past activities on HR sites, through Passport In Time (PIT) projects.	Reports in SO-HR	All
Partnership Volunteers	Collected data on hours worked by volunteers and partners in recreation and heritage	Reports in RD-Rec & HR	All
Pest Mgt.	Aerial survey, map and report of insect/disease activity (annual, by RO)	Map & Report in SO-Forestry	All
Pest Mgt.	Surveyed for gypsy moth, using traps to determine presence/absence and track spread	Surveys in RO	All
Pest Mgt.	Surveyed for bark beetle, using field samples and satellite imagery (by RO)	Surveys in RO	Esp-Coy, Jemez-Cuba
Range Condition &	Inspected grazing use in key areas, checked range conditions and permit compliance	Inspection forms, photos	All

1998 FOREST PLAN MONITORING AND EVALUATION REPORT  
SANTA FE NATIONAL FOREST

Use		in RD-Range	
Range Condition, Readiness	Inspected range readiness conditions for cattle entry at beginning of season-of-use	Photos & Doc. in RD-Range	All
Recreation Developed Sites	Inspected developed sites at least weekly, during fee collection or other site visits, or with host volunteers. Incl. hazard trees, and condition of sites and facilities	No Record	All
Recreation Dispersed	Inventoried/mapped dispersed sites outside Wilderness (not field-checked or GPS'd)	No Record	All
Recreation Outfitters /Guides	Inspected outfitter/guide campsites for vegetative recovery, other resource conditions and permit compliance	Doc. In RD-Permits	Pecos-LV
Recreation Residences	Inspected recreation residence permit compliance	Report in RD-Permits	Pecos-LV
Recreation Trails	Completed inventory forms about visitor contacts & trail conditions (by employees and volunteers)	Forms in RD-Rec.	Pecos-LV
Recreation Trails	Monitored trail construction FY99: approx. 15 miles	Doc. in RD-Permits	Pecos-LV
Recreation Trails	Field inventoried trails, including culverts, water bars, etc. FY99:       miles	SO-Infra DTB + GIS link	All
Recreation Trails	Inventoried Wilderness trail use, using trail counters at trailheads.	Tally sheets in RD-Rec	Pecos-LV
Roads	Inspected effectiveness of road obliterations	No Records	All
Soils	Collected and evaluated soil samples for radiation (by Los Alamos National Lab)	LANL	Jemez-Cuba
Soils, Mine Reclam.	Inspected effectiveness of mine reclamation on soil/vegetation, Las Conchas	Report in RD-Minerals	Jemez-Cuba
Soils, Mine Reclam.	Inspected effectiveness of mine reclamation on soil/vegetation, Guaje	Report in RD-Minerals	Esp-Coy
Vegetation	Inspected thinning contracts, weekly.	Inspection forms, RD-Forestry	All
Vegetation	Monitored effectiveness of PP and PJ restoration & research project, using thin, burn and other treatments: Garcia Cyn.	Photos and Report, SO-Forestry	Espanola
Vegetation, Rare Plants	Surveyed for and mapped Arizona willow, San Pedro Parks & Pecos Wilderness	Reports RD-Wildlife,+GIS	Jemez-Cuba Pecos-LV
Water Flow, Yield; Riparian	Recorded snow-course & streamflow data for Rio Grande and Rio Chama, incl. runoff and storage (USBS). Completed interagency evaluation of effects on riparian vegetation	Army Corps, & Park Service records	Pecos-LV, Esp-Coy

1998 FOREST PLAN MONITORING AND EVALUATION REPORT  
SANTA FE NATIONAL FOREST

RESOURCE	MONITORING ACCOMPLISHED	RECORD	RES. AREAS
Water Quality	Monitored water quality of streams (by NMED in cooperation with FS)	State 305B Rpt.+SO-Hydr	All
Water Quality	Monitored water quality of wells and other facilities that provide drinking water, at least annually (by NMED)	Reports in SO-Eng,	All
Water Quality	Monitored SF municipal water supply (City)	City of SF	Esp-Coy
Water Quality	Tested water quality in test wells on Caja	SO-Hydrol	Esp-Coy
Water Quality	Monitored water quality on tributary creeks to Jemez River (by Jemez Pueblo)	Jemez Pueblo	Jemez-Cuba
Water Quality	Inspected effectiveness of watershed restoration work on Rio Puerco (by BLM)	BLM	Jemez-Cuba
Water Quality	Monitored domestic water sources (on Forest) for Cuba, La Jara, & Regina water supply.	Villages of Cuba, La Jara & Regina	Jemez-Cuba
Water Quality, Mine	Monitored water quality at Nacimiento mine, checking effectiveness of reclamation (by RO)	SO-Haz.Mat	Jemez-Cuba
Water Yield, Climate	Recorded snow-course precipitation data, monthly, Jan-Apr (by NRCS)	Data in SO-Hydrol	All
Wildlife, Spotted Owl	Surveyed for spotted owls in project areas. Surveyed spotted owl PACs for status/use.	Surveys/Rpt in RD-Wildlife	Pecos-LV
Wildlife, Other	<ul style="list-style-type: none"> <li>- Surveyed for goshawk</li> <li>- Surveyed for breeding birds</li> <li>- Surveyed effectiveness of elk hunt in reducing population in Dome/Bandelier Area, using check stations (with NM G&amp;F)</li> <li>- Surveyed for black bears near recr. sites</li> <li>- Surveyed for elk/deer populations (NM Game &amp; Fish)</li> </ul>	Reports & data in RD-Wildlife	Jemez-Cuba

***EVALUATION OF MONITORING RESULTS***

Resource area (district) staff provided answers to the following monitoring/evaluation questions.

***What did we learn from monitoring?***

Fire

- The increase in private homes within the wildland-urban interface, combined with overly dense forests, creates an increasingly hazardous situation that threatens human life, property and natural resources.

Heritage Resources

- We discovered some unique rock art sites on the Pecos-LV, featured in National Geographic.  
- Work done by site-stewards and other volunteers is improving heritage resource protection.

- Heritage sites are being protected during thinning operations and other project implementation.

#### Range

- Permittee cooperation and compliance is inconsistent; good on some allotments, poor on others.
- Range conditions are generally static or on an upward trend, although conditions are poor in some cases.
- Grasslands and meadows are declining due to increasing numbers of trees and closed-canopy forest.

#### Recreation

- Camping (and driving) in undeveloped areas is increasing, and impacting soil and riparian resources.
- Management of the Jemez National Recreation Area is not expected to be a major departure from current management, which is already focused on recreation-related values.
- Trailheads and trails need improvement. Some user-created trails cut across forest system trails, making it difficult to follow specific trails.
- The Pecos wilderness has some over-used areas, and other portions that provide solitude.

#### Roads

- Road closure signs are often vandalized, but get more respect if they state the purpose of the closure.
- Most road barriers used to decommission roads are ineffective. They usually result in vehicles creating new roads by driving around the barriers.

#### Vegetation

- An abundance of Arizona willow plants (sensitive species) was found in the Pecos wilderness, in addition to the plants previously located in San Pedro Parks wilderness.
- Invasive plants are increasing, and degrading ecological conditions in some areas.
- Thinning followed by burning is effective in increasing ground vegetation and reducing erosion.

#### Wildlife

- Thinning operations and other projects are not adversely affecting spotted owls or other listed species.

### ***What are the emerging issues?***

#### Cattle grazing:

- There is increasing public concern and litigation regarding the costs and resource impacts of cattle grazing on public lands, as well as increasing concern by ranchers about maintaining traditional rural economies and lifestyles.

#### Customer Service/Employee Satisfaction:

- Workloads are increasing while budgets and resources are declining, which has reduced customer service and employee job satisfaction.

#### Invasive plants:

- There is increasing concern about the long-term ecological impacts from invasive non-native plants, and segments of the public are equally concerned about herbicide use.

### Recreation:

- There is increasing demand for a variety of well-maintained, developed recreational facilities, which exceeds the agency's budget to meet that demand.

### T & E species/riparian habitat:

- Increasing numbers of listed species requiring protection under Endangered Species Act is resulting in restrictions on traditional forest uses (eg. cattle grazing).
- Some agencies, organizations and people are concerned that traditional forest uses such as cattle grazing are contributing to stream and riparian degradation, and declining habitat values.

### ***What are the barriers to effective monitoring?***

The main barriers are insufficient personnel resources and time to do the monitoring, with the other mandatory work that the resource specialists need to do.

### ***What research is needed?***

- Watershed (water/soil) conditions
- Water table response to harvesting
- Wildlife response to management activities (eg migratory birds)
- Recreation visitors, uses and desires
- Conflicts between cattle/horses/elk in Wilderness
- Research Natural Areas
- Surveillance tools to monitor forest use and illegal activity

### ***What is our progress in moving toward desired future conditions?***

We moved toward desired conditions through the following actions:

#### Fish & Wildlife

- Implemented wildlife and fisheries habitat improvement projects.

#### Heritage Resources

- Evaluated and interpreted several heritage resource sites.

#### Partnerships

- Completed a social assessment and improved relationships with northern NM villages.
- Participated in forest round table groups to help resolve land management issues.
- Created partnership agreements with groups outside the agency.

#### Roads

- Closed or decommissioned roads to reduce soil/water/wildlife impacts.

### Reclamation

- Reclaimed old mine sites.

### Soil, Vegetation, Fuels

- Thinned and used prescribed burning to reduce fuel loads and improve ground vegetation.
- Reduced soil erosion and sedimentation on over 1000 acres.

### Watershed/Rangeland Health

- Improved grazing management practices on several allotments; reduced grazing in riparian zones.
- Maintained and repaired range fences to reduce trespass cattle and improve pasture rotations.

### ***PREPARERS***

Information contained in this document was gathered during meetings with each group of Resource Area (District) staff specialists, with additional information provided by some SO resource specialists. The document was prepared by the Forest Planner, reviewed by the Land Management Planning Staff Officer, and approved by the Forest Supervisor.