

Forest Plan

Monitoring and Evaluation Report

Lincoln National Forest

Fiscal Year 2005

United States Department of Agriculture
Forest Service

Southwestern Region

April 2006



The U. S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, gender, religion, age, disability, political beliefs, sexual orientation, and marital and familial status. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at 202-720-2600 (voice and TDD). To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, DC 20250-9410 or call 202-720-5964 (voice or TDD). USDA is an equal opportunity provider and employer.

Monitoring and Evaluation Summary—FY2005

Lincoln National Forest

Introduction

The purpose of this report is to inform the Forest Leadership Team, other federal, state, and local agencies, Indian tribes, and the public of the progress the Lincoln National Forest has made toward Forest Plan implementation and ecosystem management.

This report is a continuation of the 2004 monitoring report, includes past and present monitoring activities, and provides a summary of monitoring activities for fiscal year (FY) 2005. An Appendix is also included to provide additional information and expand on the information in this summary.

Setting the Context

What's New? Over the past two years, new legislation has brought about the realignment of priorities within the Lincoln National Forest and the Southwestern Region. Below are some of the new legislation, initiatives and programs that have affected or will have an effect on the Forest's priority work.

The Tribal Forest Protection Act of 2004 was made public law on July 22, 2004. Under the Act, an Indian tribe can submit a request to the Secretary to enter into an agreement or contract to carry out a project to protect Indian forest land or rangeland (including a project to restore Federal land that borders on or is adjacent to tribal forest land).

In 2005 and under the Tribal Forest Protection Act authority, the Mescalero Apache Tribe entered into a stewardship contract with the Forest. For more information on the Tribal Act, go to <http://www.fs.fed.us/spf/tribalrelations/Policy/public%20law%20108-278.pdf>

The Healthy Forest Initiative (HFI) provides the Forest Service and the Department of Interior agencies with new tools, better procedures, and funding to restore the health of forests and rangelands. Under the Initiative, the Healthy Forests Restoration Act of 2003 (HFRA), was signed into law in December 2003. In response to the Initiative and Act, the Southwestern Regional Forester established five focus areas for management of the Southwestern National Forests. The five areas are: 1) assist in protecting communities adjacent to national forests, 2) contribute to the economic vitality of communities, 3) restore ecological functionality of southwestern forests and rangelands, 4) provide a safe and healthy work environment, and 5) maintain strong leadership and supervision. In addition, the Southwestern Region established the "Central Priority." The "Central Priority" is the restoration of fire adapted ecosystems which consists of three key components: fire-use planning; reducing risks to communities; and promoting the utilization of excess biomass.

Addressing the Act and Priority required the realignment of Regional and Forest resources to accelerate vegetation treatments across the Southwest. For additional information on the HFRA go to <http://www.whitehouse.gov/infocus/healthyforests/>

The Southwest Forest Health and Wildfire Prevention Act of 2004 was made Public Law 108-317 on October 5, 2004. It established Institutes to demonstrate and promote the use of adaptive ecosystem management to reduce the risk of wildfire and restore the health of fire-adapted forests and woodland ecosystems of the interior West. For additional information about the Act, go to <http://www.fs.fed.us/r3/partnerships/institutes/pdfs/act.pdf>

The New Mexico Forest and Watershed Health Plan was signed in March 2005 by New Mexico State Governor, Bill Richardson. The Plan is aimed at streamlining Forest and watershed health processes in New Mexico as well as promoting cooperation and collaboration among local, state and federal governments.

New Mexico was the first state to officially participate in the collaboration of entities for wildfire-fuel reduction, watershed improvements, and biomass utilization. For additional information on the Plan, go to <http://www.caprep.com/0405005.htm>

The Travel Management Rule was announced on November 2, 2005. In response to the Rule, the Forest Service announced final travel-management regulations governing off-highway vehicles (OHVs) and other motor-vehicle use on national forests and grasslands. The new Travel Management Rule provides a national framework for local units to use in designating a sustainable system of roads, trails, and areas for motor-vehicle use. One of the major goals of the Rule is to secure a wide range of recreation opportunities while ensuring the best possible care of the land.

Shortly after the Rule was announced, the Forest began planning to meet the Rule requirements. The process will result in a map depicting designated routes allowing various types of OHV usage. For more information on the Rule, go to <http://www.fs.fed.us/recreation/programs/ohv/>

In addition to the National Travel Management Rule, the state of New Mexico also passed all-terrain-vehicle (ATV) legislation in April 2005 that is designed to increase the opportunity for safer, responsible OHV riding. The fees in this bill will go to creating dedicated OHV facilities in rural areas around the State and expand economic-development opportunities in needy counties. For additional information go to http://www.governor.state.nm.us/press/2005/april/040705_4.pdf

The Energy Policy Act of 2005 tasked Federal agencies to provide energy from resources within the U.S., designate new energy transmission corridors, create and improve energy use and efficiency, and conserve energy use at government facilities. This new Act will require the Forest to examine its current energy corridors

and work closely with other agencies and communities. For additional information on the Act, go to http://energycommerce.house.gov/108/energy_pdfs_2.htm

The Federal Lands Recreation Enhancement Act (formally known as the Fee Demonstration Program) was passed in the 2005 Omnibus Appropriations Bill signed into law by President Bush on December 8, 2004. This Act benefits visitors to federal, public lands. The Forest does not anticipate changes in the way the program is currently administered. For additional information on the Act, go to http://www.fs.fed.us/recreation/programs/recfee/fee_legislation.html

In 2005, and in response to new legislation, an agreement or declaration of support to the cooperative efforts among several entities (U.S. Forest Service, Mescalero Apache Tribe, U.S. Fish and Wildlife Service, Bureau of Land Management, Bureau of Indian Affairs, New Mexico State Division of Forestry, Village of Cloudcroft, Village of Ruidoso, City of Ruidoso Downs, and Chaves, Otero, Lincoln and Eddy Counties) was developed and signed. This agreement is intended to integrate several plans, strengthen the working relationship among all partners, and take advantage of new authorities provided by the Healthy Forest Restoration Act and Tribal Forest Protection Act. The plans involved in this agreement include: Greater Ruidoso Area Community Wildfire Protection Plan, Otero County Community Wildlife Protection Plan, New Mexico Forest and Watershed Health Plan, Lincoln Capability Assessment, and National Forest County Partnership Restoration Plan.

In the Lincoln Capability Assessment, the Regional Forester formed an inter-governmental team to complete this coarse-filter analysis on the Lincoln National Forest. This analysis focused on resources and strategies necessary to implement the Central Priority. The team's findings were presented to agency administrators within the Forest Service; to representatives from Otero County, the Mescalero Apache Tribe, the Bureau of Indian Affairs, and New Mexico State Forestry; and to Congressman Pearce and members of local communities. This group supported the Forest Service decision to go forward with the Capability Assessment.

Community Vitality –The Southwest continues to see a shift in trends that affect Forest Plan direction, goals, and objectives. Demographics highlight an older-age population, and resource managers will need to consider more programs that are service and amenity oriented. For instance, as managers address public needs, an increase in the kind and number of recreational opportunities appropriate to these needs are made available.

In addition, the implementation of the Forest Plan and multiple-use policy continues to create conflicts among Forest users. An increase in project administrative appeals and litigation demonstrates the public is very interested in the use of public resources. This is also apparent through several specific human elements receiving current attention. Some of the issues needing further analysis and possible modification during the Forest Plan revision process are:

- Managing the current transportation system and future needs
 - What roads and trails will be available for public use or additional resource needs?
 - What uses will be allowed and are we considering all uses to protect resources?
 - What rights-of-way are needed?
 - How can we better manage and implement the new Transportation Management Rule and control resource damage?
- Balancing public-land use, land exchanges, and special uses
- Establishing an even and sustainable flow of wood products
- Establishing an economical availability and utilization of small-diameter wood products
- Managing recreation opportunities
 - Are developed recreation sites adequate in kind and number?
 - Are the variety and number of dispersed recreation opportunities adequate?
 - What are our existing and future maintenance obligations?
- Protecting heritage resources
 - What National Register sites, established since 1986, need to be incorporated?
 - What standards and guidelines developed since 1986 need to be incorporated as appropriate?
 - What interpretive opportunities exist to implement Section 110 of the National Historic Preservation Act?
 - What paleo-environmental (historical) data acquisition or summation can identify human-related sources of ecological trends?
- Managing elk and livestock forage competition
- Meeting water yield, water quality, and water use standards
- Managing the wildland-urban interface (WUI) for the reduction of catastrophic fire risk
- Re-introducing native species (Rio Grande Cutthroat trout, beaver, Desert Bighorn sheep) to the Forest
- Maintaining viable populations of threatened and endangered species

Land Health - The evolution toward an ecosystem-management approach refocused the Lincoln's sensitivity to ecological issues at the landscape level. Coupled with human dimension trends, ecological issues brought needed Plan modifications to the forefront.

Foundational concepts, upon which the future plan revision will be built, include: 1) managing listed threatened and endangered plants and animals; 2) increasing knowledge of the function, processes, and interrelationship of ecosystems; and, 3) recognizing thresholds beyond which those ecosystems may no longer be sustainable. To effectively use these concepts, we need a common understanding of forest restoration. And, we need to integrate various resource management programs in a way that we can measure and monitor restoration progress over time.

Specific Plan modifications to be considered during Plan Revision are:

- Watershed
 - Which ecological objectives need to be strengthened?
 - Which proper-functioning conditions need to be addressed?
 - What standards and guidelines will provide clear and measurable results?
 - Do water rights need to be more clearly addressed?
 - Which riparian management issues need to be more clearly addressed?
- Fire
 - How can we best re-introduce fire use into the appropriate ecosystems?
- Range and Wildlife
 - How do we balance elk, livestock, and other ungulates management needs?
- Noxious weeds
 - How do we incorporate effective treatment needs and measure progress?
- Forest health
 - How do we set priorities for areas needing treatment?
 - How do we describe baseline forest-health conditions?
 - How do we strengthen tools and programs to address resource needs?
- Threatened, endangered and sensitive (TE&S) plants and animals
 - How do we keep plants and animals from becoming threatened or endangered?
 - How do we coordinate plans for more effective recovery of various species?
 - How can we effectively manage for recovery of various species in the context of ecosystems versus single-species management?

Monitoring Results

The Lincoln National Forest monitoring and evaluation program has two components-- formal and informal monitoring. Some monitoring results are summarized below and additional monitoring information can be found in the attached Appendix A.

Formal Monitoring

Formal monitoring is conducted in accordance with monitoring plans at the project or program level, and during administrative and operational activity field visits. Some examples of formal monitoring activities conducted during FY 2005 are listed below.

Restoring Ecological Functionality

Under a grant, the Otero County Soil and Water Conservation District (Alamogordo, NM) and the New Mexico Bureau of Geology and Mineral Resources, New Mexico Tech, (Socorro, NM) are working on a comprehensive geologic study which includes watershed mapping. The study will focus on expanding information in the areas between Alamogordo, Cloudcroft, and Timberon that is covered by existing maps and gathering new geologic information in adjacent areas where data are completely lacking. The project will help determine ground-water sources and the effects of on-the-ground treatments to water resources.

Contributing to the Economic Vitality of Communities

Through the Tribal Forest Protection Act, the Forest is negotiating a six-year, 15,000 acre/16-million-board-feet stewardship contract with the Mescalero Apache Tribe. This project focuses on implementing hazardous fuels reduction, using similar treatments, on National Forest System lands and immediately adjacent tribal lands. A monitoring program will be implemented for this project.

Universities from across the U.S. studied the Last Chance Canyon area to learn how to identify potential oil and gas production zones. Geological field trips were conducted to look at rock formations immediately above and below exposed oil and gas production zones. This information can be used to more effectively identify where viable sources of oil and gas may exist.

In 2005, mechanical and prescribed fire was used to reduce hazardous fuels on 14,327 acres. Approximately 5,327 acres were within wildland-urban interface areas.

Forest specialists continue to work with local communities on their escape-route plans. These plans will be presented to the Forest for consideration under a special-use permit.

The districts are providing intensive fuels data and fire-behavior models to local communities to be used in the development of their Emergency Action Plans. The information and experiences are being expanded to several communities outside city and village limits to help others develop their Plans. In addition, Forest suppression personnel are providing feedback to the Plans.

Providing Quality Leadership

The Sikes Program, in cooperation with the New Mexico Department of Game and Fish, provides funds for fish and wildlife habitat improvements. In addition to Forest Service funds, funding is also received from the Mule Deer Foundation, the National Fish and Wildlife Association, the National Wild Turkey Federation, Quail Unlimited, and the

Rocky Mountain Elk Foundation. Monitoring of Sikes Act projects helps to ensure funding is being spent to benefit wildlife. Monitoring also helps to identify any needed follow-up actions or maintenance. Fiscal year 2005 accomplishments included the installation of three accessible waters and 1400 acres of habitat improvements.

The Lincoln National Forest received the 2004 Mule Deer Conservation Award in April 2005. The Forest was recognized for thinning overstocked pinyon-juniper stands on 102,000 acres and burning an additional 30,000 acres to enhance mule deer winter range. Other accomplishments recognized by this award included: 109 water developments that improved 69,000 acres of habitat that did not have a reliable year-round water source; and, protecting and restoring fawning habitat and travel corridors.

The Smokey Bear Ranger District hosted 52 weeks of radio talk shows during 2005. Annual fishing days, special-use permits, and wildland-urban interface accomplishments were only a few of the many topics covered on the talk show.

Informal Monitoring

Informal monitoring is conducted during administrative and operational activity field visits. Although the majority of the monitoring is conducted by Forest employees, our partners and the public also participate. Below is a summary of some informal monitoring activities during FY 2005.

Restoring Ecological Functionality

On the 104 active allotments, the Forest authorized the grazing of 8,155 cattle and 65 sheep. The effects of the drought persisted into the first quarter of 2005 resulting in a continued reduction of stocking levels across the Forest. During 2005, stocking levels on the Smokey Bear Ranger District averaged 40% of permitted numbers; 58% on the Sacramento Ranger District, and 43% on the Guadalupe Ranger District. Some allotments were not grazed and those grazed were grazed at reduced stocking levels.

Over 4,000 acres of invasive weeds were treated during the summer of 2005. In addition, the Smokey Bear Ranger District monitored over 2,500 acres of invasive plants across the District. This included: the musk thistle, Dalmatian toad flax, Russian knap weed, Canadian thistle, water hemlock, field bindweed, salt cedar, Siberian elm, and hoary cress. We are seeing a population stabilization of these species with the exception of the musk thistle where an increase has been noted.

Contributing to the Economic Vitality of Communities

The Lincoln National Forest is a collaborative partner with the Lincoln County Small Business Development Center and Eastern New Mexico University to develop technology transfer for innovation and economic growth in Lincoln and Chaves Counties. A grant was awarded for \$24,950 to develop entrepreneurial skills in youth.

In addition, SBS Woodshavings was awarded a \$360,000 Collaborative Fuels Restoration Program (CFRP) grant for the Cedar Creek Restoration Project on the Smokey Bear Ranger District. And, as a result of a 2004 CFRP grant, vegetation

thinning began on lands owned by the Mescalero Apache Tribe and City of Ruidoso Downs. This grant is helping to maintain the utilization of small diameter wood and sustain jobs on tribal lands and the surrounding communities.

A 2004 Rural Community Assistance (RCA) grant to the City of Ruidoso Downs supported the establishment of an Economic Development Board and subsequent Economic Development Plan in 2005.

The Lincoln National Forest participated in the Rural Community College Initiative. This resulted in working with communities to create a Regional Community Development Plan that addresses the needed services of six communities surrounding the Forest.

The National Forest County Partnership Restoration Program (NFCPR) was developed in response to local governments' growing interest in defining future conditions and appropriate actions to achieve desired outcomes on national forest lands. The NFCPR has served to improve the forest/community relationships and increase community capacity in two ways. First, the capacity to plan and implement fuels treatments within wildland-urban interface areas. And, second, increase forest-health improvement projects by leveraging funding, consolidating efforts, and working with municipal, county, state, and other federal representatives. Another important result is increased community capacity to react quickly and effectively to natural resource crises. These concepts and objectives are reflected in the Lincoln NFCPR Strategic Plan completed in 2005. Implementation of the Strategic Plan began as Otero County and the Lincoln National Forest joined together with New Mexico State Forestry to host the Western County Partnership Restoration Symposium. The Symposium was designed as a platform from which to begin to address implementation and funding of national level forest and watershed health restoration.

Assisting in Protecting Communities Adjacent to National Forests

The Forest actively participates in the Greater Ruidoso Area Wildland-Urban Interface (GRAWUI) Group. In 2005, the Forest nominated this group for the U.S. Forest Service Centennial Award within the area of Resource Stewardship/Community Leadership.

The Sacramento Mountains Otero County Working Group developed a wildfire protection plan and set priorities under the HFI and HFRA to proceed with private land fuels-reduction treatments.

Through fuels-reduction treatments in the wildland-urban interface, the Forest produced about 6.0 million board feet of timber.

Money to Local Businesses - The Forest invested over \$1.6 million in Fiscal Year 2005 through contracting 6,662 acres in 15 separate thinning contracts in local small business development.

The Lincoln National Forest also collected fees related to forest products and services delivered through other Forest Service programs.

Forest Products and Services	Revenues
Recreation Residences/Ski Areas/Outfitter Guides	\$133,578
Communication Sites, Power Lines, etc.	\$51,862
Minerals	\$10,218
Outfitter/Guide	\$10,758
Wood Products	\$72,630
Grazing	\$116,110
Recreation Fee Demonstration Collections	\$79,439
	<hr/>
	\$474,595

Providing Quality Leadership

The New Mexico Rails to Trails organization was presented with the 2005 Forest Service Centennial Service Award. They were recognized for their work on the Forest and Sacramento Ranger District trestle trails--especially the Salado Canyon Trestle trail.

The Guadalupe Ranger District hosted a reconnaissance exercise to test cave rescue efforts. About 40 Forest Service and other agency employees, volunteers and partners worked together on rescue processes. In addition, the District Cave Specialist was able to assess the group's strong points, equipment, resources, and skills; and determine what follow-up action is necessary to help ensure quick, effective cave rescue efforts. In addition, cave rescue plans are being developed for eight of the main caves that did not have plans.

The Sacramento Wildland Fire Academy was established in 2005 and training was held over a weekend in April. A mock incident was used to train Forest Service and county, local and other agency personnel on natural-fire incidents. This also provided non-Forest Service personnel with an introduction to a fire-camp incident command situation.

Evaluation

What was Learned

With years of collected data, the Forest continues to apply what is learned from monitoring and evaluation activities. This includes changing, modifying and adapting our management practices to meet both current and future needs. In addition, adjustments are made to the way the monitoring program is executed, as well to inventory processes. Some examples are listed below:

- Most of the Forest's early attempts to develop stewardship contracts were unsuccessful; and, for a variety of reasons, contracts were restructured into more

traditional contracts. However, based on the information we gained from these attempts and building on the successes of the Stewardship Contract Workshop hosted by the Forest during the summer of 2005, the Forest embarked in a Stewardship Contract with the Mescalero Tribe, using the Tribal Forest Protection Act authority.

- As a result of Mexican spotted owl monitoring (over a four-year period) in the Scott Able burn area, information collected indicate most of the nine affected protected activity centers (PAC's) remain occupied. Hawks Aloft suggests the fire probably did not greatly depress population size; but, some displacement occurred. The owls in the four-year study moved away from some severely burned PAC's for nesting and roosting, but used the burned areas for foraging.
- Approximately 1,500 acres were treated within the Pine Spring fuels-reduction and wildlife-habitat-improvement project on the Smokey Bear Ranger District. Monitoring results indicate the pinyon/juniper did not burn as well as the mixed conifer and ponderosa pine. This is attributed to the relative absence of grass and fuels to carry the fire. To improve the success rate and provide adequate fuels to carry the fire, we needed to slash and scatter the pinyon/juniper ahead of time.
- Monitoring of the Curtis Canyon burn area on the Sacramento Ranger District indicated a need to redesign the large sediment traps that are no longer effective.
- The Denny Hill (Sacramento Ranger District) prescribed burn monitoring helped to verify that the applied prescriptions, timing, and techniques accomplished what was planned. Throughout the District, trees and vegetation continue to be stressed from drought conditions and cannot take as much heat as under more normal conditions. In response, the District prescribed burning program was shutdown during the month of in April.
- The Sacramento Ranger District reported adjusting its range monitoring techniques to better adapt the rapid assessment methodology (RAM). Using RAM and methods established by New Mexico State University, the District intends to improve the quality and quantity of their range monitoring.

Key Findings and Forest Supervisor's Certification

The Forest made great progress in 2005 in areas of hazardous fuels reduction, forest management, and restoration. Projects on the Lincoln National Forest were aimed at decreasing dangerous densities of trees and vegetation, enhancing watershed conditions and habitat for plant and animal species, and supporting local economies. Establishment and participation in community collaborative efforts helped to accomplish common forest-health goals--producing a healthier, more resource-balanced forest.

In 2004, the Forest began the analysis for amending the Forest Plan to reflect the current Wildland Fire Policy (1995/2001) and Forest Fire Management Plan. That amendment is expected to be completed in 2006.

Since implementation of the Lincoln's Land and Resource Management Plan in 1986, four corrections and twelve amendments have been completed. More significant corrections and amendments include the Southwestern Region "*Final Environmental Impact Statement: for Amendment of Arizona and New Mexico Forest Plans*" to incorporate Mexican spotted owl and Northern goshawk management direction. Current corrections and amendments can be found on the Forest website at <http://www.fs.fed.us/r3/lincoln/projects/index.shtml>.

Due to new Congressional direction, the Lincoln National Forest Land and Resource Management Plan revision process is scheduled to begin in 2007.

The Lincoln National Forest Plan, as amended, is sufficient to guide management of the Lincoln National Forest over the next year. As identified in and guided by findings described in this document, necessary changes will be considered during scheduled Plan revision.

 /s/ S.E. "Lou" Woltering

 6/12/06

S.E. "LOU" WOLTERING
Forest Supervisor

Date

Appendix A

The purpose of Appendix A is to provide additional monitoring and evaluation information or to expand on a monitoring topic covered in the Monitoring and Evaluation Summary. This information was gathered through interviews with Forest staff and resource specialists; and, from various resource reports, news articles and briefing papers. If additional information is needed or you have questions, you can e-mail Joe Garcia, Public Affairs Officer, at jgarcia@fs.fed.us, or contact one of the Forest Staff listed below at (505) 434-7200.

Lou Woltering—Forest Supervisor
Jacque Buchanan—Deputy Forest Supervisor
Larry Cospers--Range, Soils, Water, Botany, & Wildlife Staff
Severo Cosyleon—Engineering Staff
Ron Hannan—Forest Planning Staff
Vacant—Administrative Officer, Grants & Agreements
Richard Newton—Heritage Resource Staff
Shelly Pacheco—Forest Safety Officer
Paul Schmidtke—Fire Staff
Johnny Wilson—Land, Minerals, & Recreation Staff
Vacant—Timber Staff

Formal Monitoring

Formal monitoring activities are normally established and conducted in accordance with site-specific projects. Below are examples of some of the project specific monitoring completed in FY2005.

Threatened, Endangered, and Rare Plants Monitoring and Surveys— Sacramento prickly-poppy monitoring, Alamo Canyon (Sacramento Ranger District) - Monitoring of the federally endangered *Argemone pleiacantha ssp. pinnatisecta*, was conducted in Alamo Canyon by Forest Service employees between November and August. A flush of seedlings was discovered in early November, 2004. In April and May, 816 seedlings and 330 adult plants were located in Alamo Canyon. On August 17, 819 plants were found in both Alamo and Caballero Canyons, 13 of which were smaller than 1" in diameter. Twenty-six dead plants were found during this visit. Livestock were removed from the Alamo Canyon pasture on February 3rd.

Sacramento prickly-poppy seedling watering monitoring (Sacramento RD) – Volunteers from the New Mexico Native Plant Society, Otero Chapter, conducted watering and monitoring of seedling survival in two watered and two control plots in the mouth of Alamo Canyon between March and August. They found a 9% survival of 93 seedlings in the watered plots and an 11% survival of 161 seedlings in the control plots.

Kuenzler's cactus monitoring, Mule Canyon Allotment (Sacramento RD) –Forest Biology staff monitored Kuenzler's cactus population #1 in the Mule Canyon Allotment on October 26, 2005. Sixty-seven plants were located. Out of the 67 plants, 36 plants (54%) were alive and 31 plants (46%) were dead. Of the living plants, 19 were observed to be in good health, 13 in fair health and four in low to poor health. Rodent herbivory on plants and rooting around plants were noted. There was no apparent livestock grazing within the cactus population since the grass green-up from summer rains.

As shown in the photo to the right, Kuenzler cacti is easily spotted when blooming.



Sacramento Mountain thistle monitoring

(Sacramento RD) – Extensive monitoring for this federally threatened plant (following established protocol) was conducted under a Challenge-Cost Share Agreement in August. Continued variation in the number of bolted *Cirsium vinaceum* plants at 85 sites was documented with an overall decline continuing. A decline of 7.9% was found in the number of plants counted in 2005 compared to the 2003 count. The decline in number of plants was found to be more precipitous than in previous years with 21 sites losing more than 50% of their plants and five additional sites becoming totally unoccupied. This represents a 5.9% loss of occupied sites since 2003. One site was recorded to have an all-time high number of 12,041 plants and four other sites recovered losses found in 2003. Presence of a plant enclosure and protection from easy access by cattle are unifying factors among the sites showing recovery of population numbers. Spring water flow supporting the plant populations appeared on the surface for shorter distances compared to previous years. Invasive weed numbers, in general, were less than in prior years.

In addition to the above species monitoring, several formal plant surveys were conducted in 2005. Some of the surveys include:

- Turkey/Gavilan WUI area (Smokey Bear RD), Maverick project - Contracted plant surveys were conducted on 1,900 acres. No populations of the target species, *Echinocereus fendleri* var. *kuenzleri* and *Astragalus kerrii*, were located.
- Perk/Grindstone project (Smokey Bear RD) – Summer crews conducted surveys on 3,310 acres for four of six possible sensitive plant species. No target species were located. Surveys for the two additional species will be needed in 2006.
- Lookout Mountain Sensitive Plant survey (Smokey Bear RD) – Contracted surveys for sensitive plant species were conducted on 300 acres for current and proposed sensitive plant species. Populations of *Besseyia oblongifolia*, *Delphinium*

novomexicanum, *Sedum integrifolium* var. *neomexicanum*, *Potentilla sierrae-blancae*, *Senecio sacramentanus* and *Allium gooddingii* were documented, GPS coordinates and digital photo images were taken, herbarium voucher specimens were made, and habitat preferences were described.

- Ski Apache Ski Area surveys (Smokey Bear RD) – Summer crews conducted clearance surveys for proposed ski area summer activities. A previously unrecorded population of *Allium gooddingii* was documented.
- Buck Mountain/South Fork/Bluefront area survey (Smokey Bear RD) – Summer crews conducted surveys for sensitive plant species. Populations of *Crataegus wootoniana* and *Penstemon cardinalis* ssp. *cardinalis* were documented.
- Stanton Tank area survey (Smokey Bear RD) – Summer crews conducted surveys northeast of known *Echinocereus fendleri* var. *kuenzleri* population in Little Creek. No new populations were located.
- Sixteen Springs and Rio Peñasco II projects (Sacramento RD) – Contracted plant surveys were conducted on 7,700 acres. No target T, E or S species were located. Fifty-five sites for *Senecio sacramentanus* were documented. Twenty-three populations of two rare, unidentified orchids were located. Material was gathered to attempt identifications. Information gathered adds to knowledge of the ranges of TE&S species and helps with determinations of where future surveys are needed. *Senecio sacramentanus* was dropped from the R3 proposed Sensitive Species list.
- Last Chance and Sitting Bull Falls Canyons (Guadalupe RD) – Contracted surveys were conducted for sensitive plant populations in these riparian areas. Populations of *Penstemon cardinalis* ssp. *regalis*, *Streptanthus sparsiflorus*, and *Aquilegia chrysantha* var. *chaplinaei*, were documented, GPS coordinates and digital photo images were taken, herbarium voucher specimens were made, and habitat preferences were described.

Sacramento, White and Guadalupe Mountains Bird Monitoring—This monitoring is a continuation of a study that began in 2001 and is considered the fourth year of monitoring. The monitoring season was from February 2, 2004, through June 14, 2005; and, included the Buck Mountain, Eagle Creek, Philadelphia Canyon, Pumphouse Canyon, Three-Mile Canyon, and Willie White Canyon areas. Each site was visited from three to six times during the monitoring period. A total of 85 species were found during the survey period, compared to 92 in 2003 and 93 in 2002.

In the Guadalupe Mountains, there are four study areas: Hammwell, North Pasture, Pat's Lake, and Robinson Draw. Over a 10 to 11-year period, new species continue to be found regularly. During the 2005 field-monitoring season, a single species, zone-tailed hawk, was added to the composite list for a total of 109.

Forest Thinning Salamander Study— Under the direction of the New Mexico State University Department of Fisheries and Wildlife Sciences, the Study involved the Sacramento Mountains salamander and was the initial, baseline data collection portion of the long-term project. The results will be compared to post-treatment surveys after the study plots are thinned in 2007.

Mexican Spotted Owl (MSO) Recovery Plan Monitoring—MSO recovery monitoring included collecting stand-exam data within variable plots. Standing and dead-down material that fall within MSO guidelines (at least 12" diameter and 8' in length) are also collected using a ½ acre-fixed plot at each point. And, azimuth and distance are recorded for all dead material meeting these guidelines. Photos are taken in each cardinal direction. Each plot is re-visited after each phase of treatment. The main purpose of this monitoring is to maintain required habitat structures. Revisiting after each phase of treatment helps us to determine which function, if any, takes us out of compliance with the Mexican Spotted Owl Recovery Plan.

Smokey Bear Ranger District –Mexican Spotted Owl (MSO) and Northern Goshawk Inventory and Monitoring—A total of 6,163 acres were surveyed for MSO in 2005. Inventory results include no evidence of MSO within the 200-acre portion of the Bonito WUI area. However, a new protected activity center (PAC) was established within the Perk/Grindstone wildland-urban interface area. Eleven PAC's were monitored in the Bonito, Eagle, and Perk/Grindstone areas. Owls were detected at three sites and one of the three had produced young. All 11 sites are still considered suitable habitat.

Two new Northern goshawk post-fledgling family areas (PFA's) were established before the 2005 survey season. During the survey season, 13 target areas were successfully surveyed. Five areas were confirmed to have Northern goshawks and three additional areas potentially had goshawk activity. Successful reproduction was confirmed at two sites.

Sacramento Ranger District Northern Goshawk Monitoring—The District field crew monitored eight post-fledgling family areas. Of the eight monitored sites, two sites were occupied and five young were confirmed.

Scott Able Fire Area Monitoring—Monitoring contracts for the Scott Able fire area in 2005 included: avian-use, Northern goshawk, Mexican spotted owl, aquatic habitat, salamander abundance and arthropod prey base, bat, butterfly, and vegetation recovery. Below are summaries of the monitoring results. (Additional information can be acquired from the Forest.)

Avian-Use Monitoring—Hawks Aloft, Inc. monitored avian use within the Scott Able fire area from 2002-2005. Eighty-three species were observed and no obvious species appeared to be missing. It was concluded that the fire probably did not negatively affect avian diversity on the Lincoln National Forest. Enough unburned woodland remained, allowing for woodland species to persist.

Northern Goshawk Monitoring—Hawks Aloft, Inc. monitored five sites fire area during the 2005 field season. Goshawks were found in four of the five areas. One pair was confirmed and two juveniles found. Observations indicate the Northern goshawks are still utilizing the Scott Able fire area. Habitat has been altered due to timber harvesting and wildfire but suitable nesting habitat for the goshawks still exists within the five monitored sites.

Mexican Spotted Owl Monitoring— Mexican spotted owl monitoring (by Hawks Aloft, Inc.) of nine MSO PAC's continued in 2005. Of the nine PAC's monitored, owls were found in eight PAC's. Eighteen different spotted owls were detected on both the Scott Able east and west survey areas. One new nesting pair was confirmed in the Scott Able east study area.

Aquatic Habitat Monitoring—Aquatic habitat was monitored within the fire area for the fifth consecutive year. Of the 14 sites monitored (seven within the fire area and five outside the fire perimeter) a total of 50 taxa were identified. Several taxa were not found in 2005. As a result of dry conditions, the Chiquita Spring area failed to contain aquatic biota. Scott Able and Pendleton Springs had the highest species diversity and richness of all the sites, while the aquatic site in Potato Canyon had the largest decrease in species diversity.

Salamander Abundance and Arthropod Prey Base—Fiscal Year 2005 was the fifth year of field work to evaluate the impacts of the Scott Able Fire on the Sacramento Mountain salamander and its terrestrial arthropod prey base. The relative abundance of arthropods within the severely burned sites lagged behind that of the lightly burned sites and controls for all years. The number of survey days was increased in 2005 in order to increase the likelihood of finding marked salamanders (or recaptures) which enables us to improve the accuracy of the population estimates. Although the final report is pending, initial findings indicate the overall population numbers continue to decline but the population structure is showing more young salamander being present. This could lead to a long term reverse of the population decline. Outside the fire area, no habitat was surveyed in 2004 or 2005.

Bat Monitoring—Bat monitoring occurred from May to August at a total of 11 sites representing burned and unburned areas within and adjacent to the Scott Able fire area. The most abundant species captured was the silver-haired bat (*Leptonycteris noctivagans*). Of the 11 sites monitored, Hughes Tank, Potato Spring and Pepper Spring had the highest species diversity (Shannon Diversity Index). Monitoring also revealed that bat diversity amongst sites (i.e. burned, unburned, edge of burned) varied with mean diversity being higher at unburned sites, followed by sites at the edge of the burn and lowest at sites burned during the Scott Able Fire. Locations of maternity roosts are important for land managers in helping protect bat habitat within the Forest. Data collected from the study since 2000 has revealed some very important information regarding maternity roosts. Maternity roosts tend to be found in large snags, with the

exception of one roost which was found in a snag less than 10" dbh, and on east and southeast facing slopes.

Butterfly Monitoring—The five-year monitoring project was to determine which butterflies occur in the burn zone, their larval host plants, and their primary adult nectar sources. Over the five-year monitoring period, more than 90 species have been documented in and around the Scott Able fire area. The overall indication is the effects of fire benefits butterfly species number and variety.

Vegetation recovery monitoring--A four-year contracted study of the recovery of vegetation at representative sites within the burn area was completed. Vegetation plot data with species composition and cover values for plots within the fire perimeter and within an un-burned surrounding buffer was documented. Herbarium vouchers were made and a complete check list was compiled for all encountered plant species. These surveys in the Scott Able fire area located a new population of *Delphinium novomexicanum*, as well as the first known United States location of *Microthelys rubrocallosa* which was previously known only from Mexico. This species will be added to the Region 3 Sensitive Plant List.

Sacramento Mountain Checkerspot Butterfly Survey and Monitoring—Surveys conducted between 1998 and 2000 have expanded the known range of the Checkerspot occupied habitat. More recent surveys have covered new areas of potential habitat within meadows and forest openings.

In 2005, several plots were monitored for adult and larval presence, use, and densities. When compared to previous years, we found a decline in the number of larval tents within the 10 monitoring plots. When compared to past years, there appeared to be fewer adults flying during the flight period in 2005. Also, ants appeared to be abundant. Since they are known to prey on larvae of other butterfly species, they might have contributed to a decreased number of larvae that survive to chrysalis.



In addition to plot monitoring, several surveys were conducted to clear projects in an attempt to minimize effects to the Sacramento Mountain checkerspot butterfly. This resulted in locating approximately 63 larval tents that contained approximately 1,930 individual larvae. Many of the larvae were either moved or avoided during project implementation. In December 2004, the public was notified through a U.S. Fish and

Wildlife Service news release that the butterfly would not be added to the Endangered Species List because the threats to its existence had been lessened.

Sacramento River Corridor–Mexican Spotted Owl (MSO) Inventory and Monitoring—Formal MSO monitoring in 2005 consisted of conducting up to six nighttime visits to each of nine sites. Of the nine sites monitored, seven nesting/roosting sites were confirmed, and six of the sites had produced young.

Sacramento Ranger District Mexican Spotted Owl (MSO) Study—In conjunction with a study evaluating the effects of fuels-reduction treatments on Mexican spotted owls in the Sacramento Mountains, the USDA Forest Service Rocky Mountain Research Station (permitted by the U.S. Fish and Wildlife Service) fitted 34 Mexican spotted owls with radio transmitters during the summer of 2004. From fall 2004 through spring of 2005 mortality rates were observed in owls with transmitters. Approximately nine adult males and four adult females are dead or presumed dead. The number of owl mortalities is higher than expected, causing concern over factors leading to their deaths. The heavy winter snow pack on the Forest may have reduced the prey base or there may be another reason for the mortality. However, there is a chance that the weight of the radio transmitters caused additional stress to the owls and contributed to their mortality. Consequently the partners in the study determined that recapturing and removing radio transmitters from the surviving male owls was in the best interest of the population. Owl experts will complete an assessment by mid-September 2006 and decide whether removal of transmitters from female owls is advisable.

Springer Springs Southwestern Willow Flycatcher Inventory—Inventories have been conducted in this area from 1998 to 2005 by trained and certified Sacramento Ranger District biologists. In 2005, no Southwestern Willow Flycatchers were detected within the Springer Springs riparian inventory area. No birds have been located since monitoring began.

Heritage Program— Rapid expansion of hazardous-fuels reduction programs on national forest lands is resulting in an increased workload for the New Mexico State Historic Preservation Office (SHPO). During FY 2005, the Forest surveyed 21,146 acres for archeological sites, providing documentation of 183 new sites. At least 19 sites were stabilized, rehabilitated, monitored or protected.

Insect and Disease—Forest-wide aerial insect and disease surveys were completed during the week of August 1, 2005. Due to the decrease in pinyon ips beetle activity throughout New Mexico, supplemental surveys for pinyon mortality were not continued into 2005. Therefore, the Guadalupe Ranger District was not included in the 2005 survey.

On the Sacramento Ranger District defoliation of the mixed conifer forest, by the New Mexico fir looper, had affected 5,295 acres compared to 5,915 acres in 2004. No western spruce budworm defoliation was visible during the aerial surveys in 2005.

Aspen defoliation caused by western tent caterpillar along with other biotic and abiotic agents was minor, but increased to 505 acres from 105 acres in 2004.

Overall, bark-beetle-caused tree mortality increased to 19,670 acres in 2005, up from 16,625 acres in 2004. However, ponderosa-pine mortality decreased substantially to only 1,640 acres--the lowest amount observed during aerial surveys on the Lincoln in the past 10 years. The fir mortality (16,985 acres) in the mixed conifer (caused by fir engraver beetles) caused the increase in overall bark beetle activity. In contrast to the reduced ponderosa pine mortality, this is the greatest amount of fir mortality observed on the Lincoln in the past 10 years. Fir engraver beetle activity was found throughout the Sacramento Ranger District and along the eastern slope of Sierra Blanca Mountain. Other minor activity in the mixed conifer includes Douglas-fir beetle (possibly in combination with the Douglas-fir engraver beetle, 935 acres) and a combination of spruce beetle and western balsam bark beetle (total 110 acres).

Water, Watershed Inventory and Monitoring—Under the HFI and HFRA authorities, the 23,000-acre Sixteen Springs Watershed Analysis (Sacramento RD) was completed. This landscape-scale analysis served as the cornerstone for the 2005 Stewardship Contract with the Mescalero Tribe. On the Smokey Bear Ranger District, the Perk/Grindstone 10,700 acre analysis was also completed. However, it was postponed under objection process of the HFRA for the remainder of the fiscal year.

As part of the agreement with the State of New Mexico under the Non-Point Source Program of the Clean Water Act and aggressively working to reduce fire risk and improve watershed, the Forest reported the following to the New Mexico State Environment Department. Total acres mechanically thinned or prescription burned amounted to 959 acres on the Smokey Bear Ranger District, 4,398 on the Sacramento Ranger District, and 7,000 acres on the Guadalupe Ranger District.

Other

- Air quality was monitored over the White Mountain Wilderness Class I airshed area.
- NEPA was accomplished on 11 range allotments--three decisions were signed (one currently under appeal) and four are pending consultation with the U.S. Fish and Wildlife Service.
- Research continued in La Cueva de las Barrancas. This cave is referred to as a natural cave laboratory for integrated speleological studies. The Cave research involves sensitive or geomicrobiological science and sensitivity ranked sciences. Both involve using extraordinary caution to avoid compromising the pristine cave environment.
- In partnership with a New Mexico State University and a Carlsbad biology professor, bat counts continue in various caves on the Guadalupe Ranger District. Using sound-recording equipment, bat sounds are being interpreted to gather bat information about species and numbers. They found bat counts to be similar to past

inventories. They are also finding some caves with no bat entry. This could be due to contaminants that affect bat respiratory systems.

- In the past, Carlsbad area residents had used Thayer Cave as a dump site. It is a common practice to have soils sampled in cave areas where dumping has occurred. During 2005, toxic substance levels in the cave area continued to be monitored.
- Grass research and monitoring continued in the Dark Canyon area of the Guadalupe Ranger District. A grass expert is gathering information on the development of grasses underneath slash in a ponderosa-pine under thinning project area. In one allotment, they found grass production had risen dramatically. Also found was an increase of fine fuels in one area and no improvement in others. Other vegetative photo monitoring is ongoing in the Dark Canyon area. When comparing photos from 10 years ago to the 2005 photos, grass was found where soil was stabilized. Vegetation treatments and thinning were effective.
- Texas A&M University is working with the Forest to map and populate non-forested vegetation data.

Informal Monitoring

Baseline inventories, and implementation, effectiveness, and validation monitoring are four broad categories or stages monitored. These types of monitoring activities are documented in resource files, Forest databases, and within miscellaneous correspondence and annual resource reports. Some 2005 informal monitoring activities are summarized below.

Transportation— High-clearance roads are being inventoried for each priority watershed project. The results are used to assess risk and road value--resulting in recommendations for future road management. In 2005, the Roads Analysis Process (RAP) was completed for the Sixteen Springs and Perk/Grindstone areas. The information gathered included classified roads (roads with a road number and currently in the Forest road-inventory system) and unclassified roads and trails.

Forest Road 108, in Tanbark Canyon, was identified as a right-of-way Forest priority. By the end of the calendar year, the title work and survey plots were completed and draft deeds were prepared and sent to the Office of General Council.

Heavy rain in some areas of the Forest caused transportation safety concerns. In response, road condition surveys were completed to assess high-use areas. Where road repairs could not be immediately addressed, object markers were installed and signing increased.

Threatened, Endangered, and Rare Plants Monitoring— Crooked Fire Kuenzler's cactus monitoring (Guadalupe RD) – Informal monitoring by District personnel after the small lightning-started Crooked Fire failed to locate any Kuenzler's cactus plants, burned or live, in an area previously recorded to contain plants.

Scarlet penstemon survey in Peppin Fire area (Smokey Bear RD) – District summer crews documented a population of *Penstemon cardinalis* ssp. *cardinalis* plants in a previously unreported site in Copeland Canyon. A population of *Delphinium novomexicanum* was also documented.

Recreation—The Guadalupe Ranger District Cave Specialist served on a cave-advisory board. During 2005, she worked with approximately 25 boy scouts, ages 14-20, teaching cave conservation ethics, safety, and restoration.

The trail to Devil's Den on the Guadalupe Ranger District experienced a major wind event that resulted in 40 trees being blown down across the hiking trail. A Youth Conservation Corp. (YCC) group cleared the debris from the trail.

The Cottonwood Cave area had a major rock fall after a significant amount of rain was reported in the area. Inspection of the cave area found the upper structure saturated but no danger or internal cave impacts were noted.

Monitoring of La Cueva de las Barrancas in June and July showed attempted illegal cave entries that compromised the airflow studies.

The Sitting Bull Falls Recreation Area was closed for approximately 30 days in November and December 2005. The temporary closure allowed the Guadalupe Ranger District to address safety concerns. For example, culverts were installed at low-water crossings along the entry road and some grill areas were rearranged away from vegetation. In addition, no problems were indicated as a result of routine water samples taken at public supply points.

Under the High Guads Restoration Project, volunteers accomplished cave restoration, gated some caves from public access, and resurveyed and mapped portions of caves. In addition, exploration continued with the focus on finding caves where underground air flow had been previously detected.

Rendezvous, archery shoots, cattle drives, and symposiums are a few of the recreational events monitored on the Forest. Most of the events are short-term events with a lot of foot and vehicle traffic. Monitoring is done before, during and after major events to help ensure the permittee stays within permit compliance. In most cases, permittees were in compliance and impacts were less than expected.

Dispersed recreation concerns are being addressed along with fire prevention work. Crews are breaking down fire rings to discourage camping and improve drainage in problem areas. Where needed, signing has been added to discourage use.

On the Sacramento Ranger District, monitoring in Benson Canyon resulted in finding two trails parallel to one another. Portions of the lower trail were rerouted to the upper

trail and trail areas in the meadow bottom were obliterated. The use of the upper trail is being encouraged and monitoring of the area is showing a positive response.

Monitoring various trails on the Guadalupe RD found some trails over grown and needing major maintenance. Other trails were maintained while monitoring by removing debris and placing rock piles to assist the public in knowing where the trails continued. Additional monitoring included: verifying motorized trail conditions and identifying areas where livestock were utilizing trails.

On the Sacramento Ranger District, a two-foot drop off was eliminated on the "A" trail to alleviate a hazardous section. These pictures show "A" Trail before and after the rock hazard and drop were eliminated.



This type of photo monitoring helps document current conditions and procedures used to improve trails safety across the Forest. Additional monitoring of trail areas such as this help determine the success rate of various trail improvement procedures.



Over one mile of the Benson Trail (Sacramento Ranger District) was closed and route closure signs were installed.

In July 2005, locking steel bollards were installed across the Rim Trail on the Sacramento Ranger District. This was to prevent full-size vehicles from accessing over three miles of the trail. The locking bollards are removable, allowing emergency access.

In 2005, the environmental assessment was completed to upgrade the Aspen, Black Bear, Slide, Sleepy Grass, and Deerhead areas. Contracts are expected to be awarded and work expected to begin in 2006. Improvements will include: new toilet facilities,

improved access, and new fire rings, tables and tent pads. Pavilion installations are planned for Black Bear and Aspen.

Wooden toilet facilities continued to be replaced with new concrete vault structures. The concrete structures allow for a safer environment and easier maintenance.

Fire and Fuels Management— Aspen re-sprouts were found along the east mountain of the Peppin fire area, Smokey Bear Ranger District. In addition, springs and creeks in the area had running water all summer and surface flow had increased. Prior to the Peppin Fire, Arabela Canyon residents were concerned about their wells and gallons-per-minute production. Recent monitoring found no negative fire impact on the wells and water output.



Photo points were established across the Eagle Fuels Reduction Project. This was a collaborative effort among the Southern Research Station, New Mexico State University, and a private company. These pictures indicate the results of a prescribed burn within the project area and the return of

grasses and smaller vegetation in the spring. Monitoring of these and other vegetative treatments continue in areas such as this one over a period of years. As a result, the treatments are adjusted and applied to other similar areas.



Photo points were also established on four push projects within the Smokey Bear Ranger District. On the Bird Unit, points were strategically placed to examine the project from other vantage points for before and after project-scale monitoring.

Smoke monitoring is an ongoing process during prescribed burning. Because we work to adapt to the situations and time of day, there are very few, if any, local resident smoke complaints.

The sand-table tactic process which involves using a table sandbox and miniatures to mimic on-the-ground fire scenarios was used locally for testing, training and after-action reviews. This process was shared with the New York Fire Academy and demonstrated at Eastern New Mexico Branch Forestry classes.

Range—Livestock and elk competition is an ongoing concern--especially in Big Game Unit 34 which includes the Sacramento Mountains south of the Mescalero Apache tribal land. This area continues to show potential conflicts between livestock and elk. In response, the Forest is working with the New Mexico Department of Game and Fish, county governments, sportsmen, and other interested parties to manage elk populations throughout the Forest.

Range condition and trend data were collected during allotment field visits. On the Smokey Bear Ranger District, they found good compliance on most allotments. Many ranchers have moved livestock and those grazing have reduced their grazing by 30-40%. Since the Peppin fire, range conditions in the fire area were reported to have gone from poor to excellent.

Forage production ranged from poor to good across the various pastures on the Panama/Prude, Sargent, and Irabarne allotments (Guadalupe Ranger District).

The Sacramento Ranger District monitored “key areas” on a number of allotments. Data was collected on approximately one-third to one-half of the allotments. Priority monitoring occurred on the high-country allotments with Mexican spotted owl concerns.

The Range Task Force participated in the monitoring of the Sacramento and Charles Walker Allotments. With the exception of the Sacramento Allotment, they found utilization levels were met. For the most part, 2005 was a good production year and much improved over 2004.

To improve range and restore watersheds on the Smokey Bear Ranger District, range improvements consisted of approximately nine miles of new fence construction, four dirt tanks cleaned, three miles of water pipeline installed, and 250 acres of pinyon/juniper control.

The Sacramento Ranger District utilized performance-based contracting sources to accomplish the noxious weeds treatments on the District. This type of contacting allows the District to pay according to the noxious weed kill rate.

In May, the Sacramento Ranger District accomplished a 1,000-acre prescribed burn with range-betterment funding. The project involved pretreatments using heavy equipment to knock down fuels to help carry the prescribed fire. Monitoring of this area

will continue over several years to help determine the effectiveness of this type of treatment.

Other Monitoring Activities—

- Off-highway-vehicle (OHV) accomplishments include: OHV safety training and all-terrain-vehicle (ATV) certification, monitoring group trail events, improving signing and barriers at wilderness area intrusions, and the closure of user-created routes causing resource damage.
- The Last Chance Canyon riparian project on the Guadalupe Ranger District has been monitored for several years. During the past 11 years, we continue to see an increase in riparian vegetation such as reeds and cat tails which blanket the Canyon bottom, while stands of cottonwoods trees have flourished and established into soils collected on the Canyon bottom.
- Condition surveys were conducted on 20% of our non-recreation facilities-- the focus being on remote lookouts and radio buildings.

- Reestablishing old photo points is an ongoing process and is done in conjunction with other field-going activities. For example, the top photo to the right was taken of the Water Canyon Camp in 1923, and retaken in 2004.



- Bat mortality monitoring was conducted in the second level of Cottonwood Cave. The documented counts will be used as baseline data. In 2006, the Guadalupe Ranger District plans to do air-quality monitoring within the Cave. This should help to determine why some bats are dying in the general area of the cave.



- Sikes Act trick tanks, exclosures, fences and pipelines were monitored across the Forest. Erosion issues were addressed, fences tightened, and drinkers scrubbed. A substantial amount of grass was reported in several exclosures—some being full to capacity. This is mainly because of the wet spring and summer.
- Outfitter guides were monitored to insure they were in compliance with their special-use permits. The Forest Service can obtain information on the outfitter businesses from the State. The information is compared with Forest Service information to identify possible violations. The Forest Service also follows up on public complaints about our outfitter guides.
- Live and dead fuels monitoring is ongoing. Every two to three weeks data is collected and shared with the fire suppression staff. The Forest looks for trends of tree moisture and fire behavior. The process also measures drought stress on trees and is used to determine fire restriction levels.
- The 2005 YCC field crew removed over two miles of fence along trails, installed 14 signs at abandoned mine sites, cleared downed trees and encroaching oak from two miles of trail, and installed signs closing user-created, off-highway-vehicle trails across the Sacramento Ranger District. They also worked on improving stock tanks, repairing fence, removing invasive species, reseeding two timber sale areas, closing approximately 10 miles of roads, and preparing a thinning area for burning by piling downed trees. On the Guadalupe RD, they removed trash from cave entrances and did cave-trail work. The work consisted of approximately 320 hours at a cost savings to the Forest of \$14,400.
- From May to October a volunteer was stationed at the Trestle Recreation Area on the Sacramento Range District and provided visitor services that included: providing recreation-opportunity information, cleaning restrooms, removing trash, and opening and closing the area on a regular basis. Once a week the volunteer worked with the District Recreation Technician on various projects including trail work, dispersed recreation site cleanup, installing signs, and hazardous tree removal. Approximately 1,480 hours were volunteered at a cost savings estimate of \$11,100.
- Electronic-site inspections were conducted in the Buck Mountain area on the Smokey Bear Ranger District. These inspections help insure safety and proper operations of the electronic site, the Regional Office assisted. Findings included more equipment present at the sites than on current inventories.
- Due to the wet spring and summer, the Forest experienced a quiet fire season. This allowed our fire crews and personnel to support the Hurricane Katrina natural disaster relief efforts that affected many parts of the South and Southwest.

For additional information or to receive a complete copy of a specific resource report, please contact the Lincoln National Forest at (505) 434-7200.