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Angeles National Forest Fiscal Year 2010

Land Management Plan

Monitoring and Evaluation Report



October 2010

Dear Forest Stakeholders:

I am pleased to present the Angeles National Forest's Monitoring and Evaluation Report for activities and actions implemented in fiscal year 2010. Monitoring occurred during fiscal years 2010 and 2011 (October 2009 through September 2011) while projects were being implemented, or after they were completed. The purpose of the Monitoring and Evaluation Report is to determine if plans, projects and activities are implemented as designed and in compliance with the Land Management Plan; evaluate Plan effectiveness relative to species and habitats and the principles of adaptive management; and help identify if future Plan changes are needed.

In April 2006, the revised Angeles National Forest Land Management Plan was approved. In the Record of Decision, monitoring is emphasized and identified as a key element in all programs to assure the achievement of desired conditions over time.

This report summarizes monitoring efforts conducted in the fourth full year of implementing the revised plan. The fifth year monitoring report will address questions designed to evaluate progress toward achieving the Forest's desired conditions.

It is important to me to keep you informed of the results of our monitoring. This Monitoring and Evaluation Report will be posted on our Forest website at <http://www.fs.fed.us/r5/angeles/>. If you are interested in becoming involved in our planning process, please see our national website to review current projects and activities under evaluation (<http://www.fs.fed.us/sopa/>).

Sincerely,

Thomas A. Contreras
Forest Supervisor
Angeles National Forest

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Angeles National Forest Land Management Plan Monitoring and Evaluation Report For Fiscal Year 2010

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Angeles National Forest Land Management Plan Monitoring and Evaluation Report - 2009

I. Introduction

This Monitoring and Evaluation Report documents the evaluation of projects randomly selected from projects that were implemented during the previous fiscal year (FY), in this case FY 2010 (October 1, 2009 through September 30, 2010).

The revised Angeles National Forest (ANF) Land Management Plan (LMP) went into effect October 1, 2005. Projects with decisions signed after this date must comply with direction in the revised plan. Decisions approved prior to this date that are not under contract or permit but continue to be implemented in phases are also expected to be consistent with the revised plan. This report documents the evaluation of activities and the interpretation of monitoring data to determine the effectiveness of the LMP and addresses whether changes in the plan, or in project or program implementation, are necessary.

II. Methodology

Monitoring for the ANF LMP is described in all parts of the plan. The monitoring requirements are summarized in LMP Part 3, Appendix C. The draft Angeles Monitoring Guide further details the protocols that were used in this review. Our monitoring reflects the use of a new mapping protocol to determine fuels treatment effectiveness. The fire return interval departure (FRID) mapping reflects the ecologists' review of scientific literature, historic and current records of wildfires, and mapping of Fire Regimes and Condition Classes for the Pacific Southwest Region of the Forest Service. Roads monitoring is conducted in compliance with a national roads monitoring protocol. Finally, the monitoring approach is adjusted to reflect that the Region plans for a vegetation snapshot every ten years. The draft guide is available to the public upon request to the Forest.

In Part 1, the LMP identifies outcome questions that will help to evaluate movement toward the desired conditions over the long-term. The monitoring guide describes the baseline data that will be used to answer these questions and evaluate our progress toward achieving desired conditions over time. A comprehensive evaluation of our progress will be prepared in the fifth year following plan implementation.

Corporate databases track accomplishment of work related to objectives and strategies as listed in Part 2 of the LMP. This information is available upon request from the ANF, and details will be included in next year's 5-year trend monitoring report.

Implementation and effectiveness monitoring for Part 3 of the LMP was conducted at the project or activity level. A ten percent sample of projects and ongoing activities was randomly selected to review the application and effectiveness of the design criteria. If problems in implementation were detected or if design criteria were determined to be ineffective, then corrective actions were recommended in this report.

The Forest asked the following questions of each reviewed project or ongoing activity:

1. **Did we accomplish what we set out to do?** We compared expected results to the actual results achieved in responding to this question. Specifically we looked at:

- whether LMP goals, desired conditions and standards were incorporated into operational plans (i.e. burn plans, facility master plans, etc.);
- whether NEPA mitigation measures or LMP project design criteria carried through implementation as designed;
- whether requirements from biological assessments and evaluations; archaeological resource reports; and watershed assessments were implemented according to prescription;
- whether projects and activities were reviewed in light of legal and other requirements (such as LMP consistency reviews); and
- whether operational controls were effective at protecting the environment as anticipated.

In cases where actual project/program/action resulted in outcomes that were different than expected, we looked for cause and identified deficiencies. Where outcomes were consistent with expectations, we identified what actions lead to success.

2. **Why did it happen?** In evaluating effectiveness, we looked at whether project design criteria were effective at improving environmental conditions as expected. We sought out underlying cause-and-effect relationships that were not dependent on human performance or behavior.
3. **What are we going to do next time?** We also looked at what activities should be continued to sustain success and identified changes that are necessary to correct implementation or deficiencies in effectiveness. Where we determined that change was needed, we evaluated whether an amendment or administrative correction to the Land Management Plan was necessary.

We documented the results, conclusions, and recommendations of our review in this annual LMP Monitoring and Evaluation Report.

III. Land Management Plan Monitoring and Evaluation of Projects, Activities, and Programs

In accordance with the methodology described in the draft monitoring guide, we randomly selected ten percent of new projects or ongoing activity sites for each type of activity for review. We list the fiscal year 2009 projects and activities selected for review in Table 1.

Table 1. Angeles National Forest projects and activities selected for LMP monitoring and evaluation.

Ranger District *	Name	Project Type	Reviews Conducted
All Units	Angeles Range Management EA – Closing of Selected Grazing Allotments	Range Management	NEPA documentation
San Gabriel	Mt. Baldy Hazardous Fuels Reduction (Year 2)	Vegetation/Fuels Management	NEPA documentation, project file
Santa Clara/Mojave	Wrightwood Big Pines (Year 2)	Vegetation/Fuels Management	NEPA documentation, project file, interview with Forest Fuels Officer
San Gabriel	Crystal Lake Bark Beetle Control and Fuels Reduction	Vegetation/Fuels Management and Recreation Site Improvement	NEPA documentation, e-mail correspondence with Project Lead
Santa Clara/Mojave	Bouquet and San Francisquito Canyons Habitat Improvement Project	Wildlife, Fish, Rare Plants	NEPA documentation, project file
Santa Clara/Mojave	SCE Tehachapi Renewable Transmission Project Geotechnical Drilling	Lands Special Uses Management	NEPA documentation, project file
San Gabriel	State Route 39 – Phase 1, Retaining Walls	Road Maintenance	NEPA documentation, project file
Santa Clara/Mojave	Revegetation and Restoration – Black Plastic and Antelope Pardee	Lands Special Uses Management	Project File, Monitoring Reports
Santa Clara/Mojave	Drinkwater Off-Highway Vehicle Staging Area Improvements	Recreation Management	NEPA documentation, project file
Santa Clara/Mojave	Rowher Flat OHV Site Improvements	Recreation Management	NEPA documentation, project file
San Gabriel	Rincon Redbox OHV Road	Road Maintenance	Project file, contract file
Santa Clara/Mojave	Leona Divide Road	Road Maintenance	Project file, LACC Cost Share Agreement
All Units	Station Fire BAER – Invasive Plant Survey and Removal	Watershed Stabilization - Emergency	BAER plan, project file

RANGE MANAGEMENT PROJECTS:

Project Name: Angeles Range Management EA – Closing of Selected Grazing Allotments

Project Description and Monitoring: This EA was prepared to analyze the effects of eliminating permitted livesock grazing activities on 6 grazing allotments. A decision was made to close the allotments to commercial livestock grazing based primarily on the allotments being uneconomical to operate, for both private business and the government. The allotments had not been grazed by commercial permittees for several years. The project included an amendment to the forest plan, eliminating the ability for future applications to be made for grazing preference. The analysis showed that within the large and highly diversified local economies of Los Angeles County and the Southern California region, there was no economic impact to closing the allotments. Contact was made with the

Santa Clara Mojave Rivers Ranger District Office, whose staff indicated that no inquiries into re-activating the allotments had been received. The Proposed Action and plan amendment did allow for future use of the allotments on a non-commercial basis for purposes of fuels management and invasive species control. To date, this use has not occurred.

Results: The project resulted in elimination of a use that was difficult to manage and had the potential to impact natural resources. The fact that no interest in using the allotments has been expressed to the local Ranger District supports the conclusion made in the EA that eliminating the use would not have negative economic impacts. No specific design features or mitigation measures were included, as the proposed action was administrative in nature.

Conclusions: The local economy is large and diverse enough not to be reliant on grazing on public lands within the ANF. There may still be some resource benefits to using livestock on a non-commercial basis for fuels reduction. The project will improve rangeland conditions on the ANF, meeting Forest Goal 6.1, Move toward improved rangeland conditions as indicated by key range sites.

Recommendations: Continue to monitor existing fuelbreaks and consult scientific literature to determine the need for using livestock for fuels reduction. Keep allotments closed until the next Forest Plan revision. At that time, review economic data to determine if there is renewed demand for grazing on the ANF, and if so, consider re-activating the allotments.

FUELS PROJECTS/ VEGETATION IMPROVEMENT PROJECTS:

Project Name: Mt. Baldy Fuel Reduction (Year 2)

Project Description and Monitoring: The Mt. Baldy Fuels Reduction project was proposed to enhance community protection for the nearby Mount Baldy community. The project area contains Forest Service facilities, developed recreation areas, trails, and the isolated mountain community of Mount Baldy, in a steep walled canyon bottom surrounded by steep rugged mountains. The project involved mechanical brush removal with chainsaws and hand tools. Brush was piled for later burning, left laying for broadcast burning, chipped and spread on site, or removed to identified areas for chipping. Mature trees were limbed up to no more than one fourth their heights.

During FY 2010, treatments occurred on approximately 120 acres out of an overall project area of 440 acres, in addition to 70 acres treated the previous year. The general objective was to reduce fuel loading by 50-70%. Resource protection measures were applied, and included application of Riparian Conservation Area guidelines, cutting of vegetation into irregular shapes and patterns to better meet Scenic Integrity Objectives, and application of a limited operating period for protection of nested spotted owls. All these measures adhere to design standards in Part 3 of the LMP. A recent field visit to the site showed that some vegetation that had been cut was re-sprouting, but the overall fuel load reduction was maintained.

Result: The project was implemented as planned. Forest Resources staff were involved in application of the LMP standards, and visited the treatment sites during implementation to ensure all recommended measures were followed. The project successfully reduced fuel loading while protecting sensitive resources.

Conclusions: The project contributed to achieving desired conditions in LMP Goal 1.1, Improve the ability of Southern California communities to limit loss of life and property. The location of the project fits well with Goal 1.1's focus of locating fuel treatments near to communities at risk.

Recommendations: Continue to give priority to fuels treatments nearest to communities that enhance the ability to protect them. To sustain success, maintain the project over time by continuing to gather/chip woody material as necessary. Selling firewood or likewise increasing biomass utilization is encouraged.

Project Name: Wrightwood/Big Pines (Year 2)

Project Description/Monitoring: The Big Pines project is located near Wrightwood, CA, a community of over 2,000 people in an area near the border between the Angeles and San Bernardino National Forests. Wrightwood has been threatened numerous times by large wildfires and is listed nationally as an at-risk community due to its location in the wildland-urban interface. Thousands more visit the area to recreate on weekends during fire season.

Among the main objectives of the project was to reduce vegetation along the two main routes into and out of Wrightwood and other high country areas. Reducing the presence and / or intensity of fire along this route by vegetative treatments is vital to ensuring a safe and effective evacuation of the public (and deployment of fire resources) during a large wildfire. Another aspect of the project involves reducing the presence and density of vegetation around organizational camps and recreational cabins located on National Forest lands along this same highway. These treatments essentially create defensible space around the camps and will allow firefighters to protect structures when the next wildfire occurs. Project accomplishments were reviewed and discussed by the Forest Planner and the District Fuels Officer, who had visited the project site in August and September 2010.

Results: Implementation of the project began four years ago and is continuing. A variety of methods have been used to treat or remove vegetation. The main focus of the project thus far has been removing small diameter trees in overstocked areas to improve the health and vigor of the timber stand. The trees that are left have been pruned. In addition to thinning and pruning, firewood sales have taken place, to reduce biomass and provide fuelwood for mountain residents. Activities in FY 2010 included 160 acres of treatments.

Conclusions: The focus of this year's activities has been additional pruning, thinning, brush piling, and chipping southeast of the community along the Lone Pine Highway, the second primary evacuation route from the town of Wrightwood. The project contributed to achieving desired conditions in LMP Goal 1.1, Improve the ability of Southern California communities to limit loss of life and property. The location of the project fits well with Goal 1.1's focus of locating fuel treatments near to communities at risk.

Recommendations: Continue to implement the remainder of the approved treatments. A majority of the remaining work consists of pile burning and chipping/removal of cleared brush. Coordination with local Air Quality Districts should continue to ensure that impacts to air quality are minimized. Continue to meet community demand for fuelwood by offering material for sale.



Typical disbursement of vegetation after brush removal and pruning.



Pile burning on the Big Pines project.

Project Name: Crystal Lake Bark Beetle Control and Fuel Reduction

Project Description/Monitoring: Two separate Decision Memos were signed for projects designed to protect old, mature trees within the Crystal Lake Recreation Area complex, one of the most popular and highly visited sites on the ANF. The age of these trees, and their contribution to the recreation setting at Crystal Lake contributes to their high value and need for protection. The Crystal Lake Bark Beetle Control project used the insecticide carbaryl to control bark beetle damage and mortality to these high value trees. Carbaryl was applied to trees over approximately 312 acres. The project was patterned after similar efforts in 2007 which had shown a high level of effectiveness in using this technique to control bark beetles. The District Resource Officer visited the site after the project was complete to inspect for any additional signs of bark beetles, and discussed observations with a FS entomologist.

The second component of the project was designed to protect the Crystal Lake Rec Area's forest stands from wildfires. Activities consisted of mortality removal, thinning, pruning, hand clearing (release), prescribed fire burning, planting, chipping and sign placement on Forest Service lands as defined within the Proposed Action. No new roads were constructed. Activities in FY 2010 included 223 acres of treatments.

Results: Carbaryl continues to show a high degree of effectiveness in limiting tree mortality and spread of bark beetles. Monitoring showed that no new trees had died and that the bark beetles had not spread to adjacent trees. The fuel reduction efforts were successful at reducing the fuel load and decreasing the potential for stand replacing crown fires. used to treat or remove vegetation. The main focus of the project thus far has been removing small diameter trees in overstocked areas to improve the health and vigor of the timber stand. The trees that are left have been pruned. In addition to thinning and pruning, firewood sales have taken place, to reduce biomass and provide fuelwood for mountain residents.

Conclusions: The project successfully protected a high value recreational resource. Minimization and avoidance measures such as washing ground disturbing equipment, carefully selecting trees for treatment, and closing the recreation area during and immediately after the treatment were successful at protecting resources during implementation and providing for public health and safety. The project contributed to achieving desired conditions in LMP Goal 1.2.1, Reduce the potential for widespread loss of montane conifer forests, and also LMP Goal 3.1, Provide for Public Use and Natural Resource Protection.

Recommendations: Continue to monitor twice annually for new infestations of bark beetles, and treat with carbaryl where appropriate. Further reduce the fuel load by continuing to implement treatments in coming years.



An example of the facilities protected by thinning at Crystal Lake.

HABITAT IMPROVEMENT PROJECTS:

Project Name: Bouquet and San Francisquito Habitat Improvement Project

Project Description and Monitoring: This project was carried out to improve habitat conditions in two riparian areas on the Santa Clara Mojave Rivers Ranger District, Bouquet and San Francisquito Creeks. Bouquet Canyon provides habitat for the unarmored threespine stickleback and San Francisquito for the California Red-Legged Frog, both protected species under the Endangered Species Act. The goal of the project was to remove tamarisk and arundo, two invasive, non-native plant species that are known to take up large quantities of water, negatively affecting hydrologic function. The project was implemented through a cooperative agreement with a local non-profit group, Habitat Works. The project did not involve the use of herbicides, and was intended to reduce the overall biomass of invasive vegetation in order to make future treatments, which may consider use of herbicides, more feasible. Vegetation was removed by hand with tools or chainsaws. Approximately 88 acres were treated to remove the invasive species. A follow up site visit was made by a FS biologist in late 2010.

Results: The subsequent visit to the sites showed a significant reduction of overall invasive plant biomass. Some new sprouts of tamarisk and arundo were detected, but these should be easier to remove in the future before they mature. The amount of native vegetation appeared to have increased somewhat, with new sprouts of willow and mulefat intermixed with the existing tamarisk and arundo. While it is hard to quantify any increase in the quantity of water that was a direct result of the project, the target species are known to reduce water quantity through intensive transpiration, and it can be assumed that the project contributed to overall water conservation efforts in the canyons.

Conclusions: Removal of weedy biomass, even using only mechanical means, provides a benefit by giving a head start to future efforts to control invasive species that may involve herbicides or other treatment methods. Aggressively eradicating invasive species where they exist and may is critical to meeting LMP Goal 2.1, Reverse the trend of increasing loss of natural resource values due to invasive species.

Recommendations: Continue to aggressively treat these two species manually while efforts are underway to do the environmental studies necessary to use chemicals. Continue efforts to complete these studies so that all available tools to control invasive species may be used. Continue to rely on partner groups like Habitat Works to implement treatments.



Removal of tamarisk biomass in San Francisquito Canyon

LANDS (NON-RECREATION) SPECIAL USES:

Project Name: SCE Tehachapi Renewable Transmission Project Geotechnical Drilling

Project Description and Monitoring: In January 2010, The Forest signed a Decision Memo and temporary special use permit to allow Southern California Edison Company (SCE) to perform geotechnical test drilling and core extraction at 83 individual locations. This activity is to support engineering design and construction of two 500 KV electrical transmission lines, which are also undergoing NEPA review by the FS. Conducting a geotechnical study and applying the results to engineering design is a requirement of the powerline project, to mitigate for geologic hazards. The project occurred only several months after the Station Fire, and was primarily within the burn area. The Biological Evaluation and Erosion Control Plan

Rock or soil cores as well as geotechnical data was gathered at 83 locations on National Forest System lands. Data gathered from test drilling will be used for final engineering design of transmission lines. Access to drill sites is by combination of existing roads, cross country travel, and helicopter. Drill fluids would be bentonite based. No new roads were constructed, and very little surface disturbance would occur outside the actual drill sites. Approximate dimension of drill sites is 30' x 40', with depths ranging from 25-75' depending on subsurface conditions. An ID Team reviewed the project prior to approval, and all recommendations for mitigation or impact avoidance were captured in an operations plan attached to the special use permit. These included washing of ground disturbing equipment, pre-project surveys for sensitive wildlife, cultural resource surveys, and specialized BMP's to control the drilling fluids.

SCE's staff and contractors had primary responsibility for monitoring the project during implementation. Weekly conference calls were held with the Forest Service permit administrator. In subsequent reviews of the transmission line project, it was noted that there was very little sign of ground disturbance from the project. Only one small spill of drilling fluid was reported during project implementation, and this was quickly cleaned up.

Results: The field sampling for the project was completed in August of 2010. A post project review took place at the offices of Burns & McDonnell, SCE's primary contractor, in September 2010. The review team concluded that the project had successfully protected resources mainly by using helicopters to avoid constructing roads. SCE used an experienced helicopter drilling company to help accomplish this. The regular communication between the field monitors and the ANF Permit Administrator were also very valuable.

Conclusions: This project has demonstrated that through careful design of a project, and the ability to use aircraft instead of conventional road building activities, the impacts of a large scale geologic sampling project on National Forest System lands can be minimized. Monitoring results after project implementation have shown good ecosystem recovery, including minimal erosion and healthy re-growth of native plants. Excessive erosion can be controlled in a post-fire environment through careful application of BMP's.

The purpose and need for the drilling project was to support sound engineering design of a large transmission line project specifically tied to the delivery of renewable energy from the Tehachapi Wind Area. The data gathered during this project will be used to enhance the seismic safety of the transmission towers. This project thus contributed to meeting Forest Plan Goal 4.1b, Administer Renewable Energy Developments while protecting ecosystem health.

Recommendations: Carefully consider the use of helicopters for test drilling projects with a large number of sample locations. While helicopters eliminate many of the long term impacts associated with ground based construction, they can increase short term impacts to local residents and forest recreationists by increasing noise levels and air pollution. Aviation safety must be made the highest priority.



Drilling operations

Project Name: Revegetation and Restoration – Black Plastic and Antelope Pardee

Project Description and Monitoring: Two projects implemented in FY 2009 (Black Plastic Horizontal Drilling and Antelope Pardee Transmission Line), included revegetation and habitat restoration plans that were implemented and monitored in FY 2010. Primary restoration methods included hydro-seeding of native species, planting of young shrubs and trees, maintenance of BMP's for erosion control, installation of barriers to prevent illegal OHV use, and manual removal of invasive species. Success standards for restoration and schedules for monitoring reports were included. A review of the restoration plans and monitoring reports was conducted, as well as consultation with FS botanists, and representatives of the permittees implementing the restoration.

Results: The application of the initial restoration techniques, primarily hydro-seeding, was successfully performed by permittees' contractors. The Antelope Pardee project used a technique known as imprinting, in which a large metal drum presses seed into the soil. The sites where it was used appear to show increased seed viability, however imprinting sites have not been quantitatively compared to sites where it was not used. Seed mixes were specified for each individual site and were based primarily on the surrounding native vegetative communities. Only native seed collected from local sources was used. Primary species include California sagebrush, California buckwheat, black sage, Whipple's yucca, deerweed, goldenbush, needlegrass, chamise, and yerba santa.

At the Black Plastic site, measures were taken for erosion control including replacing wattles, adding rock armor to the outlet of a water source, and directing water into vegetated areas by installing water bars. Several willow trees planted near the stream appear healthy and well established. Quantitative data is taken by linear transect at each of the restoration sites on a quarterly basis. A minimum of 10% ground cover, mostly of native species, has been established at all restoration sites. The Black Plastic site was the maximum, reported at 30% ground cover.

Implementation of these plans has moved disturbed areas toward replacement of vegetation communities and the habitats supported within these communities, but improvements in the planning and execution could enhance efforts to build a forest-wide restoration program. Success criteria for restoration should consider composition of the pre-project vegetation and surrounding areas, and look to establish reasonable standards for improvement of baseline conditions. Restoration standards should acknowledge that other management activities entirely outside the control of the permittee can contribute to overall conditions, especially in the context of disturbed areas such as major utility corridors. Better scientific analysis of the relationship between vegetation composition and wildlife habitat utilization could be done, and methodologies and criteria could be better supported by literature references. Field reviews made shortly after removal of a large number of invasive plants showed an increase in rill erosion, demonstrating a potential for unintended consequences. The plans require permittees to maintain the restoration and continue monitoring it indefinitely until success criteria are met, making it difficult for them to plan and budget for operations. The plans were developed by individual staff without reviewed by a full interdisciplinary team.

Conclusions: Scientific rationale for standards and treatment methods in restoration plans, as well as consideration of the context of land use zones and other management activities, should be primary elements of any restoration plan required of permittees. Restoration efforts should consider a broad ecological context including soils, hydrology, wildlife, recreation, and fire management. Restoration that is cooperatively planned and implemented by the FS and permittees contributes to meeting Forest Goal 6.2, Provide ecological conditions to sustain viable populations of native and desired nonnative species.

Recommendations: The Forest Plan currently does not provide guidance on habitat restoration. Consider a plan amendment to include restoration guidelines in the descriptions of land use zones and special designation areas. Continue to actively engage with permittees in the project planning phase to set reasonable standards for restoration, but acknowledge that complete eradication of invasive species may not always be practical from economic or ecological perspectives. Ensure that restoration plans are prepared by an interdisciplinary team. Amend the existing restoration plans to incorporate this guidance.



Black Plastic site being prepared for reseeding.



Native plants at an Antelope Pardee restoration site.

Project Name: Highway 39 Retaining Walls – Phase 1

Project Description and Monitoring: This project involved reconstruction of 3 retaining walls and two stabilization structures along State Highway 39. This road provides access to the Crystal Lake Recreation Area, as well as an OHV area and a popular and highly used dispersed recreation area, San Gabriel Canyon. The road has been closed for several years due to unstable slopes and this project is the first phase in an overall effort to re-open it to the public. Nelson's Bighorn Sheep, a Forest Service Sensitive and State Fully Protected Species, was protected by a restriction on any work occurring during the lambing season of April 1 – June 15. The District Resources Officer made a trip to the site in early 2011, and her observations were reported in the permit file.

Results: The project was implemented successfully and efficiently while avoiding impacts to sensitive resources. Bighorn sheep were protected through limiting work during lambing season, controlling vehicle speeds, and carefully monitoring project sites for falling rocks or other debris. Forest Service personnel visited construction sites regularly during the project and found compliance with these and all other environmental protection measures. BMPs were installed carefully to limit erosion on very steep slopes. Wattles were spaced very closely, and jute netting was installed on exposed fill surfaces. LMP Standard S47, Five Step Screening Process for Riparian Conservation Areas, was applied to the project.

Conclusions: Highways provide public access to large parts of the forest, and the project made Highway 39 safer for the public. The project accomplished LMP goals 3.1, Provide for public use and natural resource protection, and Goal 7.1, Retain natural areas...while focusing built environment into minimum land area needed.

Recommendations: Give priority to approving maintenance of existing highways. Develop Operation and Maintenance plans that can provide necessary resource protection measures up front and allow for the efficient implementation of maintenance projects.

RECREATION PROJECTS AND ONGOING ACTIVITIES:

Project Name: Rowher Flat OHV Site Improvements

Project Description and Monitoring: The project included installation of a new single vault restroom, a loading ramp, fire rings and grills, and animal resistant garbage cans at Staging Area 3 within the Rowher Flats OHV Area. The forest's engineering department provided a conceptual design which the Ranger District's recreation staff used to secure grant funds through the California Parks and Recreation Department's Division of Off-highway Vehicles. All facility improvements are within an area already designated as an OHV staging area. The project was discussed with the

Results: When implemented, the project will provide enhanced facilities for OHV recreationists, and will minimize impacts by keeping recreational facilities in their existing footprints as opposed to expanding them.

Conclusions: This project will contribute to meeting desired conditions in LMP Goal 3.1 (Provide for Public Use and Natural Resource Protection). Demand for OHV recreation opportunities continues to grow and the ability to provide new riding areas is limited, making the maintenance and improvement of existing areas like Rowher important.

Recommendations: Continue to look for opportunities to improve existing recreation facilities before developing new ones. Look to the State OHV grant program for continued partner funding. Use Forest Service engineering staff expertise to design built facilities that are economical, durable, and efficient.

Project Name: Switzer's Picnic Area Site Improvements

Monitoring: The project included major upgrades and renovations to facilities at one of the LA River District's most popular day use areas. New or upgraded facilities included restrooms, roads, a trail bridge, signs, guardrails, picnic tables, garbage bins, and kiosks. Rip rap was installed at drain outlets along the main road to minimize erosion. The entire water system was replaced, increasing capacity and water conservation. All facility improvements are within the footprint of an existing developed recreation area. Guidance from the "Built Environment Image Guide" was used by a FS landscape architect to blend the facilities into the surrounding forest. Contract files were reviewed and the outcomes discussed with the lead FS engineer and the landscape architect.

Results: The project will provide enhanced facilities for recreationists, and will minimize impacts by keeping recreational facilities in their existing footprints as opposed to expanding them. The new look of the area will increase visitor satisfaction and demonstrate to users the positive benefits of FS fee programs, which help fund these types of projects.

Conclusions: This project will contribute to meeting desired conditions in LMP Goal 3.1 (Provide for Public Use and Natural Resource Protection). Many of the new facilities will allow a continued high level of use while better protecting resources. Aesthetic Standards S9 and S10 were applied, and the Built Environment Image Guide was used to ensure the project met scenic integrity objectives.

Recommendations: Continue to look for opportunities to improve existing recreation facilities before developing new ones. Use Forest Service engineering and landscape architecture staff expertise to design built facilities that are economical, durable, and efficient, and meet forest plan objectives for aesthetics.

ROADS PROJECTS OR MAINTENANCE:

Project Name: Rincon Redbox OHV Road (2N24)

Monitoring: This was a road maintenance project completed by a contractor. The focus of the work was to smooth rough areas in the road surface to keep the road within its Objective Maintenance Level, and to maintain drainage function through the establishment of drainage dips and the cleaning out of overside drains and a culvert. Brush was also cleared from the roadway. The site was visited before implementation by a staff botanist who did not observe any sensitive plants. All work occurred in the existing road prism. An archeological review identified areas where no widening of the existing road surface was allowed to protect resources.

Results: The road was maintained within agency guidelines for its OML. Watershed conditions will be improved by maintaining proper drainage. The road will be kept open for public use by minimizing the potential for damaging washouts. Archeological values were maintained.

Conclusions: Proper road maintenance contributes to achieving the desired conditions in LMP Goal 3.1 – Provide for Public Use and Natural Resource Protection.

Recommendations: Continue to maintain roads as budgets allow within the appropriate OML guidelines. Keep the Heritage program involved in road maintenance project reviews as many roads cross archeological resources.

Project Name: Leona Divide Road (6N04)

Project Description and Monitoring: The Leona Divide Road provides access to a primary topographic ridge used to protect the community of Green Valley from wildfires. An LA Conservation Corps (LACC) group was hired to clear brush that had encroached along the road. LACC is a non-profit community youth development agency whose mission is to train and educate young inner city people in the field of conservation, while helping to preserve and restore local environments. Coordination with FS botanists took place prior to the project to identify sensitive plants occurring along the road, these were avoided. A site visit was made by the botanist during implementation to share information with the crew on sensitive plant conservation.

Results: The road is now passable to fire suppression vehicles for the performance of patrols as well as emergency suppression. LACC was able to further their mission.

Conclusions: The Mount Lukens Road Project made use of one of the key recreation management strategies contained in LMP Part 2 (REC 4, Conservation Education). Partnering with conservation education groups such as LACC allows the Forest Service to accomplish work for reasonable costs while also educating youth about the natural environment adjacent to their urban homes.

Recommendations: Continue to look for opportunities to work with conservation education groups such as LACC.

WATERSHED STABILIZATION – EMERGENCY:

Project Name: Station Fire Burned Area Emergency Response (BAER)

Project Description and Monitoring: BAER is a Forest Service program designed to protect life, property, water quality, and deteriorated ecosystems from further damage from flooding in the initial year(s) after the fire is out. BAER seeks to reduce watershed damage from flooding or landslides that can occur due to the land being temporarily exposed in a fragile condition. A BAER team assesses the area and recommends treatments, looking for

opportunities to mitigate potential impacts to downstream values including infrastructure and critical wildlife, plant and fisheries habitat.

The Station Fire was the largest in ANF history, and included many treatments such as road and trail stabilization, hazardous materials mitigation, cultural resource protection, and noxious weed detection and eradication. This report will focus on survey and removal of noxious weeds. A review of Station Fire BAER records was conducted by the Forest Planer and the lead FS botanist on the project.

Results: Weed infestations typically occurred in scattered patches throughout the burn area, but tended to be more highly concentrated along roadsides, drainages, and dozer lines. This is intuitively due to their conduciveness to seed dispersal and disturbance.

In most instances it was difficult to distinguish whether the weed infestations were in place prior to the fires or if they were new occurrences. It is highly probable that the weed species were already present in many of the areas seed banks, but were released from competition following the fire and its associated disturbances. For example, in the case of most infestations along roadsides and drainages it was obvious that their population sizes had expanded beyond the pre-fire levels, when the presence of thick chaparral and riparian vegetation would have limited the amount of sunlight and nutrient availability. Tamarisk and tumble mustard however, were two species that had large populations of seedlings in riparian areas, even though no evidence was found of pre-burn infestations.

Conclusions: It is of great importance for the recovery of native vegetation within the Station Fire to continue to remove the many weed species identified and treated during 2010, most especially those populations found in riparian areas, which are habitat for several Threatened and Endangered plant and animal species. Research has well proven that if weed infestations are not eradicated at an early stage the potential for weed population explosion is greatly enhanced. The colonization of weed species like tamarisk would be particularly detrimental for wildlife and wetland plants on the ANF, which has does not have an abundance of riparian areas. Treatments were consistent with LMP goal 5.1 to improve watershed conditions, as noxious weeds are a known contributor to degraded watersheds. The weed survey was consistent with goal 2.1 to reduce impairment of natural communities from invasive species. Project implementation was as planned.

Recommendations: Continue to monitor the area and treatments to ensure treatments remain effective and take action if problems develop. Request continued funding through FS programs to monitor and maintain treatments. Place priority on analysis needed to use herbicides in treating weed infestations.



Manual removal of noxious weeds after the Station Fire.

IV. Annual Indicators of Progress Toward Forest Goals

This section documents the monitoring of indicators of progress toward achieving the desired conditions described in the ANF LMP. Tracking such indicators will help us to identify trends over time and will support our comprehensive evaluation that will be prepared in the fifth year following plan implementation. Information below is presented for goals listed in Part 1 of the LMP.

Forest Goal 1.1:

Forest Goal	Activity, Practice Or Effect To Be Measured	Monitoring Question
Improve the ability of southern California Communities to limit loss of life and property and recover from the high intensity wildland fires that are a part of this state's ecosystem.	Vegetation Treatments in WUI	Has the forest made progress in reducing the number of acres that are adjacent to development within WUI defense zones that are classified as high risk?

In 2010, we reported a total of 2,766 acres of hazardous fuel treatments as accomplished. The LMP identifies a more specific indicator focused on measuring progress toward increasing the level of the ANF fuels program in the Wildland-urban interface (WUI) “*defense zone*” directly adjacent to communities. The LMP defined this defense zone as that portion of the WUI that is directly adjacent to structures and evacuation routes (LMP, Part 3, pg. 5, Standard S7; LMP, Appendix K). The LMP also provided a maximum width for the defense zone by general vegetation type.

Background on this Forest Goal

The ANF began updating mapping of WUI Defense Zones for structures on adjacent private lands in 2010. These are sites where treatment would need to occur on NF as well as private lands to protect the structure. Mapping was updated by manual digitizing using current aerial photography to locate individual structures. This effort carried into FY 2011, and a revised total of Defense Zone acres has not been used for this report, but will be included in the comprehensive 5-year review to be completed next year.

No site specific inventory of hazards or risks within the defense zone was completed in fiscal year 2010. High hazard conditions can be dynamic, returning in as little as five years after a fire in some vegetation types. For this reason, the hazard indicator is assumed to be high in all areas until a project level assessment determines otherwise, and the extent of defense zones are assumed to be the maximum widths specified in the LMP. These assumptions are the same as were used in the LMP analysis, and are used again here to estimate the percentage of hazardous fuel treatments within the WUI that occurred in the defense zone. Future monitoring will include updates to the boundaries and the level of hazard for the WUI defense zone.

Indicators of progress toward Goal 1.1 were calculated by using the WUI defense zone from the LMP analysis database. Adjustments to this coverage based on documented project analysis or other monitoring may be made, but as described above, were not completed in fiscal year 2010. Accomplishment polygons were selected from the Forest Activity Tracking System (FACTS) for accomplishment codes for hazardous fuels reduction for fiscal year 2010. The number of acres of treatments (accomplishment polygons from FACTS) that occur within defense zones is the annual indicator of progress toward the desired condition, as shown in Table 2. Every five years the number of high hazard acres within the defense zone should be calculated to use for documenting the trend as a long-term indicator. Acres documented as being treated in the corporate reporting system can be assumed to no longer be considered a high hazard.

Table 2: Estimated Acres of Treatment of WUI Defense Zone and % of LMP

Baseline acres of Defense Zone	Acres treated in WUI defense zone in FY 2009	% of Baseline WUI Defense Zone treated in FY 2009	% of FY 2010 treatments occurring in WUI Defense Zone
Total: 9,309 acres*	662	7	24

*Source: LMP Final EIS

The ANF focused nearly a quarter of its vegetation treatments for fiscal year 2010 in the WUI Defense Zone. The primary methods of treatment were chipping, piling of fuels, burning of piled material, rearrangement of fuels, thinning and pruning, and compacting/crushing.

The forest has made progress toward reducing acres at high risk by continuing to focus treatments on the WUI Defense Zone. The comprehensive 5-year report to be prepared next year will look at the trends over time in relation to fires that have occurred since the plan was adopted.

Forest Goal 1.2: Restore forest health where alteration of natural fire regimes have put human and natural resource values at risk.

In 2010, the fire regime condition class monitoring indicator was updated using new mapping procedures. This indicator gauges departure from a natural fire return interval. In the new GIS maps, information is provided on presumed fire return intervals from the period preceding Euroamerican settlement ("presettlement") and for contemporary fire return intervals, and comparisons are made between the two.

Current differences between presettlement and contemporary fire return intervals are calculated based on mean, maximum, and minimum values. The information was compiled from the fire history literature, expert opinion, data collection, and vegetation modeling. The CDF-FRAP fire history database was used for characterizing current fire regimes. The vegetation type stratification was based on the 1996 CALVEG map (USDA-Forest Service Remote Sensing Lab) for the four national forests in southern California.

For data limitations in these datasets, see CALVEG mapping metadata (<http://www.fs.fed.us/r5/rsi/clearinghouse/data.shtml>) and California fire history database metadata (<http://www.frap.cdf.ca.gov/data/frapgisdata/select.asp>).

Table 3 (below) displays the baseline status as of 2010 for departures from the mean fire return intervals. Efforts to update and refine this data and the methodologies used to derive it are part of the Landfire program, and are ongoing. Some forest specific edits to the data have occurred to capture effects of wildfires in fiscal year 2009, these efforts are ongoing also, and updates based on more accurate data will be noted in future LMP monitoring reports. Landfire is a national program, producing national scale data, which presents many limitations for interpretation at a local scale. To review information on this program, including some of these limitations, please visit: http://www.landfire.gov/documents_frcc.php

Condition Class definitions are:

- Condition Class 1 - Fire regimes are within a historical range (1910 to present), and the risk of losing key ecosystem structure and function is low. Vegetation attributes (e.g., species composition and structure) remain intact and operate within the historic range.
- Condition Class 2 - Fire regimes have been moderately altered from their historic range. Fire frequencies have departed from historical frequencies by one or more return intervals (either increased or decreased) and the risk of losing key ecosystem components is moderate. Vegetation attributes have been moderately altered

from their historic averages resulting in moderate changes to one or more of the following attributes: fire size, intensity and severity, and landscape pattern.

- Condition Class 3 - Fire regimes have been significantly altered from their historical range. Fires have departed from historic frequencies by multiple return intervals. Vegetation attributes have been significantly altered from their historic range. The risk of losing key ecosystem components is high resulting in significant changes to one or more of the following fire regime attributes: fire size, intensity, severity, and landscape pattern.

Table 3: 2010 baseline status for departure from natural fire return interval

Condition class	Acres
1	190,426
2	336,641
3	90,960
Unclassified	46,200
Total	664,227*

*Total is greater than reported in LMP Analysis and in previous year's reports due to inclusion of surface water features and private lands within the forest.

Forest Goal 1.2.1:

Goal Code	Forest Goal	Activity, Practice Or Effect To Be Measured	Monitoring Question
1.2.1	Reduce the potential for widespread losses of montane conifer forests caused by severe, extensive, stand replacing fires.	Vegetation Condition	Is the forest making progress toward increasing the percentage of montane conifer forests in Condition Class 1?

Updates to Condition Class mapping were not completed during fiscal year 2009. The monitoring question will be directly answered in future LMP monitoring reports as data showing the trends in condition class becomes available.

In fiscal year 2010 a total of 840 acres of treatment occurred in forested areas. These treatments were taken from the FACTS database for Timber/Silviculture Activities. Unlike the acres reported under Goal 1.1, the goal of these treatments was to enhance forest health, not necessarily to reduce hazardous fuels. In reality, projects often accomplish both. Treatment methods included: pruning, site preparation, precommercial thinning, tree planting, and disease control.

Forest Goal 1.2.2:

Goal Code	Forest Goal	Activity, Practice Or Effect To Be Measured	Monitoring Question
1.2.2	Reduce the number of acres at risk from excessively frequent fires while improving defensible space around communities.	Vegetation Condition	Is the forest making progress toward maintaining or increasing the percentage of chaparral and coastal sage scrub in Condition Class 1?

As shown in table 3 above, the updated mapping of condition classes shows that, 64% of the forest land area was at moderate to high risk of type conversion from excessively frequent fires (condition classes 2 and 3). Unlike in Fire Regime I, vegetation treatment in condition class 2 or 3 moves the site away from the desired condition by adding another burn or disturbance event to an area that has already been burned too frequently. The Forest strategy in

treatment of chaparral and coastal sage scrub, therefore, is to focus our vegetation management into direct protection of communities or in pre-identified strategic locations where protection of communities can be improved such as major ridge tops upslope from developed areas. Fire history patterns show that fires are often held in the same locations due to topography or sometimes manmade features such as reservoirs or freeways.

As with Goal 1.2.2, this outcome question cannot be directly answered until current versions of fire regime and condition class data are compared over time. Approximately 67% (1,853) of the total acres treated for hazardous fuel reduction in fiscal year 2009 (2,766) occurred in chaparral and coastal sage scrub vegetation types. Based on maps of the spatial distribution of fuels treatments and of condition classes, the acreage is approximately split between condition classes 1 and 2. Approximately 943 acres of coastal sage scrub and chaparral in condition class 1 were treated to maintain conditions based on these estimates.

Forest Goal 1.2.3:

Goal Code	Forest Goal	Activity, Practice Or Effect To Be Measured	Monitoring Question
1.2.3	Maintain long fire-free intervals in habitats which are slow to recover	Vegetation Condition	Has the National Forest been successful at maintaining long fire-free intervals in habitats where fire is naturally uncommon?

Progress toward achieving desired conditions in Forest Goal 1.2.3, is primarily a function of the success of fire prevention and suppression efforts, which are related to the success of the hazard fuels reduction program. The Angeles continues to implement a fire management plan which calls for aggressive suppression of all wildfires on NF lands. A large majority of fire starts are suppressed upon initial attack, and this trend is expected to continue.

The Station Fire started on the ANF in FY 2009 and was contained in FY 2010. The Station Fire burned approximately 162,000 acres on all three Districts of the ANF. Approximately 47,000 acres of the Station Fire burned forested vegetation types. Of that acreage, approximately 11,000 acres are slated for planting from 2011 through 2014. A lesser acreage will be planted in 2010. Reforestation efforts will be reported next year.

Forest Vegetation and Health monitoring

The Forest Service Remote Sensing Lab provides vegetation resource inventories in an ecological framework for determining changes, causes, and trends to vegetation structure, health, biomass, volume, growth, mortality, condition, and extent. The existing ANF vegetation map was completed in 2002 and is scheduled to be updated in fiscal year 2011. Details are available in the vegetation monitoring section at <http://www.fs.fed.us/r5/rsi/projects/>.

Aerial detection surveys are conducted annually. For an overview of these surveys plus mapping for the ANF, go to: <http://www.fs.fed.us/r5/spf/fhp/fhm/aerial/2007/index.shtml>.

Forest health is monitored via annual aerial surveys that detect tree mortality. Survey information and mapping (as .pdf or view using Google Earth and Google Maps) is available at the following websites, shown by year of survey:

2009: <http://www.fs.fed.us/r5/spf/fhp/fhm/aerial/2009/kmz/index.shtml>

2008: <http://www.fs.fed.us/r5/spf/fhp/fhm/aerial/draft/index.shtml>

2007: <http://www.fs.fed.us/r5/spf/fhp/fhm/aerial/2007/index.shtml>

These inventory efforts will be used in future monitoring reports to better quantify changes in vegetation as a result of treatment actions and wildfires.

Forest Goal 2.1:

Goal Code	Forest Goal	Activity, Practice Or Effect To Be Measured	Monitoring Question
2.1	Reverse the trend of increasing loss of natural resource values to invasive species.	Invasive species inventory, monitoring, and treatment	Are the national forests' inventory of invasive plants and animals showing a stable or decreasing trend in acres of invasives?

During FY 2010, no invasive species inventory data was added to the corporate database of record (NRIS). Inventory activities did occur in FY 2010, and they are currently being entered into the database by staff. Updates will allow for an analysis of the trends in the 5-year comprehensive monitoring report.

Per the FACTS database, 1,572 acres of invasive plants were treated or removed on the ANF in FY 2010. The primary method of treatment is mechanical removal. Species targeted for treatment include Spanish broom, locoweed, mustards, tamarisk, perennial pepperweed, thistles, arrundo, and tree of heaven. This represents a significant increase in acres treated over past years, and is primarily a result of continued funding from the BAER program.

Staff efforts continue to focus on partnering with special use authorization holders to perform invasive monitoring, inventory, and treatment. The BAER program is a source of funding for emergency treatment after fires, when invasive plants are likely to spread rapidly. Work continues on preparing NEPA documents to authorize the use of herbicides, a tool which should greatly enhance the success of eradication efforts.

Because the inventory is continually being updated, it is difficult to determine a true resource trend. One promising sign is the increasing willingness of special use authorization holders to comply with measures such as surveying for and removing weeds in advance of ground disturbing projects, and washing ground disturbing equipment before entering NF lands. Restoration plans for larger projects with over 1 acre of ground disturbance have included requirements to monitor and remove invasives for up to 5 years after the project. Another good indicator is that no new species not previously inventoried have been found. Based on these factors, we would estimate that the trend is stable, with ongoing threats being countered by increases in eradication efforts.

Forest Goals 3.1 and 3.2:

Goal Code	Forest Goal	Activity, Practice Or Effect To Be Measured	Monitoring Question
3.1	Provide for Public Use and Natural Resource Protection.	Visitor Use of the Forest	Are trends in indicators and visitor satisfaction surveys indicating that the forest has provided quality, sustainable recreation opportunities that result in increased visitor satisfaction?
3.2	Retain a Natural Evolving Character within Wilderness.	Management and preservation of wilderness character	Are trends in indicators and visitor satisfaction surveys depicting the forest has provided solitude and challenge in an environment where human influences do not impede the free play of natural forces?

The annual indicator for goal 3.1 is the percentage of recreation facilities managed to standard including natural resource protection as described in Forest Goal 3.1. Many recreation facilities were affected by the Station Fire, including several that were completely destroyed. Efforts to update this data are ongoing, and will be included in future LMP monitoring reports. Implementation and effectiveness monitoring of resource protection actions required by Standards S34 and S50 (including Appendix D) help to measure the resource protection element of this goal.

Long-term indicators are visitor use trends by activity and overall satisfaction from the National Visitor Use Monitoring (NVUM) survey. An updated NVUM survey is currently being conducted for the AN, but reports and data were not yet available at the time this report was prepared. Results will be reported in the monitoring and evaluation report when they become available in 2012. The baseline NVUM survey reported nearly 90% of visitors as being satisfied or somewhat satisfied.

Goal 3.2 will use as indicators the 10 wilderness elements and the scores for each reported through the INFRA-Wild database. In fiscal year 2009, two new wilderness areas were designated on the Angeles National Forest, Magic Mountain and Pleasant View Ridge. Indicator data for fiscal year 2010 was available for the Sheep Mountain and San Gabriel Wilderness Areas. Cucamonga Wilderness is partially on the ANF but is managed and reported on by the San Bernardino National Forest. For FY 2010 both Sheep Mountain and San Gabriel were reported as meeting minimum wilderness stewardship requirements. The updated NVUM survey will be used in future LMP Monitoring Reports to indicate visitor's perceptions of trends in management of the wilderness resource.

Heritage Resources

The desired condition is to preserve or enhance significant heritage resources. A total of 133 projects were evaluated under Section 106 of the National Historic Preservation Act ("NHPA") by Heritage Resources in FY 2009.

- Of the 119 total projects, 25 involved consultation with the State Historic Preservation Office. These were projects that had effects on historic properties.
- The remaining 94 projects were considered under the Regional Programmatic Agreement.
- A total of 17 projects involved surveys.
- A total of 40 projects were located in previously surveyed areas.
- A total of 37 projects were exempted under the Programmatic Agreement from further Section 106 review.
- In FY 2010, 2 inadvertent effects were reported to the State Historic Preservation Office in the annual report.
- 23 new sites were reported.
- A total of 672 acres were surveyed.
- A total of 5 sites were updated.
- A total of 43 sites were monitored.
- A total of 338 sites were protected.

Air Resources

The desired condition is to remediate and prevent human caused impairments to air quality values. Under the Region 5 air quality monitoring program, a sampling station near the Cucamonga Wilderness Area monitors the air quality near this Class I airshed. Information about this station, which is part of the IMPROVE national monitoring network, is found at:

- <http://vista.cira.colostate.edu/improve/Data/data.htm> (raw data)
- http://vista.cira.colostate.edu/improve/Publications/improve_reports.htm (reports)

Future LMP Monitoring Reports will contain more details about trends in air quality, based on data from this program.

Forest Goals 4.1a and 4.1b:

Goal Code	Forest Goal	Activity, Practice Or Effect To Be Measured	Monitoring Question
4.1a	Administer minerals and Energy Resource Development while protecting ecosystem health.	Mineral and Energy Development	Has the forest been successful at protecting ecosystem health while providing mineral and energy resources for development?
4.1b	Administer Renewable Energy Resource Developments while protecting ecosystem health.	Mineral and Energy Development	Has the forest been successful at protecting ecosystem health while providing renewable resources for development?

Work continued on the environmental study process for both the Tehachapi and Barren Ridge Renewable Transmission Projects in FY 2010. The purpose and need for the projects was to increase the capacity of the state grid to transmit renewable energy. Construction of the Antelope Pardee Project was completed in FY 2010. A full suite of mitigation measures were applied to the project to protect ecosystem health and human values. Several proposals for wind testing were received in FY 2010, none of which passed the special uses screening process. Staff worked with those who submitted proposals to identify changes to design or location that would make projects more likely to pass screening.

No new mineral authorizations were issued in FY 2010. Most work was of an administrative nature, involving site inspections, compliance reviews, and billing. Updates to the Plan of Operations were reviewed for the Triangle Rock Quarry, and approval of the updates including reclamation plans is still pending.

Forest Goal 5.1:

Goal Code	Forest Goal	Activity, Practice Or Effect To Be Measured	Monitoring Question
5.1	Improve watershed conditions through cooperative management.	Watershed	Is the forest making progress toward sustaining Class 1 watershed conditions while reducing the number of Condition Class 2 and 3 watersheds?

Regarding LMP Goal 5.1, a watershed assessment was done as part of the LMP revision process (see Table 4). Another assessment is not planned until the comprehensive evaluation which will be done on a Region wide basis in 2011. Results of this update will be used in the comprehensive 5-year monitoring report to determine trends.

Table 4. Watershed Condition Baseline

Outcome Indicator	Desired Condition	Baseline
Watersheds in Condition Class I – Good	Maintained condition ratings	4 watersheds
Watersheds in Condition Class II – Moderate	Maintained or improved condition ratings	8 watersheds
Watersheds in Condition Class III – Poor	Improved condition ratings	2 watersheds

Forest Goal 5.2:

Goal Code	Forest Goal	Activity, Practice Or Effect To Be Measured	Monitoring Question
5.2	Improve riparian conditions.	General Forest Activities	Is the forest making progress toward reducing the number of streams with poor water quality or aquatic habitat conditions?

There were four streams on ANF lands listed as having impaired water quality under Section 303(d) of the Clean Water Act, as of the LMP baseline in 2006. The streams were Mint Canyon Creek, Piru Creek, East Fork San Gabriel, and Monrovia Creek. Monrovia Creek and East Fork San Gabriel have Total Maximum Daily Load (TMDL) plans approved by the US Environmental Protection Agency. Piru and Mint Canyon are scheduled to have TMDL plans approved in 2019. No updates to the 303(d) list had occurred as of FY 2009. Updates to the 303 (d) list will be evaluated in future LMP Monitoring Reports to assess trends.

The Forest's annual Best Management Practices Evaluation Program (BMPEP) report was prepared and sent to the Regional water board. A project specific BMPEP was developed and implemented for the Antelope Pardee Project.

Forest Goal 6.2:

Goal Code	Forest Goal	Activity, Practice Or Effect To Be Measured	Monitoring Question
6.2	Provide ecological conditions to sustain viable populations of native and desired nonnative species.	General Forest Activities	Are trends in resource conditions indicating that habitat conditions for fish, wildlife, and rare plants are in a stable or upward trend?

Species Monitoring

In 2009, the Angeles National Forest continued with monitoring listed species populations in partnership with the US Geological Survey (USGS), Southern California Edison and California Department of Fish and Game. The ANF's annual report to the US Fish and Wildlife Service (FWS) included the following species and monitoring activities:

- Mountain yellow-legged frog populations were surveyed by USGS at South Fork Big Rock Creek, Little Rock Creek, Bear Gulch, and Devil's Canyon.
- ANF and Southern California Edison staff surveyed Arroyo toad populations and habitat in Upper Big Tujunga, Alder Creek, Castaic, and Little Rock.
- Santa Ana sucker populations were monitored by LA County contractors in the West Fork San Gabriel River.
- Unarmored threespine stickleback surveys were conducted by USGS in Bouquet Canyon. FWS continued efforts to conduct genetic testing in this area to determine levels of cross-breeding.
- California red-legged frog population in San Francisquito Canyon was surveyed by USGS.

A majority of the threatened or endangered species which reside on the ANF are amphibians. Determining trend for these species is difficult due to a wide variability of habitat factors and breeding success from year to year. New designated critical habitat was designated for the Arroyo toad and Santa Ana sucker in FY 2009. These designations, as well as determinations of trend for each species, will be noted in the 5-year comprehensive LMP Monitoring Reports. No changes to baseline activities in critical habitat occurred in FY 2010.

Table 5. Summary of Baseline Activities (Acres) in Critical Habitat (as of 7/29/08)

Species Common name	Total on ANF lands	Built Area	Dispersed Recreation	Fuel-breaks	WUI Defense Zone
Plants					
<i>Thread Leaved Brodiaea</i>	20	0	0	0	0

Species Common name	Total on ANF lands	Built Area	Dispersed Recreation	Fuel-breaks	WUI Defense Zone
<u>Fish</u>					
<i>Santa Ana Sucker</i>	6476	608	139	26	507
<u>Amphibians/Reptiles</u>					
<i>Arroyo Toad</i>	2740	153	83	78	29
<i>California Red Legged Frog</i>	4,313	341	82	162	283
<i>Mountain Yellow Legged Frog</i>	4,485	7	0	0	38
<u>Birds</u>					
<i>California Condor</i>	992.3	2	0	0	0
<i>California Gnatcatcher</i>	1,217.9	18	0	77	14

The Forest also began preparation of a Biological Assessment (BA) regarding riparian obligate species and ongoing activities. Consultation with the FWS on this BA is expected to occur in FY 2012. The threatened and endangered species monitoring program is working well in most areas. A process is in place to update procedures based on what is learned, and changes are expected through the updated consultation with the FWS. All projects, programs, and ongoing activities are routinely reviewed by ANF staff for their effects on listed species.

Management Indicator Species

Twelve management indicator species (MIS) were selected to monitor certain habitat types and issues, as described in Part 1 of the Angeles National Forest Land Management Plan. These species will be monitored along with other indicators of progress toward achieving desired conditions for biological resources. An Angeles National Forest management indicator species report was prepared to describe the environmental baseline conditions. Management indicator species reports were completed for approximately 52 projects. None of the reports found that project implementation would affect populations or habitat trends for management indicator species.

The ANF will continue required monitoring, and as operational plans are developed for recreation sites, ensure institutional memory of problem resolution by making sure to document protection measures used in the past (whether on an annual, periodic, or one-time basis). These may be documented in the INFRA database for each site.

Forest Goal 7.1:

Goal Code	Forest Goal	Activity, Practice Or Effect To Be Measured	Monitoring Question
7.1	Retain natural areas as a core for a regional network while focusing the built environment into the minimal land area needed to support growing public needs.	Built Landscape Extent Land Adjustment	Is the forest balancing the need for new infrastructure with restoration opportunities or land ownership adjustment to meet the desired conditions?

Land Management Plan Goal 7.1 calls for management efforts that minimize the built environment. Roads are one element of the built environment and are part of the outcome indicators for this goal. In addition, Goal 3.1 instructs the Angeles National Forest to remove roads that are determined to be unnecessary through a roads analysis and the analysis required by the National Environmental Policy Act.

No changes to the ANF's roads baseline occurred in FY 2010. In future years ANF plans to pursue funding for road decommissioning through the Region's Legacy Roads Program. Additional analysis of unauthorized roads and trails within Inventoried Roadless Areas is still ongoing.

The land ownership adjustment program was primarily administrative in nature for FY 2010. Approximately 3.5 miles of boundary were surveyed and marked in association with a fuels treatment project. Several trespass cases were detected and casefiles were opened. One conveyance under the small tracts act, and one acquisition within the Sheep Mountain Wilderness using Land and Water Conservation Funds, were initiated but not completed in FY 2010.

V. Potential Land Management Plan Amendments and Corrections

- 1) Grazing allotment closures
- 2) Magic Mountain and Pleasant View Ridge Wilderness designations, and Middle Piru Creek Wild and Scenic River designation require a plan amendment
- 3) Adoption of guidelines for ecological restoration by Land Use Zone

VI. Action Plan, Forest Leadership Team

The following are actions that will be implemented in response to LMP monitoring:

- 1) Continue efforts to work together with other agencies and partners to plan and carry out a coordinated strategic plan of research and management actions to address ongoing need for integrated wildfire preparedness planning and post-fire stabilization planning.
- 2) Emphasize integrated fuels treatments in Fire Regime I (montane conifer) where there is work to be done to address the missed fire return, risk of loss, and protection of mountain communities, and also where the Forest can count on a broad range of public support for implementing treatments that are needed to move toward the desired condition. The Forest can also maintain existing fuelbreaks as well as include community protection projects in Fire Regime IV. Engage the interested public in a dialogue about fuels issues and collaboration on fuels treatments.
- 3) Address departures from BMPs on Forest Service projects and activities and for special uses, during the permit issuance process. The NEPA process and new permits, if approved, give the Forest an opportunity to impose mitigations, standards, and guidelines that were previously not implemented, or to eliminate a use as in the case of road decommissioning. The BMPEP report includes current year as well as previous year needs.
- 4) Continue to inventory and pursue funding for decommissioning of undetermined, unneeded roads and resolving the status of "temporary roads." This work serves to improve watershed function and further LMP goals and objectives.
- 5) Update the NEPA documentation and clarify the scope of the work covered for invasives treatment on Forest.
- 6) Consistent with the Regional emphasis to improve planning, the Forest will emphasize management controls and planning protocol to ensure NEPA quality:
 - a. Line officers will issue a Project Initiation Letter for all projects requiring documentation in a Decision Notice or higher level NEPA document, assign appropriate IDTs to each project, and ensure that heritage, biological, and other protocols are met.

- b. Line officers, project interdisciplinary teams, and planning staff will engage in discussion of issues before project NEPA is initiated or early in the process. Planning staff will advise line officers or project planners of current planning direction.
 - c. Make sure to consider connected actions. In particular look for opportunities to address unauthorized routes whether appropriate action is to decommission or to add to the road or trail system.
 - d. Line officers need to ensure that IDTs conduct consistency reviews with the revised LMP (which includes new court rulings and all overarching direction) and document in the project file, including projects that were approved prior to October 2005. Update specialist reports if needed.
 - e. Project leaders will review each document to check that current requirements are being met.
 - f. Line officers will ensure that all approved mitigation (including Best Management Practices) is specifically listed in the decision document and carried over into any operational plans (e.g. burn plans).
 - g. Line officers will ensure that project files document consistency of the NEPA planning and decisions with the LMP and any relevant legal mandates.
 - h. Project leaders will send all environmental documents and decisions (upon approval) to the Forest Environmental Coordinator for the Forest file.
- 7) Continue to fine tune an interdisciplinary process for developing the program of work, striving to create an integrated program of work that is responsive to common priorities under the Land Management Plan.
 - 8) Prepare operations and maintenance plans for Forest Service recreation sites over time, beginning with the sites with the most sensitive resources to protect.
 - 9) The leadership team will clearly assign responsibility for the variety of database stewardship duties. An assigned team will continue to address data entry in FACTS as per the Forest FACTS Guide. Database stewards will keep corporate data current including both tabular and spatial data so that data used for project analyses and management decisions is reliable and so that Forest accomplishments are given proper credit in the budget allocation process.
 - 10) Continue to refine and implement the Station Fire Recovery Strategy as developed by the Angeles National Forest Leadership Team.

VII. Public Participation

The Angeles National Forest Land Management Plan Monitoring and Evaluation Report for 2010 will be posted on the Forest web page. Please contact the Angeles National Forest at 626-574-1613, or visit www.fs.fed.us/r5/angeles for specific questions.