United States
Department
of Agriculture

Forest Service
Pacific
Southwest
Region

February 2011

Angeles National Forest
Fiscal Year 2009

Land Management Plan

Monitoring and Evaluation Report

February 28, 2011

Dear Forest Stakeholders:

I am pleased to present the Angeles National Forest's Monitoring and Evaluation Report for activities and actions completed in fiscal year 2009. 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 third 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,

MARTY DUMPIS
Acting Forest Supervisor
Angeles National Forest

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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 2009 (October 1, 2008 through September 30, 2009).

The revised Angeles National Forest (ANF) Land Management Plan (LMP) went into effect in April of 2006. 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 GIS analysis and onsite review for all aspects of land management decisions made on the Angeles National Forest. 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.

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. In this report, corrective actions are proposed if problems in implementation were detected or if design criteria were determined to be ineffective.

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	Documentation Reviewed
Los Angeles	Clear Creek Fuels Reduction	Fuels Reduction	NEPA documentation, project file
Los Angeles	Little Tujunga Canyon Roadside Hazard Fuels Reduction	Fuels Reduction	NEPA documentation, project file
San Gabriel	Mt. Baldy Fuel Reduction Project	Fuels Reduction	NEPA documentation, project file
San Gabriel	Fuelbreak Re-establishment Project	Fuels Reduction	NEPA documentation, project file
Santa Clara/Mojave	Wrightwood/Big Pines Project	Fuels Reduction/ Vegetation Improvement	NEPA documentation, project file
Los Angeles	Charlton/Chilao Vegetation Improvement Project	Vegetation Improvement	NEPA documentation, project file
Los Angeles	Condor Habitat Improvement in the Bear Divide Area	Habitat Improvement	NEPA documentation, project file
Santa Clara/Mojave	South Fork Big Rock Creek Fish Barrier	Habitat Improvement	NEPA documentation, project file
Santa Clara/Mojave	SCE Antelope Pardee 500kV Transmission Project	Non-Recreation Permit	NEPA documentation, project file, permit
San Gabriel	Mt. Baldy Powerline Pole Installation Project	Non-Recreation Permit	NEPA documentation, project file, permit
Santa Clara/Mojave	Black Plastic Horizontal Directional Drilling Project	Non-Recreation Permit	NEPA documentation, project file, permit
Los Angeles	Arroyo Gould Fiber Optic Line	Non-Recreation Permit	NEPA documentation, project file, permit
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	East Fork Trail and Laurel Gulch Footbridge	Recreation Management	Project file
Los Angeles	Mt. Mooney Truck Trail, 3N15 And Doe Flats Springs Road, 3N15A	Road Maintenance	Project file, contract file
Los Angeles	Forest Service Road 2N76	Road Maintenance	Project file, contract file
Santa Clara/Mojave	San Francisquito Road at MM 11.99 Borrow/Fill Site	Road Management	NEPA documentation, project file
Santa Clara/Mojave	Osito Fire BAER	Watershed Stabilization - Emergency	BAER plan, project file

FUELS PROJECTS/ VEGETATION IMPROVEMENT PROJECTS:

Project Name: Clear Creek Fuels Reduction

Monitoring: Maintenance of a historic fuelbreak was conducted using a combination of hand, mechanical, and prescribed fire treatments. Chainsaws, pruning saws, hand tools, dozers, tracked, and rubber tired equipment with mastication heads, along with prescribed fire were the primary tools. Because the goal was to provide a safe area in which to place suppression resources, vegetation within 150 feet of roads was chipped and spread on site, while in other areas vegetation was piled and burned. Burning was done within guidelines of the South Coast Air Quality Management District to minimize air quality impacts. The primary vegetation types cleared were mixed chaparral and manzanita. Sensitive plants were avoided through pre-implementation surveys and flagging of populations.

Results: The project resulted in a fuelbreak where suppression resources can be safely staged along the Josephine Peak Road, and adjacent to Highway 2 near George's Gap. The Station Fire occurred at the end of fiscal year 2009, and unfortunately, the fuelbreak was not successful in slowing the progress of the fire. The project was implemented consistent with forest plan direction and project objectives were met. Mitigation measures were effective in reducing impacts to natural resources.

Conclusions: Project implementation was as planned. Although fuelbreaks offer areas where suppression resources may safely be staged, wildfires often move quickly enough to prevent their effective use. The project did contribute to achieving desired conditions in LMP Goal 1.2.1, (Reduce the potential for widespread loss of montane conifer forests), but the Station Fire ultimately resulted in the loss of montane forest stands.

Recommendations: Continue to maintain existing fuelbreaks as opposed to creating new ones in previously undisturbed areas. Maintain the project over time by continuing to gather/chip woody material as necessary. Selling firewood or likewise increasing biomass utilization is encouraged. Continue to minimize effects of prescribed burn smoke on air quality by working within guidelines of the South Coast District.

Project Name: Little Tujunga Canyon Roadside Hazardous Fuels Reduction

Monitoring: This project involved mastication of primarily chamise chaparral and coastal sage vegetation along Little Tujunga County Road. The type of equipment used did not result in ground disturbance, and the crushed vegetation was left on the ground, minimizing the potential for erosion. The footprint was approximately 300 feet from both edges of the road. There are numerous private land inholdings with homes in the area, and residents depend on Little Tujunga Road for emergency evacuation. The project included mitigation of surveying for sensitive plants, and flagging and avoiding any identified populations.

Results: The treatment was able to effectively remove heavy fuel loading along the road by bringing it to ground level. This should produce the desired effect of allowing the road to be used for evacuation of residents in the event of a wildfire. It has been noted that new vegetation is already growing up through the ground layer rather quickly. The project was implemented consistent with forest plan direction and project objectives were met. Mitigation measures were effective in reducing impacts to natural resources.

Conclusions: Studies by the National Interagency Fire Center in Boise have shown that fire spread will slow significantly when above ground fuels are removed in this manner. 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).

Recommendations: To sustain success, maintain the project over time by continuing to perform the same type of treatment as necessary. Use an approximate cycle of treating every 4-5 years. Continue to survey and flag populations of sensitive plants, as well as track observations of any wildlife using the treated area.

Project Name: Mt. Baldy Fuel Reduction

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 quarter their heights. Treatments occurred on approximately 70 acres out of an overall project area of 440 acres. The general objective was to reduce fuel loading by 50-70 percent. 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.

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. The project was implemented consistent with forest plan direction and project objectives were met. Mitigation measures were effective in reducing impacts to natural 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: San Gabriel Fuelbreak Re-establishment

Project Description/Monitoring: The purpose of the project was to re-establish an existing fuel break in order to provide for firefighter safety through use of the fuelbreak as a strategic and tactical barrier to fire spread; and reduce the potential of catastrophic fire spreading from the interface into the Forest, as well as limit fires spreading out of the Forest into the developed interface areas of the front country. The project is located on the primary ridge running south from Pine Mountain to the mouth of San Gabriel Canyon. Vegetation was removed for 300 feet on each side of the center of the ridge, leaving less than 2 tons of

flammable fuel per acre. A combination of treatments was implemented, including crushing, masticating, drum chopping, mechanical chainsaw cutting, chipping, prescribed fire, and disking. The fuel break will be maintained on a 5-year cycle. Mitigation recommended by staff specialists included flagging and avoiding sensitive plants, avoiding prescribed fire in riparian areas, and post treatment monitoring to detect spread of any noxious weeds.

Results: The project successfully established a safe area to place fire suppression resources. Post treatment coordination has occurred between resources staff and the fire and fuels program to implement the monitoring requirements. The project was implemented consistent with forest plan direction and project objectives were met. Mitigation measures were effective in reducing impacts to natural 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. Removal of sensitive plant species and the spread of noxious weeds were both avoided.

Recommendations: To sustain success, maintain the project over time by continuing to gather/chip woody material as necessary. Follow through on plans to maintain the project when defining the forest's program of work for future years. Selling firewood or likewise increasing biomass utilization is encouraged. Continue to give priority to fuelbreak treatments where they have historically shown to be effective in stopping fires.

Project Name: Wrightwood/Big Pines

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 Big Pines Highway, one of only two 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.

Results: Implementation of the project began three 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. Also, in some areas of the project, brush has been removed using chainsaws. The project was implemented consistent with forest plan direction and project objectives were met. Mitigation measures were effective in reducing impacts to natural resources.

Conclusions: All the dead material has been either chipped or piled for burning. The focus of this year's activities has been the removal of the piles by burning, allowable only during prescribed conditions. Since January 1, 2008, approximately 2,700 (about 50% of the total) piles have been burned by U.S. Forest Service hand crews with some assistance from a local Cal Fire conservation camp. Approximately 1,200 acres on the ground have been treated. 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: Charlton/Chilao Vegetation Improvement

Project Description/Monitoring: This project is located within the Charlton-Chilao Recreation Area and administrative site. The area is approximately 8,500 acres of mixed conifer, ponderosa pine, Coulter pine, canyon live oak, and mixed chaparral at 3,650 to 6,200 feet in elevation.

The treatment area encompasses a variety of national forest picnic areas, campgrounds, a visitor center, several hiking trails (including the Pacific Crest Trail), a scenic byway, and five youth organizational camps. These facilities receive extremely high recreational use, drawing tens of thousands of visitors from the city, especially on summer weekends. They are also deemed at risk from catastrophic fire.

A CalTrans maintenance yard, an observatory, Forest Service fire station, helicopter base, and a parcel of private property are also within the project area.

The activities during the treatments include hand cutting / piling, pile burning, broadcast burning, mechanical treatments (mastication) and public education. The treatments are designed to improve forest health and vigor in plantations as well as natural tree stands for a greater resistance to fire, insect attack, and disease.

Results: Because of the treatments, wildfire intensity was expected to be diminished, better protecting the improvements in the project area from fire and allowing forest visitors more time to evacuate. These results

were observed in the Charlton/Chilao area during the 2009 Station Fire, where fuel reduction and vegetation improvement treatments resulted in reduced fire intensity, less crown scorch, and greater conifer survival. The project was implemented consistent with forest plan direction and project objectives were met. Mitigation measures were effective in reducing impacts to natural resources.

Conclusions: The project contributed to achieving desired conditions in LMP Goal1.2, Restore forest health where alteration of natural fire regimes have put human and natural resource values at risk. Protection of the Charlton/Chilao Recreation Area also contributes to Goal 3.1, Provide for public use and natural resource protection.

Recommendations: 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. Continue to look for opportunities to locate fuels treatments where they will provide protection to recreation infrastructure.

Top row photographs show Charlton Picnic area pre-treatment and post-treatment. The bottom row photographs are from the Chilao area, where mastication was the primary treatment method.

HABITAT IMPROVEMENT PROJECTS:

Project Name: Condor Habitat Improvement in the Bear Divide Area

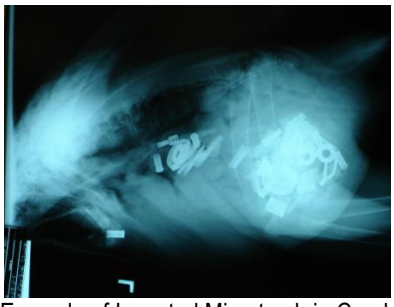
Monitoring: This project was carried out to address a known source of injury and mortality for the endangered California Condor. The term “microtrash” refers to the smallest bits of glass, metal, and other foreign objects which often accumulate in heavily used areas of the forest, are often overlooked during

routine trash cleanup efforts, and can be ingested by condors. The project involved removing microtrash at several locations along an access road and a permitted communications site, and spreading fill material (dirt) and blocking access to several other turnouts that were too large for effective microtrash pickup. The fill material was selected from a source with no known weed populations nearby to avoid importing non-native invasive plants.

Results: Subsequent visits to the sites have detected some accumulation of new microtrash, but in manageable quantities that could be removed before again becoming a threat to condors. Coordination with the US Fish and Wildlife Service, who monitors the activities of individual condors through an electronic collar tracking program, has not shown any injury or mortality to condors in the area. The project was implemented consistent with forest plan direction and project objectives were met. Mitigation measures were effective in reducing impacts to natural resources.

Conclusions: Microtrash removal is an effective way to eliminate a threat to the recovery of the condor. The project contributed to achieving desired conditions in LMP Goal 6.2, Provide ecological Conditions to sustain viable populations of native and non-native species.

Recommendations: Continue with a program of removing microtrash at other high risk sites for the condor. Use volunteers to perform the work when possible. Coordinate with lease holders at communications sites to discourage the production of microtrash and solicit their help in keeping facilities free of it.



Example of Ingested Microtrash in Condor chick (courtesy of LP Forest Watch website)

Microtrash Collected at Bear Divide

Project Name: South Fork Big Rock Creek Fish Barrier

Monitoring: This project involved construction of a concrete dam at a narrow point in the South Fork of Big Rock Creek. The concrete barrier spans the channel from bank to bank and is approximately 25 feet wide and 3 feet high. A small mortared rock wall was constructed along one bank to stabilize the base of a slope where debris slides had historically occurred. Mule fat and willows were planted along the stream bank upstream of the structure. The project occurred in was intended to improve Designated Critical Habitat for the federally listed Mountain Yellow-Legged Frog (MYLF) by preventing the upstream migration of non-native trout, a species known to predate on MYLF egg masses, larvae, and juveniles. Informal consultation with USFWS resulted in their concurrence that the project may affect but was not likely to adversely affect the MYLF. Mitigation measures included biological monitors, spill kits in case of any fluid leaks from equipment, and implementation when the creek was dry to avoid the need for temporary diversions.

Results: The barrier was installed according to plan, with all required mitigation implemented. Annual monitoring of this population is conducted through a partnership with the US Geological Survey (USGS). Visual inspection of the structure by FS staff has shown that it is functioning as intended. The project was implemented consistent with forest plan direction and project objectives were met. Mitigation measures were effective in reducing impacts to natural resources.

Conclusions: Barriers are effective at controlling predation of MYLF by non-native species. Projects can be implemented within Designated Critical Habitat with minimal impact, through careful selection of mitigation. The project contributed to achieving desired conditions in LMP Goal 6.2, Provide ecological Conditions to sustain viable populations of native and non-native species.

Recommendations: Continue to monitor this population of MYLF in partnership with USGS and USFWS. Consider removal of non-native species downstream of the barrier, and installation of additional barriers in other drainages occupied by MYLF.

LANDS (NON-RECREATION) SPECIAL USES:

Project Name: SCE Antelope Pardee 500kV Transmission Project

Project Description and Monitoring: In October 2008, The Forest issued a 50-year special use permit for the construction, use and maintenance of 500kV transmission line facilities within a 160foot wide, approximately13.1 mile long route on National Forest System (NFS) lands. The purpose and need in the project EIS was specifically tied to the delivery of renewable energy from the Tehachapi Wind Area. The Forest required mitigation and protection measures and monitoring provisions to be implemented as part of the project. Mitigation measure B14 requires marking of the conductors in selected areas to minimize the potential for avian collisions. To implement this measure, SCE was required to add obstructing marker spheres on the conductors along the east side of Bouquet Reservoir. This will also ensure safety for fire fighting pilots working in the Bouquet Reservoir area. In addition, to comply with this mitigation measure, swan flight diverters were installed on the line where it spans across the Pacific Crest Trail.

Fifty-five of the fifty-eight towers were constructed using helicopters, further decreasing adverse visual impacts and reducing erosion associated with access road construction and the larger transmission tower

footprints that are required where helicopters are not used for construction. Helicopter construction and removal of the 66kV improvements (mitigation measure V4a) minimized adverse effects to the open space and natural settings of the Forest environment. Mitigation Measures V3a (Remove Existing Foundations, Rehabilitate, and ReVegetate Tower Sites), V3b (Remove, Rehabilitate, and ReVegetate Crane Pads) and V3c (Avoid Locating New Roads in Bedrock) further minimized the effects of urbanization, or negative effects to open space and natural settings on National Forest System lands.

Additional mitigation measures included H1a, best management practices to minimize erosion; R1a, coordinate construction schedule to minimize impacts to recreation activities; R4, permanent closure and revegetation of construction roads; and V15b, recontour and restore areas disturbed during construction to provide a naturally appearing landform upon completion of construction.

Results: Construction was completed in December of 2009. A Habitat Restoration Plan, including quantitative monitoring reports, is currently being implemented. All other construction related mitigation was completed. The project was implemented consistent with forest plan direction and project objectives were met. Mitigation measures were effective in reducing impacts to natural resources.

Conclusions: This project has demonstrated that through the NEPA process and careful consideration of site specific mitigation measures, the impacts of large industrial construction projects 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. SCE is required to continue such monitoring for 5 years after completion of construction, and file annual reports with the Forest Service. This project meets Forest Plan Goal 4.1b, Administer Renewable Energy Developments while protecting ecosystem health.

Recommendations: Carefully consider the use of helicopters for construction on future electrical transmission projects. While helicopters eliminate many of the long term impacts associated with ground based construction, they increase the short term impacts to local residents by increasing noise levels and air pollution. Work with permit applicants early on to avoid siting of transmission lines outside of designated utility corridors.

Project Name: Mt. Baldy Powerline Pole Installation Project

Monitoring: SCE maintains many miles of small voltage (< 33 kV) distribution lines throughout the ANF. Some of the older lines were built by attaching conductor directly to trees. This has been identified as an additional stressor to those trees in an area already prone to beetle kill, as well as being a fire hazard. In September 2008 an authorization was issued to SCE to allow them to place new wood poles and transfer the conductor from trees onto these poles. Eleven sites were initially authorized. Another 8 were proposed within a recreational residence tract eligible for the National Register of Historic Places, and were approved in FY 2010 after consultation with SHPO. Each site of disturbance for the new poles was reviewed by archeology, biology, and hydrology staff. Mitigation was taken from a Biological Evaluation which was prepared by SCE and reviewed and approved by ANF Biology Staff, and included a worker training program, limits on disturbance, presence of monitors, and flagging and avoidance of sensitive plants.

Results: The first phase of the project was successfully implemented. No trees which had conductor removed have died. No signs of erosion such as rills or gullies were observed at the new poles. Guidelines from the Avian Powerline Interaction Committee were used to ensure the new hardware configurations were safe for raptor species. The project was implemented consistent with forest plan direction and project objectives were met. Mitigation measures were effective in reducing impacts to natural resources.

Conclusions: The project contributed to achieving desired conditions in LMP Goal 4.1a, Administer Mineral and Energy Resource Development while protecting ecosystem health.

Recommendations: The Forest should continue to work with SCE to identify locations where conductor is attached to trees, particularly in the Mt. Baldy and Wrightwood areas where there are higher rates of mortality due to beetle infestations. These locations should be given priority for approval to place new poles and remove the conductor. SHPO should be consulted when these locations are within areas eligible for the National Register.

Project Name: Black Plastic Horizontal Directional Drilling Project

Monitoring: In October 2008, Plains Pipeline LLC was given permission to relocate their Line 2000 oil pipeline by directional drilling. The purpose of the project was to put the pipeline deeper underground through an unstable area prone to landslides. The pipeline was determined by the company to be in a dangerous area of geologic instability, with potential for the line to rupture, resulting in an oil spill. Before authorizing the project, ANF staff met with Plains and their contractors to ensure that the project was absolutely necessary and to try and avoid locating the temporary drill pad within a Riparian Conservation Area. It was determined that the area was indeed geologically unstable, and that the proposed location of the drillpad was the only feasible option. An analysis was done with hydrology, biology and botany staff using the 5-step RCA screening process required by forest plan standard S47. The project was found to be in compliance with S47 by avoiding impoundment of water, implementing a restoration plan, and the absence of any special status species. Extensive archeological protections were applied to one of the main project access roads, the Old Ridge Route, which is listed on the National Register of Historic Places.

During the drilling operation, a pocket of groundwater began flowing to the surface. The project design was modified to pipe the groundwater back into the creek downstream of the drillpad, and to install rock armor to prevent erosion on the right of way.

Results: The drill pad was successfully restored and no permanent impacts to the RCA have been noted. Implementation of the restoration plan included replanting of willows and removal of invasive non-native plants within disturbance areas. Native wildlife including snakes, frogs, deer and quail has been observed at the site using the water that was piped into the creek. The water continues to come to the surface in a very low quantity, estimated at 0.001 cfs. The project was implemented consistent with forest plan direction and project objectives were met. Mitigation measures were partially effective in reducing impacts to natural resources. Future projects of this type will place additional emphasis on project design features that can further mitigate impacts to groundwater resources.

Conclusions: The project met Forest Goals 4.1a, Administer Mineral and Energy Resource Development while protecting ecosystem health. The impacts of the project were minimal in comparison to the damage that may have occurred if the pipeline had ruptured.

Recommendations: Any future drilling projects on the forest should address the potential for impacts to groundwater resources and contingency plans should be included in authorizations. The Forest should continue to work with owners of oil and gas pipelines to identify areas that are geologically unstable.

Pipeline right-of-way immediately after recontouring and before reseeding. Note erosion control BMPs.

Project Name: SCE Arroyo Gould Fiber Optic Line

Monitoring: Southern California Edison was authorized in April 2009 to replace an old copper phone line attached to one of their electrical transmission lines with new fiber optic cable**.** The project was authorized by the Regional Forester (RF) since it required an amendment to an easement that had been issued under RF's authority. Mitigation was minimal as no ground disturbance occurred on NFS lands. Through coordination with SCE in the project planning phase, it was determined that crews could access towers on foot and a helicopter would be used to deliver materials and install a lead line which would pull the actual cable. Although the project occurred near a very high visitor use area (Arroyo Seco), short term impacts to recreationists were minimized by not working on weekends.

Results: The project was implemented successfully with virtually no impacts to natural or cultural resources. SCE now has better, more modern communication facilities between its Gould Substation and

the Jet Propulsion Laboratory in Arroyo Seco. The project was implemented consistent with forest plan direction and project objectives were met. Mitigation measures were effective in reducing impacts to natural resources.

Conclusions: The project met forest goals 4.1a, Administer Mineral and Energy Resource Development while protecting ecosystem health.

Recommendations: Continue to engage with special use authorization holders early on in their project planning processes to identify feasible methods of avoiding or minimizing impacts.

RECREATION PROJECTS AND ONGOING ACTIVITIES:

Project Name: Drinkwater Off-Highway Vehicle Staging Area Improvements

Monitoring: This project was approved in June 2009. The project included installation of a new single vault restroom, a loading ramp, fire rings and grills, and animal resistant garbage cans. At this time, implementation of the project has not occurred due to a lack of funding. The forest's engineering department is working on a conceptual design which can be used to apply for grant funds through the California Parks and Recreation Department's Division of Off-highway Vehicles (OHV). All facility improvements are within an area already designated as an OHV staging area.

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).

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.

Project Name: Rowher Flat OHV Site Improvements

Monitoring: This project was approved in May 2009. 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. At this time, implementation of the project has not occurred due to a lack of funding. The forest's engineering department is working on a conceptual design which can be used to apply for 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.

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).

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.

Project Name: East Fork Trail and Laurel Gulch Footbridge Repair

Monitoring: The project included removal of an existing footbridge that was not safely anchored nor properly engineered, and replacement with a preassembled footbridge. Pre-assembled footing forms were flown to the project site along with the concrete and tools necessary for the bridge installation. Pack mules and staff were used to transport lighter equipment such as small tools and camping supplies. Hand tools were used to install the new footings, with the preassembled bridge flown in and set in place by helicopter. The new bridge will span an area eight feet longer and two feet wider than the existing bridge. Apart from the construction of the new footings, no other ground disturbance was expected.

Results: The project was properly installed according to agency engineering standards for pedestrian bridges. Using wood material resulted in a structure that was not visually intrusive and blended well with surrounding environment. Using helicopters cost more but resulted in greater efficiency. Visits to the site after installation have shown that the bridge is holding up well. The project was implemented consistent with forest plan direction and project objectives were met. Mitigation measures were effective in reducing impacts to natural resources.

Conclusions: The project contributed to achieving desired conditions in LMP Goal 3.1 (Provide for Public Use and Natural Resource Protection).

Recommendations: Consider access by pack stock and/or helicopters when installing trail features in remote areas. Continue to use engineering standards and consult with Landscape Architects to ensure safety and minimize visual impacts.

The completed footbridge on the East Fork Trail at Laurel Gulch.

ROADS PROJECTS OR MAINTENANCE:

Project Name: Mt. Mooney Truck Trail (3N15) and Doe Flats Springs Road (3N15A)

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 (OML), 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. The project was implemented consistent with forest plan direction and project objectives were met. Mitigation measures were effective in reducing impacts to natural resources.

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: Mount Lukens Road (2N76)

Monitoring: The Mount Lukens Road provides access to a critical communications site containing key radio, microwave, and cellular systems used by local and national law enforcement. 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.

Results: The road is now passable to permitted vehicles for the performance of routine maintenance at the communications site, as well as for administrative use by Forest Service personnel. LACC was able to further their mission. The project was implemented consistent with forest plan direction and project objectives were met. Mitigation measures were effective in reducing impacts to natural resources.

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.

Project Name: San Francisquito Road at MM 11.99 Borrow/Fill Site

Monitoring: In March 2009 a special use permit was re-issued to LA County Department of Public Works (DPW) for use of an approximately one acre site for storage of natural debris resulting from erosion, landslides, etc. Material will be stored onsite until needed for road repair or improvements. The site was previously disturbed during construction of the San Francisquito County Road, and has been intermittently used since. Best management practices (BMP) to control release of sediment into water courses were included in the operations plan attached to the permit. DPW obtained a permit from the State Water Resources Control Board (SWRCB), which provides more detailed requirements for inspection and maintenance of BMP's. Forest Service Special Uses Staff conducted a routine permit inspection in November 2009 and documented full compliance with all permit terms and conditions.

Results: This site has allowed for the effective and efficient maintenance of a key forest access road. Issuing a current permit for a site that was previously disturbed and used for the same purpose minimized site disturbance that would have occurred had a new site been chosen. DPWs compliance with SWRCB requirements gave extra emphasis to the importance of controlling erosion and sedimentation. The project was implemented consistent with forest plan direction and project objectives were met. Mitigation measures were effective in reducing impacts to natural resources.

Conclusions: Permitting use of existing disturbed facilities implements a key strategy of LMP, Part 2, Lands 2 (minimize encumbrances of National Forest System Land) while maintaining adequate resource protection.

Recommendations: Continue to meet the needs of partner transportation agencies such as DWP by fully utilizing existing disturbed sites before permitting use of new ones. Make compliance with SWRCB requirements a routine part of permit administration.

WATERSHED STABILIZATION – EMERGENCY:

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

Monitoring: BAER is a Forest Service program with the goal of protecting life, property, water quality, and deteriorated ecosystems from further damage from flooding in the initial year(s) after the fire is out. BAER does not seek to repair areas that were damaged by the fire, but to reduce watershed damage from flooding or landslides 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. They recommend treatments to protect heritage resources and prevent noxious weed introductions. The only treatment funded for implementation was the survey and removal of noxious weeds.

Results: The Osito BAER Report submitted to the Regional Office documented that treatments were effective at minimizing damage to watersheds and habitat by surveying and removing noxious weeds after the Osito Fire.

Conclusions: 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 appropriated dollars or partnerships to monitor and maintain treatments.

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 2009, we reported a total of 4,295 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

Neither updated mapping of WUI Defense Zones, nor any site specific inventory of hazards or risks within the defense zone, was completed in fiscal year 2009. 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 2009. Accomplishment polygons were selected from the Forest Activity Tracking System (FACTS) for accomplishment codes for hazardous fuels reduction for fiscal year 2009. 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 2009 treatments occurring in WUI Defense Zone
Total: 9,309 acres*	1922	21	48

*Source: LMP Final EIS

The ANF focused nearly half its vegetation treatments for fiscal year 2009 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.

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

In 2006, 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/rsl/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 2006 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: 2006 baseline status for departure from natural fire return interval

Condition class	Acres
1	310,580
2	346,800
3	3,528
Total	**660,942***

*Total is greater than reported in LMP Analysis due to inclusion of surface water features in CC 1.

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 2009 a total of 2,661 acres of treatment were reported. 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, as of 2006, 53% 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 future versions of Landfire data are available. Approximately 80% (3,436) of the total acres treated for hazardous fuel reduction in fiscal year 2009 (4,295) 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 1,718 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.

Two large fires occurred on the ANF in 2009: the Morris Fire on the San Gabriel District and the Station Fire, which burned approximately 162,000 acres on all three Districts of the ANF. Approximately 37,000 acres of the Station Fire burned forested vegetation types including alpine and subalpine forests, desert woodlands, forest, and scrub, and bigcone Douglas fir forests. These forests types rely on long fire-free intervals to thrive. The Station Fire swept through these forested types and caused wide-spread deforested conditions. 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 begin to 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/rsl/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 2009, the corporate database of record (NRIS) shows that approximately 57 acres of arundo (*Arundo donax*) were added to the inventory. Approximately 23 acres of various other species were added. Per the FACTS database, 159 acres of invasive plants were removed on the ANF in FY 2009. The primary method of treatment is mechanical removal. Species targeted for treatment include Spanish broom, tocalote, mustards, tamarisk, perennial pepperweed, thistles, arundo, and tree of heaven

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.

As monitoring is completed after recent large fires, the trends will be shown in future Monitoring and Evaluation Reports. 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.

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 ANF for 2010. Results will be reported in the monitoring and evaluation report when they become available in 2011. The baseline NVUM survey reported nearly 90% of visitors as being satisfied or somewhat satisfied. See link to Angeles National Forest NVUM report for 2009:

http://www.fs.fed.us/recreation/programs/nvum/2009/Angeles_FY2006.pdf

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 2009 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 2009 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 133 total projects, 7 involved consultation with the State Historic Preservation Office. These were projects that had effects on historic properties.
- The remaining 126 projects were considered under the Regional Programmatic Agreement.
- A total of 32 projects involved surveys.
- A total of 71 projects were located in previously surveyed areas.

- A total of 23 projects were exempted under the Programmatic Agreement from further Section 106 review.
- In FY 2009, 2 inadvertent effects were reported to the State Historic Preservation Office in the annual report.
- 15 new sites were reported.
- A total of 1,942 acres were surveyed.
- A total of 11 sites were updated.
- A total of 42 sites were monitored.
- A total of 191 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?

The Antelope Pardee Transmission Project was approved in FY 2009. The purpose and need for the project was specific to increasing the capacity of the state grid to transmit renewable energy. Construction of the project was completed in FY 2010. A full suite of mitigation measures were applied to the project to protect ecosystem health and human values. The project is described in more detail in Section III of this report. Several proposals for wind testing were received in FY 2009, 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 2009. Most work was of an administrative nature, involving site inspections, compliance reviews, and billing. One stone quarry in Bouquet Canyon was closed and reclamation work began. Implementation of the reclamation plan should restore basic ecosystem function to the area over time.

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 future LMP monitoring reports 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 proposed for the Arroyo toad and Santa Ana sucker in FY 2009. FWS decisions on designation, as well as determinations of trend for each species, will be noted in future LMP Monitoring Reports. No changes to baseline activities in critical habitat occurred in FY 2009.

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					
Thread Leaved Brodiaea	20	0	0	0	0
Fish					
Santa Ana Sucker	6476	608	139	26	507
Amphibians/Reptiles					
Arroyo Toad	2740	153	83	78	29
California Red Legged Frog	4,313	341	82	162	283
Mountain Yellow Legged Frog	4,485	7	0	0	38
Birds					
California Condor	992.3	2	0	0	0
California Gnatcatcher	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 2011. 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 63 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.

Table 6 shows the ANF's 2006 roads baseline. No changes to this baseline have occurred as of the end of FY 2009. The ANF continues to pursue funding for road decommissioning through the Region's Legacy Roads Program. Additional analysis of unauthorized roads and trails within Inventoried Roadless Areas began in FY 2009 and is still ongoing.

The land ownership adjustment program was primarily administrative in nature for FY 2009. 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 2009.

Table 6: Miles of National Forest System Road by Maintenance Level, 2006 baseline

Maintenance level	National Forest System road	Permitted road	Unauthorized, undetermined	Unauthorized, not needed, existing	Unauthorized, not needed, decommissioned
Not applicable	3		91	0	0
1: Basic custodial care (closed)	29				
2: High clearance vehicles	454	165			
3: Suitable for passenger cars	95				
4: Moderate degree of user comfort	45				
5: High degree of user comfort	64				
Totals	690	165	91	0	0

V. Potential Land Management Plan Amendments and Corrections

1) A decision on the Antelope Pardee project resulted in a significant plan amendment. One other transmission line project, Barren Ridge, proposed by LA Department of Water and Power, is currently being analyzed and may result in a similar plan amendment. A third transmission line, the Tehachapi Renewable Transmission Project, will require only non-significant plan amendments.
2) Grazing allotment closures
3) Magic Mountain and Pleasant View Ridge Wilderness designations, and Middle Piru Creek Wild and Scenic River designation require a plan amendment

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 2009 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.