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of Agriculture



Forest Service

Pacific  
Southwest  
Region

# Land Management Plan Monitoring and Evaluation Report

## San Bernardino National Forest Fiscal Year 2006

September 2007



September 2007

I am pleased to present the San Bernardino National Forest's Annual Monitoring and Evaluation Report for your review. The purpose of the Monitoring and Evaluation Report is to determine the effectiveness of the Land Management Plan and whether changes in the plan; or in project or program implementation are necessary.

In 2005, the San Bernardino National Forest revised its Land Management Plan. In the Record of Decision, the monitoring requirements were identified as the cornerstone of our program emphasis for the future. As this was the first monitoring effort conducted under the revised plan, the Forest looked for methods to increase effectiveness. In our fifth year monitoring report we will answer questions designed to evaluate progress toward the Forest's desired conditions. It is my commitment to keep you informed of the monitoring results through this report. If you would like to participate in future monitoring, please contact the Forest.

Your continued interest in the San Bernardino National Forest Land Management Plan is just one way for you to stay current with activities on your public lands. Additional information can be found on our website at <http://www.fs.fed.us/r5/sanbernardino>.

Sincerely,

*Jeanne Wade Evans*

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San Bernardino National Forest

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# San Bernardino Land Management Plan Monitoring and Evaluation Report

## I. Introduction

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The Fiscal Year (FY) 2006 Monitoring and Evaluation Report documents the evaluation of selected projects and programs where activities occurred during October 1, 2005 through September 30, 2006. Several of the projects and activities described in this report are multi-year projects approved under decisions under the authority of the 1989 San Bernardino National Forest Land Management Plan as amended by the Southern California Conservation Strategy (SCCS) Settlement Agreement.

In September 2005, the San Bernardino National Forest revised its Land Management Plan (LMP) and it went into effect October 1, 2005. Therefore new projects with decisions signed after this date need to comply with direction in the revised Plan. Decisions approved prior to this plan that are not under contract or permit but continue to be implemented in phases are expected to be consistent with the revised LMP. One element of the monitoring included review of the selected multi-year projects to ensure consistency with the revised LMP. However the main purpose of this Evaluation is to determine the effectiveness of the 2005 LMP and whether changes in the LMP or in project or program implementation are necessary.

The San Bernardino National Forest does not have an Environmental Management System (EMS) in place; therefore EMS elements were not included in the 2006 monitoring program. The Forest's EMS is expected to go into effect in January 2008 after which applicable elements of the EMS (e.g. procedures, records) to help monitor and evaluate plan implementation will be used by the 2008 monitoring team.

## II. Methodology

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The monitoring plan for the San Bernardino National Land Management Plan is described in all parts of the plan. Monitoring requirements are summarized in LMP Part 3, Appendix C.

The [San Bernardino Monitoring Guide](#) further details the protocols that were used in this review. This guide is available on the San Bernardino National Forest website at <http://www.fs.fed.us/r5/sanbernardino/> and to the public upon request.

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

Forest Service corporate databases track accomplishment of work related to objectives and strategies (LMP Part 2).

Implementation and effectiveness monitoring for Part 3 of the LMP was conducted at the project or activity level. An approximate ten percent (10%) sample of projects implemented in 2006 and ongoing activities were randomly selected for monitoring. Because fuels management projects were a large focus of Forest activities in FY 2006, these projects were selected from a stratified random sample to provide the opportunity to monitor and learn across all ranger districts. Selected project and ongoing activity sites were then visited 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 the team recommended corrective actions. The Forest asked the following questions of each reviewed project or ongoing activity:

**Project leaders answered following questions at project site or during the activity review:**

Monitoring Questions for Review of Projects and Ongoing Activity Sites	If no, identify what phase of the process was deficient (i.e. NEPA or project administration) and describe deficiencies. If yes, identify any standard operating procedure or key reason(s) for the success.
Were LMP goals, desired conditions and standards incorporated into NEPA documents and any procedural plans (i.e. burn plans, allotment plans, facility master plan, etc.)?	
What were the mitigation measures or LMP project design criteria; were they implemented as designed and were they effective?	
What were the requirements from Biological Assessments/Evaluations and Heritage Evaluations (ARRs) and Watershed Assessments, were they implemented and were they effective?	
Were LMP consistency review checklists identified as applicable to the project or site addressed?	

**The monitoring team asked the following questions of project or ongoing activity after project leader described actions in table above.** We compared expected results to actual results and sought cause and effect relationships, not individual performance.

1. Did we accomplish what we set out to do?
2. Has project design criteria been effective at protecting resources as expected?
3. If not why not?
4. What are we going to do next time?
  - a. What activities should be continued to sustain success?
  - b. Are changes needed to correct any implementation or effectiveness-related problems?
  - c. problems?
  - d. If change is needed, will it require an amendment or administrative correction
  - e. to the Land Management Plan?

The results, conclusions, and recommendations were documented and used in this annual LMP Monitoring and Evaluation Report.

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

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In accordance with the methodology described in the monitoring guide, approximately ten percent of new projects or ongoing activity sites for each type of activity were randomly selected for review. These projects and activities are listed in Table 3 in the appendix of this report. This section describes the projects or activities and findings of the monitoring team.

#### **Lytle Creek Concentrated Use Area (06-LMP-Rec-1)**

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##### **Monitoring**

The Lytle Creek Concentrated Use Area (CUA) includes a number of ongoing activities in the Lytle Creek Place. The monitoring team visited the area on August 13, 2007 to review consistency with the Forest Land Management Plan.

##### **Results**

Lytle Creek has been a very popular all-season local gathering place for many years, especially for the area's ethnically diverse population dominated by Korean, Hispanic and Vietnamese visitors. Water-based recreation is popular here during the warmer months, with water play, fishing, picnicking, and dispersed camping concentrated mainly along the canyon bottoms of the Middle and North Forks of Lytle Creek. Heavy, continuous dispersed recreation impacts (especially sanitation issues) affect portions of the creek.

Other activities include sightseeing, hiking, hunting, and photography. Lytle Creek Firing Line (a popular concessionaire managed target shooting area) relocated heavy, destructive, uncontrolled shooting near the community to a managed shooting range further up canyon on a newly paved road. The newly reconstructed Applewhite Picnic Area (with PSW Riverside input) and Campground provide structured recreation use with rangers and volunteer hosts. The Cucamonga Wilderness can be accessed via trails located along the Middle Fork of Lytle Creek. A native plant garden with bilingual interpretive signing and the recently renovated front office interpretive display at the Lytle Creek District Office are visited by 70,000 people annually.

Unlawful activities, such as trash dumping, shooting, fire-building, stream alterations, unauthorized off-road vehicle use, graffiti and property vandalism are reoccurring difficulties in this CUA. Funding to mitigate these activities comes primarily from the Forest Recreation budget, which is decreasing. The Lytle Creek Canyon was designated a High Impact Recreation Area (HIRA) in 2006 under Recreation Enhancement



Act authority. Fees collected here help fund increased ranger presence, trash pick-up, port-a-potties and signing. Heavy summer holiday and weekend use is managed through an Action Plan created in 1995. A checkpoint is set up at the mouth of the canyon (with CHP and County support) and recreating vehicles are turned away when the quota of vehicles in the canyon is reached. The District has used Eco-Teams in the past and is now successfully using a significant number of volunteers to help patrol the CUA and provide increased Adventure Pass compliance. Monthly district clean-up days are also scheduled, using an innovative trash-mapping process.

### **Conclusions**

Adaptive management by the Front Country Ranger District in the Lytle Creek Concentrated Use Area has dramatically improved the conditions that were in place during the early 1990s. However, management of this area faces mounting challenges as use increases due to growing development.

The management described here is consistent with the Lytle Creek Place Program Emphasis in the revised LMP. As this is an area of on-going management and not a specific project undertaken since approval of the Forest Land Management Plan in 2005, it is not possible to precisely state that LMP goals, desired conditions, standards and mitigation measures are yet fully incorporated into all operational plans. These will be incorporated as permits are renewed. However, this CUA is now generally consistent with Forest Specific Design Criteria, Plan Standards and Appendix D, Adaptive Mitigation for Recreation Uses.

Stream loss of connectivity (due to creation of dams by visitors for water play) is a continuing issue, especially for speckled dace habitat.

### **Recommendations**

- When considering activities under permit within the Lytle Creek Concentrated Use Area for re-issuance, ensure consistency with the revised LMP.

## **Children's Forest Trail (06-LMP-Rec-2)**

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### **Monitoring**

The Decision Memo for the Rehabilitation of the National Children's Forest Interpretive Trail was signed in 1993 under authority of the 1989 Forest Land Management Plan as amended under the SCCS. The project record included specialist reports completed in 2004. The planning and financing of the trail involved many people, community groups and agencies under the management of the San Bernardino National Forest, in partnership with the Children's Forest Association and the Rim of the World Parks and Recreation District. Eight teenagers who were both youth volunteers at Children's Forest as well as students of Rim of the World High School worked weekends to assist in the design and mapping of the trail.

The 4.2 mile non-motorized trail was designated an official Forest Service Centennial Project. The trail was constructed by employees representing the County and Manpower Program, the Stanislaus and San Bernardino National Forests trail crews, Mojave AD crew and the Children's Forest youth. It is open year-round for hiking, snow shoeing, cross country skiing, mountain biking and equestrian use.

The trail is within the Children's Forest Special Interest Area (SIA), a designation established in 2005 under the revised LMP. Use and maintenance of the trail are not new but ongoing activities. The monitoring team walked a portion of the trail on August 16, 2007. The staff that had coordinated, supervised and monitored trail construction was also present. The biologists described measures used to protect rare species during trail construction and those currently in place for protection during use and maintenance activities.

### **Results**

The trail was well designed and maintained. Rock outcrops, large sugar pines, hand crafted rock walls and scenic view points added to the enjoyment while hiking this trail. Mitigation measures have been effective at protecting sensitive resources. Due to the trail design and use of skilled employees, trail maintenance needs have been minimal. However, with increased mountain bike use, additional coordination for maintenance between Children's Forest staff and the SBNF trail crew is needed.

### **Conclusions**

Use, management and maintenance of the trail are consistent with the Arrowhead Place program emphasis and with LMP Goal 3.1 to provide for public use and natural resource protection. The conservation education that occurs here is an important aspect of this goal. This ongoing activity is also consistent with the desired condition of the Children's Forest SIA. It creates opportunities for visitors to learn how to enjoy a wildland setting and become an active stakeholder in their national forest. Youth are learning, participating and helping make decisions about the stewardship of their national forest. Sensitive species and their habitats are being protected during ongoing use of the trail through conservation education and design criteria ensure protection during maintenance activities.

### **Recommendations**

- Continue annual coordination of Children's Forest staff and youth, and SBNF trail, heritage and biology staff to plan proposed projects and timelines within the Children's Forest SIA. Use the time to educate new staff, youth and employees regarding the presence of sensitive wildlife and plant habitat within the SIA and the design criteria required for habitat protection.

## **Mill Creek Recreation Residence Tract Conveyance (06-LMP-Rec-3)**

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### **Monitoring**

The Mill Creek Recreation Tract Conveyance Decision Memo was signed in 2006. In a non-discretionary action, Congressional legislation, H.R. 4818, Consolidated Appropriations Act, 2005 SEC 335, directed the Secretary of Agriculture to convey 24 recreation residences under special use permit to the cabin owners. The decision included Terms and Conditions for wildlife and riparian habitat, utilities and infrastructure. Wildlife Terms and Conditions included: 1) a deed restriction to prevent future development of the Mill Creek riparian area, 2) recommendations to control and not plant invasive plant species, 3) to work with the County and cabin owners to retain open space and 4) to utilize the funding from the conveyance to acquire suitable southwestern willow flycatcher habitat. Utilities and Infrastructure Terms and Conditions provided for the continued passage of water, electricity and phone lines through and

near the Mill Creek Tract, included Highway 38. The Tract was conveyed on December 13, 2007 giving title to the Mill Creek Homeowner's Association.

The Mill Creek Tract was removed from the list of Recreation Residence Tracts in the revised Land Management Plan (LMP Part 2, p.17.), Other Designations-Table 481 Recreation Residence Tracts in December 2007. A copy of the decision memo is on file in the Forest Plan LMP tracking notebook. Under the LMP decision the Recreation Residence Tracts are suitable in specific land use zones in designated tracts only. The decision to convey the tract did not change that decision; it just changed the list of currently designated tracts. A plan amendment is not needed to adjust the list of designated tracts.

The monitoring team visited a portion of the Mill Creek Tract on August 15, 2007.

### **Results**

It was apparent to the monitoring team that this conveyance will assist the Forest by reducing the need to manage issues associated with trying to support resource management objectives, ownership patterns and urban interface issues.

One of the vegetation types within this canyon is southern oak woodland; large California sycamores and coast live oaks occur. Several of the Forest's most invasive plant species, some rated as noxious, are present in high densities. Giant reed, tree of heaven, periwinkle, ivy, and blackberry are present in Mill Creek Drainage. Tree of heaven, periwinkle, ivy and blackberry are present within the lots.

### **Conclusions**

Although the project was non-discretionary, it is consistent with LMP Goal 6.2 for wildlife management. It is also consistent with Strategy Lands 1- to consolidate National Forest System land base to support resource management objectives, improve management effectiveness and to acquire lands through transfer to address issues associated with complex ownership patterns. The project was beneficial to suitable threatened and endangered wildlife habitat as it prevents future development of riparian habitat along Mountain Home Creek and recommends the control of non-native plants by tract members. The Forest received \$500,000 for this property and is now looking at locations of southwestern willow flycatcher habitat to purchase with the funds.

### **Recommendations**

- To move the Forest towards desired conditions for biological resources and as required in the Terms and Conditions of the conveyance, continue to look for southwestern willow flycatcher habitat for acquisition with the funds.

## **Plunge Fire Burned Area Emergency Response (BAER) (06-LMP- Watershed Function-1)**

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### **Monitoring**

BAER is a Forest Service program with the goal of protecting life, property, water quality, and deteriorated ecosystems from further damage from flooding after the fire is out. BAER does not seek to repair areas that were damaged by the fire, but to reduce further watershed damage from flooding or landslides due to the land being temporarily exposed in a fragile condition. The

BAER Team looks for opportunities to mitigate potential impacts to downstream values such as reservoirs, homes, bridges, roads, and critical wildlife, plant and fisheries habitat. They also seek to protect heritage resources and prevent noxious weed introductions.

The Plunge Fire was contained on January 26, 2006 after burning 477 acres within the San Bernardino National Forest. The fire reburned part of the area burned in 2003 during the Grand Prix/Old Fire complex. Due to a combination of slope, soil burn severity, expected watershed response, intact riparian corridors and the vegetative mosaic, the BAER Team determined the Plunge Watershed should not respond significantly different than pre-fire conditions.

However, concentrated and localized impacts were expected. There was concern for native vegetation recovery because the coastal sage scrub and other vegetation types in the area had been changed due to frequent fire. After prior fires, there were impacts such as new user trails, hill climbs, soil compaction and gully formation and there was potential for this to occur here. To prevent this, a berm was constructed to deter unauthorized off-highway vehicle travel across an open flat that was denuded during the fire. Off-Highway Vehicle (OHV) regulation and monitoring patrols were initiated in locations that were also likely to have increased off-highway vehicle cross country travel. A sediment basin was constructed upslope of a culvert to catch material and an approach to a culvert was cleaned to prevent culvert plugging. Storm inspectors were also utilized to ensure the basin was cleaned out to maintain functionality. Noxious weed detection surveys were conducted to determine if the fire and associated ground disturbing activities associated with dozer lines had promoted establishment and spread of noxious weeds to extent eradication measures were necessary.

The monitoring team visited the area on August 15, 2007 to review consistency with the LMP. The Forest BAER team leader and the project leaders were also present.

## Results

The sediment basin had functioned to prevent road damage to Forest Road 1N09 and reduced sediment loading downstream. The culvert also remained functional. The berm was successful in preventing unauthorized vehicle use across the flat at the location it was installed however a trail was being developed nearby.

Vegetation was recovering. It was recommended the berm be reconstructed or temporary fence installed. Patrolling had been successful in preventing the majority of unauthorized use. A long term closure for repair of a state highway that provides access to this location was also thought to be part of the reason for success. Surveys for weeds were conducted; tocalote and bull thistle were pulled. Monitoring reports were well written and daily patrol logs were in the project file.



## **Conclusions**

Treatments were consistent with LMP Goal 5.1 to improve watershed conditions, Goal 1.2.1 to reduce the risk of type conversion of coastal sage scrub, emphasize prevention to reduce the number of ignitions, Goal 3.1 to provide for public use and resource protection and Goal 2.1 to reduce impairment of natural communities from invasive species. The BAER projects that were proposed and implemented are consistent with the revised LMP Standard 47 and Appendix E for management of riparian conservation areas. They are also consistent with section 3.27 (Wildland Fire Rehabilitation) in the San Bernardino NF Supplement to FSH 2509.22 regarding Soil and Water Conservation Practices.

Review of this project demonstrated that there can be values at risk even on small fires and treatments may be needed. Controlling unauthorized use along the urban interface after fires is important for vegetation recovery. Monitoring patrols can be an effective method to curtail this use.

## **Recommendations**

- To move the Forest towards the desired conditions for watershed condition, invasive species management and biological resource condition, complete the interim request for funding to continue patrols for vegetative recovery, reconstruction of the berm and to remove weeds.

## **Snow Forest Erosion Control (06-LMP- Watershed Function-2)**

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### **Monitoring**

The Snow Forest Ski Resort was established in 1937 on National Forest System (NFS) lands and managed by various special use permit holders up through the 1991-92 winter seasons. In 1992 the permittee filed for bankruptcy and left the area and in 1993 the Forest made the decision to no longer maintain the site as a ski resort. The soil erosion hazard across the site is moderate to high. This resulted in sediment running off the area on to residential streets and into Big Bear Lake, especially after summer storm events and during spring snow melt runoff. In addition, unauthorized mountain bike use on the ski runs reduced the efficiency of the water bars on the slopes. The resort is located upslope of Big Bear Lake which is listed on the States 303 (d) list of impaired water bodies. The Snow Forest site had been identified as a major contributor to sediment and siltation of the lake with an estimated 488 tons of sediment contributed annually.

In 2004, Mountaintop Ranger District staff began working with the Inland Empire Resource Conservation District (IERCD), who applied to the State Water Resources Control Board for a grant for funding to complete erosion control work in an effort to reduce sedimentation into the lake from the Snow Forest site. The IERCD was awarded a \$250,000 grant which was matched by an additional \$50,000 from the Forest Service. The Big Bear Lake Municipal Water District (MWD) also contributed \$50,000 to the project.

The Decision Memo for Snow Forest Ski Area Erosion Control and Site Restoration Project was signed in March 2006 under the authority of the 2005 Land Management Plan.

Five sediment basins with spillways were constructed in the lower portion of the site. Water bars were also constructed at various points on the ski runs, and jute netting was placed on the most

eroded slopes. Jeffrey pine seedlings and willow cuttings were planted on the site and native seed was raked into disturbed areas. Smooth wire fencing was installed along Forest Road 2N08 at the top of the ski area to prevent unauthorized vehicle access. A monitoring plan was developed to help confirm that the project was carried out properly and that the improvements would effectively reduce sediment runoff. In conjunction with this project, fuels treatments were completed within the project area under the South Big Bear Shaded Fuelbreak Decision Memo.

The monitoring team, staff from the Inland Empire Resource Conservation District and the implementation team monitored the site on August 23, 2007.

## **Results**

Sediment basins are functioning and allowing sediment to drop out while permitting water to continue flowing. Jute netting remains intact and there is high survival (86%) of pine seedlings planted on site. Willow cuttings became established and are expected to survive. Four weed species were observed near the sediment basins but cover a small portion of the area at this time. Pebble plain habitat was avoided during project implementation and rehabilitation of the ski area is expected to improve wildlife and plant habitat. Sediment monitoring is to be completed by December 2007; however, due to the 2006 drought results may not be as valuable as anticipated. Educational programs at the local schools continue on a monthly basis through the IERCD, and signage that will inform the public of our restoration efforts are being developed and will be posted on site.

A large majority of the fuel treatment work in the area has been completed using a previously disturbed area at Snow Forest for a landing. The ski area parking areas and associated roads are scheduled to be restored in the fall of 2007.

## **Conclusions**

The Inland Empire Resource Conservation District staff are pleased with the working relationship that was developed during this project, as well as the implementation itself. They look forward to working with the Forest on additional new projects in the future.

This project is an excellent example of acquiring and using limited funds to progress towards reaching the LMP desired conditions. It provides community benefits as well. The project is consistent with a large number of the LMP long term goals; Goal 5.1 to improve watershed conditions through cooperative management; Goal 5.2 to improve riparian conditions; Goal 6.2 to provide ecological conditions to sustain viable populations of native species; Goal 7.1 to retain natural areas; Goal 3.1 to provide for public use and natural resource protection, Goal 1.1 to improve the ability of southern California communities to limit loss of life and property from wildfires, and Goal 1.2 to restore forest health where alteration of natural fire regimes have put human and natural resource values at risk. It is also consistent with the Big Bear Place program emphasis. Mitigation measures were effective in protecting sensitive habitats. In addition, the project continues to move toward the desired condition that habitats for federally listed species are conserved and species are moving towards recovery.

## **Recommendations**

- To move the Forest towards desired conditions for watershed function, riparian and biological resource condition and natural area retention, continue relationships with IERCD and Big Bear Lake MWD to look for additional collaborative projects.

## **Angelus Oaks Community Defense Project (06-LMP-Manage Vegetation-1)**

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### **Monitoring**

The Angelus Oaks Community Defense Project Decision Memo was signed in 2004 under the authority of the 1989 Land Management Plan as amended by the SCCS. The decision included an appendix of design criteria to be used during project implementation. These included BMPs and prescriptions for air and visual quality, the Santa Ana Trail, protection of wildlife and plant populations and habitat, heritage resources, hydrology, weeds and post-treatment rehabilitation.

The multiyear project which began in 2004 and may continue until the fall of 2014 is designed to remove dead and dying trees and establish fuelbreaks around the community of Angelus Oaks. It includes removal of overstocked small diameter green trees, mastication or removal of shrubs, pruning, developing chipping sites, and crushing and burning of continuous brush fuel beds.

Some stands within and adjacent to this project area were experiencing more than 90 percent conifer mortality. Safe access to and from the community along Highway 38 was also a concern due to a large proportion of dead and dying chaparral and hardwoods within the project area. The Angelus Oaks Community Wildfire Protection Plan was completed in 2005 to enable the community to effectively plan how it will reduce the risk of wildfire. It was signed by the San Bernardino County Board of Supervisors in 2006.

The monitoring team visited two project units on August 15, 2007.

### **Results**

This project represents an outstanding effort to reduce fuel loading within a critically important area of the forest. The chipping site in Unit 1 created for both the project and the community is still in use. It will be retained as a chipping site throughout the life of the project and then be rehabilitated prior to the fall of 2014. The FY 06 treatments within the unit consisted of selling dead and dying trees, thinning, pruning and mastication of brush. Sugar pine, black oak, white fir and ponderosa pine with a shrub layer of false indigo were present in the area monitored.

White fir and black oak were regenerating naturally; there was less natural pine regeneration. There was concern over conifer competition with resprouting shrubs and there was discussion of the need for an understory burn for periodic control. No reforestation is scheduled here. Some small occurrences of cheatgrass were present but most of the area is inhabited by native species. Because fuel objectives had been met, some snags and down logs have been retained.

Sensitive areas had been flagged and avoided and temporary roads had been barricaded and water barred. Unauthorized use on these roads was not occurring at this time. The Forest Hydrologist monitored some of the roads and burn pile locations within the unit and made recommendations. There was concern that some property owners adjacent to the project had not reduced hazardous fuels on their property, but it was evident that others had.

We also monitored a large helicopter landing that was scheduled to be rehabilitated within a year. We discussed methods of flagging for avoidance and the benefits of pre-work meetings in one area that had inadvertent effects to heritage resources. Most of the project work is completed except for a need to use prescribed fire within a portion of the project area.

## **Conclusions**

Fuel treatments completed within this project area have helped the Forest progress towards reducing the number of high risk acres adjacent to communities within the Wildland Urban Interface (WUI) defense zone. These acres will be incorporated into the 5<sup>th</sup> year trend monitoring results. The project is consistent with the LMP long term Goals 1.1, 1.2 and 1.2.1 to limit loss of life and property, restore forest health where alteration of natural fire regimes have put human and natural resources values at risk, and to reduce the potential for widespread losses of montane conifer forests caused by severe, extensive, stand replacing fires. The project is also consistent with the San Bernardino Front Country Place program emphasis stating community protection from wildland fire is of the highest priority. The design criteria were effective in protecting sensitive resources in all but one location. Understory burning is prescribed for the future along with rehabilitation of the helicopter landing and chipping sites.

## **Recommendations**

- On future projects with design criteria to protect a historical resource that is scattered structures and other features, define the entire area with flagging not individual locations within a larger area. This will ensure protection of the entirety of sensitive areas and the relationships between them. Identify avoidance areas in pre-work meetings.

## **Idyllwild West Fuels Reduction Project (06-LMP-Manage Vegetation-2)**

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### **Monitoring**

The Idyllwild West Fuels Reduction Project Decision Memo was signed in 2004 under the authority of the 1989 Land Management Plan as amended by the SCCS. The decision included Forest Plan Standards and Guidelines and design features from the Biological Evaluation for wildlife and plant species. Prior to implementation, the project leader completed a review to ensure consistency with the revised LMP.

The 1,093 acre project is designed to remove dead and dying trees, prune and thin green trees, remove brush and prescribe burn areas of chaparral to create defensible areas in case of wildfire. The project area is located within the Wildland Urban Interface directly west of the community of Idyllwild and southwest of Pine Cove along private land boundaries. To date, 80 percent of the work has been accomplished with the remaining 20 percent being completed in FY 2007 and 2008.

On August 14, 2007, the monitoring team reviewed the project record and visited Unit 18 to monitor treatments conducted in FY 2006.

### **Results**

Considerable care had been taken in the organization and maintenance of the project record. All records pertaining to scoping, public meetings, specialist reports and the decision documents were organized in a project notebook. The working files are contained in additional project folders and include the maps, monitoring records and before and after photos on CDs.

This project represents an outstanding effort to reduce fuel loading within a critically important area of the forest. We discussed the down log and snag requirements and monitoring that had occurred to ensure consistency with this standard. Plots taken across 20 units after treatments

indicate 1.5 to 2 snags per acre and down logs of 3 logs per acre which does meet the 1989 Forest Plan standard but is short of the revised LMP standard. However, this level of retention does meet the requirement within the defense zone of the Wildland Urban Interface as described in Standard 8. Within the defense and threat zone, if fuel objectives have been met, the District takes advantage of opportunities to manage for wildlife. Therefore, it is recommended that some down logs be replaced within Unit 18 to more nearly meet the Forest Plan objectives for down logs.

California spotted owl is not present in this unit but occurs in a unit scheduled for future treatment. When treatment occurs, more down logs and snags will be left to meet the revised LMP standard for this species.

We discussed the contract clause requiring equipment to be clean prior to unloading on the forest and how this was working for the purpose of preventing weed introduction. These inspections are the job of the contracting officer representative (COR) and may be difficult to complete at times due to lack of staffing to meet the equipment when it arrives (which may also occur at night). To ensure these inspections are completed, mandatory pre-work inspections need to be included in the contract and the COR would document each inspection.

We observed a number of sensitive plant occurrences that were flagged for avoidance by machinery and placement of burn piles. To provide the shade requirement for this species, several trees were also retained adjacent to the occurrences. A portion of one avoidance zone had been breached but plants were unharmed. We discussed methods to ensure avoidance into buffer zones such as placing flagging high enough for machine operators to see it when they are working, replacing it frequently to improve visibility and communicating with sale administrators frequently and when problems arise.

Native trees are regenerating naturally in forested stands within the unit. Weed cover is low and is attributed to the amount of litter on the soil surface and lack of bare ground.

## **Conclusions**

Fuel treatments completed within this project area have helped the Forest progress towards reducing the number of high risk acres adjacent to communities within the WUI defense zone. These acres will be incorporated into the 5th year trend monitoring results. The project is consistent with the LMP long term Goals 1.1, 1.2 and 1.2.1 to limit loss of life and property, restore forest health where alteration of natural fire regimes have put human and natural resources values at risk, and to reduce the potential for widespread losses of montane conifer forests caused by severe, extensive, stand replacing fires. The project is also consistent with the Idyllwild Place program emphasis stating community protection from wildland fire is of the highest priority.

Design criteria have been effective in protecting sensitive resources in most locations. District experience has shown that on the ground monitoring and inspections are critical to ensuring treatments are implemented as planned. The closer the contacting officer is to the ground the better the project will be implemented as prescribed.

To ensure treatments meet project objectives, staff specialists are encouraged to walk through the project area on a regular basis during implementation, not just at the end of the project.

Monitoring observations and recommendations are then documented on forms kept in the project leader's working file.

Numerous treatments within this unit have been completed to create defensible space inside the Wildland Urban Interface in case of wildfire. Roads and skid trails within the unit are undergoing various degree of rehabilitation and work will continue until completed.

In the future, to improve watershed conditions and promote compliance with Standard 37 (design and manage fuel treatments to minimize the risk that treated areas will be used by unauthorized motorized and mechanized vehicles); the District will consider evaluating non-system roads as part of the proposed action in an environmental analysis. This would also allow the Forest to focus limited resources on making progress toward the LMP desired conditions.

### **Recommendations**

- Conduct an LMP consistency review for work in the remaining units. Especially important are the dead and down wood and snag requirements and ensuring the area is not conducive to unauthorized vehicle use after treatment;
- Complete treatments within project areas as planned while continuing communication with sale administrators to ensure design criteria are implemented to protect sensitive areas throughout the life of project.

## **Valley of Enchantment Fuels Reduction (06-LMP-Manage Vegetation-3)**

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### **Monitoring**

The Valley of Enchantment (VOE) Fuels Reduction Decision Memo was signed in 2004 under authority of the 1989 Land Management Plan as amended by the SCCS. The proposed action included design features from specialist reports and the Biological Evaluation/Assessment.

The project was designed to reduce the level of flammable woody material on NFS lands adjacent to the communities of Valley of Enchantment and Cedarpines Park. The objectives are to reduce the risk of wildland fire to these communities and provide defensible space for fire fighters by creating an area of reduced fuels along the boundary between private and Forest Service. Fuelbreaks will be built along the private land boundary to slow the progress of fires into and out of the community and areas further from private land will be treated to reduce hazardous fuels and improve forest health resulting in reduction in hazardous fuels in the long-term.

The project was designed to include three levels of treatment that would be implemented 100 feet, 100-300 feet and then distances greater than 300 feet from the property boundary. Each level of treatment would result in varying levels of fuel retention.

On August 16, 2007, the monitoring team reviewed the project record and visited the VOE Waters and Rialto Units to monitor treatments conducted in FY 2006.

### **Results**

This project represents an outstanding effort to reduce fuel loading within a critically important area of the forest. Within the Waters Unit WUI defense zone, defensible space had been created

adjacent to the houses. Black oak and incense cedar seedlings were regenerating naturally and were growing up through the mulch. Due to the large amount of conifer die-off, we discussed a future need to increase tree species diversity at the site. It was apparent that chipped mulch was effective in reducing patches of non-native annual grass as adjacent areas with no mulch had a high cover of grass. In an effort to prevent new or braided trails from developing an existing unauthorized equestrian trail had been retained.

We monitored another portion of the unit where fuels had been removed and skid trails and the landing had been restored. This area had been used as an unauthorized dumping site prior to and during implementation and unauthorized OHV use had also been occurring. The site had been effectively barricaded off and was recovering well. The hydrologist questioned why the main skid trail and landing had been constructed within a stream management zone. The area had been selected as a landing because it was an existing, highly disturbed area that was expected to benefit from rehabilitation treatments. By placing the landing here it limited the need to disturb adjacent new ground. The hydrologist used this as an example to describe how flexibility under the San Bernardino Soil and Water Conservation Practices Supplement (Standard 47) worked on the ground. While not advocating this use he suggested if it occurred on future projects silt



fencing could be installed to reduce sedimentation.

The hydrologist also monitored the water bar construction, ripping and chipping that had occurred. Placement of large woody debris had successfully halted unauthorized off road vehicle use on site. Black oak and other native tree, shrub and grass species were regenerating naturally. One small tree of heaven, an aggressive non-native tree, was located and removed.

We also monitored a helicopter landing within the Rialto Unit that had been rehabilitated the day prior. This site was also a previous unauthorized dumping site and had been recontoured, ripped, mulched and barricaded and is now suitable for tree planting. When using helicopters, it is often unsafe to retain snags although several had been retained along the border here. We observed sensitive wildlife habitat that had been flagged for avoidance which led to a discussion on how to protect sensitive areas throughout the life of the project.

## Conclusions

Numerous treatments within these units have been completed to create defensible space inside the Wildland Urban Interface in case of wildfire. A large number of dead trees have been removed. The tree thinning that was completed is expected to help with future fire suppression. Within this project area, most of the work has been completed. A small amount of work will be completed in Fiscal Year 2008. Maintenance was mentioned in the decision memo however it may not have been well analyzed as no schedule or methods were described.

The project is consistent with the LMP long term Goals 1.1, 1.2 and 1.2.1 to limit loss of life and property, restore forest health where alteration of natural fire regimes have put human and natural resources values at risk, and to reduce the potential for widespread losses of montane conifer forests caused by severe, extensive, stand replacing fires. The project is also consistent with the Arrowhead Place program emphasis stating community protection from wildland fire is of the highest priority. Fuel treatments completed within this project area have helped the Forest progress towards reducing the number of high risk acres adjacent to communities within the WUI defense zone. These acres will be incorporated into the 5th year trend monitoring results.

The design criteria were effective in protecting sensitive species and their habitat from disturbance. Experience has shown that flagging needs to be replaced often as people remove it and animals eat it. It needs to stay visible as treatments often occur over a number of years. The District has found that daily communication between inspectors and specialists is the key to the successful protection of sensitive areas. It is important to remember that heritage staff needs to be notified when equipment is re-entering an area to ensure flagging is current and to also monitor for compliance. Attention to detail is especially important when operations are winding down. This is an important time to continue sensitive area protection and to ensure rehabilitation treatments are implemented correctly.

### **Recommendations**

- Continue work within the project area as necessary to meet community protection and forest health goals. Ensure consistency with design criteria in the revised LMP;
- Continue weekly implementation meetings with inspectors and specialists to continue successful implementation of design criteria for protection of sensitive areas (including heritage resources) thorough out life of the project;
- Assemble the project record into one notebook to be stored on the District. Use additional folders as implementation files to compile monitoring and contracting documentation.

### **South Big Bear Shaded Fuelbreak (06-LMP-Manage Vegetation -4)**

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#### **Monitoring**

The South Big Bear Shaded Fuelbreak Decision Memo was signed in 2004 under the authority of the 1989 Land Management Plan as amended by the SCCS. It included appendices describing treatment guidelines, desired conditions for various treatment levels and design features for wildlife, recreation, visual quality, heritage, watershed, botany, weeds, and post rehabilitation treatments.

The fuelbreak is located along the southern edge of private property south of Big Bear Lake to provide wildland fire fighters the advantage in having a defensive zone that can be widened in the face of an oncoming fire through the use of water hose lays or other techniques. Most of the treatment will take place within a linear strip not much wider than 300 feet along the boundary. Exceptions include areas adjacent to sensitive areas that are excluded from treatment. In these locations distance from private property will be extended so that the actual treated area will be no less than 300 feet necessary for the fuelbreak. Another exception occurs on steep slopes where 800 feet would be treated.

On page 2 of the decision, it states that no pile burning will occur but on page 3 it mentions that pile burning is an option.

A large majority of the work within the entire project area has been completed as work continued here in 2007. A small amount of the remaining work will be completed in Fiscal Year 2008.

The monitoring team reviewed the project record and visited Units 3 and 4 on August 23, 2007 to monitor treatments conducted in FY 06.

## Results

The monitoring team visited a portion of a unit adjacent to private property. It provided a good example of the situation described in the decision where the fuel treatment extended out farther from the private property due to avoidance of an adjacent sensitive area. In this situation, both community protection and sensitive area protection were achieved. This project represents an outstanding effort to reduce fuel loading within a critically important area of the forest.

Within this unit we also monitored a landing that had been recently restored but needed additional work. We discussed the need to set protocol across the Forest regarding rehabilitation of unauthorized roads and trails within project boundaries. Limited operating periods may be affecting rehabilitation work in some locations due to the necessity of completing fuel objectives within specific timelines.

We monitored the rehabilitation success of a helicopter landing in Unit 7. It had been barricaded, ripped and chipped and can now be planted. A sensitive plant location adjacent to the landing had been successfully protected from disturbance. The removal and subsequent mulching of a spotted knapweed occurrence last year had eliminated reestablishment. However, the knapweed had returned within an adjacent un-chipped location (and was pulled the next day). Black oak seedlings were regenerating naturally on the landing and several ponderosa pines planted last spring had survived.



## Conclusions

The project is consistent with the LMP long term Goals 1.1, 1.2 and 1.2.1 to limit loss of life and property, restore forest health where alteration of natural fire regimes have put human and natural resources values at risk, and to reduce the potential for widespread losses of montane conifer forests caused by severe, extensive, stand replacing fires. The project is also consistent with the Big Bear Place program emphasis stating community protection from wildland fire is of the highest priority. Fuel treatments completed within this project area have helped the Forest progress towards reducing the number of high risk acres adjacent to communities within the WUI defense zone. These acres will be incorporated into the 5<sup>th</sup> year trend monitoring results.

As we continue to treat fuels across the landscape we need to try to correct watershed issues. Attending to unauthorized roads and trails adequately will reduce problems with drainage, erosion and unauthorized uses over the long term.

### **Recommendations**

- Continue work within the project area to meet community protection goals. Ensure consistency with design criteria in the revised LMP;
- To lead the Forest toward the desired conditions for watershed condition, schedule hydrologist to look at landing and drainage in Unit 3 and 4. Implement recommendations as soon as possible;
- Assemble the project record into one notebook to be stored on the District. Use additional folders as implementation files to compile monitoring and contracting documentation;
- If pile burning is needed, consider revising the decision to clarify this action;
- Continue to utilize monthly fuel and vegetation staff meetings to discuss and recommend protocols to resolve situations occurring across all project areas (unauthorized uses, erosion, road treatments, etc.).

## **San Jacinto Fuels Project Monitoring 2005 (05-LMP-Manage Vegetation-5)**

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### **Monitoring**

In 2005, under direction of the former restoration program manager, two fuel reduction projects on the San Jacinto Ranger District were monitored after implementation.

Prior to the field visits, the monitoring form was updated to reflect new goals and objectives and to answer the question “Does the project conform to our revised Forest plan?”

### **Results**

Specific monitoring results, recommendations and conclusions are available on the [Garner Valley Hazardous Fuels Reduction Tracking form](#) and the [South Ridge Hazardous Fuels Reduction Tracking form](#). Results indicate project monitors checked for compliance with the new design criteria for vegetation management, fish and wildlife, and riparian standards and the forest health strategy (FH3).

In the Garner Valley Project, standards implemented to protect the host plants of the endangered Quino Checkerspot butterfly and Scenic Integrity Objectives were met. There was a recommendation to expand the use of the counterpart regulations for federally listed species which the Forest has done.

In the South Ridge Project, standards implemented to protect soils on steep slopes, require maximum size of openings, no more than 40% crown closure, use of fungicide, and limited operating periods for California Spotted Owls were met. Brush stringers, logs and rocks were left to discourage unauthorized use.

### **Conclusions**

The project is consistent with the LMP long term Goals 1.1, 1.2 and 1.2.1 to limit loss of life and property, restore forest health where alteration of natural fire regimes have put human and

natural resources values at risk, and to reduce the potential for widespread losses of montane conifer forests caused by severe, extensive, stand replacing fires. The project is also consistent with the Garner Valley Place program emphasis stating community protection from wildland fire is of the highest priority. Fuel treatments completed within these project areas have helped the Forest progress towards reducing the number of high risk acres adjacent to communities within the WUI defense zone. These acres will be incorporated into the 5th year trend monitoring results.

The results and conclusions documented on the field project reviews indicate that attention to design criteria specific to the project can be beneficial to future forest management. This is the type of information needed to ensure projects are implemented as designed and for “adaptive management” to be successful. The 2007 monitoring team discussed the advantages of using this type of monitoring form used and focusing on several key design criteria relevant to the project area versus using the monitoring form used in 2007. The information is valuable however the time needed to complete this type of monitoring would be increased over that used in the 2007 protocol.

### **Recommendations**

- Look at crown closure as it relates to live canopy only; rather than live, dead and dying;
- Recognize that snag retention and down log standards still need to apply;
- Continue to monitor the use of a 40% crown closure, within PACs, within defense zones to determine effectiveness in reducing hazardous fuels while protecting PAC values;
- Continue to use counterpart regulations for federally listed species where applicable;
- Encourage project leaders to utilize this Monitoring and Tracking Form to continue this type of monitoring after project implementation. Adapt future actions based on recommendations. Retain forms in the project file for use in 2008 LMP monitoring if the project is randomly selected.

## **Baldy Extension Broadcast Burn Project (06-LMP-Prescribed Fire-1)**

### **Monitoring**

The Baldy Extension Prescribed Fire Project Decision Memo was signed in 2004 under the authority of the 1989 Land Management Plan. The decision includes use of Best Management Practices for water quality management and mitigation measures to minimize effects to sensitive wildlife species and includes riparian area buffers. The project file contains the Burn Plan and a completed and signed copy of the checklist for review of prescribed fire burn plans.

No occupied, critical or suitable habitat for federally listed wildlife or plants is present. No sensitive plants occur with the project area. Ten sensitive wildlife species were found to either inhabit the area or to have the potential to occur based on existing information. No heritage sites or properties were located during surveys and no Tribal concerns were identified during the Tribal Consultation for this project.

The project was proposed to treat 95 acres of chaparral fuels west of the town of Mountain Center with prescribed fire. The purpose was to add to the existing Baldy Prescribed Burn Project to mitigate the increased fire potential due to large amounts of dead and dying chaparral

below Mountain Center. The area was to be treated with prescribed fire to create a mosaic burn of 30-70 percent of the total acreage.

The monitoring team was not able to monitor the prescribed fire on the ground due to a lightning storm. Instead, we reviewed the project file and discussed the project with the Deputy District Ranger who was present during the burn.

### **Results**

When the project was implemented in April of 2006, the prescription was too cool and the fire did not burn because fuels were too wet. District fire staff tried very hard to burn but could not get the vegetation to burn within the prescription that was written. In the end, the burn had to be stopped as the fuels never dried out enough to burn that day. Twenty five of the 95 acres of prescribed fire were reported as accomplished.

### **Conclusions**

This project as proposed represents another one of many efforts to reduce fuel loading within a critically important area of the San Jacinto Ranger District. It is consistent with LMP Goal 1.2.2 to reduce the number of acres at risk from excessively frequent fires while improving defensible space around communities. Completion of the burn would have moved the Forest towards the desired condition of establishing a diversity of shrub age classes in key areas near communities to improve the effectiveness of fire suppression operations. It is also consistent with the Idyllwild and Garner Valley Place program emphasis to provide for community protection from wildland fire as a high priority.

Unfortunately all of the acres proposed for burning within the project area were not able to be burned despite having strategies in place. It is a good example of the difficulty that can be encountered when trying to utilize prescribed fire around housing communities. Results of the fifth year trend monitoring will assist the Forest in determining if progress toward Goal 1.2.2 is being made across the entire Forest.

### **Recommendations**

- Continue to propose and utilize prescribed fire to protect communities from wildfire or to strategically place blocks of young chaparral around montane conifer and big cone Douglas fir types to reduce the risk of crown fires (Goal 1.2.2).

## **South Ridge Unit 4 Reforestation (06-LMP-Reforestation-1)**

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### **Monitoring**

The Unit 4 Reforestation Project is included in the South Ridge Fuels Project Environmental Analysis and decision signed in December 2004 under the authority of the 1989 Land Management Plan as amended by the SCCS. Specialist reports are in the file along with a map of the area, planting quality control form, first year survival survey, with the third year survey scheduled for 2008.

The South Ridge Unit 4 Reforestation project encompasses 122 acres on the east side of Forest Road 5S21 known as May Valley Road adjacent to the community of Idyllwild, CA. The area was reforested due to die off of pine species from bark beetle. Tree planting that began March

16, 2006 was discontinued due to a foot of snow and was completed on March 28. A total of 3,050 trees were planted using a mix of bare root 1 year Coulter (800), container 1 year Jeffery pine (1500), and container 1 year sugar pine (700). The seedlings averaged 194 per acre and were planted in any openings where conifers would do well.

Several acres of this project were visited by the monitoring team on August 14, 2007.

### **Results**

Tree seedlings have a very high survival rate (89%) due in part to good tree handling, wide (16x16) spacing, avoiding planting under existing trees and a good site index. The contract also specified that a scalp of 1.5 to 3 feet to reduce competition, and shading of seedlings on south side with available materials (logs, branches, etc.) to create a favorable micro climate. Also, the contract was hourly (vs. service contract) which added flexibility to timing and weather events.

The contract included a planting inspection sheet which involved taking a sample plot in a freshly planted area and measuring planting quality using various criteria. This method results in the ability to note planting errors and have the crew correct their method of planting.

There were locations with the project area that were flagged for avoidance and not disturbed. Avoidance success is contributed to the Forest Service project coordinator flagging the sites and then showing the planting crew foreman.

Unauthorized mountain bike use is occurring within portions of the project area adjacent to the community but appeared to be concentrated to one trail; restored skid trails had not been breached. There are very low levels of weeds which may be due to presence of mulch and black oak leaf litter. Early successional native plant species inhabit disturbed sites.

### **Conclusions**

The South Ridge Unit 4 Reforestation project is consistent with the LMP long term Goal 1.2.1 to “(2) encourage tree recruitment that contain a species mix more like pre-settlement composition (i.e. with a higher representation of shade-intolerant species like ponderosa pine that have declined during the period of fire suppression). The design criteria were effective in protecting sensitive areas during tree planting.

### **Recommendations**

- To comply with Standard 37 in preventing unauthorized mechanized vehicle use within fuel treatment areas, where fuel objectives can be met, consider leaving shrubs, rocks and logs adjacent to roads for screening. Plant trees or shrubs where skid trails intersect roads and trails. Direct unauthorized mountain bike and vehicle use to locations that can be managed.

## **Snow Forest Reforestation (06-LMP-Reforestation-2)**

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### **Monitoring**

The Snow Forest reforestation project of 2006 was included in the proposed action for the Snow Forest Erosion Control Project signed under the authority of the 2005 Land Management Plan.

The action consisted of planting 3,950 one year container Jeffery pine seedlings on 12.5 acres of the former ski runs. This planting density averages out to 304 trees per acre.

The contract specified a scalp of 1.5 to 3 feet to reduce competition, and shading of seedlings on south side with available materials (logs, branches, etc.) to create a favorable micro climate. In addition because the contract was hourly (vs. service contract), it added flexibility to timing and weather events.

The contract included a planting inspection sheet which involved taking a sample plot in a freshly planted area and measuring planting quality using various criteria. This method results in the ability to note planting errors and have the crew correct their method of planting. The monitoring team visited the site on August 23, 2007.

### **Results**

First year survival rates were 86%. Another 20 acres of 4,050 one year containerized Jeffery pine seedlings were planted in 2007. These trees are scheduled for first year survival surveys in November 2007.

### **Conclusions**

The Snow Forest Reforestation Project is consistent with the LMP long term Goal 1.2.1 “(2) encourage tree recruitment that contain a species mix more like pre-settlement composition. For additional achievements towards goals see the Snow Forest Erosion Control section of this report. The design criteria were effective in protecting sensitive habitat during tree planting.

### **Recommendations**

- Monitor the success of the seedlings. To comply with Standard 35, if snow play is negatively affecting tree health, consider a plan to accommodate snow play in a different location.
- Continue to implement design criteria for protection of sensitive areas during future reforestation activities.



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## **Baldy Mesa OHV Unauthorized Trail Rehabilitation (06-LMP-OHV Rehab-1)**

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### **Monitoring**

The Front County Ranger District worked on several related projects within the Baldy Mesa OHV area using a variety of funds in 2006. The Forest received \$189,000 from the State of California Off Highway Motor Vehicle Recreation Division (OHMVRD) to restore 17 miles of unauthorized trails. Another \$20,000 was received from the Regional Recreation Fee Program

grant to support this effort. In addition, funds were appropriated to work on environmental analysis proposed to designate OHV trails and to complete OHV route designation surveys within this area.

State funds were also utilized to hire and maintain a full time forest protection officer for the Baldy Mesa OHV area. To help with patrols and projects the officer established partnerships with the San Bernardino National Forest Association (SBNFA) OHV patrols, San Bernardino County Sheriff's Department and Code Enforcement Office. The officer made 3,498 public contacts focusing around the staging area to educate users as they come on to the Forest and at the northern Forest boundary and urban interface where the majority of unauthorized use originates.

OHMVRD grant funds were used to survey unauthorized trails with GPS units and create a map showing routes proposed for retention/designation and those for restoration. Local seed was collected and propagated at the Lytle Creek facility and the Big Bear facility began a successful plant propagation program using cuttings. Numerous field visits and surveys were conducted and plans for restoration implementation are scheduled for winter of 2007.



In 2005, access points to two unauthorized trails were restored utilizing funding from the Regional Recreation Fee Program grant and contributed labor from REI volunteers. One hundred sixty containers of native plants were planted on the sites. Unauthorized trail development occurred at one site. In the fall of 2006, a fence was installed and an additional 275 containerized plants were out-planted by volunteers from Toyota, Inc. and Chaffey High School. These actions were completed under the Decision Memo for Habitat Protection signed in 2004 under the authority of the 1989 Land Management Plan as amended by the SCCS.

## Results

Biologists were present to protect sensitive cacti and monitor for rare wildlife species during the planting and barrier installation. Containerized plant survivability was low due to the 2006 drought and remaining plants are now being hand watered to increase survival. Fences are monitored and repaired frequently.

## Conclusions

Due to drought and continued unauthorized use, approximately 10 percent of the containerized plants survived compared to the usual 85 percent survival rate of other restoration sites. Lessons learned from these planting sites will be applied to the miles of rehab scheduled to occur this fall. OHV use in the Baldy Mesa OHV area has increased and will continue to increase; additional patrols and public education are needed in this area. The monitoring team noted the contrast between unauthorized use on NFS lands and that on adjacent private lands. While unauthorized use is lower on NFS lands, additional vehicle exclusion methods are needed to ensure restoration sites are protected over the long term and new routes are not established.

The project is consistent with LMP Goal 5.2 to provide for public use and natural resource protection and Goal 5.1 to improve watershed conditions. It is also consistent with the Cajon Place program emphasis for the prevention of user created off route vehicle travel. The design criteria of having monitors present during project implementation was effective in protecting sensitive plants and wildlife.

### **Recommendations**

- To move the Forest toward the desired conditions for OHV use, complete the Baldy Mesa Trail environmental analysis as soon as possible. Continue to restore unauthorized trails.

### **OHV Program Monitoring (06-LMP-OHV Monitoring-1)**

In addition to the OHV Soil Monitoring described below, there are three additional methods of OHV program monitoring. Each program is described separately with conclusions and recommendations for all compiled at the end of this section.

#### **1) OHV Trail Soil Monitoring Monitoring**

The Cactus Flats motorcycle/ATV trail system was constructed in 1992. It consists of five miles of OHV trail with loops of varying difficulty levels. At that time, the District OHV staff working with a Regional Soil Scientist created a soil monitoring program and established soil monitoring stations, erosion sites and photo points on the Cactus Flats OHV trail system. Quarterly soil monitoring was conducted from 1992-2001 by Forest OHV staff and volunteers and annual soil monitoring reports were completed.

Subsequently, in 2003, soil monitoring sites were established along Forest Trails 3W12 and 3W13 (50" OHV trails) located north of Lake Arrowhead. New soil monitoring stations, sediment traps and channel crossing monitoring sites were established in spring 2003 on Forest Trails 3W12 and 3W13.

#### **Results**

The results of the Cactus Flats soil monitoring were analyzed following the monitoring effort of 1992 to 1997. In sandy soils, OHVs driving on flat ground naturally created high banked turns through simple mechanical erosion. In loamy or clay soils, the trails experienced moderate to high erosion. In sections of trail with rocky soils, the trail tread stayed relatively stable with little soil displacement. The Cactus Flats OHV trail system had settled in and hardened by 1998. Analysis of soil monitoring data collected from 1998-2001 indicated very little soil movement and/or soil erosion occurrence. The Cactus Flats OHV trail soil monitoring program ceased in its previous capacity in 2001. Annual trail maintenance is performed on the Cactus Flats OHV trail system from 2001 to the present. Any increased soil loss or sediment loading is addressed during regular trail maintenance.

At Lake Arrowhead, in the 2003/2004 winter, the soil monitoring stations and erosion sites located on Forest Trails 3W12 and 3W13 were destroyed by heavy rains, flashfloods and effects from the burned watershed within the 2003 Old Fire. The floods destroyed (washed out) and/or covered the soil monitoring sites with large amounts of debris and sediment; these sites were not reestablished.

## **Conclusions**

Soil monitoring has shown that, when conducted after the wet season, good trail design becomes apparent. Trails that experience increased soil loss need additional soil monitoring and mitigation.

## **Recommendations**

- To move the Forest towards the desired conditions for watershed function, consider designing a simple, yet effective OHV Trail Monitoring Program to provide specific information to help guide annual trail maintenance.

## **2) Wildlife Habitat Protection Program (WHPP) and OHV Restoration Site Monitoring**

Wildlife Habitat Protection Program (WHPP) and Restoration Site Monitoring are funded in partnership with the State of California Off Highway Motor Vehicle Recreation Division (OHMVRD). WHPP monitoring is conducted by Forest field staff four times a year using maps and checklists to protect and restore threatened, endangered and sensitive wildlife and plant habitat from unauthorized off road and trail use. Restoration sites are monitored to ensure they are not affected by unauthorized use and to schedule maintenance needs.

### **Results**

Under the 2006 WHPP, 18 locations of wildlife habitat and 36 locations of plant habitat were monitored 4 times. Forty three restoration sites were monitored once. During field monitoring, newly created impacts were disguised immediately by covering trails with forest litter, rocks and vegetation to prevent future damage. For locations needing intensive treatment such as well established trails, erosion control work or long stretches of fence maintenance, a work party was scheduled. In conjunction with the monitoring, OHV conservation funds were used to propagate plants to immediately disguise unauthorized trails and to maintain a supply of containerized plants for this use.

The 2007 State of California Off Highway Motor Vehicle Recreation Division grant proposal on the SBNF was updated to include the prospectus for trends and expectations for OHV trails as described in the 2005 LMP. In addition, the proposal included goals to assist the Forest in achieving the desired conditions for OHV use.

## **3) Adopt-a-Trail Program Road and Trail Monitoring**

The San Bernardino National Forest motorized Adopt-a-Trail (AAT) Program maintains over 200 miles of forest roads and trails. The AAT Program currently has over 30 active clubs and an estimated 2,000 volunteers that conduct monitoring on all three ranger districts. In addition, some volunteers are trained to operate bulldozers, front loaders, backhoes, chainsaws, ATVs and motorcycles.

### **Results**

The Adopt-a-Trail clubs monitor thousands of acres of National Forest System lands. Every adopted road and trail has an annual written maintenance plan that identifies specific maintenance needs. Maintenance includes brushing, culvert clearance, off road restoration, maintenance of signs, and facilities and equipment needs. The maintenance plans include

monitoring points which include fence lines, barricades for sensitive habitats, restoration sites, hiking trail interfaces (unauthorized use), private property trespass and stream crossing monitoring. Volunteers repair any breach at the established monitoring points as soon as possible after they are found using supplies and/or equipment provided by the Forest Service.

#### **4) SBNFA-OHV Volunteer Program Monitoring**

##### **Monitoring**

The San Bernardino National Forest Association (SBNFA)-OHV Volunteer Program has approximately 150 members that conduct monitoring on all three ranger districts. The volunteers are skilled 4 x 4, ATV and motorcycle operators and they provide written reports surmising their daily activities in the forest.

After 80 hours of specific training, the OHV Volunteers are given the authority to patrol as hosts making public contacts while monitoring the forest. The OHV Volunteers report forest fires, illegal campfires, traffic collisions and other incidents while providing service to our public. While in the field, the OHV Volunteers are trained to monitor sensitive areas such as meadows, wilderness areas, urban interface (excessive sound), streams, and rare plant and wildlife habitats for unauthorized uses.

##### **Results**

The OHV Volunteers are a vital Forest resource. Including all the services described above they are trained to identify and complete field projects and often assist the WHPP monitors and the Adopt-A-Trail forces.

##### **Conclusions for WHPP, Restoration Site, Adopt-A-Trail and SBNFA OHV Monitoring Programs**

Off-Highway vehicle use on designated routes is consistent with LMP Goal 5.2 to provide for public use and resource protection. Active management for OHV is also consistent with this goal and Strategy Law 1- to utilize cooperative agreements with local law enforcement agencies, and supplement field personnel and provide additional law enforcement support primarily on high use weekends or holidays when visitor use is highest. OHV management is a program emphasis in several of the Places across the forest. The 2005 SBNF LMP prospectus for trends and expectations over the next 3-5 years for Trails (part 2, p.35) states that the program will emphasize improving the national forest OHV system by designating OHV road and trail routes and effectively managing inappropriate use. The desired condition for OHV use is for the use to occur on designated routes only.

Along routes within the WHPP, Adopt-A-Trail and SBNFA OHV Volunteer monitoring programs, mitigation of unauthorized OHV use to protect natural resources and wildlife habitats has been successful in most locations. In those areas where the Forest has a managed presence, unauthorized uses are decreasing. Most areas with less presence are seeing increased use and resource impacts. It will continue to be a challenge to monitor and restore all unauthorized OHV impacts across the forest within and out of the WHPP and restoration site monitoring locations. The monitoring programs have the ability to move the Forest toward the desired condition for OHV use. Because the Forest has three successful OHV monitoring programs, we have an opportunity to improve the management of our OHV areas as we better coordinate this monitoring.

## **Recommendations for WHPP, Restoration Site, Adopt-A-Trail and SBNFA OHV Monitoring Programs**

- To comply with Standard 35 and to move the Forest towards the desired conditions for managed recreation, watershed management and biological resource conditions, coordinate the WHPP, restoration site, Adopt a Trail and SBNFA OHV volunteer monitoring programs.

## **Heritage Program Monitoring (06-LMP-Heritage Monitoring-1)**

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### **Monitoring**

Two types of heritage program monitoring are conducted. Section 106 of the National Historic Preservation Act (NHPA) requires that the Forest locate and protect properties that are potentially eligible to, and sites that are on the National Register of Historic Places (NRHP), during project planning and implementation. Project monitoring is conducted to ensure sites are avoided, to monitor when activities are being conducted within a site boundary or to ensure project activities will not affect subsurface sites. The Archaeological Clearance Memo that is signed by the District and Forest Archaeologist and included in the project file identifies if management measures are necessary for protection of historic properties and if Section 106 monitoring is required during project implementation.

Each time Section 106 monitoring is completed, the District Archaeologist completes a standardized form. The forms are not added to the project file; they are filed on the District by year. Annually, District Archaeologists provide information from the forms to the Forest Archaeologist for completion of the Regional Programmatic Agreement Report (RPA). This report identifies all projects completed under the Programmatic Agreement, activities that occurred and projects that were monitored.

Section 110 of the NHPA requires monitoring and evaluation of the condition of existing historic properties that are not affected by planned management activities. It is a proactive program for the purpose of identifying and evaluating historic resources for their potential inclusion into the National Register. Monitoring is completed to report historic property condition or to report if sites have been vandalized. In FY 2006 there were no Section 110 priority heritage asset requirements. It is now a requirement for property condition surveys to be conducted on twenty percent of high priority sites and the results entered into the INRFA database. In FY 2007, the SBNF requirement for Section 10 monitoring and reporting includes 14 properties.

### **Results**

In FY 2006, under Section 106, the SBNF implemented methods to avoid, as well to monitor during and after implementation to avoid impacts to heritage resources during all fuel reduction projects and associated activities. Two additional projects with properties were monitored and one project was monitored for identification. Repairs were also made to a building in a National Register eligible property.

### **Conclusions**

Section 106 monitoring was completed as required. No Section 110 monitoring was required in FY 06. Property condition surveys on 14 properties are scheduled to occur in FY 07 and results will be entered into the INFRA database.

## **Recommendations**

- Ensure the Archaeological Clearance Memo and Tribal Consultation documentation is included in the project file prior to implementation and that it is implemented as described.

## **Rouse Range Allotment (06-LMP-Range-1)**

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### **Monitoring**

The Rouse grazing allotment is an ongoing activity site that was selected for LMP monitoring because it was randomly selected for 2006 BMPEP Range Management monitoring. Project (NEPA) planning is currently underway (FY 2007). The monitoring team focused on contents of the permit file, the NEPA project file and review of the Rouse section of the 2006 BMPEP report. To ensure the NEPA analysis that is currently underway reflects the revised Forest Plan, the review team also completed the Land Management Plan Consistency Review for Livestock Grazing.

### **Results**

The permit file was in order with the annual operating instructions for grazing year 2006, results of FY 2006 rangeland implementation monitoring inspections, and all correspondence with the permit holder. This allotment occurs on a fuelbreak where there has been historical discing and barley seeding. However in 2006, discing of the Cranston Flats portion of the fuelbreak was approved without barley seeding. In 2007 new locations proposed for discing were not approved based on the suitable uses described in Table 2.4.1 in the revised LMP (Part 2, p. 2).

The Biological/Conference Opinions of Four Grazing Allotments on the San Bernardino National Forest dated June 18, 2001 was on file along with one amendment. The District is in the process of completing a second amendment. The District has complied with the avoidance measures described in the proposed action by constructing the Willow Creek fencing and conducting annual grazing photo point monitoring. Additional species surveys have been completed to comply with the conservation measures in the grazing biological opinion. In the NEPA analysis currently underway, the proposed action will include revised Quino checkerspot butterfly management, strategic level and operational controls, riparian, TESPCS species and heritage resource considerations described in the revised LMP. In addition, a determination on discing will be made.

Monitoring for 2006 showed that one pasture was over-utilized and remainder of allotment was not used during 2006 grazing season. The 2006 BMPEP monitoring report stated that the Willow Creek area did not meet BMP effectiveness requirements. In 2007, the Forest Hydrologist, the District Wildlife Biologist, a Range specialist from the Cleveland National Forest, and the permit holder monitored the Willow Creek area again, specifically looking at water sources and to determine the appropriate usage of the area for the future. The water sources are natural springs that gravity feed into troughs. The locations of the troughs are in riparian areas. The watershed recommendation for the area in the current NEPA analysis will include moving the troughs out of riparian habitat. It is possible to bring this area into compliance with the standards of the Forest Plan. Additional requirements for use of this area will be covered in the current NEPA analysis.

## **Conclusions**

The District continues to actively administer the allotment and strives towards having improved rangeland conditions as described in long-term Goal 6.1. Threatened and endangered species management continues to be an emphasis in the allotment.

## **Recommendations**

- Ensure the NEPA analysis currently underway reflects implementation of the revised Forest Plan by utilizing the Land Management Plan Consistency Review for Livestock Grazing completed for this review.

## **Water Quality Monitoring (06-LMP-BMP-1)**

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### **Monitoring**

Forest Service obligations to the State Water Board Management Area Agreement include 1) correcting water quality problems on the national forests, 2) perpetually implementing the Best Management Practices (BMPs) and 3) monitoring and evaluating effectiveness of BMPs.

### **Results**

The SBNF contributed to the restoration of deteriorated watershed lands by accomplishing eighty acres within the Snow Forest Erosion Control Project and completing road and trail maintenance and fuel reduction projects. Implementation of the BMPs was accomplished by conducting BMP training and including BMPs in every NEPA project that had hydrologic input. BMP monitoring was accomplished by identifying needs in the NEPA process; implementation monitoring was completed by contracting officer representatives or other Forest Service personnel on the project site as the work was being completed.

Effectiveness monitoring is completed through annual BMPEP monitoring of randomly selected, recently completed projects and concurrent monitoring in which sites are selected based on management interest in specific ongoing projects. Effectiveness monitoring is designed to evaluate how well the Forest and Region implement BMPs and how effectively the BMPs control water pollution from National Forest lands. The summary and results of the monitoring are located in the [SBNF 2006 Best Management Practices Region 5 Evaluation Program Water Quality Monitoring Report 2006](#). Methods for dealing with the identified problems have been established and are currently being implemented.

The Forest Hydrologist was also an active LMP monitoring team-member and attended a majority of the project field reviews. BMP effectiveness monitoring completed for these additional projects will be included in the 2007 BMPEP report.

Currently the SBNF is party to three Clean Water Act Total Maximum Daily Load (TMDLs) implementation plans: Big Bear Lake nutrient TMDL, Lake Elsinore/Canyon Lake nutrient TMDL, and the Middle Santa Ana pathogen TMDL. In FY 2007, each TMDL implementation plan required water quality monitoring throughout the applicable watersheds. Requirements will persist in each of these areas for the foreseeable future.

## **Conclusions**

Overall, 78% of the evaluated sites met all BMP implementation requirements and 78% of the sites met all BMP effectiveness requirements. Due to changes in SBNF hydrologic staff, new regulatory interactions with the Santa Ana Regional Water Quality Control Board in regards to Clean Water Act TMDLs, and training of local staff areas on the SBNF, these percentages constitute an improvement in BMP monitoring for the forest. The methods for dealing with the identified problem areas have been established and are being currently implemented.

## **Recommendations**

- In 2008, coordinate the random BMPEP monitoring with the LMP Monitoring.

## **Roads Monitoring (06-LMP-Roads-1)**

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### **Monitoring**

The San Bernardino LMP Monitoring Protocol documents that roads will be monitored via a Regional roads protocol. The San Bernardino National Forest had no roads identified for 2006 deferred maintenance protocols as we had completed all necessary surveys in 2005. In a recent policy change, for 2007 and beyond, the Forest will now be participating in nationwide sampling of roads. If selected, Forest roads will be monitored in accordance with national protocol. The annual road maintenance contract is administered using contract daily diaries. Best Management Practices are incorporated into the contract with Federal Acquisition Regulations (FAR) clauses and road maintenance specifications. As part of the Route Designation Process begun in 2006, the forest has initiated a project that will evaluate the current and future road system. The project will include the addition of some unclassified routes and the decommissioning of some system roads to be analyzed through the NEPA process. In FY 2007, Forest Road 1N97 has been identified for monitoring using the national protocol.

### **Results**

While working through the Motor Vehicle Use Mapping (MVUM) process the Forest identified the need to improve management of roads associated with existing or terminated special use authorizations (including range allotments), unclassified roads, and roads accessing private lands.

### **Conclusions**

So far progress toward the desired condition is being made through the route designation process and forest engineering staff is taking the lead to update all existing Road Management Objectives (RMOs). This will result in a more efficient transportation system.

In addition 4 National Forest System roads were monitored during BMPEP monitoring; see website link to report in Water Quality section above.

### **Recommendations**

- Monitor roads in accordance with the national protocol;
- Consider the need for a program to monitor loss of soils from Forest-wide OHV routes.

## **IV. Annual Indicators of Progress toward Forest Goals**

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This section documents the monitoring of indicators of progress toward the Land Management Plan (LMP) Desired Conditions. Tracking of annual indicators will help to discern trends over time and support the comprehensive evaluation that will be prepared in the fifth year following plan implementation.

### **Acres of High Hazard and High Risk in WUI Defense Zone (Forest Goal 1.1)**

In 2006, across 8,357 acres, a total of 11,489 acres of hazardous fuel treatments within Wildland Urban Interface (WUI) were reported as accomplished. The 11,489 acreage includes overlapping treatments on the same piece of ground (i.e. 20 acres of thinning and then 20 acres of prescribed fire on same acres) which contribute to the 2007 National Strategic Plan (Objectives 1.1, 1.2 and 1.3). The San Bernardino National Forest Land Management Plan identifies a more specific indicator focused on measuring progress toward increasing the level of the Forest fuels program in the “Defense Zone” described in the LMP.

### **Background on This Indicator**

The WUI defense zone is defined in Part 3 of the LMP in Standard S7 including the referenced Appendix K. The defense zone is the portion of the Wildland /Urban Interface that is directly adjacent to structures. It has a variable width which is determined at the project level up to maximum widths defined for general vegetation types in S7. For the LMP analysis, the maximum width was assumed and this was used to represent the present or “baseline” extent of the WUI defense zone.

High hazard fuels are those that have the potential to burn with high intensity. Fire intensity affects suppression effectiveness in protecting structures in interface areas. A key strategy in the LMP is to reduce fire hazard adjacent to communities and structures to improve suppression effectiveness and provide defensible space in interface areas.

Risk is related to human values or “risk of loss”. The presence of structures is the indicator of risk in this analysis. (It should be noted that due to rapid development of private lands in southern California, the inventory of areas with structures is constantly changing. It is likely that the map representing the WUI defense zone is out of date and should only be considered an estimate of the actual area. The actual presence of communities and substantial structures is determined at the project level. In other words, the WUI defense zone GIS coverage or map is not an LMP decision. The decision is to apply the direction in LMP Standards S7 (including Appendix K) and S8 to areas that are actually adjacent to communities or substantial structures at the time of project planning. Areas where old structures have been removed are not part of the defense zone.)

There is no Forest-wide site-specific inventory of fuel hazard within the defense zone. In addition, 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. Therefore, the monitoring task is to track the level of management effort directed at reducing fire hazard in the WUI defense zone including keeping the inventory of the actual defense zone up-to-date.

The method of calculating progress toward Goal 1.1 is as follows and summarized in the table titled “Template for adjustments to the baseline”: Indicators of progress toward Goal 1.1 will be calculated by using the WUI defense zone from the LMP analysis database. Include any adjustments to this coverage based on documented project analysis or other monitoring. Select accomplishment polygons for accomplishment code FP-FUELS-WUI for the year or years being analyzed from the appropriate reporting system (NFPORS, FACTS). Report the acres of overlap of accomplishment polygons with defense zone polygons as the annual indicator of progress toward the desired condition. 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. It can be assumed that acres documented as being treated in the corporate reporting system are no longer high hazard.

**Template for adjustments to the baseline: 2006**

<b>A = Baseline Acres from LMP Analysis</b>	<b>B = Acres removed due to new information on presence of substantial structures</b>	<b>C = Acres added due to new information on presence of substantial structures</b>	<b>D = Acres treated and reported in corporate report systems.</b>	<b>Adjusted Acres (A-B+C-D)</b>
Fire Regime I 20,581	0	0	2,378	18,203
Fire Regimes III, IV, V 5,176	0	0	109	5,067
Total: 25,757	0	0	2,487	23,279

**2006 Fuels Treatment Accomplishment**

As per the SBNF corporate database system, the SBNF accomplished 2,487 fuel treatment acres within Fire Regimes I-V. The database historically used to track fuels accomplishment was called the National Fire Plan Operations and Reporting System (NFPORS); however, this data is being migrated to the Forest Service Activity Tracking System (FACTS) database, which will be the corporate database of record for fuels accomplishment thereafter. Annual querying of the corporate database will help to answer the outcome evaluation question: Has the San Bernardino National Forest made progress in reducing the number of acres that are adjacent to development within WUI defense zones that are classified as high risk?

Use of spatially explicit information for adjusting the baseline is important so the cause of changes in the numbers can be evaluated. It is important to know if the change is due to improved inventory information, actual treatments or both. Also, it is not appropriate to simply add up the annual indicator (acres treated) and subtract it from the baseline. This could over count maintenance treatments and would not take into account acres added due to new development. Part of our evaluation should determine if new development is adding to the defense zone increase because we have an LMP strategy to prevent that from happening through involvement in local planning.

**LMP Monitoring 2006 Progress toward Desired Condition (Forest Goal 1.2.1)**

Of the 8,357 acres of hazardous fuels reduction in FY 2006, 5,219 acres were in Fire Regime 1, indicating progress toward Goal 1.2.1.

Following the wildfires of 2003, a re-sampling of the Forest Inventory and Analysis (FIA) plots was conducted by the Forest Service Remote Sensing Lab. Detailed information on the results of this monitoring can be found at: <http://www.fs.fed.us/r5/rsl/projects/inventory/inv->

[download.shtml#socalmort](#). Following is a brief summary of the tree mortality data on forested FIA plots for southern California National Forests. Numbers represent thousands of cubic feet:

<b>Summary of Tree Mortality Data on Forested FIA plots for southern California Forests.</b>				
<b>Live Before</b>	<b>Species</b>	<b>Died in Fire</b>	<b>Live Now</b>	<b>% Died</b>
496	Bigcone Douglas-fir	0	496	0%
12,659	Jeffrey pine	12,252	407	97%
818	White fir	818	0	100%
1,959	Incense cedar	1,959	0	100%
<b>15,932</b>	<b>Total conifers (mcf)</b>	<b>15,029</b>	<b>903</b>	<b>94%</b>
18,560	California black oak	18,300	260	99%
31,896	Coast live oak	931	30,964	3%
14,373	Canyon live oak	12,830	1,543	89%
3,801	Interior live oak	1,596	2,204	42%
337	Western sycamore	0	337	0%
17,004	Eucalyptus	0	17,004	0%
<b>85,972</b>	<b>Total hardwoods (mcf)</b>	<b>33,658</b>	<b>52,314</b>	<b>39%</b>
<b>101,904</b>	<b>Total (mcf)</b>	<b>48,687</b>	<b>53,217</b>	<b>48%</b>

#### **LMP Monitoring 2006 Progress toward Desired Condition (Forest Goal 1.2.2)**

The number of acres at risk from excessively frequent fires within chaparral, coastal sage scrub, closed cone conifer forests and lower montane forests will be reported in the FY 08 LMP Monitoring and Evaluation Report.

#### **LMP Monitoring 2006 Progress toward Desired Condition (Forest Goal 1.2.3)**

The number of acres at risk from lack of long fire-free intervals within alpine and subalpine forest, desert woodlands, forests and scrub and big cone Douglas fir forests will be reported in the FY 08 LMP Monitoring and Evaluation Report.

#### **Water Quality Monitoring (Forest Goals 5.1 and 5.2)**

The State of California Water Boards released their Clean Water Act Section 305b Report "Water Quality Assessment of the Condition of California Coastal Waters and Wadeable Streams." This report is available at [www.waterboards.ca.gov/swamp](http://www.waterboards.ca.gov/swamp). This program in the Lahontan, Colorado and Santa Ana Regions are discussed on pages 67-69 of the report.

#### **Air Quality Monitoring**

Under the Regional air quality monitoring program, a sampling station at the Converse Fire Station monitors the air quality near the San Gorgonio Wilderness Class 1 airshed. This station is part of the IMPROVE national monitoring network. More information may be found at the IMPROVE web site at the following URL's:

Raw data: <http://vista.cira.colostate.edu/improve/Data/data.htm>

Reports: [http://vista.cira.colostate.edu/improve/Publications/improve\\_reports.htm](http://vista.cira.colostate.edu/improve/Publications/improve_reports.htm)

## **Management Indicator Species (Forest Goal 6.2)**

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In accordance with the San Bernardino LMP, Goal 6.2, Biological Resource Condition, twelve management indicator species (MIS) on the four southern California national forests were selected to monitor certain habitat types and issues, as described in Part 1, page 44-45. Nine of these species are present on the SBNF and will be monitored along with other indicators of progress toward achieving desired conditions for biological resources. The [SBNF MIS Report](#) was prepared by compiling the individual MIS accounts that were updated last year to describe the current environmental baseline conditions. The individual MIS accounts will be updated each year based on monitoring and new information on habitats and populations.

## **Biological Resource Condition (Forest Goal 6.2)**

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The Forest participated in a number of programs and activities to improve habitat for wildlife and plant species. These activities are described in the [SBNF 2006 Accomplishment Report for Wildlife, Fish and Rare Plants](#)

## **Threatened and Endangered Species Monitoring – B.O. Adjustments to LMP Environmental Baseline (06-LMP-BO-1)**

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### **Monitoring**

The Forest Biologist provided an updated summary of species monitoring and monitoring of corrective actions and design criteria required by current biological opinions.

### **Results**

All monitoring that is currently required has been completed and a report will be sent to the U.S. Fish and Wildlife Service (FWS) this year. [The T&E Species Monitoring Spreadsheet](#) describes the actions and accomplishments completed through 2006. Monitoring requirements are being updated through new site-specific biological opinions. These will be updated on a priority basis. Seventy two of the baseline conditions established in the LMP Monitoring Guide are up-to-date for FY 2006; the remaining six will be added in the fall of 2007. Based on current enforcement capability, projected funding for future years may limit the ability of the Forest to protect these resources in areas with high levels of unauthorized vehicle use.

### **Conclusions**

The threatened and endangered species and habitat protection 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 consultations with the FWS.

### **Recommendations**

- Continue required monitoring and maintenance of protection structures (barriers and signing, etc.)
- As operational plans are developed for recreation sites and areas, 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.

## **Carbonate Habitat Monitoring (Forest Goal 6.2)**

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### **Monitoring and Results**

The following LMP monitoring question was asked:

- Is habitat being conserved through implementation of the Carbonate Habitat Management Strategy? Yes, as outlined below under reference values.

Reference Values: The following actions from the Carbonate Habitat Management Strategy Part IV (Administration) were taken during FY2006.

13(a)(iii): The Habitat Reserve was managed for conservation of carbonate Plants and consistent public uses, as provided under section 9(f) of the CHMS. This management included use, maintenance and patrol of the Forest Transportation System, maintenance of fencing and signage, and administration of special use authorizations.



13(b)(i) and (ii): The habitat and credit registry were maintained and updated in the Mountaintop GIS during FY2006. These data were used to answer multiple queries from Mitsubishi and SMI with regard to their ongoing activities under the CHMS.



### **Conclusions**

Management activities associated with carbonate habitat during FY06 made limited gains toward the desired conditions of protecting the habitat reserve, avoiding destruction of critical habitat, recovering listed species, and restoring carbonate habitat. The main factor limiting substantial gains in these areas was available funding.

### **Recommendations**

- Continue ongoing work towards the LMP recommended establishment of the Blackhawk RNA.

## **Pebble Plain Habitat Monitoring (Forest Goal 6.2)**

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### **Monitoring and Results**

The following LMP monitoring questions were asked:

- Is habitat being conserved through implementation of conservation strategies? Yes, as outlined below under reference values.
- Are resource conditions indicating a stable or upward trend toward meeting desired conditions? Yes, resource conditions indicate a stable trend during FY06.

Reference Values: The following actions from the Pebble Plain Habitat Management Guide were taken during FY2006.

D-1 (5.): Coordination continued with Southern California Edison and Bear Valley Electric Service to avoid and minimize impacts associated with operation and maintenance of their electrical transmission lines through pebble plain habitat.

D-1 (6.): Patrols continued to monitor sensitive areas, record impacts, and maintain fences, signs and gates. Barbed wire continued to be replaced with smooth wire.

D-1 (9.): The Forest Minerals Officer, in coordination with the District Botanist, continued to manage mining-related activities in and around pebble plain habitat. The strategy is to work with claimholders to prepare Notices of Intent that avoid impacts to pebble plain habitat by design.

D-1 (12.): The effort to identify, close and restore unclassified roads in pebble plain habitat was folded into the OHV Route Designation Project. A final decision on this action is expected during FY2008.

D-2 (2): A request to renew the SBNF's 10a1A permit was made in FY2006 and granted in FY2007.

D-2 (7): Pebble Plains at Arrastre and Union Flats (approximately 640 acres of habitat) were surveyed and remapped and documented to current standard.

In addition, approximately 15 acres of pebble plain habitat was enhanced by completion of the Snow Forest Erosion Control Project implemented in 2006.



### **Conclusions**

Management activities associated with pebble plains during FY06 made limited gains toward the desired conditions of conserving habitat, minimizing incompatible uses, restoring habitat, and recovery of listed species. The main factor limiting substantial gains in these areas was available funding.

### **Recommendations**

- Continue ongoing work towards the LMP recommended establishment of the Arrastre and Wildhorse RNAs.
- Look for additional opportunities to improve pebble plain habitat through the integration of functional programs.

### **Balancing Needs for New Infrastructure with Land Ownership Adjustment (Forest Goal 7.1)**

Accommodating urban infrastructure to support growing populations is one of the management challenges the Forest faces. There are increasing demands from private, semi-private and public industry, corporations, organizations, associations and private individuals for requests for various

uses on National Forest System lands including infrastructure for community support. In addition, the combination of increased development and the need to protect these developed areas from fire and other natural events puts increasing pressure on managers to alter landscape character to accommodate these uses. One strategy to reduce future effects is to be proactive in local planning efforts. In 2006, the Forest was an active participant in meetings for the San Bernardino County update of their General Plan, Development Code and nine of their Community Plans. The Forest also provided response letters to other proposed actions that could affect forest management.

The Forest made progress towards reducing the complexity of ownership through the conveyance of the Mill Creek Recreation Residence Tract. Funds from this action will be utilized to purchase endangered species habitat. In addition, one hundred fifty acres of bald eagle habitat and potential threatened and endangered plant habitat was acquired in the headwaters of Grass Valley Creek. Eighty acres were rehabilitated to provide for open space within the Snow Forest Erosion Control Project. Land adjustments mapped annually will be utilized in the fifth year trend monitoring to answer the question “Is the forest balancing the need for new infrastructure with restoration opportunities or land ownership adjustment to meet the desired conditions?”

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## **V. LMP Monitoring Protocol Recommendations**

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During this monitoring effort, protocol developed in the 2005 LMP and further described in the Monitoring Guide was utilized. The following are team recommendations for modifying the protocol in the future:

- 1) Redesign the LMP protocol form and incorporate use of the various LMP Consistency Check forms into the monitoring protocol.
- 2) In addition to the option of an LMP team field reviewing projects and activities in one week, retain the flexibility to accomplish the LMP monitoring in a variety of ways. The following could be used and then incorporated into the LMP Monitoring and Evaluation Report:
  - Specialist monitoring: This is already in place for biological resources but could be expanded to other programs as well. For example, an LMP team could effectively monitor trails through review of a specialist’s trail inventory such as the OHV erosion monitoring report.
  - District Ranger-led After Action Reviews (AAR): Use the Tracking form and check for consistency with project specific design criteria. Add form to project file and incorporate any implementation or effectiveness monitoring findings into the Annual LMP Monitoring and Evaluation Report. It is recommended that the District Ranger include the Forest Planner, project leader and/or Supervisor’s Office specialists to participate in the AAR. An example of this type of monitoring is described under the San Jacinto Fuels Project Monitoring section of this report.
  - In certain cases, a file review will do. This is how Rouse Range Allotment was handled in conjunction with the BMPEP effectiveness monitoring completed for this allotment. It is described in the 06-LMP-Range-1 section of this report.

3) Rather than only select an approximate 10% random sample of projects and activities, have the flexibility to address programs or projects differently if this will improve monitoring. For example:

- Focus monitoring at the program level when a program (*e.g.*, Greensticker OHV program) is more important to monitor than individual OHV trails. For example, the overall OHV monitoring program and any future soils monitoring of the trail/route system is of key interest.
- Address the monitoring of progress on the designation or removal of user-created trails similar to the addressing of roads in route designation, in partnership with the user groups.
- Focus on ongoing activities where something happened there that fiscal year. For example, randomly select from a list of recent decisions for non-recreation special use authorizations.
- Consider review of recreation residence tracts rather than individual permits because it is management of the tract's resources that is more important than the lot, and more efficient and meaningful than monitoring a sample from several hundred permits.

4) When completed, incorporate implementation of the Forest Environmental Management System (EMS) into the 2008 LMP monitoring Protocol.

5) Identify the FY 2008 LMP project and program monitoring team at the beginning of the fiscal year to facilitate advance scheduling. When projects are monitored on the ground, include the project leader, hydrologist, and District archaeologist, biologist, botanist, and other appropriate personnel. Fuels project reviews should also include fire and OHV monitoring staff.

6) Coordinate LMP project monitoring with randomly selected BMPEP monitoring projects to the extent possible. In this way on-the-ground monitoring could be conducted in spring depending on snow cover.

7) Plan methods to involve the public in various aspects of 2008 LMP monitoring program and incorporate into monitoring timelines. Learn from what other Forests are doing.

8) Update the SBNF LMP Monitoring Guide with approved recommendations and replace on SBNF website.

## **VI. Overall Recommendations**

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### **Forest and Project Planning**

The following recommendations do not originate from any one individual project or activity review but rather, grew out of considering how to improve Forest-wide programs, projects and activities:

- 1) Remind Forest Line Officers and staff that:
  - Projects currently being implemented under contract, permit, or other authorizing instrument with decisions executed under the authority of the 1989 Forest Land

and Resource Management Plan as amended by the SCCS remain under that authority during implementation.

- Projects with decision executed prior to October, 2005 (when the revised Forest Land Management Plan went into effect) that are under Forest control (i.e. no contract, permit or agreement) and have not yet been implemented or where contracts can be changed require that a Plan 'consistency review' be completed and included in the project file. Checklists by project type are available for this purpose.
- Projects with decisions executed after the October, 2005 effective date of the revised Forest Land Management Plan as well as re-issuance of existing authorizations will be treated as new decisions that must be consistent with the direction described in the 2005 Plan.

2) During project planning there is a need to:

- Address the [2001 Roadless Rule](#) at the onset of all project planning, which may involve Forest Service staff in Sacramento meeting with the State Resources Agency.
- Address recommended Wilderness, eligible Wild and Scenic Rivers, recommended RNAs, newly designated SIAs and Critical Biological land use zones at the onset of all project planning.
- Ensure heritage resource and Tribal Consultation policies are met and documented in the project file.
- Ensure all mitigation is listed in the decision document to provide clear direction of approved resource protection measures for use on the ground and for incorporation into any implementation plans (e.g. burn plan).
- Ensure that Fuels Reduction IDIQ contract general requirement C.11 Noxious Weeds and the FS-2400-2 (or FS-2400-4) timber sale contract provisions are implemented Forest-wide. Ensure equipment inspections are completed and documented prior to initiation of contracted work.
- Consider connected actions when planning. For example, take advantage of special use permit re-issuance to approve associated roads decisions and make corrections to the roads database. With limited personnel and appropriations, efficient analysis and approval of proposed actions is important.

3) Forest leadership is needed to:

- Provide direction on content and storage of hard copy and digital project files.
- Improve the timeliness of accomplishment reporting in all the corporate databases including both tabular and spatial data. This is necessary in order to track and monitor projects, and to get proper credit for accomplished projects. It is recommended that line officers remind project leaders that NEPA projects must be entered into PALS, including a shapefile. Likewise, the INFRA, NRIS, and TIM databases also need to be kept current as projects are completed.
- Create a 2008 Forest program of work that:
  - Is responsive to identified work items in the Land Management Plan or Record of Decision, including addressing items such as undetermined roads and trails (while being sure to scope to individuals and groups concerned with public access); and
  - Effectively focuses the Forest's limited resources on making progress toward LMP desired conditions and completing identified work items through integration of functional programs around common priorities.

## VII. LMP Amendments

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Your Forest Plan is a dynamic document that can be amended in response to:

- Errors and or discrepancies found during implementation;
- New information;
- Changes in physical conditions;
- New laws, regulations, or policies that affect National Forest management.

The five amendments to date are listed in the table below. Supporting documents are kept on file in the Forest Plan Tracking Notebook. We frequently learn about the need for amendments through monitoring, however no amendments are recommended from this monitoring effort.

**Table 1. Forest Plan Amendments**

Amendment	Implementation Date	Type of Change
1	October 24, 2005	Errata
2	April 21, 2006	Reissuance of Record of Decision (ROD) due to technical error in the FEIS regarding omission of public comments on wildlife issues and the agency's responses in the printed and published materials. Began a new 90 day appeal period April 21, 2006 which ended July 20, 2006. The Plan went in effect October 31, 2005 and will remain in effect. The decision to select Alternative 4A did not change.
3	April 2006	Errata- San Bernardino National Forest Plan – 1 page of errata specific to the SBNF.
4	September 2006	Errata- for Published Documents- southern California Forest Plans Revision. This is the final errata published for all 4 southern California forest plans. It is 31 pages and includes all prior errata. Available on website <a href="http://www.fs.fed.us/r5/scfpr/projects/lmp/errata">http://www.fs.fed.us/r5/scfpr/projects/lmp/errata</a>
5	September 8, 2006	Administrative Correction (36CFR 219.7). Correction to SBNF Part 2, p.16. Table 487. Designated Utility Corridors- San Bernardino National Forest. Added Devers-Valley No. 1, a 1.8 mile 500Kv (1) utility corridor to table. This corridor occurs on the San Jacinto Ranger District and was inadvertently left out of the table. The Devers –Valley No.1 correction is available on the Forest website.

## VIII. LMP Updates

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Forest Plan Amendments (discussed above) change decisions made by the Forest Plan. Consequently, they require environmental analysis under the National Environmental Policy Act (NEPA). From time to time other changes to the Forest Plan are needed which are not intended to affect earlier decisions or Plan objectives. Examples of such changes include corrections; clarification of intent; changes to monitoring questions; and refinements of management area boundaries to match management direction with site-specific resource characteristics at the margin of the maps. We call these types of changes “updates.” Since they do not change any Plan decision, they do not require NEPA analysis.

There has been one update to the San Bernardino Land Management Plan; it is described in the table below. The supporting document is on file in the Forest Plan Tracking Notebook. There are no updates recommended as a result of this monitoring effort.

**Table 2. Forest Plan Updates**

<b>Update</b>	<b>Implementation Date</b>	<b>Type of Change</b>
1	May 31, 2006	Removal of Mill Creek Recreation Tract from the list of Recreation Residence Tracts in Part 2, p.17., Other Designations-Table 481.Recreation Residence Tracts. The Decision Memo was signed May 31, 2006; the Tract was conveyed on December 13, 2007.

## **IX. Action Plan**

<b>Task and Responsible Official</b>	<b>Effective Date</b>
The Forest Supervisor approves all of the recommendations in sections V and VI.	September 30, 2007
The SBNF 2006 M&E Report will be discussed at an upcoming Forest Leadership Team (FLT) meeting. The necessity for additional Forest wide LMP consistency training will be discussed at this time.	December 2007
The Forest planning staff will be responsible for completing items 1, 3, 4, 5, 6, 7, and 8 in section V.	Ongoing and during the 2008 monitoring of 2007 projects
To ensure the recommendations of the on the ground and activity monitoring in section III are reviewed, the Forest Supervisor will inform project and program leaders who participated in the monitoring of the availability of the 2006 M&E Monitoring Report on the SBNF website.	November 2007
To promote LMP consistency in future projects, the Forest Supervisor will recommend all employees read the 2006 M&E Monitoring Report available on the SBNF website.	November 2007
The Forest Supervisor will remind program leaders to improve the timeliness of accomplishment reporting in all the corporate databases including both tabular and spatial data. The SBNF Data Management Group Charter (April 2007) will be resent to all program managers. It will be updated as necessary to reflect new information and changes to members and data stewards.	November FLT meeting, 2007
The Forest Supervisor will remind program leaders of the heritage resource policy.	November FLT meeting, 2007
The Forest planning staff will work with the Forest EMS representative to incorporate implementation of the Forest Environmental Management System (EMS) into the 2008 LMP monitoring protocol.	During 2008 monitoring of 2007 projects

## **X. Public Participation**

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In 2006, people who indicated an interest in LMP monitoring received a letter notifying them of the availability of the Draft Monitoring Plan. In October 2007, those on the LMP monitoring mailing list will receive a letter notifying them of the availability of the Forest LMP Monitoring and Evaluation Report on the Forest web page (or print version upon request). The letter will also provide contact information for those interested in participating in the SBNF FY 07 monitoring scheduled to occur in the spring of 2008.

## **XI. List of Preparers**

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The FY 2006 LMP monitoring team consisted of:

Gabe Garcia, Front Country District Ranger  
Kurt Winchester, Mountaintop District Ranger  
Greg Casselberry, Deputy San Jacinto District Ranger  
Bob Sommer, Forest Vegetation Specialist  
Mary Beth Najera, Forest Silviculturist  
Dev Kopp, Forest Planning/District Botanist

Greg Hoffman, OHV Program Manager  
Steve Loe, Forest Wildlife Biologist  
Mary Long, Deputy Front Country District Ranger  
Rob Taylor, Forest Hydrologist  
Fran Colwell, Forest Recreation Officer



The team expresses its gratitude for support from the following staff: Max Copenhagen, Laurie Rosenthal, Henry Herrera, Jason Collier, David Kotlarski, Beth Nabors, Melinda Lyon, Paul Bennett, Darren Coffey, Rudy Tantare, Melody Lardner, Ann Poopatanapong, Tracy Tennent, Dave Fiorella, Doug McKay, Bill Sapp, Jason Bill, Scott Eliason, Marc Stamer, Kim Boss, Mary Debelina, Robin Eliason, Ray Aguayo, Jeannette Granger, Audrey Scranton, Jack Kennedy, Kim Boss, Josh Direen, and Valerie Baca.

## Appendix

Table 3. Projects and activities randomly selected for LMP monitoring and evaluation on the San Bernardino National Forest.								
Unit *	Place	Name **	Project (10%)	Program	Ongoing Activity Site (10%)	Monitor LMP Consistency	Monitor Effectiveness	Documentation reviews, field reviews and/or comments
FCD	Cajon	Baldy Mesa OHV Unauthorized Trail Rehab	X	X		X	X	NEPA file (project review), funding sources, field review 8/13/07
FCD	Lytle Creek	Lytle Creek Concentrated Use Area			Rec, SUP	X	X	Cajon Ranger District Management Actions for Heavy Use days, Heavy Use Management Plan Lytle Creek Canyon and Valley of Falls Area, CHP and USFS Joint Operating Plan, MOU USFS and SBC, volunteer training info, letters, Target Shooting Plan, 07 Biologist input regarding resource concerns and field review 8/13/07
FCD	San Bernardino Front County	Angelus Oaks Community Defense Project	X			X	X	NEPA file, field review 8/15/07
FCD	San Bernardino Front County	Mill Creek Recreation Tract Conveyance	X		SUP, lands	X	X	NEPA file, field review 8/15/07
FCD	San Bernardino Front County	Plunge Fire Burned Area Emergency Response (BAER)	X			X	X	2500-8 Plunge Incident reports 01/31/06 and 02/01/06. Master patrol list and daily logs and field review 8/15/07
SJRD	Idyllwild	Idyllwild West Fuels Reduction	X			X	X	NEPA file, field review 8/14/07
SJRD	Garner Valley	Baldy Extension Broadcast Burn Project	X			X	X	NEPA file review 8/14/07, field review not completed due to lightning storm
SJRD	Idyllwild	South Ridge Unit 4 Reforestation	X			X	X	NEPA file, field review 8/14/07
MTRD	Arrowhead	Valley of Enchantment Fuels Reduction	X			X	X	NEPA file, field review 8/16/07
MTRD	Arrowhead	Children's Forest Trail	X		Rec	X	X	NEPA file, field review 8/16/07
MTRD	Big Bear	Snow Forest Erosion Control	X					NEPA file, field review 8/23/07
MTRD	Big Bear	Snow Forest Reforestation	X			X	X	NEPA file, field review 8/23/07
MTRD	Big Bear	South Big Bear Shaded Fuelbreak	X			X	X	NEPA file, field review 8/23/07
Forest	Many	OHV Grant Monitoring Requirements		X	Rec	X	X	File reviews of WHPP, restoration site monitoring forms, results and photos. Discussion of methods and results of Soils Monitoring Program, Adopt-A-Trail and SBNFA Volunteer Monitoring Programs 8/28/07
Forest	Several	Heritage Program Monitoring		X	Heritage	X	X	Discussion with Heritage Program Manger and MT District Archaeologist and review of examples of various monitoring forms 8/28/07

<b>Table 3. Projects and activities randomly selected for LMP monitoring and evaluation on the San Bernardino National Forest.</b>								
<b>Unit *</b>	<b>Place</b>	<b>Name **</b>	<b>Project (10%)</b>	<b>Pro-gram</b>	<b>Ongoing Activity Site (10%)</b>	<b>Monitor LMP Consist-ency</b>	<b>Monitor Effective-ness</b>	<b>Documentation reviews, field reviews and/or comments</b>
Forest	Garner Valley, Idyllwild, Anza	Rouse Range Allotment BMP and file review		X	Range	X	X	Permit file and 06 BMP monitoring review 8/15, 28/07. Completed LMP consistency checklist for upcoming NEPA analysis.
Forest	All	FY 06 Annual Species Monitoring per Biological Opinion		X			X	Review of T&E Species monitoring report to Fish and Wildlife Service. Baseline analysis, 8/28/07
Forest	All	Roads Monitoring		X				Monitoring per Regional roads monitoring (not yet available). Review of needs 8/28/07.
Forest	All	BMPEP review per State agreement		X	X	X	X	BMPEP sampling and documentation as required by Regional Agreement w/State Water Resources Control Board 8/28/08.
Forest **	Idyllwild and Garner Valley	05 San Jacinto Fuels project Monitoring	X			X	X	South Ridge and Garner Valley Fuel reductions projects monitored prior to development of monitoring protocol 12/5/05, reviewed 8/28/07

\* FCRD = Front Country Ranger District; SJRD = San Jacinto Ranger District; MTRD = Mountain Top Ranger District

\*\* The team may review additional projects if the District Ranger wants to share other projects to add to the forest's continuous improvement/learning.