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Forest Service
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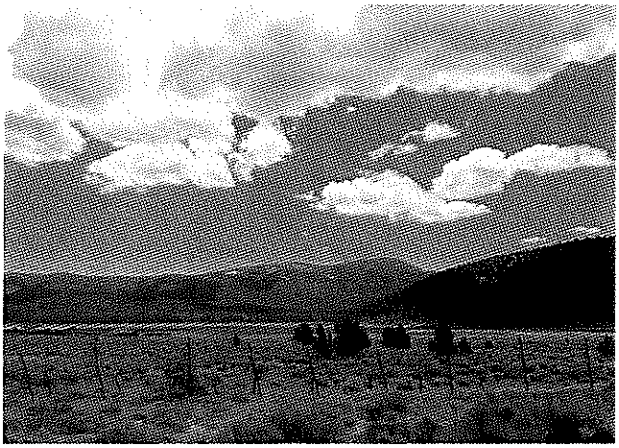
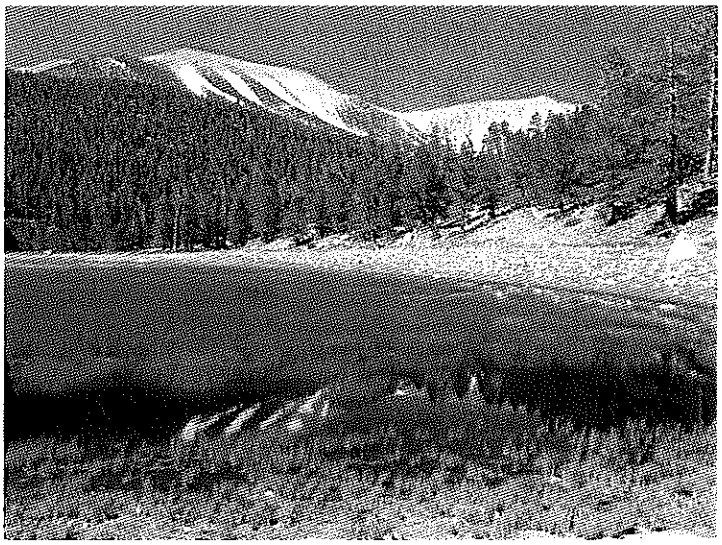
San Bernardino National Forest

Land Management Plan Monitoring and Evaluation Report





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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 are necessary to the Plan, or in program or project implementation.

The 2006 Record of Decision for the San Bernardino National Forest Land Management Plan identified the monitoring requirements as the cornerstone of our program emphasis for the future. In 2014, the Forest Plan was amended to incorporate changes to land use zones and Forest Plan Monitoring. This marks the first report to be completed under the newly revised monitoring strategy. The lessons we learn from monitoring help improve our programs and projects. We continue to find ways to increase efficiency and effectiveness of our monitoring and evaluation efforts. The fifth year monitoring report answered questions designed to evaluate progress toward the Forest's desired conditions, and will again next year in the tenth year monitoring report. It is my commitment to keep you informed of the monitoring results by providing 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.usda.gov/sbnf/.**

Sincerely,

Jody Noiron 10/30/2015

JODY NOIRON Date
Forest Supervisor
San Bernardino National Forest

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Introduction

Monitoring and evaluation identifies the need to adjust desired conditions, goals, objectives, standards, and guidelines, as forest conditions change. It provides a structured process for National Forest specialists and leadership to learn from what we do, in an effort always to improve. Monitoring and evaluation helps the Forest Service and the public determine how the Land Management Plan is being implemented, whether plan implementation is achieving desired outcomes, and whether assumptions made in the planning process are valid. Monitoring requirements are found in all three parts of the 2006 San Bernardino National Forest Land Management Plan (LMP). Appendix C in Part 3 of the LMP (as amended in 2014) summarizes the monitoring requirements identified in each part of the LMP.

Part 1 monitoring identifies outcome questions that will help evaluate movement towards the desired conditions over the long-term. The outcome evaluation questions are measured through indicators of each goal in which the San Bernardino National Forest (Forest) implements projects that move it toward desired conditions. The baseline conditions that will be used to answer these questions and evaluate progress over time were established within the LMP, or have been developed over time.

Part 2 monitoring focuses on program implementation including inventory through accomplishments tracked in Forest Service corporate databases. The annual accomplishment indicators determine if the program areas are implementing the objectives and strategies established in Part 2 of the LMP.

Part 3 monitoring is conducted at the project or activity level in order to evaluate the effectiveness and application of design criteria established in the LMP. The new projects implemented in fiscal year 2014 and ongoing activities and sites were selected for monitoring using the expanded procedure developed under the 2014 Plan Amendment. Selected projects and ongoing activities or sites were then visited by an interdisciplinary monitoring team 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 possible corrective actions. All recommendations are deliberative in nature and do not constitute a management requirement or a commitment of funds. LMP monitoring was combined with Best Management Practice (BMP) monitoring when circumstances allowed. The San Bernardino National Forest Leadership Team (FLT) participated in monitoring on the Mountaintop Ranger District for one day. The FLT participates in LMP Part 3 monitoring and evaluation each year by attending a fieldtrip to the projects, activities, or sites on a Ranger District, which is rotated each year.

The Fiscal Year (FY) 2014 LMP Monitoring and Evaluation Report documents the evaluation of selected projects and programs where activities occurred during October 1, 2013 through September 30, 2014. The primary purpose of this evaluation is to determine the effectiveness of the LMP and whether changes in the LMP or in project or program implementation are necessary.

Part 1 Monitoring

Monitoring and evaluation provide knowledge and information to keep the forest plan viable. Appropriate selection of indicators, and monitoring and evaluation of key results helps the Forest Service determine if the desired conditions identified in the forest plan are being met. Monitoring and evaluation also help the Forest Service determine if there should be changes to goals and objectives, or monitoring methods.

Evaluation is more than reporting facts and figures. Forest plan evaluation tells how decisions have been implemented, how effective the implementation has proved to be in accomplishing desired conditions, what was learned along the way, and how valid management assumptions are that led to forest plan decisions. Monitoring and adaptive management should lead to improved implementation and resource conditions.

Adaptive management is the foundation for planning and management. The planning regulations direct that forest plans be revised at least every 15 years (36 CFR 219.7(a)). Forest plans need to be dynamic to account for changed resource conditions, such as: large-scale wildland fire or listing of additional species under the Endangered Species Act; new information and science such as taking a systems approach; new or modified regulations; and new or modified policies such as the Roads Analysis Policy.

Monitoring and evaluation are critical to adaptive management. Other component parts include inventory, assessment, planning, and implementation. No single component can be isolated from the whole of adaptive management.

Monitoring and evaluation processes begin by identifying key questions Forest Service managers need to answer about forest plan implementation. Understanding the questions helps to identify information needs, data collection designs, and tools needed to turn data into information and knowledge. Managers must also have a clear understanding of baseline conditions (current resource condition at the time of signing the Record of Decision) versus desired conditions and the evaluation strategies that will help determine if movement towards desired conditions is occurring. Appropriate selection of indicators helps assess resource status and trends and progress towards meeting the desired conditions identified in the forest plan.

The aggregated outcome of project level work reflects progress towards achieving the desired conditions of the forest plan and the contribution to agencies' priorities. This emphasizes the importance of using the National Strategic Plan desired conditions, goals and objectives that apply to the planning area in the forest plan and to use common criteria and indicators as appropriate in the forest plan. This approach will enable monitoring and evaluation efficiencies and provide critical information on the national forests' contribution to the agency's mission, goals, and objectives.

In 2014, the Forest Plan was amended to incorporate changes to Forest Plan monitoring and evaluation requirements including adding a question for mortality risk, adding a question for riparian condition, removing the questions for general forest activities, adding an indicator for unauthorized roads and trails and clarifying and updating several indicators to reflect changes in current inventory methodology since the 2006 monitoring and evaluation requirements. These revisions have been made as a result of past monitoring and for the purpose of improving upon land management plan implementation. All revisions are incorporated into Table 1 below, which provides the Key Monitoring Questions by resource area, the indicator for that question, what monitoring action(s) will occur and the appropriate data to use, and the reliability of the data.

Goals	Monitoring Question	Indicators	Monitoring Action	Data Reliability	Report Period (Years)
1.1	Has the forest made progress in reducing the number of acres that are adjacent to development within Wildland Urban Interface (WUI) defense zones that are classified as high risk?	Acres of High Hazard and High Risk in WUI Defense Zone	Use baseline acres from the 2006 Southern California Land Management Plans analysis; subtracting the areas treated, and areas that are no longer WUI Defense Zone; and adding acres from areas that have reverted to high hazard and risk due to maintenance backlog, and areas that have become WUI Defense Zone due to development	Moderate	5
1.2	Has the forest been successful at reducing mortality risk?	Mortality Risk Assessment	Compare the annual National Insect and Disease Risk Map (NIDRM) data and cross referencing mortality within the reporting period and compare every five years	Moderate	5
1.2.1	Is the forest making progress toward increasing the percentage of montane conifer forests in Condition Class 1?	Departure from desired fire regime, acres by Fire Regime I	Use baseline acres of Montane Conifer, Fire Regime I, from the 2006 Southern California Land Management Plans analysis that were in Condition Class 1; subtracting the areas that have not had mechanical treatment, prescribed under burning, or wildfire within the previous 35 years; and adding the areas that have been mechanically treated, areas that have had prescribed under burning, and areas that have had wildfire over the five year monitoring period	Moderate	5
1.2.2	Is the forest making progress toward maintaining or increasing the percentage of vegetation types that naturally occur in Fire Regime IV in Condition Class 1?	Departure from desired fire regime, acres by Fire Regime IV	Use baseline acres of Chaparral, Coastal Sage Scrub, Gabbro, Serpentine, Closed-cone conifer, and Lower montane vegetation types, Fire Regime IV, from the 2006 Southern California Land Management Plans analysis that were in Condition Class 1; subtracting the areas that have a return interval of disturbance that is less than 35 years over the five year monitoring period through mechanical treatment, prescribed under burning, and wildfire; and adding the areas that have not had mechanical treatment, prescribed under burning, or wildfire within the previous 35 years	Moderate	5

Goals	Monitoring Question	Indicators	Monitoring Action	Data Reliability	Report Period (Years)
1.2.3	Has the forest been successful at maintaining long fire-free intervals in habitats where fire is naturally uncommon?	Departure from desired fire regime, acres by Fire Regime V	Use baseline acres of Alpine and Subalpine, Desert woodlands, forests and scrub, and Bigcone Douglas-fir vegetation types, Fire Regime V, from the 2006 Southern California Land Management Plans analysis that were in Condition Class 1; subtracting the areas that have a return interval of disturbance that is less than 200 years over the five year monitoring period through mechanical treatment, prescribed under burning, and wildfire; and adding the areas that have not had mechanical treatment, prescribed under burning, or wildfire within the previous 200 years	Moderate	5
2.1	Are the national forests' reported occurrences of invasive plants/animals showing a stable or decreasing trend?	Acres of treatments in reported occurrences	Establish a baseline for the acres of reported occurrences of invasive plant and animal species; subtracting the areas that have been effectively treated; and adding areas where new presence of invasive species has been reported	Moderate	5
3.1	Are trends in indicators and visitor satisfaction surveys indicating that the forest has provided quality, sustainable recreation opportunities that result in increased visitor satisfaction?	Visitor Satisfaction (National Visitor Use Monitoring)	Use baseline scores in Visitor Satisfaction from NVUM that occurred around the 2006 Southern California Land Management Plans and comparing the five year NVUM Visitor Satisfaction scores	Moderate	5
3.2	Are trends in indicators and visitor satisfaction surveys depicting the forest has provided solitude and challenge in an environment where human influences do not impede the free play of natural forces?	Wilderness Condition	Use baseline scores in Visitor Satisfaction for Wilderness from NVUM that occurred around the 2006 Southern California Land Management Plans and compare the five year NVUM Visitor Satisfaction scores for Wilderness; national reporting systems for management actions in wilderness; and accomplishment data related to the National 10-year Wilderness Stewardship Challenge	Moderate	5
4.1a	Has the forest been successful at protecting ecosystem health while providing	Number of Mineral and Energy Development	Compare the number of mineral and energy development projects proposed with those approved to establish a baseline of impacts to	Moderate	5

Goals	Monitoring Question	Indicators	Monitoring Action	Data Reliability	Report Period (Years)
	mineral and energy resources for development?	Projects Proposed and Approved	resources		
		Minerals and Energy Success at protecting Ecosystem Health	Compare the number of acres of habitat conserved as part of mitigation for mineral and energy development projects	Moderate	5
4.1b	Has the forest been successful at protecting ecosystem health while providing renewable resources for development?	Number of Renewable Resource Projects Proposed and Approved	Compare the number of renewable resource projects proposed with those approved to establish a baseline of impacts to resources	Moderate	5
		Renewable Resources Success at protecting Ecosystem Health	Compare the number of acres of habitat conserved as part of mitigation for renewable resource projects	Moderate	5
5.1	Is the forest making progress toward sustaining Class 1 watershed conditions while reducing the number of Condition Class 2 and 3 watersheds?	Number of Watersheds in each Condition Class	Compare baseline number of watersheds in each Condition Class from the 2006 Southern California Land Management Plans analysis with the five year Watershed Condition Assessment	Moderate	5
5.2	Is the forest increasing the proper functioning condition of riparian areas?	Change in Indicator Score for Aquatic Habitat, Aquatic Biota and Riparian Vegetation	Compare the change in score from the Watershed Condition Assessment indicators (Coordinate with Goal 5.1)	Moderate	5
6.1	Is forest rangeland management maintaining or improving progress towards sustainable rangelands and ecosystem health?	Percent of key areas in active allotments meeting or moving towards desired conditions	Compare baseline percent of Key Areas in active allotments meeting or moving towards desired conditions from the 2006 Southern California Land Management Plans analysis with five year percent	Moderate	5
6.2	Are trends in resource conditions indicating that habitat conditions for fish, wildlife, and rare plants are in a stable or upward trend?	MIS Habitat Condition	Use baseline MIS habitat condition from the 2006 Southern California Land Management Plans analysis and compare the existing MIS habitat condition on the southern California National Forests	Moderate	5
7.1	Is the forest balancing the need for new infrastructure with restoration opportunities or land ownership adjustment	Land Ownership Complexity	Calculate the miles of exterior and interior boundary divided by the acres of National Forest System (NFS) lands and compare from the 2006 Southern California Land Management Plans analysis	Moderate	5

Goals	Monitoring Question	Indicators	Monitoring Action	Data Reliability	Report Period (Years)
	to meet the desired conditions?	Authorized and Administrative Infrastructure	Establish a baseline number of authorized and administrative infrastructure from the 2006 Southern California Land Management Plans analysis and comparing the existing authorized and administrative infrastructure on the National Forests	Moderate	5
		Miles of Unauthorized Motorized Routes	Establish a baseline for the miles of unauthorized motorized roads and trails reported; subtracting the miles that have been decommissioned; and adding the miles of unauthorized motorized roads and trails that have been reported	Moderate	5

The five year trends were measured and reported in the fiscal year 2010 San Bernardino National Forest Land Management Plan Monitoring and Evaluation Report. The 10 year trends will be in next year's fiscal year 2015 report.

The San Bernardino National Forest Land Management Monitoring Plan Guide has the following guidance for annual and long term monitoring indicators:

Forest GOAL 1.1 Indicator Trends
Acres of High Hazard and High Risk in WUI Defense Zone

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 above reporting system are no longer high hazard.

The Forest has accomplished 2,055 acres of hazardous fuels reduction treatments in FY 14. This accomplishment will be used as the annual indicator of progress toward the desired condition and will be represented in the five year trend analysis in next year's report.

Forest Goal 2.1 Invasive Species
Acres or stream miles occupied by invasive species
The annual indicator is acres of inventory effort and acres of eradication effort. Long-term success is indicated by total acres on the inventory occupied by invasive species.

The Forest has accomplished 47 acres of noxious weeds treatment in FY 14. This accomplishment will be used as the annual indicator of progress toward the desired condition and will be represented in the five year trend analysis in next year's report.

Forest Goal 3.1
Visitor Satisfaction from NVUM (National Visitor Use Monitoring)
Annual indicators are recreation facilities managed to standard including natural resource protection as described in Forest Goal 3.1. Meaningful Measures provides a framework for measuring this but the linkage to resource protection is not as clear. Implementation and effectiveness monitoring of resource protection actions required by Standards S34 and S50 (including Appendix D) help to measure the resource protection element of this goal.

The Forest has accomplished 0 or no recreation day managed to standard in the general forest areas, but has accomplished 482,740 PAOT days managed to standard in developed sites and 410 recreation special use authorizations administered to standard in FY 14. This accomplishment will be used as the annual indicator of progress toward the desired condition and will be represented in the five year trend analysis in next year's report.

Forest Goal 7.1
Built Area by Land Use Zone

Annual indicator is acres of land acquired. Use the most current land ownership layer for updates. Maintain a separate layer that tracks land adjustments to use for other analysis such as adjustments to the environmental baseline for the biological opinion under goal 6.2.

The Forest has accomplished 0 or no acres of land ownership adjusted in FY 14. This accomplishment will be used as the annual indicator of progress toward the desired condition and will be represented in the five year trend analysis in next year's report.

All other accomplishments and Forest Goals are considered long term indicators for monitoring and will be reported and analyzed as a part of the 5 year trend analysis in next year's report.

Part 2 Monitoring

Monitoring identified in Part 2 of the LMP is focused on program implementation including inventory activities. The Forest currently uses performance indicators for tracking program accomplishments. The current system tracks performance measures linked to the National Strategic Plan and reports accomplishments through a national reporting system. A monitoring summary of accomplishments can be seen in Table 1 below.

Table 1: Part 2 Monitoring Summary

Indicators	10-Year Total
Acres of Terrestrial Habitat Enhanced	2,028
Miles of Aquatic Habitat Enhanced	28
Acres of Noxious Weeds Treated	47
Acres of Forest Vegetation Established or Improved	0
Acres of Watershed Improved	1893.4
Acres of Land Ownership Adjusted	0
Number of Heritage Resources Managed to Standard	1
Products Provided to Standard (Interpretation and Education)	0
Recreation Special Use Authorizations Administered to Standard	410
PAOT Days Managed to Standard (Developed Sites)	482,740
Recreation Days Managed to Standard (General Forest Areas)	0
Land Use Authorizations Administered to Standard	119
Number of Mineral Operations Administered to Standard	5
Acres of Allotments Administered to Standard	16,000
Acres of Hazardous Fuel Reduction	2,055
Miles of Passenger Car Roads Maintained to Objective Maintenance Level	78.3
Miles of High Clearance & Back Country Roads Maintained to Objective Maintenance Level	87.9
Miles of Road Decommissioned	6
Miles of Trail Operated and Maintained to Standard	244.6

Carbonate Endemic Plant Habitat Management

Outcome Evaluation Question

Is habitat being conserved through implementation of the Carbonate Habitat Management Strategy?

Reference Values

The following actions from the Carbonate Habitat Management Strategy (CHMS) Part IV (Administration) were taken during fiscal year 2014.

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 NFS roads, 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 during FY14. These data were used to answer multiple queries from Mitsubishi, Specialty Minerals Inc., OMYA and the Cushenbury Mine Trust with regard to their ongoing activities under the CHMS, as well as new proposals.

Conclusions

Habitat is being conserved through implementation of the Carbonate Habitat Management Strategy. Management activities associated with carbonate habitat during fiscal year 2014 made limited gains toward the desired conditions of protecting the habitat reserve, avoiding destruction of critical habitat, recovering listed species, and restoring carbonate habitat.

Recommendations

- Work on taking title to Mitsubishi Cement Co. 17P and 18P via donation.
- Work on requesting mineral withdrawal to establish initial habitat reserve and implement mitigation measures for Omya and Mitsubishi.
- Follow up with PSW on past plans and requests to work towards the LMP recommended establishment of the Blackhawk Research Natural Area.

Pebble Plain Plant Habitat Management

Outcome Evaluation Questions

Is habitat being conserved through implementation of conservation strategies?

Are resource conditions indicating a stable or upward trend toward meeting desired conditions?

Reference Values

The following actions from the Pebble Plain Habitat Management Guide were taken during fiscal year 2014.

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. Additional smooth wire fencing and signage was constructed in strategic locations.

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 was rendered in February 2009 and implementation is in progress.

D-1 (9.): 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.

Conclusions

Habitat is being conserved through implementation of conservation strategies, and resource conditions indicate a stable or upward trend toward meeting desired conditions.

Management activities associated with pebble plains during fiscal year 2014 made limited gains toward the desired conditions of conserving habitat, minimizing incompatible uses, restoring habitat, and recovery of listed species.

Recommendations

- Look for additional opportunities to improve pebble plain habitat through the integration of functional programs and through partnerships.
- Repair and expand resource fencing and signage in high use areas. Continue to patrol these areas to monitor effectives of protection measures and to detect additional protections needed.
- Allow the District Botanist to continue to work with claimholders to prepare Notices of Intent for smaller operations while working with Regional and/or other Forest Minerals Officers on larger operations that need more minerals management expertise.

Biological Resource Condition

Monitoring

In fiscal year 2014, the San Bernardino National Forest reported to U.S. Fish & Wildlife Service (FWS) 334 monitoring items from roughly 8 different LMP Ongoing Activities Biological Opinions (BO) for 15 threatened and endangered (T&E) wildlife species and 21 T&E plant species. The following is a list of BOs with monitoring requirements to be performed in FY2014:

• Biological and Conference Opinions for Various Ongoing Activities on the San Bernardino National Forest with Effects to Eight Riparian Species, San Bernardino National Forest, California December 6, 2012.

• Letter of Concurrence - Request for Informal Section 7 Consultation regarding Ongoing Activities that Affect coastal California gnatcatcher in the San Bernardino National Forest, San Bernardino County, California. April 12, 2013.

• Formal Section 7 Consultation for Ongoing Activities that Affect Quino Checkerspot Butterfly on the San Bernardino National Forest, San Jacinto Ranger District, Riverside County, California. May 3, 2013.

• Formal Section 7 Consultation for Ongoing Activities that Affect Desert Tortoise on the San Bernardino National Forest, Front Country and Mountaintop Ranger Districts, San Bernardino County, California. May 10, 2013

• Letter of Concurrence - Section 7 Consultation for Forest Service On-going Activities that May Affect Peninsular Bighorn Sheep in the San Bernardino National Forest, San Jacinto Ranger District, Riverside County, California. May 13, 2013.

• Biological Opinion for Use and Maintenance of the Fuller Mill Creek Picnic Area and Dark Canyon Campground, San Bernardino National Forest, California, August 8, 2013.

• Biological/Conferencing Opinions on Four Grazing Allotments on the San Bernardino National Forest. 2001.

• Biological Assessment of Ongoing Activities that affect Twelve Mountain Plant Species on the San Bernardino National Forest, Mountaintop Ranger District, San Bernardino County, California.

Overview of all on-going activities monitoring:

- No incidental take or any impacts were reported from any on-going activities covered in the BOs on listed species.
- No changes in management activities for grazing have occurred that would increase impacts on Quino checkerspot butterfly and peninsular bighorn sheep.

Reports on individual species:

Mountain yellow-legged frog (MYLF) - SBNF participated in release of captive breeding frogs at James Reserve in May/June 2014. Trout removal was conducted at Tahquitz and Willow Creeks by California Department of Fish and Wildlife (CDFW) in June 2014 when approximately 50 fish were removed. First year surveys for the Mountain Fire and fire effects monitoring (3 years post-fire) were conducted at Willow/Tahquitz Creeks by the United States Geologic Survey (USGS) and found no frogs in September 2014 and concluded that habitat conditions remain poor or unsuitable for MYLF due to sedimentation caused by the fire/storm event and lack of water caused by the drought. Drought conditions in 2014 caused stream conditions in the North Fork San Jacinto River watershed to be at historic lows. A LMP monitoring trip conducted to Dark Canyon Campground by the Forest on July 8, 2014 documented no flow occurring in the North Fork at the campground. No water was present at road 4S02 crossing; adults and juveniles were observed using the pools upstream in the closure area. Conditions were similar at the James Reserve where releases occurred and in Fuller Mill Creek Picnic Area during the summer and fall.

Desert tortoise (DETO) - No incidental take was observed during the monitoring of road maintenance activities on 3N21/3N24 in conjunction with the Baldy Mesa OHV area. Monitoring was conducted 3 times in 2014 by Angelica Mendoza with no DETO signs found prior to implementation but a monitor was still present on site during activities. There were no other trail or road maintenance activities conducted in other portions of DETO habitat on the Forest. Forest Biologist David Austin attended Desert Managers Group meetings to coordinate with other land management agencies. The group has changed for 2015 to be a bi-annual meeting for line officers and information sharing since the main goal for DETO monitoring/education program was met in FY13.

Unarmored three-spined stickleback (UTS) - In November 2014 enhancement of the Sugarloaf Pond was completed using an excavator. Anew pond was dug out directly upslope from the original pond where the stickleback fish are present, and then slowly, crews worked away at the strip of vegetation/mud between the two, letting the sediment settle out and water level rise each night. The contractor then pulled away the final bit of vegetation/mud separating the two ponds while a bio-monitor checked for fish near the worksite. Silt fences, nets and minnow traps were used to limit the chance of stickleback entering the new portion of the pond until it was ready. This enhancement project doubled the size of the habitat for UTS at this location.

Santa Ana sucker (SAS) - D. Austin has attended Santa Ana River HCP meetings with FWS/San Bernardino County Water District and also attends quarterly western Riverside County Aquatics meeting at Riverside Corona Resource Conservation District with multiple land management agencies. D. Austin provided comments on the draft SAS Recovery Plan to Kai Palescan, FWS in December 2014.

Quino checkerspot butterfly (QCB) - The Forest conducted year 1 (of 3) of aerial fire retardant areas

established for photo point monitoring in the Mountain Fire (separate report). The San Jacinto RD continued to remove noxious weeds (thistles) in the Johnson Meadow and Garner Valley areas to improve QCB habitat conditions. No broadcast burns were conducted in 2014 on SJRD. There were no changes expected in impacts to QCB from grazing since most of the grazing occurred in the Home Unit and not throughout the entire allotment. This was due to the Mountain Fire removing forage in 2013 and drought conditions retarding forage growth in other units in 2014 (separate report).

Peninsular bighorn sheep (PBS) - D. Austin attends the Coachella Valley Conservation Committee and Resource Management Oversight Committee meetings to coordinate with other land management agencies. There is a new Santa Rosa San Jacinto Mountains National Monument Science Plan study being started by Dr. Cameron Burrows of UCR and D. Austin is the FS representative to this group. The main question being investigated is how recreational activities impact the species and their habitat.

Arroyo toad– (ARTO) - The Forest and District continue to work with the Army Corps of Engineers (ACOE) on restricting access to Deep Creek through the Mojave Forks Dam tunnel. Steel barrier across the creek continue to be vandalized, with illegal OHV use on Deep Creek occurring in occupied habitat. ACOE maintains the structure but there are limited enforcement patrols to issue citations throughout the year.

San Bernardino kangaroo rat (SBKR) - There are impacts from private land occurring due to an individual with a bull dozer conducting clearing activities in Cajon and Lytle Creeks and impacting habitat for this species on NFS lands. FS law enforcement has contacted individuals and water districts and FS employees have notified Fish and Wildlife Service on several occasions of these activities.

2009 Grazing BO monitoring: - The Forest met at the beginning of the grazing season with Garner and Wellman permittees and notified them of their responsibility to protect threatened and endangered species and to notify the Forest Service before undertaking any maintenance actions or changes in livestock use in the riparian areas. The Rouse allotment was not grazed in 2014 since the permittee is deceased as of 2014 and the estate is currently in probate. The Fobes Canyon area was completed burned over during the Mountain Fire in 2013 and no longer contains riparian habitat. The exclusion fence was severely damaged by both the fire and subsequent storm flood damage and is no longer functioning properly; therefore the Forest had planned to repair this fence in the near future, however due to 1) the degraded state of the riparian habitat, 2) the low likelihood that the level of grazing and the forage preferences of the cattle in question will impact the recovery of the habitat, 3) monitoring of the recovering riparian area by the SBNF to assess impacts from grazing, 4) implementation of other conservation measure provided in biological opinion and subsequent re-initiations, and 5) the upcoming re-initiation of consultation, the U.S. Fish and Wildlife Service has honored the request from the Forest Service for relief from the fencing conservation measure.

Nevin barberry - No impacts reported since there are no known occurrences on Forest.

Slender-horned spine flower - New localities were discovered on the SJRD, extending the known elevation range for the species upward. No impacts were observed from FS on-going activities. Impacts from private land are occurring due to an individual with a bull dozer conducting clearing activities in

Cajon and Lytle Creeks and impacting habitat for this species on NFS lands. FS law enforcement has contacted individuals and water districts and SBNF has notified Fish and Wildlife Service on several occasions of these activities (Same site as for SBKR above).

San Bernardino bluegrass, slender-pedaled mustard, Bear Valley sandwort, southern mountain buckwheat, ash-gray paintbrush, Cushenbury milk-vetch, Parish's daisy, Cushenbury buckwheat, Cushenbury Oxytheca, San Bernardino Mountains bladderpod – - No impacts on NFS land have been reported, there is no targeted monitoring, and existing protective measures (e.g. barriers) are monitored and repaired where needed. Limited Poa surveys have been conducted in Johnson Meadow on the SJRD to determine habitat suitability.

Pedate checkermallow and California taraxacum - No impacts have been reported, there is no targeted monitoring, and existing protective measures (e.g. barriers) are monitored and repaired where needed. Private land in the City of Big Bear Lake was impacted, and private land at Metcalf Bay was acquired for conservation.

Off-Highway Vehicle (OHV) Program Monitoring

There are six methods of OHV program monitoring. Each program is described separately with conclusions and recommendations for all methods compiled at the end of this section.

1) OHV Trail Soil Monitoring

During fiscal year 2014, Forest-wide trail condition surveys were conducted on all designated OHV trails (24-50") to assess soil retention and soil loss. During this time, it was determined that all trails were retaining soils at sustainable amounts. OHV trail maintenance in fiscal year 2014 was conducted using a small bulldozer, a front end loader and/or hand tools to remove rock and debris, grade trail tread, increase height of rolling dips, and to clean out over-side drains. Culverts and drains were armed with native rock. To reduce sedimentation and dissipate flow three trail crossings were hardened with rock (2E43 Hixon, 2W01 Devil's Hole and 1W17 Holcomb Creek).

Over-side drainage flumes were installed along trails to assist with drainage and reduce sedimentation into streams. Additional BMPs (Best Management Practices) were utilized to increase the frequency of water diversion features (rolling dips) which resulted in less trail erosion. We continued to create soil catch basins in rolling dip lead outs. This allowed the dozer operator to recapture sediment and use it in the trail tread. In addition, annual OHV trail photo monitoring was conducted at five locations. These combined actions contributed to overall soil stabilization along trails.

2) Habitat Management Plan (HMP) Monitoring

Habitat protection monitoring conducted under the Habitat Management Plan (HMP) is funded in partnership with the State of California Off Highway Motor Vehicle Recreation Division (OHMVRD). HMP monitoring was conducted by Forest field staff four times a year using maps and checklists within threatened, endangered and sensitive wildlife and plant habitat to monitor effects of OHV green sticker routes to habitats and to schedule any protection measure maintenance needs.

Under the new 2014 HMP, we increased the monitoring from 57 to 94 locations of sensitive plant and wildlife habitat that intersect OHV routes. All of these were monitored except when access was precluded due to snow or bald eagle closure areas. The new HMP increased trail monitoring from 11 trails to 24 trails and from 26 routes to 70 routes. It also included 3 trail crossings hardened with rock.

The success criteria and management objectives were achieved at 48 sites (no off trail travel occurred within sensitive habitat). Three trail crossings at streams hardened with rock in the spring of 2013 resulted in meeting the objective of preventing pool formation. Unauthorized OHV use occurred at 44 of the 94 HMP sites. Twelve of the sites had evidence of sign vandalism, 18 sites had down or cut fence, 7 sites had target shooting activity/debris, 17 sites had trash/dumping and 9 sites had illegal wood cutting activities. Types of trash associated with some of the HMP sites included a television and other large household items, tires, a deer carcass, alcohol containers, clothing, food wrappers, buckets of human waste, tiki torches and housing shingles.

Compared to prior year monitoring, unauthorized OHV use decreased in fiscal year 14. However, there were approximately 93 unauthorized routes and/or trails noted within the 44 sites observed with unauthorized use. Off trail impacts included creation of new routes, some hill climbs, trail widening, some vegetation damage and vegetation mortality, oil sheen present at stream crossings and unauthorized use of motorcycles in the creek occurred within various habitats. In some locations, the success criteria were not met for the retention of barriers and signage in place to protect habitat. The monitoring staff also documented unauthorized uses along green sticker routes that were not OHV related such as illegal wood cutting, target shooting, trash dumping, pit mining, illegal campfires, miles of stolen t-post fencing, and sign vandalism (shot up and/or thrown over hillsides or in creeks). These unauthorized activities can also affect the HMP sites and the barriers that protect them.

Collectively OHV restoration funds were utilized to immediately repair fences, replace signs and to slash and seed the affected sites. Sites needing more intensive treatments were also identified. The Forest also coordinated with other non-OHV patrols and law enforcement staff to monitor HMP locations being degraded by non-OHV use.

Although the monitoring checklist did provide immediate short term solutions to some of these unauthorized uses, the Forest again recognized the need to increase on the ground monitoring staff to educate riders to remain on designated routes. This additional staffing was requested to prevent future disturbance to sensitive habitats along green sticker routes within and adjacent to the southern California urban interface. Funds requested in the prior year grant were approved but not fully implemented due to hiring delays.

Weekly coordination between SBNF OHV staff and OHV law enforcement staff was successful in focusing efforts in areas of repeated unauthorized use. The Forest continued to recruit additional HMP volunteers for monitoring and site maintenance. Having a strong USFS and volunteer presence appears to be the most effective method to protect habitats along green sticker routes.

3) Restoration Site Monitoring and Maintenance

In fiscal year 2014, the SBNF continued to implement the Forest-wide Restoration Site Monitoring and Maintenance Program developed in 2013 in partnership with the Southern California Mountains Foundation. The objective of the monitoring and maintenance protocol is to better manage the large

number of disturbed sites restored over the last decade. Development of the protocol was funded with state OHV funds and USFS watershed and wildlife appropriated funds. The 998 restoration sites were entered into GIS with a database of restoration history and were confirmed in the field to ensure presence and level maintenance needed. Of these, 260 sites were unable to locate, 55 sites had fully recovered, and 680 sites still required maintenance. Notebooks for field monitoring were created showing restoration sites on 8.5 x 11 topographical maps with cross referenced project names and GPS coordinates. The protocol created new forms and photo monitoring methods, GPS instructions and documentation methods that are used by both the USFS staff and SCMF OHV volunteers.

As a result, in fiscal year 2014, 807 sites were monitored and 92 sites were maintained. Monitoring and maintenance activities will continue under the current USFS and SCMF's OHV Monitoring and Maintenance grant for 1 additional year.

In addition, two large OHV restoration efforts (one restoration, one planning) were completed to plan, restore and implement actions to manage unauthorized OHV use. The 2,621 acre Coxey and Horse Springs Restoration Projects were completed in September of 2014. Pipe and cable fencing was installed to restrict unauthorized motorized access and seeding and planting were completed to restore affected habitat. The Deep Creek Inventoried Roadless Area Restoration NEPA was also completed in September 2014 which identified methods to restore unauthorized routes within and adjacent to the IRA.

4.) Adopt-a-Trail Program Road and Trail Monitoring

The San Bernardino National Forest Adopt-A- Trail Volunteers contributed 17,081 hours conducting Forest-wide OHV trail and road maintenance with a 100% accident free safety record during fiscal year14. Of these, 11,308 hours were performed along green sticker routes. Another additional 5,879 hours of road and trail maintenance were performed on other 4 wheel drive roads.

Members of the motorized Adopt-A-Trail (AAT) Program maintained over 225 miles of forest roads and trails. The AAT Program had over 40 active clubs and an estimated 4,000 volunteers that conducted monitoring on three Ranger Districts; Mountain Top, Front Country and San Jacinto. In addition, some volunteers operate our trail dozer (Sweco), front loader (Kubota), backhoes, rock rakes, chainsaws, ATV's and motorcycles.

The Adopt-A-Trail clubs monitored thousands of acres of NFS lands. Every adopted road and trail had an annual written road/trail maintenance plan that identified specific maintenance and monitoring requirements. Maintenance included road grading, brushing, culvert and drain clearance, off road restoration, maintenance of signs, and facilities. The maintenance plans include monitoring points such as; fence lines, barricades for sensitive habitats, restoration sites, hiking trail interfaces (unauthorized use), private property and wilderness trespass and stream crossing monitoring. OHV employees and OHV volunteers repair any breach of barricades, fence lines, etc. These breach points become future monitoring points for OHV patrols and OHV projects. If an area has been illegally breached by motor vehicles multiple times, analysis determines what methodology will be employed to deter any future damage to the area. Typically, signs are posted, law enforcement increased and any barricades are bolstered until the unauthorized motorized use stops occurring.

5) SCMF-OHV Volunteer Program Monitoring

In fiscal year 2014, the Southern California Mountains Foundation (SCMF)-OHV Volunteer Program had over 200 members conducting monitoring on all three Ranger Districts: Mountaintop, Front Country and San Jacinto. A total of 21, 670 hours of volunteer time were contributed to this effort. These OHV Volunteers are skilled 4 x 4, ATV and motorcycle operators that provide the public one on one OHV education. OHV Volunteers provided written reports surmising their daily activities monitoring and patrolling the National Forest.

After completion of 80 hours of specified training, the SCMF OHV Volunteers are given the authority to patrol as OHV hosts, making public contacts while monitoring the Forest use patterns. The OHV Volunteers reported forest fires, illegal campfires, traffic collisions and other incidents while providing service to our visiting public. While in the field, the OHV Volunteers are trained to monitor sensitive areas such as meadows, wilderness areas, urban interface (excessive sound and trespass), streams, cultural sites and rare plant/wildlife habitats for unauthorized motorized use.

The OHV Volunteers are a vital Forest resource, having the expertise to reach the back country of the National Forest to perform the duties as described.

6) Forest Travel Management Monitoring

Monitoring occurs in conjunction with implementation of the Forest Travel Management decision. All Forest Roads and Trails that were affected by decommissioning and/or restoration efforts are monitored. If motorized vehicles have breached a site, the OHV Employee, Adopt-a-Trail Volunteer or SCMF OHV Volunteer will repair the breach immediately. If the breach requires equipment, supplies or a work party, the Forest Liaison schedules a project to repair the breached site. As with other monitoring programs, work parties are scheduled when intensive treatments are needed.

Conclusions for Soil Monitoring, HMP, Restoration Site Monitoring and Maintenance, Adopt-A-Trail, SCMF OHV Monitoring, and Travel Management Monitoring Programs

Off-Highway vehicle use on designated routes is consistent with Forest Goal 5.2 to provide for public use and resource protection. Active management for OHV use 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 LMP prospectus for trends and expectations for Trails states that the program will emphasize improving the NFS OHV trails and roads by designating OHV road and trail routes and effectively managing inappropriate use. The desired condition for OHV use is for the use to safely occur on designated routes only.

Soil, Habitat Protection, restoration site, road and trail, educational and travel management monitoring are conducted and actively supported by OHV and resource staff, and Adopt-A-Trail and SCMF OHV Volunteers. Mitigation of unauthorized OHV use to protect natural resources and wildlife habitats has been successful in many locations however additional patrol staffing is needed to keep riders on designated routes. In areas where the Forest has a managed presence, unauthorized use can be reduced. Volunteer contribution is vital to the success of protecting sensitive habitats, maintaining roads and trails,

and providing education and safety to the public. The monitoring programs have the ability to move the Forest toward the LMP desired condition for OHV management.

The 2013/2014 State of California Off Highway Motor Vehicle Recreation Division grant proposals on the Forest included requests to meet the needs described above in Ground Operations and Law Enforcement. A total of $652,818 was approved. Use of these funds began in fiscal year 2015.

Recommendations for Soil Monitoring, HMP, Restoration Site Monitoring, Adopt-A-Trail, SCMF OHV Monitoring and Travel Management Monitoring Programs

- Conduct Trail Condition Assessments and complete annual OHV trail maintenance within specified timelines. Monitor soil conditions using the photo monitoring protocol in the 2015 Ground Operations Soil Conservation Plan. In the future, the purchase of a small excavator to pull soils back onto OHV trails for soil retention is recommended.
- To comply with Standard 35, for identified desired conditions for managed motorized recreation, watershed management and sustainable biological resource conditions, our staff will continue to coordinate the HMP, Restoration site monitoring, Adopt-A-Trail Program and the SCMF OHV Volunteer monitoring program.
- To ensure all HMP and restoration sites are monitored four times a year as required, conduct monitoring in November, February, May, and August.
- Continue the Travel Management monitoring as scheduled.
- Continue to request additional patrol and law enforcement staff in future OHV grants as needed.
- Implement monthly conference calls with law enforcement and Forest Protection officer staffing across all Districts.
- Continue to support, educate and supervise OHV Volunteer Programs and coordinate efforts of all field going patrols including law enforcement personnel.

Heritage Program Monitoring

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 for, and sites that are on the National Register of Historic Places, 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 deposits. The Archaeological Clearance Memo that is signed by the Forest Archaeologist and included in the project file identifies management measures 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 in the Supervisor's Office by year. Annually, the Forest Archaeologist, the Heritage Data Steward, and other staff archaeologists enter data related to site monitoring in the infra data base. The information in the data base is used by the Regional Office to compile the Regional Programmatic Agreement Report submitted to the Office of

Historic Preservation. This report identifies all projects approved under the Programmatic Agreement, how sites were protected, 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. The Forest is required to conduct assessments and condition surveys on 20% of the Forest's Priority Heritage Assets each year.

Results

In fiscal year 2014, under Section 106, the Forest employed methods to avoid, as well as to monitor during and after project implementation in order to avoid impacts to historic properties during all fuel reduction projects and associated activities. A total of 6 projects required monitors to protect 27 sites. The Forest requirement for Section 110 monitoring and reporting included 24 properties, through the implementation of volunteer programs.

Conclusions

During fiscal year 2015, Section 106 monitoring was completed as required for 27 sites associated with 6 projects, and 24 other sites were monitored under Section 110.

Recommendations

- Ensure the Archaeological Clearance Memo and Tribal Consultation documentation is included in the project file prior to implementation and that site protection measures, including monitoring, are implemented as described.

Water Quality Monitoring

Monitoring

Fiscal year 2014 was the 23rd year of the Best Management Practices Evaluation Program (BMPEP) on the San Bernardino National Forest (BDF) and the Forest Service Pacific Southwest Region (R5). This program is designed to evaluate the implementation, i.e., "did we do what we said we were going to do to protect water quality" and effectiveness, i.e., "how well did we protect water quality" of project Best Management Practices (BMPs).

All projects with potential to adversely affect water quality incorporate BMP implementation and effectiveness monitoring. The objectives of the BMPEP monitoring program are (USDA FS 2011):

1. Early detection of actual or potential water-quality problems associated with current management activities.
2. Documentation and correction of known deficiencies in BMP implementation.
3. Assessment of long-term (3 to 5 years) effectiveness of water-quality protection measures.

4. Evaluation of linkages between resource management activities, including BMP implementation and watershed restoration programs, and cumulative watershed effects.
5. Calibration of thresholds of concern for cumulative watershed effects analyses.
6. Evaluation of water-quality trends affecting beneficial uses in receiving waters downstream of forest management activities, including waters listed as impaired under section 303(d).
7. Assessments of water quality in reference streams for comparison with listed and potentially listed impaired waters.

The BMPEP protocols, with random site selection, are the primary means of assessing the effectiveness of water-quality protection for current projects and past management activities on National Forest System (NFS) lands at the hillslope scale. There are three types of BMP implementation and effectiveness evaluations: **Administrative, In-Channel,** and **On-Site**.

Administrative evaluations involve assessing all BMPs for a project, including procedural BMPs (such as Timber Sale Planning Process). **In-Channel evaluations** assess the effectiveness of an aggregate "set" of BMPs applied to a project area in protecting beneficial uses of water. **On-Site evaluations** are the core of the Region's BMPEP and involve the assessment of specific practices using forms that rate both implementation and effectiveness of the practice.

Evaluation sites are identified in two ways, random and selected. Random sites are picked from a pool of projects that meet specified criteria, while selected sites may be identified in several ways including part of a routine site visit, part of a NEPA or LMP prescribed monitoring plan and more. Only randomly identified sites are used to develop statistical references and should be kept separate from selected site data collection.

The Regional Office (R5) annually assigns the type and number of management activities to be evaluated on each Forest. The specific sites for each evaluated management activity are randomly selected from Forest project pools. The criteria for sample pool development are regionally standardized by activity type. BMP monitoring strives for interdisciplinary evaluation of projects, including project proponents and watershed personnel. This interdisciplinary effort is intended to provide direct feedback to the project proponent on how well the BMP was implemented and allows for adaptive management on future project design.

Best Management Practices Evaluation Program (BMPEP)

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

The purpose of the National BMP program is to provide a standard set of core BMPs and a consistent means to track and document the use and effectiveness of BMPs on NFS lands. The National Core BMPs are not intended to supersede or replace existing regional, State, forest, or grassland BMPs. Rather, the National Core BMPs proved a foundation for water quality protection on NFS lands and facilitate national BMP monitoring. The National Core BMPs encompass the wide range of activities on NFS lands including the following:

- General Planning Activities

- Aquatic Ecosystem Improvement and Restoration Planning
- Chemical Use Management Activities
- Facilities and Nonrecreation Special Uses Management Activities
- Wildland Fire Management Activities
- Minerals Management Activities
- Rangeland Management Activities
- Recreation Management Activities
- Road Management Activities
- Mechanical Vegetation Management Activities
- Water Uses Management Activities

The primary intent of the National Core BMPs is to carry out one of the Clean Water Act (CWA) purposes to maintain the chemical, physical, and biological integrity of the Nation's waters with a focus on water pollution control. The National Core BMPs also address soil, aquatic, and riparian resources, but only to the extent that they contribute to maintenance of chemical, physical, and biological water quality.

Results

For FY 2014, the SBNF BMP target was 7. Implementation ratings fall into 1 of 5 scores (Fully Successful, Moderately, Marginally, Not, and No BMPs). No BMPs score means site-specific BMP prescriptions were not developed or identified during project planning, while the remaining scores reflect whether "All", "Some", or "No" prescriptions were developed or identified in the planning documents and implemented. Effectiveness ratings fall into 1 of 3 scores (Effective, Mostly Effective, Marginally Effective, or Not Effective) and are loosely based upon whether a pollutant reached a waterbody (or very close) and the degree of adverse effect to the waterbody from the project or activity. Composite ratings are an overall rating combining both Implementation and Effectiveness scores and fall into 1 of 5 scores (Excellent, Good, Fair, Poor, and No Plan).

National BMP results are consistent with SBNF BMP results for FY14 with 71 percent of Implementation being either fully or marginally implemented and 43 percent of Effectiveness being either effective or moderately effective. Overall scoring (composite) was 29 percent considered excellent while the remaining 71 percent were either scored as poor or no plan. Resource categories were also consistent with SBNF results indicating BMP issues in both recreation and roads management activities.

In FY14, the San Bernardino National Forest (SBNF) conducted BMP monitoring at 21 randomly selected sites using protocols from the R5 BMPEP User's Guide (USDA FS, 2002). In addition, the SBNF also conducted BMP monitoring at 25 selected sites. Information collected on the field forms is than input into a database, which also scores the implementation and effectiveness of each BMP. If rated, implementation scoring falls into one of three categories (Implemented, Minor Departure, or Major Departure). Implementation evaluations are typically a combination of an office review, e.g., contract review, NEPA review, IDT notes, operation and maintenance plan, etc., and a site visit. In almost every case, implementation evaluations are completed without the benefit of having this information or being in the field during project implementation due to a lack of or inability to find available documentation and poor internal communication regarding project implementation schedule. It is than assumed that SBNF personnel oversee project implementation and ensure that the contractor or FS employee(s) awarded the

project met all contractual requirements and receive an implementation rating of implemented since BMP evaluations are conducted usually well after the project has been implemented and completed. Effectiveness ratings scores also fall into one of three categories (Effective, At Risk, or Not Effective).

Overall implementation ratings were 86 percent implemented meaning the SBNF did what it said it would do to protect water quality during project implementation, and 57 percent effective which shows higher protection of water quality. As previously noted implementation ratings may not be an accurate indicator of actual implementation and will be addressed later in the Conclusions and Recommendations section. A new scoring system was fully implemented in 2012 to include At Risk categories where some of the implementation and effectiveness protocol questions could show a minor departure from fully successful and be considered as implemented or effective.

Among the individual subject areas the annual data set is relatively small and may be inadequate to provide a viable statistical analysis, but it can be noted that recreation and roads management combined had the largest percentage of Not Effective ratings. Timber management is another subject area that has the largest number of At Risk ratings.

As previously mentioned, selected sites may be identified in several ways including part of a routine site visit, part of a NEPA or LMP prescribed monitoring plan and more. Selected sites are not used to develop statistical references and are kept separate from random site data collection. During FY14, a total of twenty five BMP evaluations were completed from thirteen sites.

Results of selected sites versus random sites are similar with selected site implementation (implemented or minor departure) 100 percent and effectiveness (effective or at risk) 40 percent. As a comparison, random site BMP evaluations were 86 percent and 57 percent, respectively. Among subject areas within the selected site evaluations, road management and recreation had the highest percentage of not effective ratings (50 percent or greater), which is similar to the random site evaluations.

Conclusions

The Regional Office provided the SBNF a BMP target of 22 random on-site effectiveness evaluations in addition to 3 retrospective and 7 National BMP evaluations. The SBNF completed 95 percent of the random on-site evaluations (21 out of 22), 67 percent of the retrospective evaluations (2 out of 3) and 100 percent (7 out of 7) of the National evaluations as well as completing an additional 25 selected site evaluations.

The analysis indicates a declining trend in on-site effectiveness and the SBNFs ability to protect water quality. Possible reasons for this along with corrective actions or an adaptive management strategy may be included in the following recommendations.

Recommendations

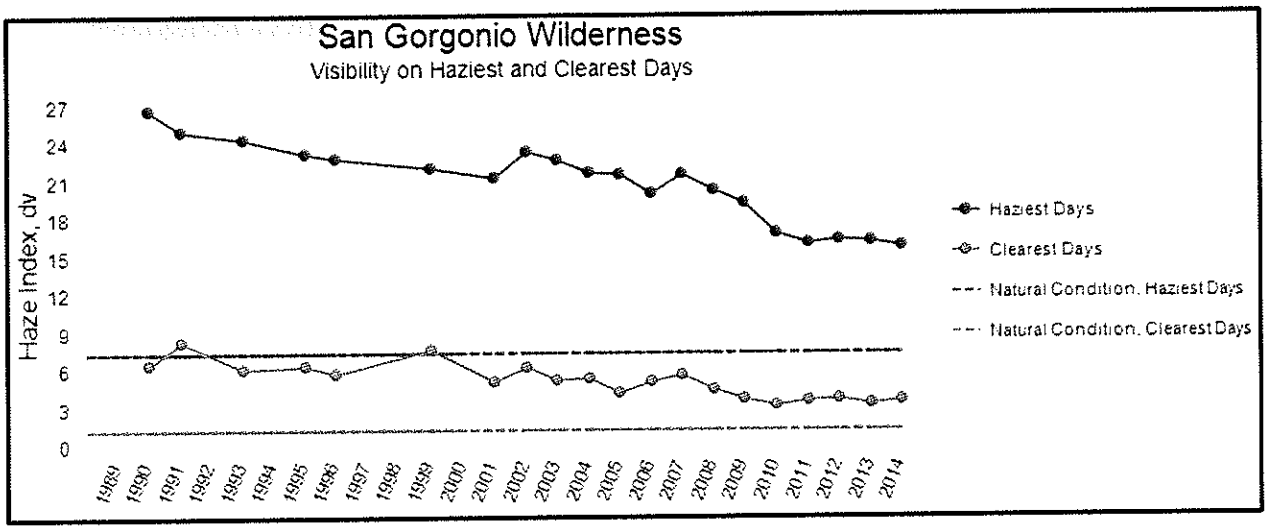
- The Forest Hydrologist should continue training and interaction with District staff throughout planning process for fuels treatments, road and engineering projects, and recreation/OHV management.
- Continue combining BMP and LMP monitoring field trips, as applicable to both protocols.
- Continue to promote concurrent monitoring with RWQCBs.
- Implement R5 FSH 2509.22 Ch.10 Erosion Control Planning into ground disturbing projects.
- Implementation of BMPs should always be evaluated before effectiveness to answer the question; "Did we do what we said we were going to do to protect water quality?"
- Administrative evaluations should be incorporated into all on-going project, activity and program reviews and completed by a Forest review team.
- On-Site Evaluations should continue being completed by those persons responsible for the oversight of project implementation and the oversight of the required BMPs.
- Recreation and the use of Forest Service roads during wet periods are shown to be problematic in terms of water quality protection. The Forest should develop a written wet weather operation standardized plan designed to limit wet weather access to many areas. The Water Quality Management Handbook (FSH 2509.22) requires a Wet Weather Management strategy to protect water quality during inclement soil moisture conditions.
- Training and awareness of the Best Management Practices Evaluation Program is crucial for needed improvement and ongoing success. The Forest Hydrologist should conduct BMP training annually on an as needed basis, before each field season for new employees, new line officers, and new resource personnel. Training of a new resource person shall include practical instruction in the application of BMPs for planning and administration of various management activities.
- Develop a process for Hydrology review of contracts during preparation to ensure BMP performance criteria is included in the contract.
- It is recommended that a process be established for determining target attainment between recreation and watershed staff in order to ensure all applicable laws and regulations including the Clean Water Act are considered.

Air Quality Monitoring

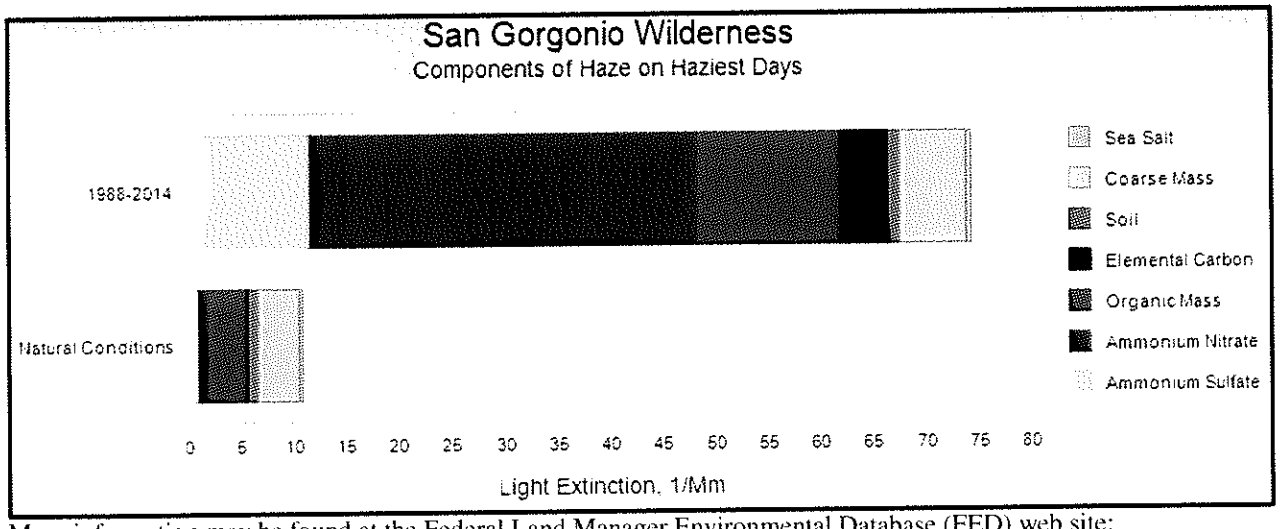
Monitoring

Under the IMPROVE program, a monitor near the Converse Fire Station measures the air quality for the San Gorgonio Wilderness Class 1 air shed. Monitoring results from this site indicates visibility has been increasing in the wilderness. The largest sources of haze are ammonium sulfate and ammonium nitrates. See the figures below for monitoring data. In addition, visibility is monitored using a real-time web camera found at the following URL: http://www.fsvisimages.com/. The agency will continue to assess wilderness visibility under the Prevention of Significant Deterioration (PSD) program of the Clean Air Act.

Graph 1: Monitoring results from the San Gorgonio site. Red lines indicate the worst days while blue indicates the best days. A deciview (dv) reading of "0" indicates a clear view with no reduction in visibility.



Graph 2: Haze components compared to natural background and amount of visibility each reduces in the San Gorgonio Wilderness.

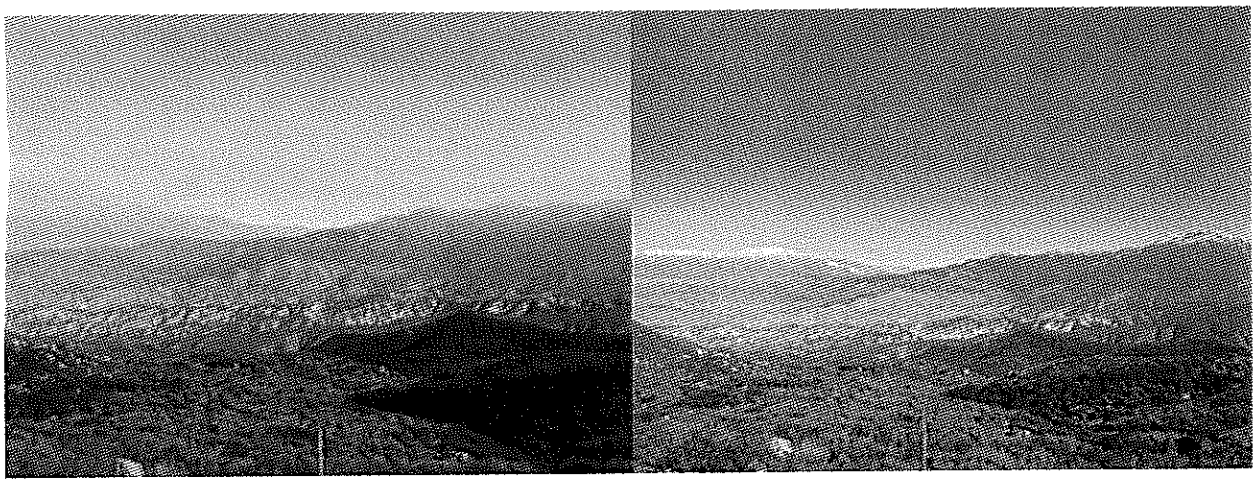


More information may be found at the Federal Land Manager Environmental Database (FED) web site: http://views.cira.colostate.edu/fed/

Visibility/ scene monitoring is conducted for the San Gorgonio and San Jacinto Wilderness using a real-time web camera found at the following URL: http://www.fsvisimages.com/. Scene monitoring (webcam) images are combined with aerosol air quality monitoring (such as the IMPROVE program) to determine what varying levels of air pollution effect visibility of Class I wildernesses. Typical visual range in the western U.S. is 60 to 90 miles, reduced by about one-half from natural conditions due to air pollution. See Figure 1 below for an example of scene monitoring at the San Gorgonio Wilderness.

In addition, these cameras can take images of nearby wildfires or prescribed fires. Recent examples include: Hathaway Fire, Mountain Fire, and Lake Fire. This service allows for the public to determine relative real-time levels of air quality in wilderness areas.

Figure 1: Photo Left: An example of a bad air quality due to layered haze from the Los Angeles Basin surrounding the San Jacinto Wilderness on February 5, 2015. Photo Right: An example of pristine air quality at the same location.



Part 3 Monitoring

Implementation and effectiveness monitoring for Part 3 of the LMP are conducted at the project level in order to evaluate the effectiveness and application of design criteria established in the LMP. Part 3 of the LMP requires annual implementation monitoring of new projects and ongoing activities and sites. As detailed in the LMP, the Program Emphasis and Objectives describe the activities and programs on the Forests. Activities were organized into six functional areas, which include all areas of business for which the Forest is responsible. The functional areas collectively include 35 programs. National Forest management uses the results to clearly communicate program capability both internally and externally.

The Program Emphasis and Objectives' six functional areas are:

- Management & Administration: National Forest leadership, management and administrative support activities, communications, external affairs, community outreach, planning, human resources, information technology, and financial management.
- Resource Management: Activities related to managing, preserving, and protecting the national forest's cultural and natural resources.
- Public Use & Enjoyment: Activities which provide visitors with safe, enjoyable and educational experiences while on the national forest and accommodate changing trends in visitor use and community participation and outreach.
- Facility Operations & Maintenance: Activities required to manage and operate the National Forest's infrastructure (i.e., roads, facilities, trails, and structures).

- Commodity & Commercial Uses: Grazing management, forest special product development, and activities related to managing non-recreation special-uses such as National Forest access, telecommunications sites, and utility corridors.
- Fire & Aviation Management: Wildland fire prevention through education, hazardous fuels reduction, and proactive preparation. This program also includes on-forest wildland fire suppression, and national or international wildland fire and emergency incident response.

An interdisciplinary review team visited the selected projects and ongoing activities and sites to review the effectiveness of applying LMP design criteria. If problems in implementation were detected, or if the design criteria were determined to be ineffective, then the team recommended corrective actions. Corrective actions may include amendments to the LMP if necessary to improve the effectiveness of the design criteria.

Appendix C of Part 3 in the LMP identifies at least 10 percent of projects and on-going activities will be reviewed annually. The LMP should be amended to randomly select, for the monitoring period, at least five new projects. Ideally, a project will be selected from each functional area, excluding Management & Administration because new projects do not fall in this functional area. If there are a large number of new projects implemented, as timing and funding permit, additional projects will be randomly selected from each applicable sub-category in the functional areas. All ongoing activities and sites will be stratified into the appropriate functional areas. At a minimum, three ongoing activities and/or sites will be randomly selected for the monitoring period. Ideally, an ongoing activity and/or site will be selected from Public Use & Enjoyment, Facility Operations & Maintenance, and Commodity & Commercial Uses functional areas. As timing and funding permit, ongoing activities and/or sites will be randomly selected from each applicable sub-category in the three functional areas.

New Projects

All new projects implemented during the monitoring period, including projects that are implemented over multiple years, were stratified into the appropriate functional areas. One project was selected from each functional area, excluding Management & Administration because new projects do not fall in this functional area.

Bluff Mesa Fuels (North)

Monitoring

The field review of the Bluff Mesa Fuels project implementation from FY14 occurred on May 12, 2015 on the Mountaintop Ranger District. SBNF Forester Ian Turner and MTRD Forester Ray Aguayo led the FLT and District Staff. This project falls under the Resource Management functional area. The dry winter of 2013/2014 was conducive for the contractor to accomplish acres on the project ahead of schedule. Approximately 1600 acres of fuels reduction were accomplished under this project in FY14. Project accomplishments for FY14 met all project objectives for that year.

Wildlife objectives were met through application of design criteria and treatment level 4 prescriptions, which have limited treatment aimed at minimizing impacts to TES species, primarily the California Spotted Owl. Hydrology design features were met through following BMPs. Chips were used to stabilize soil, and spreading depth and distribution were done according to design features, with a few exceptions.

Specialists agreed coordination during fy14 implementation went well, with good communication and good results.

The field review group noted that cut stumps were too high in some areas. The group also noted that application of RCA design features resulted in small diameter trees encroaching into meadow habitat since they were not being cut to the extent desired. A good discussion was had on how to balance these concerns.

Conclusions

The Bluff Mesa Fuels (North) Project implementation is consistent with Forest Goal 1.2.1, 1.2.2, and 1.2.3 to reduce the potential for widespread losses of montane conifer forests caused by severe, extensive, stand replacing fires, to reduce the number of acres at risk from excessively frequent fires while improving defensible space around communities, and to maintain long fire-free intervals in habitats which are slow to recover respectively. This project implements LMP Strategies WL 1, FH2, FH3, Fire 2, Fire 4, and Fire 5 successfully – Manage habitat to move listed species toward recovery and de-listing. Prevent listing of proposed and sensitive species; minimize vegetation type conversion (permanent or long-term loss of plant communities) resulting from increased human caused fires; protect natural resource values at risk from wildland fire loss that are outside the desired range of variability, or where needed for wildlife habitat improvement; reduce the fire threat to communities using mechanical treatments, prescribed fire and herbicides; integrate all fire management activities with those of other government agencies and conduct fire management activities in a cost effective manner; and maintain the existing system of roadside fuelbreaks and fuelbreaks along watershed boundaries to minimize fire size and the number of communities threatened by both fires and floods respectively. The Bluff Mesa Fuels project implementation for FY14 resulted in good accomplishments for fuels reduction and resource protection. The drought helped make the FY14 work as successful as it was because the project was able to continue through most of the winter while following soil BMPs. Good communication and coordination between project leaders and specialists helped keep this project within the level of effects analyzed under NEPA.

Recommendations

- Continue close coordination between project leads and specialists for good results.
- Ensure stumps are cut to specifications.
- For future contracts, provide for some flexibility on design features in coordination with appropriate specialists to avoid situations where application of design features results in missed opportunities to improve resource conditions (*e.g.* trees encroaching into meadow habitat).

Coxey Restoration

Monitoring

The field review of the Coxey Restoration project implementation from FY14 occurred on May 12, 2015 on the Mountaintop Ranger District under the Resource Management functional area. Mountaintop Restoration Program Manager and Botanist Deveree Kopp led the FLT, District Staff, and staff of the project partner Southern California Mountains Foundation.

Project implementation during FY14 included installation of pipe and cable fencing to deter OHV travel off of system roads and trails. This type of fencing is more expensive per unit distance, but relative to wire and t-post fencing, is more resistant to vandalism, metal scavengers, blends better with the

landscape, and is more wildlife-friendly. The project also included native plantings and slashing unauthorized routes to disguise than and deter continued use. Continued work on the project includes patrol, monitoring and maintenance of the structures and plantings. Funding for the project was through a State Off-Highway Vehicle restoration grant, with match from SBNF appropriated funds and SCMF.

Design features and BMPs were followed for Heritage, Hydro, Biology and Botany. The project was mostly successful, although some fences were vandalized and others were compromised with routes directed around them. Plantings were showing good survivorship despite drought conditions, due in part to the 3-year watering protocol that was established.

Conclusions

The project supports Goal 3 linked to the National Strategic Plan to provide outdoor recreation opportunities, meeting Objectives 1 and 2, and this site implements LMP Strategy REC 2 – Sustainable Use and Environmental Design by managing the site within the limits of the identified capacities. The project successfully met objectives, with minor exceptions that are being addressed through monitoring and maintenance efforts. The project has been mostly successful at deterring and restoring the effects of unauthorized motorized travel and will continue to be monitored to determine any future management needs.

Recommendations

- Avoid "heritage pollution" – don't allow multiple attempts to block unauthorized motorized access off system roads to stack up and affect visual and other resources.
- Keep restoration integrated with other program areas. This is a good example of integration of restoration, roads, and recreation. Restoration should also be well integrated with fuels projects and any other landscape scale projects.

Thomas Mountain Fuels Reduction Project

Monitoring

The field review of the Thomas Mountain Fuels Reduction Project implementation occurred on July 29, 2015 on the San Jacinto Ranger District for new project monitoring under the Resource Management functional area, led by Chris Fogle. The Thomas Mountain Fuels Reduction Project Decision (FONSI) was signed in May 2009 and includes over 40 units. Implementation was completed in six units in fiscal year 2014, with three units completed under contract and 2 units under force account. The three units completed under contract included fuels reduction and thinning activities and the two units completed under force account included fuels reduction and mastication.

Objectives were met for all units, including reducing chaparral by 50 to 75 percent; however some of the design criteria requiring limited operating periods or avoidance areas made the implementation less feasible. Areas intended for burning that have not yet been implemented cause concern for implementation due to seasonal restrictions set forth by design criteria and there may be an issue with burning in these units in the future. Therefore mastication and other ground operations may be the only option unless the design criteria are modified. The design criteria for diameter limits within and outside the defense zones were followed and did not create issues for implementation, however it should be noted that the adaptive management strategies for allowing larger diameter cuts inside the defense zone were not considered in order to minimize the workload for implementation, since this would require additional public scoping. This may or may not have impacted the implementation effectiveness on the ground.

Monitoring for hydrological and botanical impacts including any excessive erosion and introduction of non-native invasive species respectively was feasible and shown to result in minimal impacts, however measuring the level of ground disturbance and associated impacts in accordance with the design criteria was not practical since there are different perceptions on what constitutes "ground disturbance".

Conclusions

The Thomas Mountain Fuels Reduction Project implementation is consistent with Forest Goal 1.2.1, 1.2.2, and 1.2.3 to reduce the potential for widespread losses of montane conifer forests caused by severe, extensive, stand replacing fires, to reduce the number of acres at risk from excessively frequent fires while improving defensible space around communities, and to maintain long fire-free intervals in habitats which are slow to recover respectively. This project implements LMP Strategies WL 1, FH2, FH3, Fire 2, Fire 4, and Fire 5 successfully – manage habitat to move listed species toward recovery and de-listing. Prevent listing of proposed and sensitive species; minimize vegetation type conversion (permanent or long-term loss of plant communities) resulting from increased human caused fires; protect natural resource values at risk from wildland fire loss that are outside the desired range of variability, or where needed for wildlife habitat improvement; reduce the fire threat to communities using mechanical treatments, prescribed fire and herbicides; integrate all fire management activities with those of other government agencies and conduct fire management activities in a cost effective manner; and maintain the existing system of roadside fuelbreaks and fuelbreaks along watershed boundaries to minimize fire size and the number of communities threatened by both fires and floods respectively.

The Thomas Mountain Fuels Reduction Project implementation for FY14 resulted in good accomplishments for fuels reduction and resource protection. Good communication and coordination between project leaders and specialists helped keep this project within the level of effects analyzed under NEPA.

Recommendations

- Consider further NEPA analysis under an EIS or more extensive research and monitoring to determine impacts of large diameter cuts within and outside of defense zones on California spotted owl.
- Consider further NEPA analysis under an EIS or more extensive research and monitoring to determine impacts of mastication, burning, and other fuels reduction techniques on wildlife species for which the limited operating periods and avoidance areas are set forth, including the Quino Checkerspot butterfly, pack rat middens, and the California spotted owl.
- Better define ground disturbance in a way that is measurable and consistent over the life a project.
- Document any invasive species measures, monitoring, treatments, and/or recommendations.

NFS Road 5S15 Rouse Road Repair and Maintenance

Monitoring

The field review of the NFS Road 5S15 Repair and Maintenance project implementation occurred on July 29, 2015 on the San Jacinto Ranger District for new project monitoring under the Facility Operations and Maintenance functional area, led by Deb Nelson. In 2014 there were three washout locations along 8 miles of road that needed repair in addition to a need for riprap and metal overside drains to control future surface runoff and erosion near the washout locations. Repairs started in the winter of 2014 (January).

Design features were included in the contract based on specialist input and a CE checklist was used to document the decision and findings. Implementation was monitored with daily diaries and frequent inspections, along with implementation monitors being present. Natural regeneration will be utilized to fully restore the sites and as of the field visit on July 29, the FS sensitive species Jaeger's milkvetch (*Astragalus pachypus* var. *jaegeri*) was regenerating successfully across the project areas where ground disturbance had previously impacted some of the individual plants. It has been documented that this species is prolific in re-sprouting after significant ground disturbance and therefore this project was not foreseen to have a substantial impact on the species population and this was confirmed during the field visit.

Conclusions

The NFS Road 5S15 Repair and Maintenance project implementation is consistent with Forest Goal 1.1 to improve watershed condition. This project implements LMP Strategy WAT 1 – Watershed Function and Trans 1 – Transportation Management by promoting sustainable resource conditions for surface water flow and Fac 1- Facilities Maintenance Backlog – Upgrade site utilities for efficient operation and Reduce the backlog with priority for health and safety and accessibility compliance. The project was a good representation of a successful emergency project and how cooperative, integrated efforts can allow for efficient and effective project implementation.

Recommendations

- Continue to include specialists in the design and implementation of road projects.
- Continue to use the CE checklist to document categorically excluded decisions that do not require a decision memo, in order to document references used to support findings of no extraordinary circumstance.
- Document any invasive species measures, monitoring, treatments, and/or recommendations.
- Explore opportunities to be more prepared for emergency projects

Mormon Rocks Station Fuel Treatments

Monitoring

The field review of the Mormon Rocks Station Fuel Treatments project implementation occurred on September 17, 2015 on the Front Country Ranger District under the Facility Operations and Maintenance functional area, led by Roger Murray. On the Front Country Ranger District there were approximately 130 total trees felled and removed as a result of insect and disease mortality. The administrative site was treated by removing any trees that could be considered a hazard or danger to users of the facility. During the monitoring fieldtrip it was discussed that other hazardous fuels reduction activities are also taking place on an annual basis including brush clearance and pruning but the tree felling activities took priority last year due to public interest and for health and safety purposes.

The Mormon Rocks Station Fuel Treatments project decision was not documented since it was a previous line officer's decision under a categorical exclusion that does not require a decision memo. The district specialists had little to no involvement in the decision. The district plans to plant native trees to replace the trees that were removed in the future.

Conclusions

The Mormon Rocks Station Fuel Treatments project implementation is consistent with Forest Goal 1.2 to restore forest health. This project implements LMP Strategy Fac1- Facilities Maintenance Backlog- reduce the backlog with priority for health and safety and accessibility compliance and Strategies FH1, 2, and 3 – Vegetation Restoration, Restoration of Forest Health, and Insect and Disease Management. The project successfully eradicated the beetle infestations that were present and reduced any further tree mortality, reducing hazards and risks for personnel and public that uses the facility.

Recommendations

- Ensure that project records, including analysis and implementation, are stored on the District where the implementation occurs.
- Include specialists in the design and implementation of future administrative site fuels reduction projects and planting projects.
- Use the CE checklist to document categorically excluded decisions that do not require a decision memo, in order to document references used to support findings of no extraordinary circumstance.
- Explore opportunities to be more prepared for emergency projects.

Baldy Mesa Road Maintenance and Washout

Monitoring

The field review of the Baldy Mesa Road Maintenance and Washout (FR 3N24) occurred on September 17, 2015 on the Front Country Ranger District under the Facility Operations & Maintenance management functional area. During the review, we look at project work (Maintainance and repair of 3N24 that occurred during FY2014) and ongoing activities associated with OHV use of the Baldy Mesa area. The road had been recently graded and repaired at a washout location. The road serves as a multiple-use system road, since it intersects with and has sections that are designated as an OHV route. Other sections of the road have been designated as a temporary OHV route while the adjacent routes are part of a fire closure. The maintenance and washout repair were occurring under three different project proposals with separate NEPA. The major activity of road maintenance is covered under the Ongoing Activities BO. Other projects include OHV Trail Restoration and the Road Washout Repair which were analyzed under separate BE/BA/BO documents. The road receives moderate levels of use, and there was OHV activity by the public during the field visit.

Conclusions

The Baldy Mesa Road Maintenance and Washout project is consistent with Forest Goal 3.1 to provide for public use and natural resource protection. This site implements LMP Strategy REC 2 – Sustainable Use and Environmental Design by managing the site within the limits of the identified capacities. The project supports LMP Strategy Fac 1- Facilities Maintenance Backlog – Upgrade site utilities for efficient operation and Reduce the backlog with priority for health and safety and accessibility compliance. The project was a good representation of an integrated project and how integrated efforts can allow for efficient and effective project implementation.

Recommendations

- Allow more time for specialist involvement in document write-ups and on the ground monitoring by giving sufficient notice of project implementation dates.
- Involve hydrologist in future design and implementation for road repair and maintenance projects in order to maximize use of rolling dips and other hydrological measures to minimize erosion and sedimentation.
- Continue to work in an integrated effort to maintain areas where multiple-use is present and where multiple funding opportunities are available for implementation and monitoring.
- Plan road projects to be implemented later in year when feasible when soil has more moisture and is more manageable.

SoCal Gas Pipeline Road Maintenance

Monitoring

The field review of the SoCal Gas Pipeline Road Maintenance Special Use Permit occurred on September, 17 2015 on the Front Country Ranger District as part of ongoing activity monitoring under the Commodity and Commercial Uses management functional area. This permitted special use is along the Interstate 15 where other road and utility special use permits exist. There is a pending application from SoCal Gas for a parallel pipeline currently under evaluation. This permit is issued under a permanent Right of Way easement under the Mineral Leasing Act of 1920 and then updated in 1976 under authorities set forth by Federal Land Policy and Management Act of 1976.

Conclusions

The SoCal Gas Pipeline Road Maintenance Special Use Permit is consistent with the National Strategic Plan Goal 6 and Goal 4 by focusing on mission related work in addition to that which supports the agency goals, Objective 3, and helping meet energy resource needs, Objective 1. This activity does not implement LMP Strategy Lands 2 – Non-Recreation Special Use Authorizations because an operations and maintenance plan has not been developed. Since there are no known threatened or endangered species in the area, there is limited concern for any resource impact issues; however future authorizations will need to include better specialist involvement and input to the authorization in order to ensure successful administration of the authorization, especially to include hydrologist input.

Recommendations

- Ensure that the length of the permit determines the appropriate decision maker.
- Ensure all activities occurring on NFS lands are authorized and include specialist input, review and approval.
- Consult with OGC to determine authorities for previously issued permanent Mineral Leasing Act Grants and issuance of new permits/easements/or authorizations for the grants.
- Include language on hydrological requirements and other avoidance and minimization measures for road maintenance activities in future authorizations.
- Request installation of gate at road entrance since not a system road but permanent for use under the authorization.
- Ensure roads in this situation are included in INFRA system of record as system road and not as user-created roads in order to include them appropriately in any cumulative impacts analysis.
- Request Operations and Maintenance Plan in renewal of future authorizations.

Ongoing Activities and Sites

One ongoing activity and site was selected from Public Use and Enjoyment. The Aspen Glen Picnic Area and Pine Knot Trail Reroute support Goal 3 linked to the National Strategic Plan to provide outdoor recreation opportunities, meeting Objectives 1 and 2, and this site implements LMP Strategy REC 2 – Sustainable Use and Environmental Design by managing the site within the limits of the identified capacities… not sure what EA/CE says??.

Aspen Glen Picnic Area and Pine Knot Trail

Monitoring

The field review occurred on May 12, 2015 on the Mountaintop Ranger District under the Public Use and Enjoyment functional area. Mountaintop Recreation Staff Officer David Kotlarski led the FLT and District Staff.

Ongoing activities at the site that were discussed and monitored included: summer day use, winter snow play, parking and facility maintenance, and the Pine Knot Trailhead. The site receives extensive year-round use and there is a high demand for Forest Service presence and facility maintenance year round. Facilities include restrooms, picnic tables, trash cans, signage and parking.

The Pine Knot Trail was rerouted in 2013 and 2014, and the ongoing use of the new relocated trailhead was discussed. The picnic area and trailhead are adjacent to endangered plant habitat (pebble plains) and riparian habitat that supports suitable habitat for endangered southwest willow flycatcher. Ongoing effects to listed species are covered under ongoing effects biological opinions (riparian and pebble plains).

Conclusions

The site is very popular with day use visitors year round, but the capacity of the site is exceeded during peak visitation periods. Management of the site puts a substantial workload on recreation staff year-round. Parking is limited and snow play poses management challenges including snow removal, parking, and trash. The Pine Knot Trail reroute was successful in improving user experience, protecting pebble plains, and abating erosion problems associated with the old alignment. Engineering was not properly involved in planning or follow-through for needed INFRA database updates. Consultation under the Endangered Species Act was completed and was successful in both prescribing and covering the effects of the Pine Knot Trail re-route, and operation of the day use area in general.

Recommendations

- Seek partnerships to assist in site management.
- Include this site as part of a broader snow play strategy for the Mountaintop District. Consider a range of alternatives.
- Involve Engineering personnel early and through the planning process for trail reroutes.

LMP Amendments

The LMP 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 amendments to date are listed in the table below. Supporting documents are kept on file in the LMP Tracking Notebook. We frequently learn about the need for amendments through monitoring.

Table 2: LMP Amendments

Amendment	Implementation Date	Type of Amend.
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 LMP – 1 page of errata specific to the Forest.
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 http://www.fs.fed.us/r5/scfpr/projects/lmp/errata
5.	September 8, 2006	Administrative Correction (36CFR 219.7). Correction to LMP 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 during the plan revision. The entire Devers –Valley No. 1 correction is available on the Forest website.
6.	January 14, 2008	LMP Amendment. USDA FS Designation of Section 368 Energy Corridors on NFS Land in 10 Western States. Decision by Secretary of Agriculture to Amend Land Management Plans.
7.	January 11, 2010	LMP Plan Amendment. Designation of the Ranger Peak and Red Mountain Communication Sites.
8.	January 11, 2010	LMP Plan Amendment. Designation of the Lake Hemet Communication Site.
9.	September 20, 2011	LMP Plan Amendment. Exception for Ramona Hog Lake Road culvert to be designed to BIA's 25 year flood capacity.
10.	June 8, 2012	LMP Plan Amendment. Exception for 160 ft. tower at the Strawberry Peak Communication Site.
11.	July 11, 2012	LMP Plan Amendment. Designation of the Marshall Peak Communication Site.
12.	October 2014	LMP Plan Amendment. Record of Decision amending and revising monitoring and evaluation requirements from the 2006 Monitoring program.

LMP Updates

LMP Amendments (discussed above) change decisions made by the LMP. Consequently, they require environmental analysis under the National Environmental Policy Act (NEPA). From time to time other changes to the LMP 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.

Updates to the San Bernardino Land Management Plan are described in the table below. The supporting document is on file in the LMP Tracking Notebook. There are no updates recommended as a result of this monitoring effort.

Table 3: LMP Updates

[illegible]	[illegible]	[illegible]
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.
2.	December 8, 2009	Removal of Middle Fork Recreation Tract from the list of Recreation Residence Tracts in Part 2, p. 17., Other Designations-Table 481. Recreation Residence Tracts. The Decision Notice was signed December 8, 2009.
3.	September 3, 2010	Incorporation of HR146 - Omnibus Public Land Management Act of 2009, which added to the existing Santa Rosa Wilderness and designated two new wildernesses, Cahuilla Mountain and South Fork San Jacinto, within the San Bernardino National Forest. The Act expanded the Santa Rosa and San Jacinto Mountains National Monument with the addition of the Santa Rosa Peak and Tahquitz Peak areas. The Act also designated portions of the North Fork San Jacinto River and Palm Canyon Creek as 'Wild', portions of the North Fork San Jacinto River and Fuller Mill Creek as 'Scenic', and portions of the North Fork San Jacinto River, Fuller Mill Creek, and Bautista Creek as 'Recreational' Rivers.
4.	October 2014	LMP Plan Amendment. Record of Decision amending and revising monitoring and evaluation requirements from the 2006 Monitoring program, adding a question for mortality risk, adding a question for riparian condition, eliminating the question for general forest activities, adding an indicator for unauthorized roads and trails, and clarifying and updating several indicators to reflect current inventory methodology.

Table 4: LMP Monitoring and Trend Report Action Plan

[illegible]	[illegible]
The Forest Supervisor approves all of the recommendations in the Part 3 Monitoring Section of this report.	October 30, 2015
The Forest FY2014 LMP Monitoring and Evaluation Report will be discussed at a Forest Leadership Team (FLT) meeting.	November 2015
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 2015 LMP Monitoring and Evaluation Report on the Forest website.	November 2, 2015
To promote LMP consistency in future projects, the Forest Supervisor will ensure that the 2015 LMP Monitoring and Evaluation Report is available on the Forest website for all employees.	November 2, 2015

Public Participation

In November 2015, the Fiscal Year 2014 San Bernardino National Forest Land Management Plan Monitoring and Evaluation Report will be made available to the public on the Forest website, or a printed version upon request.

List of Preparers

Tasha Hernandez, Forest Environmental Coordinator, and Scott Eliason, Acting Forest Environmental Coordinator, were the primary investigators for this San Bernardino National Forest Land Management Plan Monitoring and Evaluation Report. The interdisciplinary team consisted of the following Forest line and staff:

Arturo Delgado
Al Colby
Andrea Nick
Bill Sapp
Bill Wells
Chris Dowling
Chris Fogle
Christine Hill
David Austin
David Kotlarski
Deb Nelson
Dev Kopp
Greg Hoffman
Ian Turner
Jason Collier
Jody Noiron
John Exline
John Ladley
Josh Direen
Kayanna Warren
Kim Boss
Lauren Blake
Mark Stamer
Mary Beth Najera
Mary Bogens
Pablo Gonzales
Rob Taylor
Robin Eliason
Ray Aguayo
Roger Murray
Travis Mason

Appendix A

Table A 1: Selected Projects and Activities for LMP Monitoring and Evaluation on the San Bernardino National Forest FY 2014.

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
MTRD	Big Bear	Bluff Mesa North	X	Resource Management		X	X	Field Review 5/12/2015
MTRD	Big Bear Back Country	Coxey Restoration	X	Resource Management		X	X	Field Review 5/12/2015
MTRD	Big Bear	Aspen Glen Picnic Area and Pine Knot Trail		Public Use and Enjoyment	X	X	X	Field Review 5/12/2015
SJRD	Garner Valley	Thomas Mountain Fuels Reduction Project	X	Resource Management		X	X	Field Review 7/29/2015
SJRD	Garner Valley	Rouse Road 5S15 Repair and Maintenance	X	Facility Ops and Maintenance		X	X	Field Review 7/29/2015
FCRD	Cajon	Mormon Rocks Station Hazardous Fuels Treatments	X	Facility Ops and Maintenance		X	X	Field Review 9/17/2015
FCRD	Cajon	Baldy Mesa Road Maintenance and Washout	X	Facility Ops and Maintenance		X	X	Field Review 9/17/2015
FCRD	Cajon	SoCal Gas Pipeline Road Maintenance	X	Commodity and Commercial Uses		X	X	Field Review 9/17/2015

FCRD = Front Country Ranger District, SJRD = San Jacinto Ranger District, MTRD = Mountaintop Ranger District