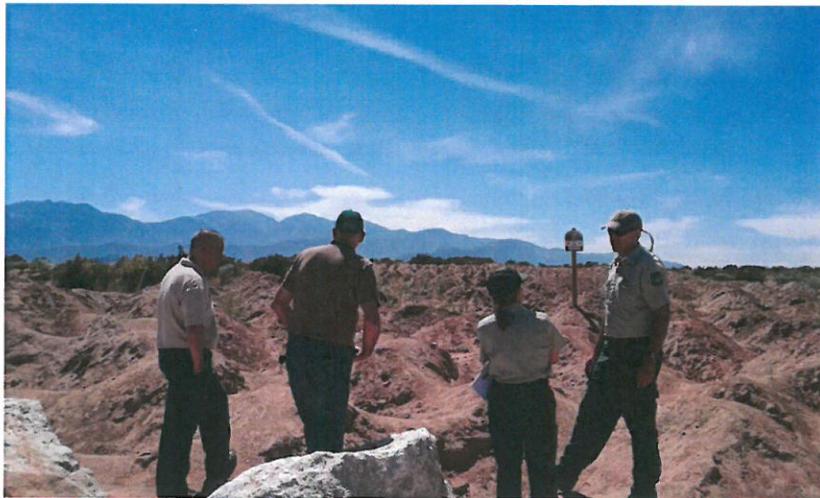
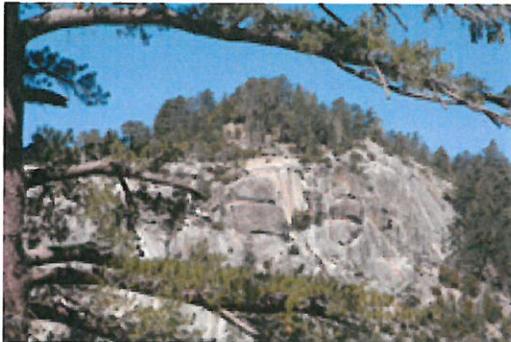




United States Department of Agriculture
Forest Service
Pacific Southwest Region
November 2016

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 report is completed under the newly revised monitoring strategy, however in 2015, the Forest completed the transition to the new monitoring program as required under the 2012 Planning Rule, and this transition includes new processes for monitoring that will be used in the next fiscal year 2016 monitoring report. 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
Forest Supervisor
San Bernardino National Forest

10/31/16

Date

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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 2015 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) 2015 LMP Monitoring and Evaluation Report documents the evaluation of selected projects and programs where activities occurred during October 1, 2014 through September 30, 2015. 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.

The Forest Service adopted new planning regulations (planning rule) in April 2012, pursuant to the National Forest Management Act. The planning rule requires that existing monitoring programs be changed to meet 8 specific monitoring criteria (36 CFR 219.12(a)(5)):

- (i) The status of select watershed conditions.
- (ii) The status of select ecological conditions including key characteristics of terrestrial and aquatic ecosystems.
- (iii) The status of focal species to assess the ecological conditions required under § 219.9.

- (iv) The status of a select set of the ecological conditions required under § 219.9 to contribute to the recovery of federally listed threatened and endangered species, conserve proposed and candidate species, and maintain a viable population of each species of conservation concern.
- (v) The status of visitor use, visitor satisfaction, and progress toward meeting recreation objectives.
- (vi) Measurable changes on the plan area related to climate change and other stressors that may be affecting the plan area.
- (vii) Progress toward meeting the desired conditions and objectives in the plan, including for providing multiple use opportunities.
- (viii) The effects of each management system to determine that they do not substantially and permanently impair the productivity of the land (16 U.S.C. 1604(g)(3)(C)).

In May 2015, the San Bernardino National Forest completed an administrative change to the LMP adding new monitoring questions for fire activity, non-native annual grasses, fire regime departure, special uses, and streamflows, adjusting the monitoring question for tree mortality and the indicator for Biological Resource Conditions (Goal 6.2), and adjusting the reporting frequency for all questions and indicators from every 5 years to every 2 years, as mandated by the planning rule. Criterion (viii) applies only to National Forests with timber production programs, which the San Bernardino National Forest does not have. Therefore, no monitoring is needed for this criterion, and it has not been included in the new monitoring framework.

Management indicator species were included in the LMP for monitoring as an indicator of progress towards meeting Goal 6.2. Under the planning rule, focal species replace management indicator species. An interdisciplinary team reviewed potential focal species and selected non-native annual grasses. This decision was also documented using the administrative change process in May 2015. The combined set of seven existing monitoring questions and six of seven new or modified questions, investigate ecological conditions that sustain at-risk species and target better indicators of progress towards Goal 6.2 than the habitat monitoring of management indicator species. Therefore, in conformance to the planning rule, all references to management indicator species will be removed from the San Bernardino National Forest LMP.

The new monitoring requirements will be discussed and summarized for the first time in the FY 2016 Monitoring Report next year. Even so, the ten year trend report that was planned for this year will not be in this report as we transition to a two year trend report for future monitoring. All other components of the existing plan monitoring framework will be retained, including annual monitoring of selected projects and performance indicators (Parts 2 and 3 Monitoring).

The new monitoring framework and documentation of best available science required by the planning rule are available at:

<http://www.fs.usda.gov/main/sbnf/landmanagement/planning>

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 | Number of Mineral and | Compare the number of mineral and energy development projects | Moderate | 5 |

| Goals | Monitoring Question | Indicators | Monitoring Action | Data Reliability | Report Period (Years) |
|-------|-----------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|-----------------------|
| | protecting ecosystem health while providing mineral and energy resources for development? | Energy Development Projects Proposed and Approved | proposed with those approved to establish a baseline of impacts to 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 | 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 | Moderate | 5 |

| Goals | Monitoring Question | Indicators | Monitoring Action | Data Reliability | Report Period (Years) |
|-------|------------------------------------------------------|----------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|-----------------------|
| | ownership adjustment to meet the desired conditions? | | California Land Management Plans analysis | | |
| | | 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 that were expected to be in this fiscal year 2015 report will no longer be reported, as we transition to the new monitoring program under the 2012 Planning Rule.

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 2,350 acres of hazardous fuels reduction treatments in FY 15. This accomplishment will be used as the annual indicator of progress toward the desired condition and will be represented in future trend analysis reports.

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 15. This accomplishment will be used as the annual indicator of progress toward the desired condition and will be represented in future trend analysis reports.

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 67 recreation sites managed to standard in the general forest areas, and has accomplished 483,368 PAOT days managed to standard in developed sites and 294 recreation special use authorizations administered to standard in FY 15. This accomplishment will be used as the annual indicator of progress toward the desired condition and will be represented in future trend analysis reports.

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 15. This accomplishment will be used as the annual indicator of progress toward the desired condition and will be represented in future trend analysis reports.

All other accomplishments and Forest Goals are considered long term indicators for monitoring and will be reported and analyzed as a part of future trend analysis reports.

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 2.

Table 2: Part 2 Monitoring Summary

| Indicators | FY 2015 Level |
|----------------------------------------------------------------------------------------|---------------|
| Acres of Terrestrial Habitat Enhanced | 2330 |
| Miles of Aquatic Habitat Enhanced | 32 |
| Acres of Noxious Weeds Treated | 47 |
| Acres of Forest Vegetation Established or Improved | 343 |
| Acres of Watershed Improved | 969 |
| Acres of Land Ownership Adjusted | 0 |
| Heritage Program Managed to Standard | 1 |
| Presence of a Heritage Program Plan | 1 |
| Acres of Section 110 Inventory of NFS lands | 330 |
| Evaluations of National Register Eligibility | 8 |
| Heritage Priority Assessments | 0 |
| Cultural Resource Assets Stewarded | 4 |
| Heritage Public or Research Opportunities Provided | 6 |
| Heritage Volunteer Hours Contributed | 4039.5 |
| Recreation Special Use Authorizations Administered to Standard | 294 |
| PAOT Days Managed to Standard (Developed Sites) | 483,368 |
| Recreation Sites Managed to Standard (General Forest Areas) | 67 |
| Land Use Authorizations Administered to Standard | 94 |
| Number of Mineral Operations Administered to Standard | 0 |
| Acres of Allotments Administered to Standard | 16000 |
| Acres of Hazardous Fuel Reduction | 2350 |
| Miles of Passenger Car Roads Maintained to Objective Maintenance Level | 86 |
| Miles of High Clearance & Back Country Roads Maintained to Objective Maintenance Level | 74 |
| Miles of Road Decommissioned | 0 |
| Miles of Trail Operated and Maintained to Standard | 67 |

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 Part IV (Administration) were taken during FY2015.

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

Conclusions

Habitat is being conserved through implementation of the Carbonate Habitat Management Strategy. Management activities associated with carbonate habitat during FY15 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

- Continue ongoing work towards the LMP recommended establishment of the Blackhawk RNA.
- Work on taking title to Mitsubishi Cement Co. (MCC) 17P and 18P via donation by MCC.
- Work on requesting mineral withdrawal to establish initial habitat reserve and implement mitigation measures for Omya and Mitsubishi.

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 FY2015.

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 (9.): The District continued to manage mining-related activities in and around pebble plain habitat. The strategy is to work with claimholders to prepare Notices of Intent that avoid impacts to pebble plain habitat by design.

D-1 (12.): The effort to identify, close and restore unauthorized routes 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 ongoing.

Conclusions

Habitat is being conserved through implementation of conservation strategies, and resource conditions indicate a stable trend relative to desired conditions.

Management activities associated with pebble plains during FY15 made limited gains toward the desired conditions of conserving habitat, minimizing incompatible uses, restoring habitat, and recovery of listed species.

Recommendations

- Continue ongoing work towards the LMP recommended establishment of the Arrastre and Wildhorse Research Natural Areas (RNAs).
- 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 effectiveness of protection measures and to detect additional protections needed.

Biological Resource Condition Monitoring

In fiscal year 2015, the San Bernardino National Forest reported to U.S. Fish & Wildlife Service (FWS) monitoring items from roughly 8 different LMP Ongoing Activities Biological Opinions (BO) for threatened and endangered (T&E) wildlife species and plant species. The following is a list of BOs with monitoring requirements performed in FY2015:

- 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.
- Programmatic Biological Opinion for the Revised Land Management Plans for the Four Southern California National Forests, California. FWS-05B0017-05F0009-R002, September 30, 2013.

Overview of all on-going activities monitoring:

- No known incidental take for TE species in 2015 from covered LMP on-going activities.
- Garner Grazing Allotment activities did continue in 2015, grazing occurred at lower numbers than historic within Quino checkerspot butterfly habitat.

Reports on individual species:

Southwestern willow flycatcher (SWWF) - Habitat suitability surveys and first year protocol surveys were conducted on the San Jacinto Ranger District by Tanner Environmental Services. Suitable habitat

was identified in four locations. No SWWF or any other *Empidonax* species were observed during the 2015 surveys. 4 brown-headed cowbirds were observed on the final visit to the Spillway Canyon area. Surveys were conducted by Jason Berkeley, FWS permitted SWWF surveyor.

Protocol level SWWF surveys were conducted at Lost Lake, Jenk's Lake, Cold Creek, the west fork of City Creek and associated tributaries, and Mill Creek. Surveys were conducted by U.S. Fish and Wildlife Service (FWS) permitted SWWF surveyors Brian Lohstroh, staff from the San Diego Natural History Museum, and Jason Berkeley.

Emergency consultation was conducted for the Lake Fire in July/August 2015.

The Plan for Water Drafting in SWWF habitat was completed in 2015 (signed Jan 25, 2016); this meets the term and condition from the Riparian BO to identify incidental take on SWWF associated with aerial water drafting activities; this plan also includes other species mitigation measures.

Mountain yellow-legged frog (MYLF) – SBNF participated in release of captive-bred juvenile frogs at Fuller Mill Creek and James Reserve in June 2015. D. Austin, K. Boss and L. Van Sant attended the annual MYLF Working Group meeting in Carlsbad on November 18, 2015. Kim Boss successfully managed five agreements with our partners in the MYLF Working Group, including the execution of two new agreements, that facilitate funding for the captive breeding and translocation program in FY2015.

CA Dept Fish and Wildlife did not conduct any trout removal efforts in Tahquitz Creek in 2015. No additional/future removals planned at this time.

Second year post fire survey for the Mountain Fire – fire effects monitoring (3 years post fire) conducted of Willow/Tahquitz Creeks by the U.S. Geological Survey (USGS) and found no MYLF again in 2015; habitat condition still remain poor or unsuitable for MYLF due to sedimentation caused by the fire/storm event and lack of water caused by the drought. USGS also conducted a salvage effort for MYLF in streams affected by the Lake Fire. No MYLF were detected.

USGS conducted reconnaissance surveys in Lost Creek, South Fork Santa Ana River, Dry Lake, Dollar Lake, Fish Creek, Frog Creek, and East Fork Barton Creek.

Drought conditions in 2015 still cause stream conditions in the North Fork San Jacinto River watershed were at historic lows. USGS conducted a salvage of 128 tadpoles in Dark Canyon campground and moved them downstream to shaded habitat area in September 2015.

MYLF Mortality on the San Jacinto RD – We found 1 dead juvenile in Dark Canyon upstream from the relocation and separate from the relocation effort. The Forest Service reported on September 20, 2015 to the FWS and others (by email to Jesse Bennett) and was sent off for necropsy.

See attached tables in Appendix A and the separate monitoring report for the Dark Canyon/Fuller Mill Creek San Jacinto Ranger District Recreation Sites MYLF BO monitoring.

Desert tortoise (DETO) - No incidental take observed during the monitoring of road maintenance activities on 3N21/3N24 in conjunction with the Baldy Mesa OHV area. No other trail or road maintenance activities were conducted in other portions of DETO habitat on the Forest.

Forest Biologist David Austin and Forest Supervisor Jody Noiron attended Desert Managers Group February 2015 meeting to coordinate with FWS/BLM/DoD/NPS; this group changing for CY15 to line officer bi-annual meeting (information sharing) due to the main goal for DETO monitoring/education program met in FY13. Jody Noiron attended the August 2015 meeting.

Unarmored three-spined stickleback (UTS) - No habitat enhancement work conducted in 2015. Monitoring of Shay Creek is done periodically throughout the year. Juniper Spring had some hand pulling of emergent aquatic vegetation in the summer 2015.

Santa Ana sucker (SAS) - D. Austin and A. Mendoza have attended Santa Ana River Habitat Conservation Plan meetings with FWS/San Bernardino County Water District; also attends quarterly western Riverside County Aquatics meeting at Riverside Corona Resource Conservation District with CDFW/FWS/SB Co/Riv Co. D. Austin provided comments on the draft SAS Recovery Plan to Kai Palescan, FWS in December 2014.

Public Outreach – Fisheries Resource Volunteer Corps (FRVC): A total of 36 individuals from the Fisheries Resource Volunteer Corps contributed approximately 3,162 hours of labor on the SBNF. Their efforts included garbage clean-up, graffiti removal, recreational dam removal, public outreach and enhanced approximately 32 stream miles. The emphasis of the public outreach efforts was to inform visitors about the special status fish in the creeks on national forest and the need for visitors to practice good stream etiquette. Visitors were reminded to properly dispose of all garbage and were encouraged not to construct dams in the stream. FRVC and SBNF staff conducted 23 “Trout in the Classroom” educational programs at Applewhite Picnic Area in FY2015. In addition to the above mentioned efforts, FRVC started conducting stream inventories on various stream across the forest to evaluate stream habitat conditions for fish and amphibians.

Quino checkerspot butterfly (QCB) - Conducted year 2 (of 3) photo point monitoring of aerial fire retardant areas established for the Mountain Fire (separate AFR report). The San Jacinto RD continued to remove noxious weeds (bull thistles) in the Johnson Meadow and Garner Valley areas to improve QCB habitat conditions. No broadcast burns again conducted in 2015 on SJRD. There were no changes expected in impacts to Quino from grazing since most of the grazing occurred in the Home Unit (Garner Allotment) and not throughout the entire allotment due to the Mountain Fire removing forage in 2013 and drought conditions retarding forage growth in other units in 2015 (separate QCB report).

Rouse Allotment has not been grazed since 2013 – permittee Leonard Hale died in 2014 and the allotment has been in non-use status for 2014 and 2015.

Peninsular bighorn sheep (PBS) - D. Austin attends the Coachella Valley Conservation Committee and Resource Management Oversight Committee meetings to coordinate with FWS/CDFW/BLM/NPS and CVAG. New Santa Rosa San Jacinto Mountains National Monument Science Plan study being started by Dr. Cameron Burrows/UCR; D. Austin is the FS representative to this group; main question to look at is recreational activities impacts on habitat/species.

Dunn Road (FS administrative use only) was monitored and looked at photo points and gate and found unauthorized OHV trail cut through fence. A. Bowers went out with LEO and found additional use on the

road – was patrolled by LEO and OHV/Recreation throughout the year. Penrod Canyon - The District found evidence of goat activity – found dead bag of domestic goats.

Palm Canyon tamarisk removal has occurred each Sept/Oct since 2013; removal of mature and seedling tamarisks for 1 mile each year is helping to restore desert riparian habitat in sheep essential habitat area.

Arroyo toad – (ARTO) - The Forest/MTRD continue to work with the Army Corps of Engineers on restricting access to Deep Creek through the Mojave Forks Dam tunnel. Steel barrier across the creek keeps getting vandalized, with unauthorized OHV use on Deep Creek in occupied habitat; ACOE maintains structure. Limited enforcement patrols have issued citations throughout the year.

Bautista canyon/Hixon trail HV crossing was maintained and additional rock placed.

A private landowner with a bull dozer conducted clearing activities in Cajon Creek which resulted in impacts to habitat for this species on NFS lands. FS law enforcement has contacted individuals/water districts; FWS - PSFO notified by FS on several occasions of activities occurring by Deb Nelson to John Taylor and Geary Hund.

San Bernardino kangaroo rat (SBKR) - A private landowner with a bull dozer conducted clearing activities in Cajon Creek which resulted in impacts to habitat for this species on NFS lands. FS law enforcement has contacted individuals/water districts; FWS - PSFO notified by FS on several occasions of activities occurring by Deb Nelson to John Taylor and Geary Hund.

2009 Grazing BO monitoring: The FS meet at the beginning of the 2015 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 2015 due to the permittee died in 2014 and the estate is currently in probate.

Fobes Canyon = The Fobes Canyon area was completely 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 no longer is functioning properly. The Forest conducted a site visit with the Palm Springs Field Office (PSFO) to the area in April and received an email on July 17, 2015 from the PSFO relieving the FS from the Fobes Canyon fencing and monitoring.

Grazing NEPA Status - NEPA on the Garner Allotment permit was postponed in 2014. 2015 scoping was started and NEPA IDT team developed proposed action and alternatives. NEPA for Wellman Allotment permit is expected start in FY17 and expected to be completed in 2018. Rouse Allotment was completed in 2013.

SBNF ESA Listed Plant Species:

Nevin barberry - No impacts reported = no known occurrences on Forest.

Slender-horned spine flower - New localities discovered on the SJRD, extending the known elevation range for the species upward. No impacts observed from FS on-going activities.

A private landowner with a bull dozer conducted clearing activities in Cajon Creek which resulted in impacts to habitat for this species on NFS lands. FS law enforcement has contacted individuals/water districts; FWS - PSFO notified by FS on several occasions of activities occurring by Deb Nelson to John Taylor and Geary Hund. **San Bernardino bluegrass, slender-petaled 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 reported, no targeted monitoring, existing protective measures (e.g. barriers) monitored and repaired where needed. Limited *Poa* surveys conducted in Johnson Meadow on SJRD to determine habitat suitability.

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

Update for Biological Opinion for Ongoing Activities that affect Twelve Mountain Plant Species on the San Bernardino National Forest - The SBNF continued to engage the Palm Springs Field Office in discussion/strategy to finish this consultation package in 2016.

Emergency consultations – Lake Fire and North Fire – Emergency consultations were conducted for the Lake Fire on the Front Country and Mountaintop Ranger Districts and for the North Fire on the Front Country Ranger District. Jenks Lake southwestern willow flycatcher 2 hour limited operating period was exceeded on the Lake Fire; SWWF habitat was impacted by ground suppression tactic in the Upper Santa Ana River. Desert tortoise habitat was removed by the North Fire in the Baldy Mesa area, along with ground suppression actions within habitat by several cooperating agencies in and adjacent to NFS lands.

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 2015, 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 2015 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. Side drains were armored with native rock. To reduce sedimentation and dissipate flow three trail crossings were again hardened with rock (2E43 Hixon, 2W01 Devil's Hole and 1W17 Holcomb Creek).

The USFS installed Big and Little Macks 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 increased the number of 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. The purpose of the monitoring is to assess and document any effects of OHV green sticker route use on habitats and then to schedule protection measure or maintenance needs.

Under the 2015 HMP, 96 locations of sensitive plant and wildlife habitat that intersect OHV routes were monitored. All sites were monitored except when access was precluded due to snow or bald eagle closure areas. The HMP required monitoring along 24 trails, 72 routes and trail crossings hardened with rock.

The success criteria and management objectives were achieved at 47 sites (no off trail travel occurred within sensitive habitat) of the 96 sites. Three trail crossings at streams hardened with rock in the spring of 2015 resulted in meeting the objective of preventing pool formation. At 6 other crossings, oil sheen was noted at one of these sites multiple times and rocking was completed later in the year.

Unauthorized OHV use occurred at 49 of the 96 HMP sites (109 unauthorized routes were noted within - 49 were single track trails 24" or less and 60 were 4x4 track routes). It is important to note that not all of these unauthorized routes were necessarily new this year but that they exist on the landscape and are in need of management and restoration. Off route use included creation of new routes, some hill climbs, down or cut fence and activities that are not OHV related. Ten sites were affected by target shooting activity or debris, 25 sites had trash or dumping present and sites with fire rings were noted. Vandalism along HMP sites included graffiti on rocks/trees, wood cutting, bars cut on gated mines, miles of tee post fence stolen and sign vandalism. These unauthorized activities continue to affect the Habitat Management Plan sites and the barriers and signage that help to protect them.

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

Although the monitoring checklist provided immediate short term solutions to some unauthorized uses, the Forest continued to recognize the need to increase on the ground monitoring staff to educate riders to remain on designated routes. Additional staffing was requested to prevent future disturbance to sensitive habitats along green sticker routes within and adjacent to the southern California urban interface.

Coordination between SBNF OHV staff and OHV law enforcement staff focused efforts in locations with repeated unauthorized activities. 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) OHV Restoration Monitoring and Maintenance

The SBNF completed 2 multiyear projects funded by state of California OHV Restoration funds.

The Forest-wide Restoration Site Monitoring and Maintenance Project was developed in 2013 in partnership with the Southern California Mountains Foundation. This project provided funding for San Bernardino National Forest staff and the materials necessary to conduct Forest-wide monitoring and maintenance of prior OHV related restoration sites and restoration of new sites. Work included supplemental planting, seeding, signage, kiosk installation, slashing, fence repairs, barrier placement, monitoring across 3 Districts, volunteer coordination and supervision, collection and propagation of native plant materials for outplanting and surveys needed to monitor, treat, and protect new restoration sites. The Southern California Mountains Foundation staff contributed to the success of this monitoring.

The Cajon Wash Boulder Placement Project provided funds to install and monitor boulders at five locations along the wash to prevent unauthorized vehicle access. The USFS also partnered with the California Conservation Corp and USFS Greenthumb volunteers to collect and rake in native seed to revegetate for erosion and sedimentation control at these sites. Locations of the projects described above will continue to be monitored and maintained using additional OHV restoration funds.

4) Adopt-a-Trail Program Road/Trail Monitoring and SBNF Volunteer Monitoring

The San Bernardino National Forest Adopt-A- Trail Volunteers contributed 12,132 hours conducting Forest-wide OHV trail and road maintenance along green sticker routes with a 100% accident free safety record during fiscal year 15. Additional hours of maintenance were contributed along 4x4 roads.

Members of the motorized Adopt-A-Trail (AAT) Program maintained over 200 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 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 is deterred.

The San Bernardino National Forest OHV Volunteers contributed 2,073 hours conducting road and trail maintenance and Habitat Management Plan monitoring (HMP).

5) SCMF-OHV Volunteer Program Monitoring

In fiscal year 2015, the Southern California Mountains Foundation (SCMF)-OHV Volunteer Program had 200 members conducting monitoring on all three Ranger Districts: Mountaintop, Front Country and San Jacinto. There were 25,197 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, unauthorized 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 2014/2015 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, Law Enforcement, Development and Restoration grants. A total of **\$2,132,002.00** was approved. Use of these funds began in fiscal year 2016.

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 2016 Ground Operations Soil Conservation Plan. Purchase the small excavator funded to stabilize trails on OHV routes.
- To comply with LMP Standard 35, for identified desired conditions for managed motorized recreation, watershed management and sustainable biological resource conditions, 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. Prioritize activities required to restore HMP sites and utilize FY16 Restoration grant funds to restore/protect sites.
- Continue the Travel Management monitoring as scheduled.
- Request additional patrol and law enforcement staff in future OHV grants.
- Implement monthly conference calls with law enforcement and Forest Protection officer staffing across all Districts.
- Continue to support, educate and supervise USFS OHV staff and OHV Volunteers and to coordinate efforts of all field going patrols including law enforcement personnel.

Heritage Program Monitoring

In FY 2012 and 2013, a new National Forest Heritage Program management scoring system was implemented which replaced the reliance on a single indicator, the monitoring of Priority Heritage Assets. In the new program, seven component measures provide a view of progress with a target of 1 “Heritage Program Managed to Standard” per forest. The following instruction was provided to National Forests:

- A Heritage Program managed to standard represents the combined goals of social, environmental, and economic sustainability in the FS Recreation Strategy and Heritage Program responsibilities to protect historic properties, share their values with the public, and contribute information and perspectives to land management. A unit will be counted as one Heritage Program Managed to Standard when the cumulative total of seven heritage stewardship indicators (10 points each) reaches a minimal score of 45 points. The seven indicator reflect the health and performance of FS unit programs in meeting manual direction to preserve America’s heritage through responsible stewardship activities that recognize, protect, enhance,

and use cultural resources for the greatest public benefit. This measure is calculated in NRM and reported out as one for each Forest meeting the minimal passing score. Targets will be assigned as number of Forests with passing scores.

- The Heritage Program Score represents the overall well-being of the agency's Heritage programs on national and regional scales. The score is based on 7 indicators: 1. Presence of a Heritage Program Plan; 2. Inventory of NFS lands; 3. Evaluation of National Register eligibility; 4. Priority Heritage Assets Condition assessments; 5. Cultural resource stewardship; 6. Opportunities for study and/or public use; and, 7. Volunteer hours. Each unit's score, based on the 7 heritage stewardship indicators – 10 points each, will support management decisions and investments. A cumulative score of 45 indicates a unit or program considered Managed to Standard. Regions will be assigned a total regional score to allocate to units. They will allocate target scores of 45 and above to units given a target to meet standard; 30-44 points to units expected to make progress toward meeting standard; and 15-29 points to units requiring active oversight.

Results

After years of focusing on monitoring the condition of Priority Heritage Assets, in FY 2015, as in FY 2014, the SBNF Heritage Program continued to concentrate on expanding the newer elements of the program. The Heritage Program worked on maintaining and improving its Heritage Program Plan as a learning, evolving document by completing a historical context for the South Big Bear area and improving a catastrophic incident protocol; carried out 330 acres of Section 110 inventory; consulted with the State Historic Preservation Office in the development of a management plan for four Priority Heritage Assets; carried out six public programs including a field school in connection with the San Manuel Band of Missions Indians and Cal State University, San Bernardino to help train Native American and other students to find, record and monitor sites; and saw 4039.5 hours of volunteer service completed towards the mutual benefit of the San Bernardino National Forest and the volunteers themselves.

Monitoring the work of other program areas as part of project implementation remains an important protection measure and was used on 3 projects: North Fire BAER route decommissioning, FSR 3N21 roadwork after storms and the repairs to the Big Pine Water System. The usefulness of this protection measures and others are now measured as a part of Phase III LMP monitoring; this monitoring is underway by Heritage staff.

Conclusions

Heritage Program achieved a 1 for Heritage Program Managed to Standard and expanded its work in some of the newly measured components. However, little work went forward in FY2015 on monitoring the condition of Priority Heritage assets because management plans were lacking. Stewardship begins with the interpretation of what to manage and how it should be managed. As better understanding of Heritage resources on the San Bernardino National Forest is gained through survey (both Section 106 and Section 110); the integration of the Tribes and the public in our learning about our resources and in the development of historic contexts; a clear view of management needs should emerge. In addition, integration of the Heritage Program and other programs on the San Bernardino National Forests is needed to make the program more successful. For example, management plans should be prepared jointly with the aid of other program areas for sites that are used (or traversed) by the activities of other program areas if the sites are eligible to be on the National Register of Historical Places or are otherwise important to the public.

Recommendations

- Integrate Tribal Relations work and public outreach into the preparation of Section 110 Survey, Evaluations, and Stewardship.
- Plan Heritage projects so that work towards heritage targets is integrated with work towards targets of other program areas to increase the pace and scale of ecological restoration while fulfilling heritage targets.

Water Quality Monitoring Monitoring

Fiscal year 2015 was the 24th 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 Best Management Practice (BMP) 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”.

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

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.

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.

Discussion and Results

The Regional Office (RO) 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. 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, retrospective monitoring, part of a NEPA or LMP prescribed monitoring plan and more. Only randomly identified sites are used to develop statistical references and are kept separate from selected site data collection. The RO assigned BMP target for the BDF in FY15 was 21 random site evaluations plus retrospective evaluations.

Random Evaluation Site Monitoring

In FY15 the San Bernardino National Forest using protocols from the R5 BMPEP User's Guide conducted a total of 39 BMP evaluations at 22 random sites. Information collected on the evaluation forms is input into a database, which scores the implementation and effectiveness of each BMP.

The overall implementation rating was 87 percent meaning the BDF did what it said it would do to protect water quality during project implementation and the overall effectiveness rating was 72 percent effective in protecting water quality. In comparison, the BMP rating between 2008 and 2014 averaged 88 percent implemented and 73 percent effective.

Selected Evaluation Site Monitoring

Selected sites may be identified in several ways including but not limited to routine site visits, as part of a NEPA or LMP prescribed monitoring plan, part of a settlement or negotiated agreement, sites of particular interest due to their sensitivity, uniqueness, etc., follow-up evaluations of not effective rated sites the prior year, and more. Selected sites are not used to develop statistical references and are kept separate from random site data collection.

A total of 45 selected site evaluations were completed at 28 sites. A breakdown of the 45 evaluations conducted include:

- 21 evaluations for routine site visits found that 93 percent were implemented and 83 percent were effective.
- 18 evaluations for follow-up of FY14 "not effective" evaluations (retrospective) found that 44 percent had improved to either "effective" or "at risk".
- 6 evaluations for follow-up of FY10-FY12 "effective" evaluations (retrospective) that had received effective ratings within the last three to five years found that all but one or 83 percent remained effective in protecting water quality.

National Best Management Practices Evaluation Program

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 BMP program was implemented in FY13 and the BDF target was two BMPs and in FY14 the target was seven BMPs. In FY15 rather than having an annual target, RO direction was that a total of 12 BMPs were to be completed over the FY15-16 two year period. In FY15 the BDF completed nine BMPs at nine locations.

Results of the BDF National BMP evaluations for FY15 found that 56 percent or five out of nine were implemented marginally or better and 67 percent or six out of nine were mostly effective or better at protecting water quality. In comparison, results for FY14 found 71 percent implemented marginally or better and 43 percent mostly effective or better at protecting water quality.

Conclusions and Recommendations

The RO BMP target for the BDF in FY15 was 21 random on-site effectiveness evaluations in addition to 21 retrospective (18 FY14 “not effective” and three FY10-FY12 “effective” evaluations). The BDF exceeded RO targets by completing 39 random site evaluations and 24 retrospective evaluations. In addition, 21 routine site evaluations and nine National BMP evaluations were also completed in FY15.

BMP monitoring with random site selection will continue to be the primary means of assessing the effectiveness of water-quality protection for current projects on NFS lands. The goal of random effectiveness monitoring for BMP protocols is 95 percent or higher for 5 consecutive years. The FY15 results are similar to the FY08-14 average and an improvement over last year’s effectiveness ratings, but remain below the goal of 95 percent effective in protecting water quality (Table).

Table 3. Summary of FY15 BMP Results

| BMP Evaluation Type | # Assigned | # Completed | % Implemented | % Effective |
|--------------------------------|------------|-------------|---------------|-------------|
| Random Site | 21 | 39 | 87 | 72 |
| Retrospective (FY14 Follow-Up) | 18 | 18 | N/A | 44 |
| Retrospective (Long-Term) | 3 | 6 | N/A | 83 |
| Routine | N/A | 21 | 93 | 83 |

Opportunities for improving implementation and effectiveness ratings to reach the 95 percent effectiveness goal may include the following:

- a) BMP evaluations are designed for completion by those persons responsible for the execution of the practices. For example, Range Conservationists would conduct grazing evaluations, Forester would conduct timber evaluations, Recreation Specialist would conduct recreation evaluations, and an Engineer would conduct road evaluations, etc. A Hydrologist may assist, but **the primary person conducting the evaluation should, in most cases, be the person with the responsibility for implementing the BMP practices. Better participation from project leaders is recommended.**
- b) Implementation evaluation of BMPs are time-consuming and 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?” Source documents such as the project documents, maps, contracts, plan of operations, applicable handbooks, Special Use Permit, BMP checklists, Erosion Control Plan, and

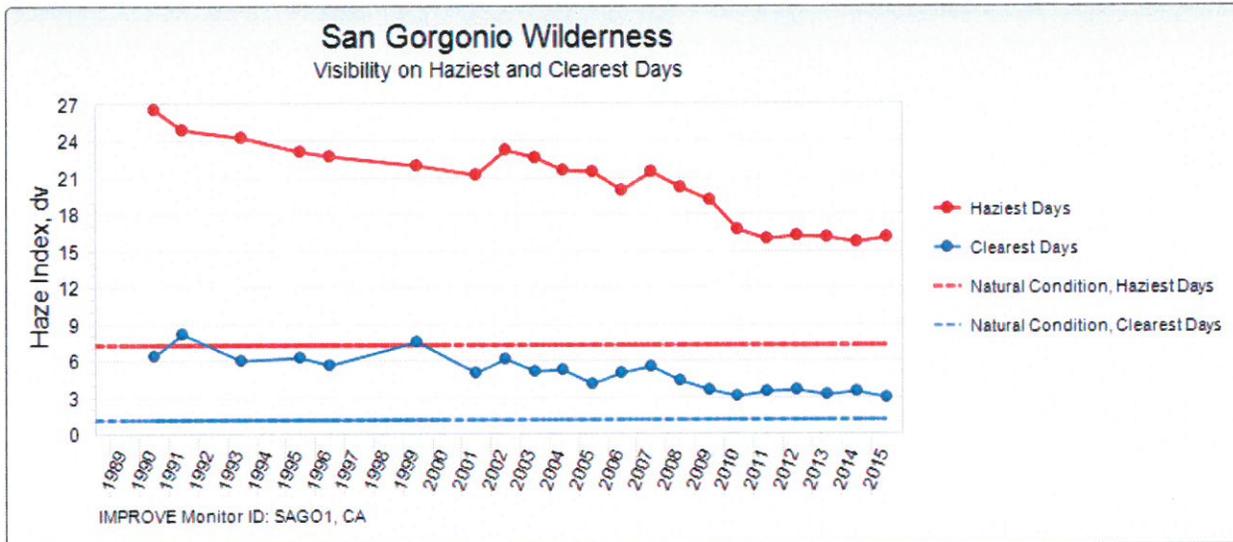
Allotment Management Plan, etc. are often not readily available or don't exist. Protection of water quality depends on a complete and accurate transfer of the site-specific BMPs described in the NEPA decisions documents into the project related source documents. **Implementation evaluations should have all pertinent source documents readily available and be completed upon project completion or shortly thereafter.**

- c) The use of recreation areas and Forest Service roads during wet periods can be problematic in terms of water quality protection. The BDF does not have a formal wet weather operation plan nor a road patrol plan designed to prevent wet weather access to many areas and to repair damage to roads that may adversely affect water quality. **The Water Quality Management Handbook (FSH 2509.22) requires a Wet Weather Management strategy to protect water quality by closing access routes during inclement soil moisture conditions as well as a Road Patrol Plan.**
- d) Training and awareness of the Best Management Practices Evaluation Program is crucial for continuous improvement opportunities and ongoing success. **The Water Quality Management Handbook (FSH 2509.22) requires all permanent full-time (GS-9 level and above) Forest Service watershed, timber, fire and fuels, engineering, range, and recreation staff to attend an introductory training within 3 years of being hired as new employees and all employees will attend refresher training at least once every 5 years. The Forest Service Regional Hydrologist is responsible for coordinating this training, but has yet to provide it.**
- e) The upcoming years Program of Work for engineering, specifically road maintenance, is often determined after receiving input from the District Ranger. This process is similar in regards to recreation. Presently, there is not a formal process for reporting or communicating BMPs receiving an "at risk" or "not effective" rating. Without a process for reporting or communicating BMP monitoring results to the District Ranger and Program Managers prior to determining the upcoming years Program of Work, sites receiving less than an effective rating may not get fixed and continue to deteriorate. **To ensure that sites receiving an at "at risk" or "not effective" rating are addressed, a BMP annual monitoring report summary by District should be distributed to each District Ranger and Program Manager for upcoming year Program of Work consideration.**

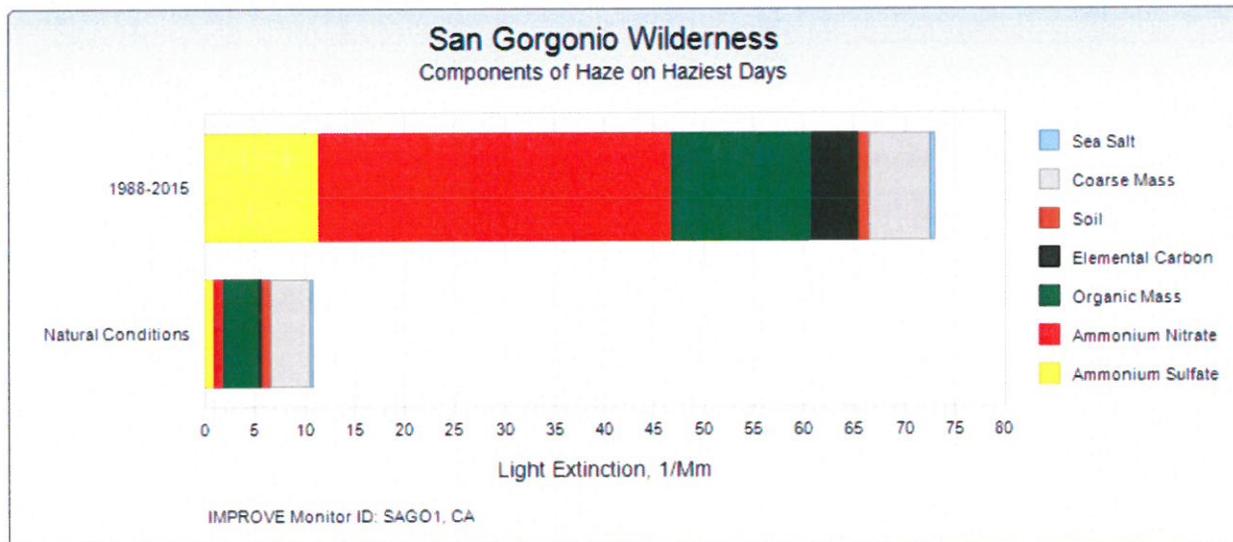
Air Quality Monitoring Monitoring

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. 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 extremely bad air quality due to smoke from the Soberanes and Sand Fires on July 31st, 2016 at 3:00pm. 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.

Boa Prescribed Fuels **Monitoring**

The field review of the Boa Prescribed Fuels project implementation from FY15 occurred on June 8, 2016 on the Front Country Ranger District. District Fuels Technician Lauren Blake led the District Staff. This project falls under the Resource Management and Fire and Aviation Management functional areas.

The project implementation in FY15 included handwork via contract and other cooperating agency crews. Burning activity was an issue due to high winds and moisture levels making for limited burn window opportunity, even though a burn plan and associated NEPA was completed.

Conclusions

The Boa Prescribed Fuels 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 Boa Prescribed Fuels project implementation for FY15 resulted in good accomplishments for fuels reduction while protecting resources. Good communication and coordination between project leaders and specialists helped keep this project within the level of effects analyzed under NEPA. The district would like to pursue the use of more in house crews to accomplish more work in the future so as to be more efficient in the implementation process and to enhance our workforce level of experience and skillset. The district looks forward to the current improvements being made to the burn plan program in order to utilize burning as a tool more often in the future. The district did communicate the need for more burn bosses on the forest in order to implement this work, which requires specific training.

Some issues with road erosion were reported and monitored appropriately. Due to the existing rain shadow in this area, the heavy rains impact the roads, even when no work is being implemented and therefore even minimal project activity can impact the level of erosion.

Recommendations

- Continue close coordination between project leads and specialists for good results.
- Prioritize in house projects for in house crews whenever feasible since they are most familiar with the project work and associated design criteria.
- Emphasize the need for more burn boss certifications across the forest to efficiently execute the burn program.
- Continue to communicate with special use permittees in are of project implementation in order to identify potential hazards for crews and to implement appropriate project design features.
- Consider looking into the use of air curtains for future burning if burn windows continue to be an issue.
- Continue to report any erosion to Forest Hydrologist and continue to monitor and report effects of project work on erosion and the use of erosion prevention and control measures.

Cactus Flats OHV Restoration

Monitoring

The field review of the Cactus Flats OHV Restoration project implementation from FY15 occurred on June 15, 2016 on the Mountaintop Ranger District under the Resource Management functional area. Mountaintop Restoration Program Manager and Botanist Deveree Kopp led the District Staff.

Project implementation during FY15 included the planting of 200 pinyon pine trees as a part of a long term large scale restoration project taking place on the site. The trees were mulched and watered every two weeks and staked to monitor survival success.

Conclusions

The Cactus Flats OHV Restoration 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 and is a good example of integration with other programs, including other areas of expertise and cooperating groups in the project design, including the tribes, route users, other user groups and nearby special use permittees.

The planting success has been high and therefore the goal to restore the native habitat and help to improve the defined footprint of the designated recreation site was a success.

Recommendations

- 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.
- Continue to water the trees for several more years for high survivorship.
- Improve upon initial scoping process to interested parties and groups since there were some complaints from the public about limited opportunity for participation in public meetings once implementation began.

Holcomb Valley OHV Restoration

Monitoring

The field review of the Holcomb Valley OHV Restoration project implementation from FY15 occurred on June 15, 2016 on the Mountaintop Ranger District under the Resource Management functional area. Mountaintop Restoration Program Manager and Botanist Deveree Kopp led the District Staff.

Project implementation during FY15 included planting of native species including native grasses and manzanita as a continuation of a multiple year restoration project which including previous plantings with watering and caging to protect the seedlings as well as boulder placement to prevent any further unauthorized OHV activity through the restoration site.

Conclusions

The Holcomb Valley OHV Restoration 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. The biggest issue lies in the use of boulders as unauthorized OHV barriers as they sometimes do not coincide with visual design feature preferences and may affect archaeological and historical site management preferences, but with good communication between specialists, project implementation has been successful in meeting all of the desired design criteria. At the same time, one of the restoration sites has been selected for future monarch butterfly habitat restoration.

This site falls along a special use permit which required access via a temporary route through the restoration site. Therefore there is a need to keep a temporary road available for future use, however this hinders the restoration success and the elimination of unauthorized OHV entry.

Recommendations

- Keep restoration integrated with other program areas. This is a good example of integration of restoration, roads, heritage, special uses and recreation. Restoration should also be well integrated with fuels projects and any other landscape scale projects.
- Seek the possibility of alternative access points for special use permittee in order to enhance restoration success.
- When non-native rock is used for barriers, continue to reuse the same rock for future restoration sites nearby for increased efficiency.
- Continue to utilize the grants available for the unauthorized OHV restoration program.
- Complete the restoration cycle by pulling out carsonite posts once site is fully restored so as to eliminate attraction to the area by further unauthorized OHV.

Mountain Fire Reforestation Project

Monitoring

The field review of the Mountain Fire Reforestation Project implementation occurred on June 2, 2016 on the San Jacinto Ranger District under the Resource Management functional area, and was led by Forester Kayanna Warren.

The project for FY 15 included contract planting of native pine species and release of the planted seedlings for survival. This planting continued into 2016 however the release contract was not successfully awarded in time the following year due to contract timing constraints.

Conclusions

The Mountain Fire Reforestation 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, and FH3 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; and to 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.

The Mountain Fire Reforestation Project implementation for FY15 resulted in good accomplishments for reforestation while maintaining resource protection. Good communication and coordination between project leaders and specialists helped keep this project within the level of effects analyzed under NEPA. Concerns were addressed through design features. Cheatgrass was present and the spread was minimized by cleaning of boots and tools. Due to suitable habitat for the Quino Checkerspot Butterfly, there was consultation with the FWS which took time to complete and impacted the timing of planting (2016 replant).

Recommendations

- Document any invasive species measures, monitoring, treatments, and/or recommendations.
- Continue to set up release contracts for survival of the seedlings and replant where necessary to meet minimum desired stocking levels.
- Planting needs to start earlier in the year in order to improve survival success.
- Consider developing further forest direction for silvicultural treatments to support the LMP as it focuses on place based direction.
- Continue to use partners such as the UCC for continued success in reforestation projects.
- Include dead tree removal in design features even if it is only for roadside hazard trees, for which NEPA is already complete.

Palm Canyon Invasive Plant Removal Project

Monitoring

The field review of the Palm Canyon Invasive Plant Removal Project implementation occurred on June 2, 2016 on the San Jacinto Ranger District under the Resource Management functional area, and was led by Botanist Deb Nelson.

This is a phased project with many treatment occurring over several years, with current treatment consisting of non-native invasive plant removal and future treatment options of native plantings.

Conclusions

The Palm Canyon Invasive Plant Removal Project implementation is consistent with the National Strategic Goal IS 1 to prevent the introduction of new invaders, conduct early treatment of new infestations, and contain and control established infestations. This project implements LMP Strategies WL 1, FH2, and FH3 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; and to 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.

The Palm Canyon Invasive Plant Removal Project implementation for FY15 resulted in good accomplishments for nonnative invasive plant removal. Good communication and coordination between project leaders and specialists helped keep this project within the level of effects analyzed under NEPA.

The project involves specialized skillsets including hiking long distances, camping overnight, using herbicide application, and hand tools for removal of the target plants. Equipment hauling, training of crews, and keeping up with monitoring and retreatments are all issues that continue to keep the project in need of attention. Due to several design features to protect T&E species and habitat, there is a narrow window of opportunity to implement this project but with good communication and coordination between specialists and cooperating agency crews, the project has been a success for several years.

Recommendations

- Continue to work in close coordination with other specialists on design features to protect all natural resources in the riparian habitat.
- Continue to communicate and coordinate ways to efficiently and safely haul equipment into the site for use in a timely manner within the narrow specified window of treatment, including pack mules and helicopters when available.
- Continue to execute monitoring and surveys ahead of schedule using partners in order to efficiently implement the project.
- Seek future opportunities to complete NEPA for the use of additional herbicides not covered under the existing NEPA so there may be more tools in the toolbox for effective treatments.
- Continue to follow the PALS process for the use of chainsaws and work with fire personnel to allow for treatment options and design features that improve treatment efficiency and effectiveness while remaining fire safe.
- Prepare a contingency plan for the possibility of furlough or government shut down due to the timing of treatments with the end of the fiscal year and past issues this has had on implementation.

NFS Road 4S01 Black Mountain Road Reconstruction

Monitoring

The field review of the NFS Road 4S01 Black Mountain Road Reconstruction project implementation occurred on June 2, 2016 on the San Jacinto Ranger District under the Facility Operations and Maintenance functional area, and was led by Assistant Forest Engineer, Josh Direen.

The project consisted of grading and installing drains as well as the use of magnesium chloride for dust abatement in specified locations. Design features were included in the contract based on specialist input and a CE checklist was used to document the decision and findings.

Conclusions

The NFS Road 4S01 Black Mountain Road Reconstruction 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.

This project was successful at meeting these goals with the use of adaptive management approaches. Due to the use of magnesium chloride as a new tool for dust abatement, monitoring will continue in order to

determine the impacts of the treatments on vegetation and to determine if this tool will continue to be utilized for dust abatement.

Some of the specialist input that was used in the final decision and in project implementation could not be found in the decision document, and is not required, however ensuring adequate time for sharing and review of these final documents for content before finalization in the future will help eliminate any misunderstandings during implementation.

There is a concern for areas that are open in the winter that get more use and therefore have more erosion and whether annual maintenance will be able to keep up with the use.

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.
- Ensure all NEPA project team members have access to final NEPA documents and have a clear understanding of the decision made.
- Continue to maintain annually and close areas in the winter when possible and monitor the effectiveness of treatments in all areas to determine future maintenance needs.

Road Repair 3N05/3N09

Monitoring

The field review of the Road Repair 3N05/3N09 project implementation occurred on June 15, 2016 on the Mountaintop Ranger District under the Facility Operations and Maintenance functional area, and was led by Assistant Forest Engineer, Josh Direen.

The project consisted of grading with the use of various aggregates, depending on the location and due to availability of material at the time of implementation. Some of the aggregates were uses from local resources and others were hauled in. Pavement was also used in some areas in front of the campground where dust prevention was needed.

Conclusions

The Road Repair 3N05/3N09 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 has been successful at meeting the goals, however there are underlying issues that have yet to be addressed due to the existing user conflicts along this road. A hard closure for the winter is in place to deal with some of those issues but monitoring will continue to determine how best to manage this road in the future.

A spring runs across the road in one area where there are existing erosion issues that need to be addressed.

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.
- Continue to close area for the winter and ensure proper NEPA is completed in order to do so.
- Include this road in future BMP Monitoring in order to determine how to best manage the area where the spring crosses the road.

Summit OHV and Staging Project

Monitoring

The field review of the Summit OHV and Staging Project occurred on June 8, 2016 on the Front Country Ranger District under the Facility Operations & Maintenance management and Public Use and Enjoyment functional areas. During the review, we look at project work and ongoing activities associated with OHV use of the area.

This project consisted of extending the staging area to meet capacity needs and restoration of areas where unauthorized OHV was occurring. Boulders were used to better define the footprint of the staging area and chunking was used in the restoration area to deter further use and help in restoration.

Conclusions

The Summit OHV and Staging 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.

This project is a good example of an integrated project between restoration and recreation and good communication between these program area specialists has made this project a success. There have been several lessons learned throughout this project that will aid in future year's success. This is a multi-year project with funding coming from a grant. Therefore, adaptive management is a feasible approach in the design and will ensure that the best management approaches are taken through monitoring.

Recommendations

- Involve hydrologist in future design and implementation for maintenance projects in order to maximize use of hydrological measures to minimize erosion and sedimentation.
- Look into creating a BMP checklist for future monitoring of hydrologic impacts during implementation.
- 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.

- Continue to seek funding opportunities through grants for integrated restoration work at recreation sites such as these.
- Look into additional barrier options for the design to prevent access by unauthorized OHV into the restoration area other than boulders, such as chain or fence.

Desert Water Agency Permit Renewal

Monitoring

The field review of the Desert Water Agency Special Use Permit Renewal occurred on June 2, 2016 on the San Jacinto Ranger District under the Commodity and Commercial Uses management functional area.

This project included the reissuance of a 30 year special use permit for water transmission pipelines, a hydroelectric penstock, a water tank and access roads. The reissuance was done through a CE checklist to ensure no extraordinary circumstances existed and to document those findings.

Conclusions

The Desert Water Agency Special Use Permit Renewal 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 and helping meet energy resource needs, respectively. This activity also implements LMP Strategy Lands 2 – Non-Recreation Special Use Authorizations because an operations and maintenance plan has been developed, submitted and approved.

Since there are no known threatened or endangered species in the area, there is limited concern for any resource impact issues, however noxious weeds are present in the permit and surrounding area, as well as nearby private lands and the development of a plan to address them would be beneficial. Additionally, the Office of General Council (OGC) may need to advise on future permit reissuance processes for this use and many other water related uses, due to recent updates that have been shared in policy and procedure regarding the agency's authority in determining direct and indirect effects of such uses and associated water rights laws and policy.

Recommendations

- Continue to ensure all activities occurring on NFS lands are authorized and include specialist input, review and approval before issuing permit.
- Develop a weed management plan for this area to ensure success in minimizing the spread of existing noxious weeds and include partners in this process.
- Continue to work with permittees ahead of time before permit expires to prepare them for the permit reissuance process.
- Consult with OGC on future water related special use permits, to ensure understanding of water rights laws/policy, especially if there is a surface diversion involved that could impact resources on USFS lands.

Kinder Morgan Swarthout Canyon Erosion Control Project

Monitoring

The field review of the Swarthout Canyon Erosion Control Project under the Kinder Morgan Special Use Permit occurred on June 8, 2016 on the Front Country Ranger District as part of ongoing activity monitoring under the Commodity and Commercial Uses management functional area.

This project is a part of an ongoing activity under a special use permit's operations and maintenance. Kinder Morgan discovered an exposed gas pipeline as a result of erosion that needed to be covered and restored. Access was granted to do so with a restoration plan in place.

Conclusions

The Swarthout Canyon Erosion Control Project 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. Hydrologic monitoring and restoration effectiveness monitoring would have helped this project be more successful in allowing for more vegetation growth and preventing future erosion of the sediment surrounding the gas line.

Recommendations

- Ensure all activities occurring on NFS lands are authorized and include specialist input, review and approval at various stages in the planning and implementation process.
- If necessary, request installation of barrier at entrance near road if intended for permanent access under the authorization and since it is not a system road.
- Request an Operations and Maintenance Plan as required under the special use authorization and include maintenance such as this in that plan so there is no longer a need to identify it as emergency work.

Ongoing Activities and Sites

One ongoing activity and site was selected from Public Use and Enjoyment. The PCT Maintenance and FRVC Streambed Restoration support Goal 3 linked to the National Strategic Plan to provide outdoor recreation opportunities, meeting Objectives 1 and 2, and implements LMP Strategy REC 2 – Sustainable Use and Environmental Design by managing the recreation sites within the limits of the identified capacities.

PCT Maintenance

Monitoring

The field review occurred on June 15, 2016 on the Mountaintop Ranger District under the Public Use and Enjoyment functional area. Mountaintop Recreation Staff Officer David Kotlarski led the District Staff.

Ongoing activities at the site that were discussed and monitored included trail maintenance, tree falling, interpretive education and closures.

Conclusions

The PCT is a national trail that only has a portion running through the San Bernardino National Forest. It is managed by the Pacific Crest Trail Association as a partner to the US Forest Service. The

communication and partnership with their association has been a success in meeting all of the goals and objectives for the forest. They have aided the agency with funding as well as monitoring for projects. Design criteria such as limited operating periods and avoidance areas have been successfully communicated to them by our resource specialists. Recent fires have resulted in large closures and reroutes that identify the need for NEPA.

Recommendations

- Continue to utilize partnerships to assist in site management.
- Consult with Region and OGC on future closures as necessary.
- Continue to work with local partners and interest groups to minimize unauthorized use of trail system by other trail users and to develop alternative plans for multiple use trails.

FRVC Streambed Restoration

Monitoring

The field review occurred on June 8, 2016 on the Front Country Ranger District under the Public Use and Enjoyment functional area. Front Country Ranger District Wildlife Biologist Angelica Mendoza led the District Staff.

This discussion took place near the Applewhite Picnic area along Lytle Creek. Ongoing activities at the site (and many other streams across the Forest) that were discussed and monitored included patrol, public contact, trash pickup, graffiti removal, recreational dam removal, and water quality tests. The work is implemented by a group of volunteers called the Fisheries Resource Volunteer Corp (FRVC). FRVC also coordinates the educational program "Trout in the Classroom" at Applewhite Picnic Area for school-aged groups to learn about stream ecosystems and conservation.

Conclusions

With the assistance of FRVC in restoration and public education at streams across the Forest, the Forest is able to achieve targets pertaining to miles of stream habitat enhanced. FRVC also assists the Forest in monitoring recreational uses and the impacts on resources. This is especially important due to the presence of threatened and endangered species and their habitat in some of these streams. The partnerships and associated work has allowed the agency to meet the goals for improving riparian condition for these species while continuing to permit the recreation activity.

Recommendations

- Continue to utilize volunteer groups and partners to assist in site management and ongoing management activities.
- Continue to monitor water quality and collect more data on streambed information whenever possible to help in future management.
- Work with private inholdings and other nearby landowners to ensure they are able to manage their portions of the streams appropriately to sustain the health and vigor of the overall stream outside of the Forest Service lands.
- Continue to report impacts of recreation use for the USFWS Biological Opinion.

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 4: LMP Amendments

| Amendment | Implementation Date | Type of Change |
|-----------|---------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. | October 24, 2005 | Errata |
| 2. | April 21, 2006 | Reissuance of Record of Decision (ROD) due to technical error in the FEIS regarding omission of public comments on wildlife issues and the agency's responses in the printed and published materials. Began a new 90 day appeal period April 21, 2006 which ended July 20, 2006. The Plan went in effect October 31, 2005 and will remain in effect. The decision to select Alternative 4A did not change. |
| 3. | April 2006 | Errata- San Bernardino National Forest 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 5: LMP Updates

| Update | Implementation Date | Type of Change |
|--------|---------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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. |
| 5. | May 2015 | The Forest Service transitioned to the new monitoring program as adopted under the new planning regulations (planning rule) in April 2012, and pursuant to the National Forest Management Act. The planning rule requires that existing monitoring programs be changed to meet 8 specific monitoring criteria (36 CFR 219.12(a)(5)). |

Table 6: LMP Monitoring and Trend Report Action Plan

| Task and Responsible Official | Effective Date |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| The Forest Supervisor approves all of the recommendations in the Part 3 Monitoring Section of this report. | October 2016 |
| The Forest FY2015 LMP Monitoring and Evaluation Report will be discussed at a Forest Leadership Team (FLT) meeting. | November 2016 |
| 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 2016 |
| 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 2016 |

Public Participation

In November 2016, the Fiscal Year 2015 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, was 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 | David Austin | John Exline | Mary DeBelina |
| Al Colby | David Kotlarski | John Ladley | Mark Stamer |
| Andrea Nick | Deb Nelson | Josh Direen | Mary Beth Najera |
| Bill Sapp | Dev Kopp | Kayanna Warren | Rob Taylor |
| Bill Wells | Heidi Hoggan | Kim Boss | Robin Eliason |
| Christine Hill | Jody Noiron | Lauren Blake | Scott Eliason |

Appendix A

Table A 1: Selected Projects and Activities for LMP Monitoring and Evaluation on the San Bernardino National Forest FY 2015.

| Unit | Name | Project | Program | Ongoing Activity Site | Monitor LMP Consistency | Monitor Effectiveness | Documentation reviews, field reviews and/or comments |
|------|------------------------------------------------|---------|------------------------------------------------------|-----------------------|-------------------------|-----------------------|------------------------------------------------------|
| MTRD | Cactus Flat OHV Restoration | X | Resource Management | | X | X | Field Review 6/15/2016 |
| MTRD | Holcomb Valley OHV Restoration | X | Resource Management | | X | X | Field Review 6/15/2016 |
| MTRD | Recreation: PCT Maintenance | | Public Use and Enjoyment | X | X | X | Field Review 6/15/2016 |
| MTRD | 3N05/3N09 Road Repair | X | Facility Ops and Maintenance | | X | X | Field Review 6/15/2016 |
| SJRD | Black Mountain Road Reconstruction | X | Facility Ops and Maintenance | | X | X | Field Review 6/2/2016 |
| SJRD | Desert Water Agency Special Use Permit Renewal | X | Commodity and Commercial Uses | | X | X | Field Review 6/2/2016 |
| SJRD | Mountain Fire Reforestation | X | Resource Management | | X | X | Field Review 6/2/2016 |
| SJRD | Palm Canyon Invasive Plant Species Treatment | X | Resource Management | | X | X | Field Review 6/2/2016 |
| FCRD | Boa Hazardous Fuels Treatments | X | Resource Management and Fire and Aviation Management | | X | X | Field Review 6/8/2016 |

| Unit | Name | Project | Program | Ongoing Activity Site | Monitor LMP Consistency | Monitor Effectiveness | Documentation reviews, field reviews and/or comments |
|------|--------------------------------------------------------|---------|-----------------------------------------------------------|-----------------------|-------------------------|-----------------------|------------------------------------------------------|
| FCRD | Summit OHV Staging | X | Facility Ops and Maintenance and Public Use and Enjoyment | | X | X | Field Review 6/8/2016 |
| FCRD | FRVC Streambed Restoration | | Resource Management | X | X | X | Field Review 6/8/2016 |
| FCRD | Kinder Morgan Swarthout Canyon Erosion Control Project | X | Commodity and Commercial Uses | X | X | X | Field Review 6/8/2016 |

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