United States Department of Agriculture

Forest Service

Pacific Southwest Region

Land Management Plan Monitoring and Evaluation Report

September 2016

Cleveland National Forest
Fiscal Year 2015

Dear Cleveland National Forest Stakeholders: September 2016

I am pleased to present the Cleveland National Forest's (Cleveland NF) annual monitoring and evaluation report for your review. The purposes of this report are to determine if plans, projects, and activities are implemented as designed and in compliance with the Cleveland NF Land Management Plan (LMP); to evaluate the effectiveness of the LMP; and to help identify potential future adjustments to the LMP.

Monitoring is emphasized and identified as a key element in all programs to ensure achievement of the LMP's desired conditions over time. Each year we report on annual indicators of progress and every fifth year include a comprehensive review of any trends. This is the tenth monitoring and evaluation report produced since the LMP was revised in 2005.

Keeping Cleveland NF stakeholders informed of the results of our monitoring is important to me. This report will be posted on the Cleveland NF website at **http://fs.usda.gov/cleveland/**. If you are interested in becoming involved in project or other planning, please also see our Schedule of Proposed Actions at **http://www.fs.fed.us/sopa/forest-level.php?110502**.

Sincerely,

William Metz

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Forest Supervisor
Cleveland National Forest

TABLE OF CONTENTS

Cleveland National Forest
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1. Introduction

This report documents the evaluation of projects selected from activities that were implemented on the Cleveland National Forest (Cleveland NF) during fiscal year 2015, which began on October 1, 2014 and ended on September 30, 2015. The Cleveland NF Land Management Plan—referred to as the "Land Management Plan" or "LMP" throughout this document—went into effect on October 1, 2006. Projects with decisions signed after this date must comply with direction in the Land Management Plan. Decisions approved prior to this date that are not under contract or permit but continue to be implemented in phases are also expected to be consistent with the Land Management Plan. This report documents the evaluation of activities and the interpretation of monitoring data to determine the effectiveness of the Land Management Plan and addresses whether changes in the plan or in project or program implementation are needed.

2. Methodology

Monitoring is described in all parts of the Land Management Plan, with monitoring requirements summarized in Part 3, Appendix C. The Cleveland NF monitoring guide further details the protocols that were used in this review. This guide is available on request from the Cleveland NF Planner, whose contact information is listed on the final page of this report.

Part 1 of the Land Management Plan identifies outcome questions that will help to evaluate movement toward the desired conditions over the long term. The monitoring guide describes the baseline data that will be used to answer these questions and evaluate progress. A comprehensive evaluation of this progress is prepared every five years and is included in this monitoring and evaluation report. Part 2 monitoring is focused on program implementation including inventory. The current system tracks performance measures linked to the National Strategic Plan and reports accomplishments through a national reporting system called the Performance Accountability System.

Implementation and effectiveness monitoring for Part 3 of the Land Management Plan was conducted at the project or activity level. A random sample of projects and ongoing activities was selected and visited to review the application and effectiveness of the design criteria. If problems with documentation or implementation were detected or if the design criteria were determined to be ineffective, then the monitoring team – an interdisciplinary team of specialists listed on p. 42 – recommended possible corrective actions to Forest officials. All recommendations are deliberative in nature and do not constitute a management requirement nor a commitment of funds. The following questions were asked for each reviewed project or ongoing activity:

1. By comparing expected results to actual results, did we accomplish what we set out to do?

Were relevant legal and other requirements applied to the project or site? Were Land Management Plan goals, desired conditions, and standards incorporated into operational plans, such as burn plans, allotment management plans, and facility master plans? Is LMP consistency documented, such as by a project-specific consistency review checklist?

Were National Environmental Policy Act (NEPA) mitigation measures or Land Management Plan project design criteria implemented as designed? Were requirements from biological assessments, biological evaluations, heritage evaluations, and watershed assessments implemented?

To evaluate effectiveness, the review team asked: Have the project design criteria applied effectively improved environmental conditions as expected?

2. Why did it happen? If the Cleveland NF did accomplish what it had set out to do, the review team attempted to identify the reasons for success; conversely, if not, reasons why not. The Cleveland NF emphasizes and seeks out underlying cause-and-effect relationships, not individual performance or behavior.

3. What are we going to do next time? What activities should be continued to sustain success? Are changes needed to correct any implementation- or effectiveness-related failures? If change is needed, is an amendment or administrative correction to the LMP required?

All results, conclusions, and recommendations are documented in this monitoring and evaluation report.

3. LMP Part 1 Monitoring

This chapter documents the monitoring of indicators of progress toward the desired conditions described in the Cleveland NF Land Management Plan (LMP, Part 1 monitoring). Tracking annual indicators in this chapter will help identify trends over time, as well as support comprehensive evaluations that will be prepared every five years after LMP implementation.

The following goals are listed in Part 1 of the LMP:

Forest Goal 1.1: Community protection (LMP, Part 1, pg. 19)

Goal: Improve the ability of southern California communities to limit loss of life and property and recover from the high intensity wildland fires that are part of California's ecosystem.

Activity, practice, or effect to be monitored: Vegetation treatments in the wildland/urban interface; fire activity on the landscape

Monitoring questions: Has the Cleveland NF made progress in reducing the number of acres that are adjacent to development within wildland/urban interface defense zones that are classified as high risk? Are wildfires becoming larger, more frequent, or more severe, and is there a seasonal shift in fire activity?

Indicator: Acres of High Hazard and High Risk in WUI Defense Zone; Total and Mean Fire Size, Ignition Density, Fire Severity, and Monthly Area Burned

Monitoring Action: 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.

In fiscal year 2015, hazardous fuel treatments occurred on 2,534 acres in the wildland/urban interface. 3,788 acres were reported accomplished in the Forest Activity Tracking System database (FACTS) because some acreages received more than one type of treatment. This contributes to the National Strategic Plan (objectives 1.1 and 1.3). The LMP identifies a more specific indicator focused on measuring progress toward increasing the level of the Cleveland NF fuels program in the wildland/urban interface defense zone described in the LMP.

Background on this indicator

The wildland/urban interface defense zone—that portion of the wildland/urban interface that is directly adjacent to structures (LMP, Part 3, pg. 5, Standard S7; LMP, Appendix K)—has a variable width determined at the project level. The maximum width of the defense zone is defined for general vegetation types in Standard S7. For the LMP analysis, the maximum width was used. This information was used to represent the present, or "baseline," extent of the wildland/urban interface defense zone.

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

Risk is related to human values or risk of loss. The presence of structures is the indicator of risk in this analysis. Due to rapid development of private land in southern California, the inventory of areas with structures is constantly changing. Maps representing the wildland/urban interface defense zone are typically a year or more old and therefore should only be considered an estimate of the actual area pending period updates. The actual presence of communities and substantial structures is determined at the project level. In other words, the defense zone coverage or map is not an LMP decision. The decision is to apply the direction in LMP standards S7 (including Appendix K) and S8 to areas that are actually adjacent to communities or substantial structures at the time of project planning. Areas where old structures have been removed are not part of the defense zone. No Cleveland NF-wide, site-specific inventory of fuel hazard within the defense zone exists. In addition, high hazard conditions can be dynamic, returning in as little as five years after a fire in some vegetation types. For this reason, the hazard indicator is assumed to be high in all areas until a project level assessment determines

otherwise. Therefore, the monitoring task is to track the level of management effort directed at reducing fire hazard in the wildland/urban interface defense zone including keeping the inventory of the actual defense zone up-to-date.

The method of calculating progress toward Goal 1.1 is summarized in Table 1. Indicators of progress toward Goal 1.1 will be calculated by using the wildland/urban defense zone from the Land Management Plan analysis database. Acres of treatments in the wildland/urban defense zone were calculated for each of the fire regimes and entered into column D in Table 1. These entries represent 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. As part of the five-year monitoring process, the number of high-hazard acres will be re-calculated as the new baseline. Acres documented as being treated in the corporate reporting system can be assumed to no longer be considered a high hazard. The first monitoring and evaluation report after revision of the LMP, prepared for fiscal year 2006, showed that baseline acres from the previous year's analysis was 10,230 acres. This year's results (Table 1) show that this area has been reduced to 7,304 baseline acres, and 432 additional acres of treatment in the wildland/urban interface defense zone during fiscal year 2015 leaves 6,872 adjusted acres. There were no changes in 2015 in defense zone area resulting from new information on the presence of substantial structures.

Table 1: Progress in treatment of wildland/urban interface (WUI) defense zone, adjustments to baseline.

A	B	C	D	E
Baseline acres from fiscal year 2014 LMP analysis	**Acres removed due to new info on presence of substantial structures**	**Acres added due to new info on presence of substantial structures**	**Acres treated in WUI defense zone, per corporate database**	**(A-B) + (C-D) (adjusted acres)**
Fire regime I: **5,301** acres	0	0	307	**4,994**
Fire regimes III, IV, and V: **2,003** acres	0	0	125	**1,878**
Total: 7,304 acres	**0**	**0**	**432**	**6,872**

Table 2 shows the status of fuels accomplishment as per the Forest Service Activity Tracking System database. An annual query of this database measures the progress that the Cleveland NF has made to reduce the number of acres adjacent to development within wildland/urban interface defense zones and that are classified as high risk. Use of spatially explicit information for adjusting the baseline is important so the cause of changes in the numbers can be evaluated. Knowing if the change is due to improved inventory information, actual treatments, or both is important. Simply adding the annual indicator—that is, the number of acres treated—and subtracting it from the baseline could over-count maintenance treatments and would not take into account acres added due to new development. Part of our evaluation should determine if new development is adding to the defense zone increase because we have an LMP strategy to prevent that from happening through involvement in local planning.

The Cleveland NF focused vegetation treatments in the wildland/urban interface threat and defense zones (see Table 2). Approximately 3,757 acres were treated during fiscal year 2015, of which 63 percent of the acres treated were in the threat zone, while 23 percent of the acres

treated were in the defense zone. The 14 percent of treatments that occurred in the wildland/urban interface environment zone, which is defined as that part of the national forest that lies outside the threat and defense zones, consisted of maintenance of strategic fuelbreaks.

Table 2: Treatments in 2015.

Activity	Wildland/Urban Interface Class			Total
	Threat zone	Environment	Defense zone	
Broadcast burning	401	77	0	**478**
Burning of piled material	196	13	107	**316**
Grazing	133	0	18	**151**
Herbicide	77	0	43	**120**
Piling	459	66	171	**696**
Rearrangement of fuels	271	156	129	**556**
Thinning for hazardous fuel reduction	825	222	393	**1,440**
Sum of all acres treated (some areas had more than one activity type)	**2,362**	**534**	**861**	**3,757**
Percent of total	**63**	**14**	**23**	**100**

The protocol for tracking wildfire size, frequency, severity, and seasonality across Southern California National Forests is still being refined as of September 2016, and so results will not be available until publication of the fiscal year 2016 monitoring report.

Trends in annual indicators for Goal 1.1: The Cleveland NF has achieved progress in meeting this goal. Starting with a baseline of 6,656 acres in the wildland/urban interface defense zone in Fire Regime I in fiscal year 2006, some 1,662 acres had been treated by the end of fiscal year 2015. Starting with a baseline of 3,574 acres in the wildland/urban interface defense zone in fire regimes III, IV, and V in fiscal year 2006, some 1,696 acres had been treated by the end of fiscal year 2015.

Overall, between fiscal years 2006 and 2015, approximately 3,358 acres have been treated in the wildland/urban interface defense zone. Many of these acres had multiple activities undertaken, such as an area that underwent cutting, piling, and then burning of piles to reduce fuel loads.

Forest Goal 1.2: Restoration of forest health (LMP, Part 1, pg. 20)

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

Activity, practice, or effect to be monitored: Vegetation condition

Monitoring Question: Has the forest been successful at reducing mortality risk? Is tree mortality increasing across the landscape, and is it distributed evenly across elevations? Are fire frequencies becoming more departed from the natural range of variation?

Indicator: Mortality Risk Assessment; Forest Health Protection Mortality Surveys; Proportion of Landscape in Departed Fire Frequency

Monitoring Action: Compare the annual National Insect and Disease Risk Map (NIDRM) data and cross referencing mortality within the reporting period and compare every five years.

The overall long-term goal is to perpetuate plant communities by maintaining or re-introducing fire regimes appropriate to each type while at the same time protecting human communities from destructive wildland fires.

This indicator gauges departure from either the minimum or the maximum fire return interval. In 2006, the fire regime condition class monitoring indicator was updated using new mapping procedures. In the new GIS maps, information is provided on presumed fire return intervals from the period preceding Euroamerican settlement ("presettlement") and for contemporary fire return intervals, and comparisons are made between the two.

Current differences between presettlement and contemporary fire return intervals are calculated based on mean, maximum, and minimum values. This map is a joint project of the California chapter of The Nature Conservancy and the U.S. Forest Service Region 5 Ecology Program (David Schmidt, fire ecologist, The Nature Conservancy; Hugh Safford, regional ecologist, U.S. Forest Service, Region 5).

The information was compiled from the fire history literature, expert opinion, data collection, and vegetation modeling. The California Department of Forestry and Fire Protection's Fire and Resource Assessment Program fire history database was used to characterize current fire regimes. The vegetation type stratification was based on the 1996 CALVEG map (U.S. Forest Service Remote Sensing Lab) for the four national forests in southern California.

For data limitations in these datasets, see the CALVEG mapping metadata:

http://www.fs.usda.gov/detail/r5/landmanagement/resourcemanagement/?cid=stelprdb5347192

and the California fire history database metadata:

http://frap.fire.ca.gov/data/frapgismaps/frap_maps.html

Table 3 displays the baseline status as of 2006 for departures from the mean fire return intervals. Areas where the current interval is more frequent than expected are shown as negative numbers, while areas that have had longer than expected fire return intervals are shown as positive numbers.

A condition class of either 1 or -1 indicates that fire return intervals are within the expected range of variability around the mean for a given fire regime. Condition classes 2 or -2 indicate a moderate departure from the expected mean, while condition classes 3 or -3 indicate a high departure from the expected mean. Both moderate and high departures may indicate that altered fire regimes pose a risk to the ecological condition of the site. Type conversion from high fire

frequencies (Condition Class -3) or deforestation from wide-spread high severity crown fires (Condition Class 3) are more likely as the absolute value of the condition class rating increases.

Table 3: 2015 status of departures from mean fire return interval.			
Fire Return Interval Departure	**Acres**	**Percent of total (2006)**	**Percent of total (2015*)**
-3	18,834	6	4
-2	206,243	43	48
-1	134,094	33	32
1	11,289	7	3
2	35,657	2	8
3	12,505	5	3
Unclassified	7,256	2	2
Total	**425,878**	**100**	**100**

*GIS data published October 2015 – can be found at http://www.fs.usda.gov/detail/r5/landmanagement/gis/?cid=STELPRDB5327836

The protocol for tracking tree mortality and its altitudinal distribution across Southern California National Forests is still being refined as of September 2016, and so results will not be available until publication of the fiscal year 2016 monitoring report.

Trends in annual indicators for Goal 1.2: First of all, it should be noted that recent land acquisitions affect the year-to-year data trends by up to one percentage point. From 2006 to 2015, the percent of the forest in condition class -2 (too frequent fire) increased from 43% to 48%, which resulted from the 2007 wildfires reburning several areas burned in the 2003 wildfires. There was also an increase in areas in condition class 2 (too infrequent fire), due to wildfire and fuel treatments moving the condition class from class 3 to class 2 as well as a decrease in lands in condition class 1 due to lack of wildfire. In general, the trend in this indicator is away from the LMP desired condition due to two unprecedented, large wildfire events in 2003 and 2007. On the other hand, 4% less of the forest in 2015 existed in the worst condition classes of 3 and -3 relative to 2006.

Forest Goal 1.2.1: Fire Regime I, 0 to 35 years, low severity (LMP, Part 1, pg. 22)

Goal: Reduce the potential for widespread losses of montane conifer forests caused by severe, extensive, stand-replacing fires.

Activity, practice, or effect to be monitored: Vegetation condition.

Monitoring question: Is the Cleveland NF making progress toward increasing the percentage of montane conifer forests in Condition Class 1?

Indicator: Departure from desired fire regime, acres by Fire Regime I

Monitoring Action: 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.

Table 4 shows that in fiscal year 2015 a total of 1,501 acres were treated in montane conifer, of which 96% were in Condition Class 3, which are most in need of treatment. This represents a substantial treatment increase over previous years. Treating hazardous fuels in these areas that have missed expected fires is consistent with Goal 1.2.1 of the LMP, which directs the Cleveland NF to reduce the potential for widespread losses of montane conifer forests caused by severe, extensive, stand replacing fires (LMP, Part 1, pg. 22). The small areas of Condition Class -1 and -2 treated consisted of small portions of larger units that are primarily composed of Condition Class 3 areas.

Table 4: Acres treated in montane conifer by fire regime condition class.

Activity	Fire Regime Condition Class					Total
	-2	-1	1	2	3	
Broadcast Burning	0	0	0	0	122	**122**
Burning of piled material	1	5	4	2	126	**138**
Herbicide	0	0	2	3	0	**5**
Piling of fuels	0	0	6	8	309	**323**
Rearrangement of fuels	0	0	0	12	215	**227**
Thinning or pruning for hazardous fuel reduction	0	0	6	12	668	**686**
Total	**1**	**5**	**18**	**37**	**1,440**	**1,501**

*****Some units received more than one treatment in fiscal year 2015.

Trends in annual indicators for Goal 1.2.1: Based on reported fuel reduction activities that have occurred from fiscal year 2008 through fiscal year 2015, approximately 5,507 acres were treated in montane conifer. Some 4,845 acres of the total, or 88 percent, were treated in Condition Class 3, while 348 acres, or 6 percent, were treated in Condition Class 2. Over that same period, only 314 acres, or 6 percent of the total, were treated in all other condition classes.

Based on these data, the Cleveland NF has made good progress toward increasing the percentage of montane conifer forests in Condition Class 1.

Forest Goal 1.2.2: Maintain or increase percent chaparral and coastal sage scrub in condition class 1 (LMP, Part 1, pg. 25)

Goal: Restore forest health where alteration of natural fire regimes has put human and natural resource values at risk. Reduce the number of acres at risk from excessively frequent fires while improving defensible space around communities.

Activity, practice, or effect to be monitored: Vegetation condition.

Monitoring questions: Is the Cleveland NF making progress toward maintaining or increasing the percentage of vegetation types that naturally occur in Fire Regime IV in Condition Class 1?

Indicator: Departure from desired fire regime, acres by Fire Regime IV

Monitoring Action: 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.

As shown in Table 3, as of 2006, approximately 49 percent of the forest land area was at moderate to high risk of type conversion from excessively frequent fires (i.e., in condition classes -2 and -3). Unlike in Fire Regime I (conifer forest), vegetation treatments in condition class -2 or -3 move the area away from the desired condition by adding another burn or disturbance to a location that has already burned too frequently. These concerns primarily apply to Fire Regime IV, which includes mostly chaparral and coastal sage scrub vegetation types but also serotinous conifer and big sagebrush vegetation types. The Cleveland NF strategy in treatment of these vegetation types is to focus vegetation management into direct protection of communities or in pre-identified strategic locations where protection of communities can be improved, such as major ridge tops that are upslope from developed areas. Fire history patterns show that fires often stop in the same locations due to topography or, sometimes, man-made features such as reservoirs or highways.

Table 5 shows that 2,188 total acres were treated in Fire Regime IV in fiscal year 2015, 44% of which were in condition classes -1 or 1, meaning that they were within the natural range of variability expected for this vegetation type. This represents a substantial treatment increase over previous years. Acres in negative condition classes where fire is overly frequent were treated primarily for community defense against wildfire in the wildland/urban interface. As a result, location and fuel condition were the primary factors for their selection rather than condition class, unlike montane conifer ecosystems on the Forest.

Table 5: Acres treated in Fire Regime IV by fire regime condition class.							
Activity	**Fire Regime Condition Class**						**Total**
	Undeter-mined	**-3**	**-2**	**-1**	**1**	**>2**	
Broadcast burning	0	0	329	22	0	0	**351**
Burning of piled material	0	18	66	68	0	20	**172**
Grazing of fuels	0	0	150	0	0	0	**150**
Herbicide	0	0	29	80	0	5	**114**
Piling of fuels	0	0	69	211	6	74	**360**
Rearrangement of fuels	0	0	121	175	4	22	**322**
Thinning of fuels	0	0	220	386	10	103	**719**
Total	**0**	**18**	**984**	**942**	**20**	**224**	**2,188**

Another measure of effective protection of chaparral and coastal sage scrub ecosystems from overly frequent fire consists of the Cleveland NF's fire suppression efforts. Over the course of fiscal year 2015, firefighters put out 83 fires that would have otherwise consumed Cleveland NF lands. Only 7 of these fires grew to more than an acre in size, and only 2 burned more than 10 acres. For the long term protection of these overly burned ecosystems, such effective fire suppression is essential.

Trends in annual indicators for Goal 1.2.2: Based on reported fuel reduction activities that have occurred from fiscal year 2008 through fiscal year 2015, approximately 13,623 acres were treated in Fire Regime IV. Some 1,164 acres of the total, or 9 percent, were treated in condition classes 2 and 3, while 5,200 acres, or 38 percent, were treated in condition classes -2 and -3. Over that same period, 6,905 acres, or 51 percent of the total, were treated in condition classes -1 and 1. A small percentage was conducted in land mapped as an undetermined condition class.

Although 5,200 acres were treated in condition classes -2 and -3, which represent areas that have experienced fire or disturbance more frequently than would be naturally expected, the areas that were treated are found mainly in areas that comprise wildland/urban interface defense or threat zones. Fuel reduction activities in these areas are expected to reduce the potential for wildfires to threaten the safety of persons living near the perimeter of the national forest.

Goal 1.2.3: Goal 1.2.3, which relates to maintaining long fire-free intervals in habitats where fire is naturally uncommon, is not addressed in this report because this goal was developed at a scope that accounted for all four southern California national forests and is primarily important on the three other national forests, not the Cleveland NF.

Forest Vegetation and Health Monitoring

The Forest Service Remote Sensing Lab provides inventories of vegetation resources in an ecological framework for determining changes, causes, and trends to vegetation structure, health, biomass, volume, growth, mortality, condition, and extent. For details of the vegetation monitoring section, see: http://www.fs.fed.us/r5/rsl/projects/.

Aerial detection surveys for tree mortality are conducted annually. An overview of these surveys, as well as maps for the Cleveland NF, may be found at: http://www.fs.usda.gov/detail/r5/forest-grasslandhealth/?cid=fsbdev3_046696

Widespread oak tree mortality is occurring on federal, state, private, and Native American lands in San Diego and Riverside Counties, including the southern portion of the Cleveland NF. Researchers from the Forest Service and other agencies discovered that dead and dying oaks were infested with a beetle called the gold-spotted oak borer (*Agrilus coxalis).* The oak borer infests and kills California black oak, coast live oak, and canyon live oak. Due to current and potential impacts, both regionally and throughout California, multiple agencies and organizations are working together in the research, education, and outreach efforts regarding this pest. Information on the gold-spotted oak borer may be found at: http://www.gsob.org.

Forest Goal 2.1: Invasive species (LMP, Part 1, pg. 31)

Goal: Reverse the trend of increasing loss of natural resource values to invasive species.

Activity, practice, or effect to be monitored: Invasive species.

Monitoring question: Are the Cleveland NF's reported occurrences of invasive plants/animals showing a stable or decreasing trend?

Indicator: Acres of treatments in reported occurrences

Monitoring Action: 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.

During fiscal year 2015, according to the Forest Service Activity Tracking System database, approximately 255 acres of invasive species were treated on the Cleveland NF. This included 245 acres of tamarisk and 2.4 acres of Spanish broom treatment on the Descanso Ranger District and 8 acres of yellow starthistle treatment on the Trabuco Ranger District. Ten miles of San Mateo Creek were treated for aquatic invasive species in fiscal year 2015.

Trends in annual indicators for Goal 2.1: Because the Forest does not receive a level of funding sufficient to conduct a comprehensive inventory, we are unable to identify a stable or decreasing trend based on change from total inventoried acres. However, survey data is entered into the NRIS corporate database and acres treated are recorded in the FACTS database. Based on reported activities that have occurred from fiscal year 2008 through fiscal year 2015, approximately 1,133 acres were treated or retreated for invasive species on the Cleveland NF. Invasive species that were removed include giant reed (*Arundo donax*), tree tobacco, tamarisk, yellow starthistle, Italian thistle, Spanish broom, mustard, and purple pampas grass. Eradication of new infestations and planning and treatment of riparian areas were emphasized. In addition to those acres being treated, each year more than 5 miles of San Mateo Creek were enhanced by

removal of invasive fish and bullfrog species, except for fiscal year 2014. Other Trabuco Ranger District streams have also been treated although less often.

Forest Goals 3.1 and 3.2: Managed recreation in a natural setting (LMP, Part 1, pp. 33 to 36)

Goals: (3.1) Provide for public use and natural resource protection.
(3.2) Retain a natural-evolving character within wilderness.

Activity, practice, or effect to be measured: (3.1) Visitor use of the Cleveland NF. (3.2) Wilderness use.

Monitoring questions: (3.1) Are trends in indicators and visitor satisfaction surveys indicating that the Cleveland NF has provided quality, sustainable recreation opportunities that result in increased visitor satisfaction? (3.2) Are trends in indicators and visitor satisfaction surveys depicting the Cleveland NF has provided solitude and challenge in an environment where human influences do not impede the free play of natural forces?

Indicators: (3.1) Visitor satisfaction (National Visitor Use Monitoring) (3.2) Wilderness condition

Monitoring Actions: (3.1) 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. (3.2) 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.

Annual indicators are recreation facilities managed to standard including natural resource protection as described in 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.

Long-term indicators are visitor use trends by activity and overall satisfaction from the National Visitor Use Monitoring ("NVUM") survey. The baseline NVUM survey reported 97 percent visitor satisfaction; 93 percent of visitors were satisfied as of 2014. The current report summarized data which were collected in 2014. Some 95.7 percent of respondents were satisfied with developed sites on the Cleveland NF; 96.7 percent were satisfied with access, including road and trail condition and parking availability; 93.0 percent were satisfied with services such as availability of information and signage; and 98.4 percent were satisfied with their perception of safety when they were recreating on the Cleveland NF. These 2014 values are higher across the board than those determined in 2009. The 2014 report is available online at: http://www.fs.fed.us/recreation/programs/nvum/.

The third round of NVUM surveys are complete, and results indicate that Cleveland NF visitation has increased substantially since 2009, with approximately 641,000 visits in 2014 relative to 465,000 in 2009. The report is available at the above address.

Wilderness management actions during fiscal year 2014 included recreation site inventory, resource protection efforts, volunteer contributions, condition monitoring, and trail improvement. Table 6 shows that the 10-year Wilderness Challenge Stewardship scores of all four Cleveland NF Wilderness areas have improved since 2006. These scores are composed of 10 elements of wilderness condition, each with an individual score. Sixty (60) points out of 100 is considered a minimum stewardship level.

Table 6: 10-year Wilderness Stewardship Challenge Scores

Wilderness Area	2015	2006
Agua Tibia	80	73
Hauser	74	65
Pine Creek	78	65
San Mateo Canyon	76	61

Trends in annual indicators for Goal 3.1 and 3.2: While the baseline NVUM survey and the current report from data collected in 2014 cannot be compared directly due to differing methodology, the Cleveland NF maintains a high level of user satisfaction. The trend between 2009 and 2014 reports shows across-the-board increases in visitor satisfaction on the Cleveland NF, and Wilderness condition is improving consistently as well.

Forest Program Goal – Her 1: Heritage Resource Protection

According to the Heritage Program Managed to Standard (HPMtS) criteria established by the Regional Heritage Program office, the Cleveland NF Heritage Program was not managed to standard in fiscal year 2015. “A minimum cumulative score of 45 is necessary to meet the minimum stewardship level. A score of less than 45 does not trigger punitive action, but rather indicates where emphasis is needed to bring a program up to standard.” Due to staffing turnover and the importance of completing work on the ground, the Cleveland NF Heritage Program was unable to enter data for fiscal year 2015 into the database of record, so a score of “0” will be generated for HPMtS.

It should be noted, however, that while the official score may be “0” the Cleveland NF Heritage program accomplished a great deal of work on the ground and may have actually achieved the managed to standard designation if the results were not driven by the database of record. The Cleveland NF Heritage Program conducted a variety of Section 110 activities that should have earned a minimum of 33 points. Section 110 projects were completed and associated points were earned in five of the seven indicator categories by the Cleveland NF Heritage Program, including:

Indicator 1: Program Plans (3 points);
Indicator 2: Section 110 Field Survey (0 points);
Indicator 3: NRHP Evaluations and Nominations (10 points);
Indicator 4: Priority Heritage Asset condition Assessment (5 points);
Indicator 5: Priority Heritage Asset Stewardship (0 points);
Indicator 6: Public Outreach (8 points);
Indicator 7: Volunteer Contributions (4 points).

Based on fiscal year 2014's points reported for Indicators 4, 6 and 7 an additional 10 points may have been achieved in fiscal year 2015, although it was not clear at the time of reporting, and so the more conservative number is presented.

The desired condition is to preserve or enhance significant heritage resources. Fiscal year 2015 Cleveland NF Heritage Program accomplishments under the *Programmatic Agreement among the U.S.D.A Forest Service, Pacific Southwest Region (Region 5), California State Historic Preservation Officer, Nevada State Historic Preservation Officer, and the Advisory Council on Historic Preservation Regarding the Processes for Compliance with Section 106 of the National Historic Preservation Act for Management of Historic Properties by the National Forests of the Pacific Southwest Region* (RPA) or Section 106 of the National Historic Preservation Act (NHPA) included the analysis of the potential for effects to historic properties for a total of 30 proposed undertakings. All 30 proposed undertakings were determined to be compliant with Section 106 of the National Historic Preservation Act (NHPA) through the application of the stipulations of the RPA.

Of the 30 projects determined to be compliant with Section 106 of the NHPA through the application of the stipulations of the RPA in fiscal year 2015, one required cultural resource survey for the identification of historic properties and the assessment of the identified potential for effects associated with those projects. Cultural resource surveys conducted in support of this undertaking resulted in the survey of a total of approximately 263 acres. A total of 2 new archaeological sites were identified as a result of survey although full recordation was not completed at the time.

Table 7 provides a summary of the 30 proposed undertakings that were analyzed for their potential for effects and determined to be compliant through the application of the stipulations of the RPA in fiscal year 2015. The type of data utilized for the identification and avoidance of the potential for effects (if any) to historic properties (i.e. previous survey data or required survey data) and the number of proposed projects determined to have no potential for effects (Screened Undertakings) is also provided. Of these 30 undertakings, the associated Area of Potential Effects (APE) of one of them required survey, 22 were determined to have been adequately surveyed in association with previous projects, and seven met the requirements for being authorized as Screened Undertakings per Stipulation 7.2 and Appendix D of the RPA. The three Screened Undertakings were "Class B" exemptions under subparts: C-"Disturbed Context"; D-"No ground disturbance"; I-"less than 1m of ground disturbance"; and CC-"Prescribed burning with no historic properties".

Table 7: Project Summary					
Total Projects	**36 CFR 800 Projects**	**PA/RPA Projects**	**Survey Projects**	**Previously Surveyed**	**Screened Undertakings**
30	0	30	1	22	7

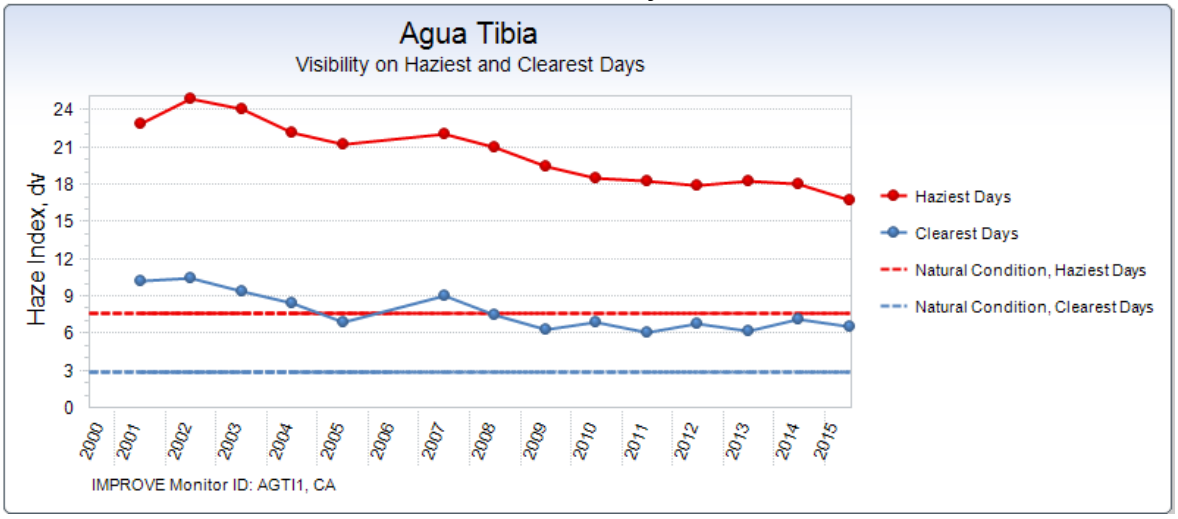
Table 8 summarizes the number of acres surveyed (263), the number of new cultural resources identified and recorded (2), the number of previously recorded resources for which site record updates were completed (0), the number of historic properties that were required to be protected from identified potential for effects through the implementation of Standard Protection Measures (SPM) (40), the number of sites that were required to be monitored for the avoidance of identified potential for effects (29), and the number of Inadvertent Effects (0) associated with projects determined to be compliant under the stipulations of the RPA in fiscal year 2015.

Table 8: Historic Property and Survey Data					
Acres Surveyed	**New Sites Recorded**	**Sites Updated**	**Sites Protected**	**Sites Monitored**	**Inadvertent Effects**
263	2	0	40	29	0

Air Quality Monitoring

Under the Interagency Monitoring of Protected Visual Environments (IMPROVE) program, a sampling station at the Dripping Springs Fire Station monitors the air quality near the Agua Tibia Wilderness Class 1 air shed. The largest sources of haze are ammonium sulfate and ammonium nitrates. Monitoring results from this site indicates visibility has been improving for the Agua Tibia Wilderness since monitoring began, as shown in Figure 1. In addition, visibility is monitored using a real-time web camera accessible at the following URL: http://www.fsvisimages.com/. The Cleveland NF will continue to assess wilderness visibility under the Prevention of Significant Deterioration program of the Clean Air Act.

Figure 1. Air Quality Monitoring results from the Agua Tibia site. A deciview (dv) reading of "0" indicates a clear view with no reduction in visibility.



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

Forest Goals 4.1a and 4.1b: Energy and minerals production (LMP, Part 1, pp. 37 and 38)

Goals: (4.1a) Administer minerals and energy resource development while protecting ecosystem health.
(4.1b) Administer renewable energy resource developments while protecting ecosystem health.

Activity, practice, or effect to be measured: (4.1a) Mineral and energy development. (4.1b) Renewable energy resource development.

Monitoring questions: (4.1a) Has the Cleveland NF been successful at protecting ecosystem health while providing mineral and energy resources for development? (4.1b) Has the Cleveland NF been successful at protecting ecosystem health while providing renewable resources for development?

Indicators: (4.1a) Number of Mineral and Energy Development Projects Proposed and Approved; Minerals and Energy Success at protecting Ecosystem Health (4.1b) Number of Renewable Resource Projects Proposed and Approved; Renewable Resources Success at protecting Ecosystem Health

Monitoring Actions: (4.1a) Compare the number of mineral and energy development projects proposed with those approved to establish a baseline of impacts to resources. Compare the number of acres of habitat conserved as part of mitigation for mineral and energy development projects. (4.1b) Compare the number of renewable resource projects proposed with those approved to establish a baseline of impacts to resources. Compare the number of acres of habitat conserved as part of mitigation for renewable resource projects.

In fiscal year 2015, the Forest monitored the operation of the Sunrise Powerlink, a 500kV powerline across Forest Service land for which construction was completed in the summer of 2012, along with associated habitat restoration, which has been largely successful. The project also contained significant mitigation elements to protect ecosystem health and preserve habitats that would otherwise be impacted by construction and operation. While no lands were acquired in fiscal year 2015, work was completed to bring several parcels closer to acquisition as mitigation for the Sunrise Powerlink.

Trends in annual indicators for Goal 4.1a and Goal 4.1b: Based on projects and activities that have been analyzed and authorized via the National Environmental Policy Act process, the Cleveland NF continues to meet the intent of both these goals. Projects that meet the criteria of these goals include the Sunrise Powerlink, temporary wind testing, and approval of various plans of operation for hard rock mines on National Forest System lands.

Forest Goals 5.1 and 5.2: Watershed function (LMP, Part 1, pg. 39) and riparian condition (LMP, Part 1, pg. 41)

Goals: (5.1) Improve watershed conditions through cooperative management. (5.2) Improve riparian conditions.

Activity, practice, or effect to be monitored: (5.1) General forest activities and watershed improvement projects; (5.2) General forest activities; (5.1 and 5.2) Streamflows

Monitoring questions: (5.1) Is the Cleveland NF making progress toward sustaining Class 1 watershed conditions while reducing the number of Condition Class 2 and 3 watersheds? (5.2) Is the Cleveland NF increasing the proper functioning condition of riparian areas? (5.1 and 5.2) How do streamflows compare with historical records?

Indicators: (5.1) Number of Watersheds in each Condition Class (5.2) Change in Indicator Score for Aquatic Habitat, Aquatic Biota and Riparian Vegetation (5.1 and 5.2) Monthly Streamflows, Timing and Magnitude of Peak Flows, Degree of Variation

Monitoring Actions: (5.1) 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. (5.2) Compare the change in score from the Watershed Condition Assessment indicators (Coordinate with Goal 5.1).

Table 9: Watershed Condition Framework – Initial Rating 2010

Outcome indicator	Desired condition	Baseline Watersheds	Year 5	Trend	Trigger
Watersheds in Condition Class 1, Properly Functioning	Maintained condition ratings	9			Decrease in number of Class 1 watersheds
Watersheds in Condition Class 2, Functioning at Risk	Maintained or improved condition ratings	10			Decrease in number of Class 2 watersheds
Watersheds in Condition Class 3, Impaired Function	Improved condition ratings	28			Degrading conditions in Class 3 watersheds

In fiscal year 2015, the Cleveland NF continued to implement Watershed Restoration Action Plans in two priority watersheds: Cedar Creek on the Palomar Ranger District and Kitchen Creek-Cottonwood Creek watershed on the Descanso Ranger District. For both watersheds, site-specific planning occurred for unauthorized route decommissioning. In the Cottonwood Creek watershed, further tamarisk treatment was implemented during fiscal year 2015 to lead to the eventual restoration of native plant communities. Through coming years we will continue to designate priority watersheds and track watershed condition. Additionally the Cleveland will be assessing watershed change yearly if large disturbance events occur as well as better refining the attributes that define the watershed condition class.

The Cleveland NF's annual Best Management Practices Evaluation Program report is currently being prepared and will be sent to the Regional Water Quality Control Boards. In addition, periodic road decommissioning projects contribute to improved watershed function as well as projects to remove Aquatic Organism Passage barriers. We continue to look for watershed restoration projects that will improve watershed condition classes.

The protocol for tracking streamflows across Southern California National Forests is still being refined as of September 2016, and so results will not be available until publication of the fiscal year 2016 monitoring report.

Trends in annual indicators for Goals 5.1 and 5.2: No changes in Watershed Condition Class or indicators have been documented since the initial ratings, and so no trend is evident thus far.

Forest Goal 6.1: Rangeland condition (LMP, Part 1, pg. 42)

Goal: Move toward improved rangeland conditions as indicated by key range sites.

Activity, practice, or effect to be measured: Livestock grazing.

Monitoring question: Is forest rangeland management maintaining or improving progress toward sustainable rangelands and ecosystem health?

Indicator: Percent of key areas in active allotments meeting or moving towards desired conditions

Monitoring Action: 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.

Table 10 displays the baseline and trend monitoring for the range and grazing for fiscal year 2015.

Table 10: Baseline and trend monitoring for range allotments in fiscal year 2015. (No new plot data since fiscal year 2013)

Outcome indicator	Desired condition	Previous monitoring	Current	Trend	Trigger
Livestock grazing areas in **good** condition	Maintain condition rating	13	13	Stable	Decrease in number of key areas in good condition
Livestock grazing areas in **fair** condition	Maintain/improve condition rating	12	12	Stable	Decrease in number of areas in fair condition
Livestock grazing areas in **poor** condition	Improve condition rating	1	1	Stable	Degrading conditions in key areas poor condition

Table 11 displays the most recently available allotment conditions.

Table 11: Allotment grazing conditions.

Allotment, pasture	Condition	Assessment type	Year
Black Mountain	Good—stable	Annual compliance monitoring, BMP monitoring	2015
Corte Madera, Lower Bear Valley	Good – Signs of reduced OHV trespass damage	Annual compliance monitoring	2015
Guatay	Good – Stable	Annual compliance monitoring	2015
Indian Creek	Ungrazed, not monitored	--	n/a
Laguna, Kitchen Valley	Moderate	Annual compliance monitoring	2012
Laguna, Cameron, La Posta Creek	Moderate	Region 5 long-term trend monitoring in 2010, annual compliance monitoring	2015
Laguna, Joy Pasture	Low—2006 , Low – 2011 Visual assessment in 2013 showed improvement and reduction on OHV impact	Region 5 long-term trend monitoring	2013
Laguna, Long Canyon Pasture	Low—2006; Moderate—2009	Region 5 long-term trend monitoring in 2009, annual compliance monitoring	2015
Laguna Meadow, mid-meadow plot	Good—Water features drying in drought, light grazing pressure well within standards	Annual compliance monitoring	2015
Laguna Meadow, Las Rasalies plot	High 2000, moderate 2005, moderate 2009, trend stable	Region 5 long-term trend monitoring, annual compliance monitoring	2011
Love Valley	High—stable	Annual compliance monitoring	2015
Mendenhall, Lower	Good	Annual compliance monitoring	2015
Mendenhall, Upper	High	Region 5 long-term trend monitoring in 2011, annual compliance monitoring	2015
Mesa Grande, Kelley unit	Fair – difficult to monitor	Rapid	2008
Miller Mountain	Good	Annual monitoring compliance	2012
Samataguma	Good	Annual monitoring compliance	2013
Tenaja	Good - ungrazed	Region 5 long-term trend monitoring	2011
Verdugo	Good	Annual compliance monitoring	2014
Warner Ranch	Good	Annual compliance monitoring	2015

Trends in annual indicators for Goal 6.1: All areas showed lower productivity due to drought conditions. Grazing permittees, in general, have responded to the drought by reducing numbers of the livestock in the herds or selling calves early. As a result, despite lower productivity, annual compliance monitoring showed allotments were within forage utilization standards. No long term monitoring plots were read in 2014. Based on period monitoring, a majority of allotments or pastures remain in good to high condition (Table 11). One livestock area was found to be in poor condition during long term monitoring plot visits (Table 10) due to the fact that unauthorized vehicle activity damaged the area. However, visual monitoring in 2013 showed this area to be improving and evidence of OHV activity diminished. The long term plot has not been reread yet. The monitoring report for fiscal year 2007 indicated that a downward trend for two locations was tied to the effects of drought and the Cedar Fire. These areas have

recovered and no longer have a downward trend. Several issues with range condition are tied to illegal OHV use and not grazing management. These include areas on the Corte Madera allotment and on the Laguna Allotment. Work has occurred to barrier off sensitive meadow areas from vehicular trespass at Bear Valley and along Kitchen Creek Road. Monitoring has shown OHV use damage remaining relatively stable in Bear Valley in fiscal year 2015, and sharply reduced along Kitchen Creek Road.

Forest Goal 6.2: Biological resource condition (LMP, Part 1, pg. 44)

Goal: Provide ecological conditions to sustain viable populations of native and desired non-native species.

Activity, practice, or effect to be measured: General forest activities; focal species

Monitoring questions: Are trends in resource conditions indicating that habitat conditions for fish, wildlife, and rare plants are in a stable or upward trend? Are chaparral and coastal sage scrub vegetation communities type converting to non-native annual grasslands? Is coast live oak mortality increasing across the landscape?

Indicator: Habitat Condition of At-Risk Species; Extent of Non-native Annual Grasses; Forest Health Protection Mortality Surveys

Monitoring Action: Use baseline habitat condition from the 2006 Southern California Land Management Plans analysis and compare with the existing habitat condition on the southern California National Forests.

Threatened and Endangered Species monitoring: In 2015, the Cleveland NF continued with monitoring specified in applicable biological opinions. The Cleveland NF annual report to the US Fish and Wildlife Service included the following species and monitoring activities, where applicable:

Arroyo Toad – Seven sites on the Cleveland require some level of arroyo toad monitoring effort including five roads, two campgrounds and one trail. Monitoring efforts primarily focus on three factors including the determination of toad presence/absence, toad mortality and habitat disturbance. Other responsibilities include checking relevant signage, barriers, fences, gate closures, etc. Monitoring of roadkill and effects of recreation residences was completed in fiscal year 2015, and no mortality was detected.

The 2015 season was the fourth year of a significant drought within southern California that has resulted in negative effects to arroyo toads and their ability to successfully reproduce. Surface water stream flows were minimal and did not even persist long enough for this species to initiate breeding activities within the monitoring sites. Monthly rainfall measured in Ramona, California averaged 1.25 inches between December 2014 through June 2015; with particularly low precipitation during the critical months of January through April (NOAA). No Arroyo Toads or reproduction attempts were observed at any of the Cleveland National Forest monitoring sites.

Completed habitat improvement work (noxious weed removal) in Trabuco and San Juan Canyons. The Forest began implementation of a dam removal project in fiscal year 2015; 9 dams were removed from Trabuco and Silverado Creek. This project will result in the removal of 81 check-dams that are impairing stream function. When completed, the project will have substantial benefits for arroyo toad populations in San Juan and lower Trabuco Creeks, as it will restore more natural flows of water and sediment in the stream.

Coastal California Gnatcatcher – Planning and NEPA were completed for future weed treatments and coastal sage scrub restoration in the San Diego River Valley area. This area is designated critical habitat for this species. The Forest also completed the draft EA on a Forest-wide unauthorized route decommissioning and restoration project. Several routes are located within suitable coastal sage scrub and/or designated critical gnatcatcher habitat. Project implementation is scheduled for 2016.

Least Bell's Vireo - Kirsten Winter and Jeff Wells conducted a least Bell's vireo survey in Hauser Canyon to check the status of this small population. Five pairs of vireos were detected. Population appears to be stable in comparison to previous year's survey and monitoring efforts. One brown-headed cowbird egg was located and removed from a vireo nest. Additional incidental locations of least Bell's vireos on the Cleveland NF included the San Diego River and Santa Ysabel Creek.

Southwestern Willow Flycatcher – The Cleveland did complete a Special Use Permit for the USGS to begin a multi-year survey and research project on the Cleveland National Forest. USGS began a 5-year monitoring and research program at the upper San Luis Rey River in 2015. About 10 pairs of SW Willow Flycatcher were detected on the Forest in 2015; nest monitoring will start next year. No incidental take detected.

Hermes Copper Butterfly (candidate) – The Forest has conducted additional surveys for this species and has implemented a number of management actions to protect its habitat including gates and barriers to prevent OHV traffic and restoration of nectar sources after fire. The Forest completed the draft EA on a Forest-wide unauthorized route decommissioning and restoration project. Removal of these routes will benefit this species and habitat by preventing or limiting unauthorized motor vehicle use. Project implementation is scheduled for 2016. Several of the mitigation parcels that the Forest has received (or will receive) as mitigation for the Sunrise Powerlink construction support this species, specifically the Nelson Canyon and Bell Bluff parcels.

Laguna Mountains Skipper – Skipper surveys were conducted at Palomar Mountain sites by Dave Faulkner. Fence exclosures at Observatory Campground, Mendenhall Valley and Mount Laguna were maintained. Kirsten Winter, Jeff Wells, Lisa Kluesner, and Lance Criley met with FWS staff to discuss the upcoming 5-year plan and recovery plan for this species and provided extensive comments on the draft plans. Monitoring fire effects to the Skipper's host plant, Cleveland's horkelia (*Horkelia clevelandii)*, was initiated in select fuels treatment blocks. Initial results demonstrated that prescribed fire was not detrimental to plant populations. Monitoring will continue into future years and efforts expanded into additional treatment blocks.

Munz's Onion – Improved habitat by controlling yellow star thistle population at Elsinore Peak, along South Main Divide Road.

San Bernardino Bluegrass – Pre-grazing checks were completed for populations at Laguna and Mendenhall Meadows.

San Diego Thornmint – Implementation began for grass-specific herbicide treatment to control or eradictate non-native Purple False Brome in occupied habitat along Viejas Grade Road to improve habitat for San Diego Thornmint. First year results were very promising; this work will continue for several years. In partnership with the San Diego Management & Monitoring Program, several populations were monitored as part of a coordinated landscape-scale conservation effort.

Southern Steelhead – In 2015, additional planning was done for removal of 81 check dams. The Forest is currently working with several partners including Caltrans, Orange County Parks, US Marine Corps, and Orange County Transportation Authority; all of these partners are expected to contribute funding toward the completion of the dam removal project.

Incidental Take: No take was observed for any TE species in 2015 from LMP on-going activities.

The environmental baseline identifies the extent of occupied and suitable habitat for each species and describes ongoing activities authorized by the Forest Service in relation to the occupied and suitable habitats. Implementation of LMP strategies over time is expected to cause changes, both positive and negative, in the baseline. Annual reporting of activities that may change the baseline conditions—including recovery actions proposed, new conservation strategies and new information from surveys or inventory—for threatened, endangered, proposed, and candidate species is recommended by the U.S. Fish and Wildlife Service.

Sensitive Species Monitoring: Lisa Kluesner, Forest Botanist, initiated monitoring of sensitive plant populations on fuelbreaks to see how they are responding to fuels treatment. Working with Kirsten Winter, Forest Biologist, initial monitoring was completed for several species in 2015 including San Felipe Monardella (*Monardella nana leptosiphon*), Hall's Monardella (*Monardella macrantha hallii*), and Ramona Horkelia (*Horkelia truncata*). All appeared to be tolerant of mastication and broadcast burning. This monitoring will be expanded in 2016 to address Heart-leaved Pitcher Sage (*Lepechinia cardiophylla*), Orcutt's Brodiaea (*Brodiaea orcutti*), vanishing wild buckwheat (*Eriogonum evanidum*), and other species. Additional sensitive species monitoring efforts were conducted in collaboration with the San Diego Management & Monitoring Program and included monitoring select populations of Butter's ganderwort (*Packera ganderi*).

Focal Species Monitoring: A Land Management Plan administrative change was completed in May 2016 and added two focal species to the Cleveland National Forest monitoring program: non-native annual grasses and coast live oak.

Non-native Annual Grasses – The protocol for tracking the current extent of annual non-native grasses across Southern California National Forests is still being refined as of September 2016, and so results will not be available until publication of the fiscal year 2016 monitoring report.

Coast Live Oak – The Forest Health Protection program of the Forest Service annually conducts Aerial Detection Survey overflights to monitor tree mortality across the National Forests of California. Their results for the Cleveland NF are shown in Table 12 and show a sharp increase in fiscal year 2015, likely due to the combined effects of severe drought and the invasive gold-spotted oak borer (GSOB) pest.

Table 12: Coast Live Oak mortality (in acres).

Year	Mortality
2011	1,272
2012	1,002
2013	720
2014	939
2015	2,146

Conclusions
The threatened and endangered species monitoring program is adequate. More funding and staff time is needed to support this program and meet legal requirements. A process is in place to update procedures based on updated information and monitoring results. A Forest Botanist and Forest Fish Biologist joined the staff in late fiscal year 2015 and are providing key assistance.

Recommendations
Continue required monitoring. Plant more oak trees to replace those that are dying.

As operational plans are developed for recreation sites, ensure institutional memory of problem resolution by documenting past protection measures, whether on an annual, periodic, or one-time basis. These may be documented in the INFRA database for each site.

Trends in annual indicators for Goal 6.2: Monitoring has not identified any trends in resource conditions that indicate habitat conditions for fish, wildlife, and rare plants are not stable, with the exception of California Spotted Owl and California Gnatcatcher, both of which appear to be experiencing loss of habitat and declining populations due to drought or too-frequent fire.

Forest Goal 7.1: Natural areas in an urban context (LMP, Part 1, pg. 46)

Goal: Retain natural areas as a core for a regional network while focusing the built environment into the minimal land area necessary to support growing public needs.

Activity, practice, or effect to be measured: Built landscape extent; land adjustment; special use authorizations

Monitoring questions: Is the Cleveland NF balancing the need for new infrastructure with restoration opportunities or land ownership adjustment to meet the desired conditions? How many of each type of special use authorization, mining permit, and forest product permit are active on the forest?

Indicators: Land Ownership Complexity; Authorized and Administrative Infrastructure; Miles of Unauthorized Motorized Routes; Number of special use authorizations and permits by type

Monitoring Actions: Calculate the miles of exterior and interior boundary divided by the acres of National Forest System (NFS) lands and compare from the 2006 Southern California Land Management Plans analysis. 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. 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.

As of the end of fiscal year 2015, the Cleveland NF consists of 425,759 acres of land with 1,033 miles of exterior and interior boundary, yielding a perimeter to area ratio of 0.00243 miles per acre. Several different acreage values were provided in the LMP Revision EIS, and Forest Service land ownership data have recently been substantially updated and improved. By subtracting 3,166 acres of land acquisitions between 2006 and 2015, the 2006 Cleveland NF acreage has been recalculated at 422,593 acres with 1,060 miles of boundary, yielding a perimeter to area ratio of 0.00251 miles per acre.

Goal 7.1 calls for minimization of the built environment. In 2006, there were 286 administrative buildings on the Cleveland NF. As of the end of fiscal year 2015, 293 administrative buildings existed. While the number of buildings has increased slightly, large abandoned buildings at the Laguna Air Force Base have been decommissioned whereas smaller buildings have been constructed, resulting in an overall reduction of the built environment footprint.

Roads are another element of the built environment and are part of the outcome indicators for this goal. In addition, Goal 3.1 instructs the Cleveland NF to remove roads that are determined to be unnecessary through a roads analysis and the analysis required by NEPA.

Cleveland NF staff have been working over the last several years to update our roads and trails data to reflect current conditions on the ground. Meetings were held in January 2014 with key staff at each Ranger District to review every known road and trail, whether authorized or unauthorized, and correct any errors or omissions. The resulting data were used to inform this report since they are the best available information source. Specific changes from previous years' reports (fiscal year 2013 and earlier) include reclassifying unauthorized "roads" that are not wide or used by 4-wheeled vehicles as trails; identifying "decommissioned" roads that are once again being used by vehicles; identifying newly discovered unauthorized routes; and updating the NEPA status for decommissioning.

Table 13 below shows that the Cleveland NF has successfully decommissioned 65.0 miles of unauthorized routes, including 5.8 miles in 2015, and approved decommissioning of an additional 18.5 miles between 2006 and 2015. Many of these routes impact riparian conservation areas, archaeological sites, Wilderness areas, or habitat for endangered or threatened species.

Table 13: Miles of road in Forest Service jurisdiction by type, 2006 baseline and 2015.

Maintenance level		NFS road	Permitted road	Unauthorized, undetermined	Unauthorized, unneeded, existing	Unauthorized, unneeded, decommissioned
Not applicable	2006	--	--	154.0	--	4.0
	2015	--	--	94.6	18.5	65.0
1: Basic custodial care (closed)	2006	34.4	--	--	--	--
	2015	41.3	--	--	--	--
2: High clearance vehicles	2006	280.9	136.9	--	--	--
	2015	258.7	133.5	--	--	--
3: Suitable for passenger cars	2006	11.5	--	--	--	--
	2015	25.5	--	--	--	--
4: Moderate degree of user comfort	2006	54.2	--	--	--	--
	2015	54.5	--	--	--	--
5: High degree of user comfort	2006	18.1	--	--	--	--
	2015	19.1	--	--	--	--
Totals	2006	399.1	136.9	154.0	--	4.0
	2015	399.1	133.5	94.6	18.5	65.0

Table 14 below shows the number and variety of special use authorizations and permits active during fiscal year 2015.

Table 14. Number and type of special use authorizations and permits.

Type	Number	Type	Number	Type	Number
Club	6	Nondisturbing Use (Archaeological Investigation)	3	Cellular	2
Shelter	1	Disturbing Use (Archaeological Investigation)	2	Resource Monitoring Site	2
Recreation Residence	307	Construction Camp and Residence	2	Commercial Mobile Radio Service	6
Resort	2	Warehouse and Storage Yard	1	Facility Manager	15
Concession Campground	1	Commercial Still Photography	4	Telephone and Telegraph Line	12
Recreation Event	18	Motion Picture and TV Location	7	Fiber Optical Cable	3
Apiary	12	Geological and Geophysical Exploration	2	Other Communication Improvement, not REA	3
Convenience Enclosure	4	Powerline	87	Navigational Equipment	1
Church	1	Other Utility Improvement	1	Irrigation Water Transmission Pipeline >= 12” Diameter	1
Marker	4	Airport, Heliport	1	Irrigation Water Transmission Pipeline < 12” Diameter	11
Monument	1	DOT Easement	5	Water Transmission Pipeline >= 12” Diameter	1
Service Building	7	Forest Road and Trail Act Easement	4	Water Transmission Pipeline < 12” Diameter	7
Transfer Station	1	Federal Land Policy and Management Act Easement	8	Dam, Reservoir	5
Site Survey and	2	Federal Land	85	Water	4

Table 14. Number and type of special use authorizations and permits.					
Type	**Number**	**Type**	**Number**	**Type**	**Number**
Testing		Policy and Management Act Permit		Diversion, Weir	
Hydroelectric Investigation	1	Wilderness Act Authorization, Roads and Trails	1	Well, Spring, or Windmill	8
Wind Energy Site Testing	1	Amateur Radio	1	Wildlife Water Supply	2
Resource Survey	7	Microwave-Common Carrier	5	Water Storage Tank	21
Experimental and Demonstration	1	Microwave-Industrial	4	Water Treatment Plant	1
Research Study	9	Local Exchange Network	1	Special Forest Product Permit	156
Weather Station	4	Private Mobile Radio Service	29	Active Mineral Operations	8
Observatory	1	Passive Reflector	1		
Military Training Area	3	Cable Television	1	**TOTAL**	**918**

Trends in annual indicators for Goal 7.1: As of fiscal year 2015, land ownership complexity has been reduced relative to 2006 despite an increase in land area. The number of buildings has increased, but their footprint on the landscape has been reduced. Between fiscal years 2006 and 2015, the Cleveland NF conducted NEPA analyses to determine if unauthorized routes are necessary for potential inclusion as part of its transportation system, if such routes should be actively decommissioned, or if such routes have already been naturally decommissioned by non-use and vegetation growth. Planning is now complete for the decommissioning of an additional 70 miles of unauthorized routes, and implementation will occur over several years beginning in September 2016. A wide variety of special uses are authorized across the Cleveland NF, and this year's status sets a baseline for future monitoring.

4. Part 2 Monitoring

This chapter documents program implementation (LMP, Part 2 monitoring), as tracked through performance measures linked to the National Strategic Plan and accomplishments reported through national databases. Note that more detailed information about certain accomplishments is provided by Goal in Part 1, while these summary data are consolidated for review.

Table 14. Part 2 Monitoring Summary Indicators	**Fiscal Year 2015 Accomplishment**	**Part 2 Monitoring Summary Indicators**	**Fiscal Year 2015 Accomplishment**
Acres of Terrestrial Habitat Enhanced	9,650 acres	Recreation Days Managed to Standard (General Forest Areas)	unassigned
Miles of Aquatic Habitat Enhanced	31 miles	Land Use Authorizations Administered to Standard	59
Acres of Noxious Weeds Treated	255 acres	Number of Mineral Operations Administered	8
Acres of Vegetation Improved (also see Hazardous Fuels Reduction)	11 acres	Number of Allotments Administered to Standard	6 pasture areas
Acres of Watershed Improved	2,661 acres	Acres of Hazardous Fuel Reduction	3,788 acres
Acres of Land Ownership Adjusted	0 acres	Miles of Passenger Car Roads Maintained to Objective Maintenance Level	91 miles
Heritage Program Management Points	Below Standard – see p. 14 for details	Miles of High Clearance & Back Country Roads Maintained to Objective Maintenance Level	61 miles
Products Provided to Standard (Interpretation and Education)	obsolete	Miles of Road Decommissioned	6 miles
Recreation Special Use Authorizations Administered to Standard	283	Miles of Trail Operated and Maintained to Standard	83 miles
People-at-one-time Days Managed to Standard (Developed Sites)	138,845		

5. Part 3 Monitoring

This section addresses the monitoring and evaluation of projects and activities. Using the methodology described in the 2014 Land Management Plan Amendment, 8 new and existing projects were randomly selected for review from five of the six functional areas listed in the LMP, as shown in Table 15.

Table 15. Fiscal year 2014 projects randomly selected for Part 3 monitoring.

Ranger District	Project Name	Functional Area	New or Existing	Section in monitoring report
Descanso	Bear Valley Trailhead	Public Use & Enjoyment	Existing	***5.2***
	Kitchen Creek Helitanker Base	Facility Operations & Maintenance	New	***5.3***
	Lake Morena Herbicide Application	Fire & Aviation Management	New	***5.5***
	La Posta Tamarisk below Narrows	Resource Management	New	***5.1***
Palomar	Crosley Road (8S06)	Facility Operations & Maintenance	Existing	***5.3***
	Oak Grove Henshaw Telephone Line (PRD420802)	Commodity & Commercial Uses	Existing	***5.4***
	CalTech High Point Research Installation (PRD012015)	Commodity & Commercial Uses	New	***5.4***
Trabuco	Ultra-marathon Races	Public Use & Enjoyment	New	***5.2***

5.1 Resource Management Projects

La Posta Tamarisk below Narrows

Monitoring
This activity occurred in the Morena Place of the Descanso Ranger District upstream of Buckman Springs Road along La Posta Creek. The purpose of the project is to eliminate invasive tamarisk to restore native riparian habitat.

Results
Building on a successful tamarisk control project on 80 acres of Cottonwood Creek riparian habitat, treatment of an adjacent stretch of La Posta Creek was initiated in October 2014. A new Forest-wide Invasive Weed Management EA was completed in 2014 along with a Decision Notice that authorized this work.

Contractors cut tamarisk plants interspersed with 79 acres of native riparian forest. Triclopyr herbicide was sprayed on the cut stumps to prevent resprouting. Triclopyr was used instead of imazapyr to avoid impacts to the native plants. The contract included design features from the

EA for preventing resource and safety impacts, and the monitoring team found no problems with the way the project was conducted as far as impacts to biological, archaeological, soil, or water resources. The contractors were monitored every few days during implementation, and treatment efficacy is monitored annually. The initial treatment was found to have achieved 80% control, exceeding expectations. Retreatment occurred in August 2015 and September 2016.

This work constitutes ecological restoration of riparian habitat for federally-listed wildlife species, including Southwestern Arroyo Toads, Southwestern Willow Flycatchers, and potentially for Least Bell's Vireos.

Conclusions
The project is consistent with Goal 2.1 of the LMP, which directs the Cleveland NF to reverse the trend of increasing loss of natural resource values due to invasive species (LMP, Part 1, pg. 31), as well as other LMP objectives, standards, and place emphases.

Recommendations
Continue to monitor the site and retreat as necessary.

Figure 2. The monitoring team discusses tamarisk control at La Posta Creek.

5.2 Public Use and Enjoyment Projects

Ultra-marathon Races Permit

Monitoring
The Old Goat 50, Billy Goat Half-Marathon, Mountain Goat 26 Mile, and Chimera 100 Mile footraces occurred in the Elsinore, San Mateo, and Silverado Places of the Trabuco Ranger District on March 21, June 20, September 26, and November 14-15, 2015. The races occurred exclusively on designated roads and trails.

Results
A permit was signed by the District Ranger on December 15, 2014. No NEPA documentation was included in the permit file.

The permit includes resource protection terms, and District staff did not report any permit violations, since resource damage did not result from these races. Recreation opportunity was provided to event participants, and the National Forest collected land use rental fees for the event.

Conclusions
The Ultra-marathon Race Permit is consistent with Goal 3.1 in the LMP, which directs the Cleveland NF to provide for public use and natural resource protection (LMP, Part 1, pg. 33), as well as other LMP objectives, standards, and place emphases.

Recommendations
Recreation events for the entire Forest could be analyzed in a single NEPA letter to the file and annually refreshed.

Bear Valley Trailhead
Monitoring
The Bear Valley Trailhead is an existing developed recreation site in the Sweetwater Place on the Descanso Ranger District.

Results
The Bear Valley Trailhead primarily serves off-highway vehicle (OHV) users headed up Bear Valley Road from Interstate 8. The site was found to be in good condition, other than a sign that needed to be repainted.

Because vehicles regularly drive off of Bear Valley Road and Long Valley Loop Road, the trailhead signage was evaluated by the monitoring team. It was determined that an additional sign would be useful with large font reading “Stay on Road” followed by reference to 36 CFR 261.13, which prohibits the use of vehicles off of designated roads and trails.

The District Ranger would prefer to have vault toilets rather than the portable toilets currently in place and would like to see partnerships established for addressing recreational issues.

Conclusions
The Bear Valley Trailhead is consistent with Goal 3.1 in the LMP, which directs the Cleveland NF to provide for public use and natural resource protection (LMP, Part 1, pg. 33).

Recommendations
Continue to monitor the site. Repaint one sign and add another as described above.

Figure 3. The Bear Valley Trailhead.

5.3 Facility Operations and Maintenance Projects

Kitchen Creek Helitanker Base

Monitoring
The Kitchen Creek Helitanker Base is a new facility on Kitchen Creek Road on the Descanso Ranger District. Its construction was completed in 2015.

Results
The Kitchen Creek Helitanker Base EA was finalized and its construction authorized by a Decision Notice in April 2012. Its purpose is to better protect the southern half of the Cleveland National Forest from wildland fire by enabling quicker response times for Helitankers to areas of the Cleveland NF that have historically had long response times. It was funded as mitigation for the construction of the Sunrise PowerLink, a high voltage electrical transmission line, across the Cleveland National Forest.

Extensive design features were included in the design-build contract for the facility, with a substantial investment in best management practices for water quality. Scenery, air quality, and biological issues were also minimized by design features. Revegetation efforts were not as successful as expected due to timing and lack of water, and so reseeding needs remain, as does the need to control invasive weeds that have colonized some areas in the meantime. Oak trees also remain to be planted to replace those lost due to construction; suitable sites need to be identified first, since previous efforts were not successful.

The Helitanker base has been staffed since January 2016 and has hosted a SkyCrane, the largest Helitanker model, since June 2016, when it was functional for the nearby Border Fire.

Conclusions
The project is consistent with Goal 7.1 in the LMP, which directs the Cleveland NF to maintain high quality facilities (LMP, Part 1, pg. 47), and Goal 1.1 of the LMP, which directs the Cleveland NF to improve the ability of southern California communities to limit loss of life and property and recover from the high intensity wildland fires that are a natural part of this state's ecosystem (LMP, Part 1, pg. 20), as well as other LMP objectives, standards, and place emphases.

Recommendations
Address the revegetation, weed treatment, and oak planting needs, and continue to maintain and monitor the condition of the facility.

Figure 4. The monitoring team looks around the Kitchen Creek Helibase, with the hangar in the background.

Crosley Road (8S06)

Monitoring

This road is in the Aguanga Place on the Palomar Ranger District. It is an official National Forest System road and is gated to only allow access to private property or for administrative use. It is not shown on the Motor Vehicle Use Map as open to the public.

Results

Crosley Road was monitored as an existing facility for private property access and administrative use. Classified as a Maintenance Level 2 road, it is open for use by high-clearance vehicles but not suitable for passenger vehicles. Upon the monitoring team visit, the road condition was found to meet these expectations, except for the uppermost portion that might not pass a fire engine due to encroaching vegetation. The gate on Highway 79 was found to be open, as it has often been recently, but no reports were known of resulting trespass on private property.

Crosley Road has not been maintained by the Forest Service. The surface of the first third of the road was found to be in good condition, having been maintained by one of the private property owners. Rolling dips for drainage were deteriorating, however, and need to be re-established. At least one drain consisted of a 4” diameter flexible black plastic pipe, rather than a metal drain. The greatest concern is that the road branches into two parallel segments roughly a mile from

Highway 79. The authorized segment is relatively steep, while the unauthorized segment runs along a stream, well within the riparian conservation area. Moreover, maintenance is occurring on this unauthorized route without permission. It was suggested that the steep segment may be impassable to certain vehicles when wet, but a more appropriate solution would be to add aggregate material for traction during the wet season. Community engagement would be needed before addressing this situation.

The second third of the road was rougher than the first third, but the final third was the roughest of all and needed maintenance to prevent soil erosion. Best management practices for protecting water quality were not implemented.

Additional funding was secured in 2016 for maintaining the roads of Palomar Mountain through the Palomar Mountain Healthy Lands initiative, which will enable Crosley Road to be improved in the near future.

Figure 5. This section of Crosley Road shows the need for maintenance.

Conclusions

Except for the unauthorized segment in a riparian conservation area and the need for maintenance, Crosley Road is consistent with Goal 3.1 in the LMP, which directs the Cleveland NF to provide for public use and natural resource protection (LMP, Part 1, pg. 33), as well as other LMP objectives, standards, and place emphases.

Recommendations
Authorized road maintenance should occur regularly. The unauthorized road segment in the riparian conservation area should be eliminated after community engagement. The uppermost portion of road should be brushed to allow fire engine passage.

5.4 Commodity and Commercial Uses Projects

Oak Grove Henshaw Telephone Line (PRD420802)
Monitoring
This permit authorizes a telephone line in the Aguanga Place on the Palomar Ranger District in the vicinity of the Oak Grove Campground and Fire Station, encompassing 2.29 acres as a 10-foot-wide right-of-way along 0.63 miles of National Forest System lands.

Results
This telephone line was installed in the 1940s, and the current permit was issued to General Telephone Company of California on December 19, 1967. While the Forest Service Special Uses Data System shows that the permit expired in 1997, the permit itself had no stated expiration date, and the bills have been consistently paid on an annual basis. The lines hang on San Diego Gas & Electric poles that have just been reauthorized by their Master Special Use Permit.

No resource concerns were identified by the monitoring team for this permit.

Conclusions
The project is consistent with Goal 7.1 of the LMP, which directs the Cleveland NF to focus the built environment into the minimum land area needed to support growing public needs (LMP, Part 1, pg. 46), as well as other LMP objectives, standards, and place emphases.

Recommendations
Continue to monitor the permit.

CalTech High Point Research Installation (PRD012015)
Monitoring
The permitted use exists in the Aguanga Place on the Palomar Ranger District and consists of a device attached to the High Point Lookout Tower to monitor the darkness of the night sky.

Results
This permit was issued in May 2015 and reissued on June 1, 2016. Resource specialists provided concurrence documentation for a letter to the file to authorize the permit, but the letter itself was missing from the file. In addition, no NEPA documentation was prepared for the permit reissuance.

Conclusions
The project is consistent with Goal 7.1 of the LMP, which directs the Cleveland NF to focus the built environment into the minimum land area needed to support growing public needs (LMP, Part 1, pg. 46), as well as other LMP objectives, standards, and place emphases.

Recommendations
A letter to the file should be prepared to authorize the permit and annually refreshed if reissued.

Figure 6. The High Point Lookout Tower to which the monitoring device is attached.

5.5 Fire and Aviation Management Projects

Lake Morena Herbicide Application

Monitoring

The site is located in the Morena Place of the Descanso Ranger District, extending west from the intersection of Buckman Springs Road with Oak Drive. The project was designed to maintain a fuelbreak to reduce the risks of wildfire to the community of Morena Village. It falls within the wildland/urban interface defense and threat zones.

Results

During fiscal year 2015, the District contracted the use of imazapyr herbicide to treat 120 acres of fuelbreak vegetation that had been cut, piled, and burnt earlier that year. The herbicide treatment occurred in April 2016, and its purpose was to reduce the resprouting of shrubs in order to the delay the need for mechanical treatment or burning for fuelbreak maintenance. This project was authorized the Lake Morena Community Defense EA, for which the Decision Notice was signed in January 2015. It is the first project to use herbicide for fuels treatment on the Cleveland National Forest in recent years, which was added as a tool for reducing fuelbreak maintenance costs. The contract included design features from the EA for preventing resource and safety impacts. The contractors were monitored every few days during implementation, and treatment efficacy is monitored annually. The treatment was found to have achieved 70% control, below expectations, but the monitoring team found no problems with the way the project was conducted as far as impacts to biological, archaeological, soil, or water resources.

A complaint was received about the project from a local resident, and it was determined that legal requirements for notification had been met during the development of the EA. Nevertheless, additional notification of local residents prior to implementation would be useful for similar projects in the future.

Conclusions

The project directly addressed Goal 1.1 of the LMP, which directs the Cleveland NF to improve the ability of southern California communities to limit loss of life and property and recover from the high intensity wildland fires that are a natural part of this state's ecosystem (LMP, Part 1, pg. 20), as well as other LMP objectives, standards, and place emphases. Project documents are on file at the Descanso Ranger District office.

Recommendations

Continue to monitor fuels treatments. Document maintenance costs to confirm that they are reduced through herbicide use. Notify local residents of future herbicide treatments prior to implementation.

Figure 7. The monitoring team evaluates the results of fuels treatment near Morena Village.

6. LMP Monitoring Protocol Recommendations

This year the team continued with the open-ended-question format used for the first time in the fiscal year 2008 monitoring and evaluation report. The monitoring approach combined the monitoring guide, as revised in the spring of 2009, with the 2014 Southern California LMP Amendment Monitoring Alternative B. Both are available to the public upon request to the Cleveland NF Planner.

7. Monitoring Team Recommendations

Altogether, the fiscal year 2015 monitoring team found that the Land Management Plan goals, strategies, and design features are taken seriously and incorporated into project planning, and they are generally manifested in the field by project results.

Project interdisciplinary communication has substantially improved over prior years, maps are being regularly incorporated into project documentation, and specialist review of Enterprise and consultant reports has become standard practice. Each of these improvements has been recommended by this report in prior years.

8. Potential LMP Amendments and Corrections

Monitoring did not surface a need for a significant amendment of the plan. To date, the following individual project decisions have included insignificant amendments of the Cleveland LMP: 1) Motorized Travel Management (November 12, 2008); 2) West-Wide Energy Corridor (January 14, 2009); 3) Sunrise Powerlink (July 9, 2010); and 4) El Cariso Communication Site (March 8, 2011).

The Cleveland NF LMP Amendment with a Record of Decision signed on October 23, 2014, alters the Land Use Zones of some of the Forest's Inventoried Roadless Areas and undeveloped areas as well as adjusts the strategy used for LMP Monitoring, as reflected in this report. In addition, an administrative change on May 9, 2016, brought the monitoring program into compliance with the 2012 planning rule requirements (36 CFR 219).

9. Action Plan, Forest Leadership Team

The following are the actions that will be taken in response to LMP monitoring, including those actions from past monitoring that need to continue:

NEPA

Continue the monthly Standing Interdisciplinary Team approach for all Cleveland NF projects that has been developed over the past four years to improve communication and NEPA efficiency and ensure LMP consistency.

Emphasize requirement to screen all projects for consistency with the current LMP, especially when implementing projects with "refreshed" NEPA that was started before the adoption of the LMP. Continue work to build NEPA ready fuels management projects for outyears that are consistent with the current LMP.

Ensure local Forest specialists review all NEPA work conducted for the Forest by Enterprise Teams or private contractors to ensure all design criteria and mitigations are appropriate and implementable by the local unit.

Plan to Implementation

Ensure that projects are implemented according to specific instructions provided by signed NEPA decisions in all cases. Cross-reference to make sure that specialist reports match analysis and decision documents and that language and locations for contract specifications, permits, and project plans are derived from decision documents.

Specialists must continue to be engaged through project implementation, especially when field realities necessitate changes in projects that may have not been fully anticipated during the NEPA process.

Arrange for the transfer of project leadership duties from departing staff members to new personnel to avoid communication issues and lack of project oversight.

Program Development
Follow through on this year's recommendations throughout the coming fiscal year by incorporating them into program and project management and revising internal processes as necessary.

Prepare this report earlier in the coming fiscal year to contribute to the program of work planning for the following fiscal year that begins in the springtime.

Continue to fine tune an interdisciplinary process for developing the program of work, striving to create an integrated program of work that is responsive to common priorities under the LMP.

Route Management
Continue to emphasize decommissioning of undetermined, unneeded roads and resolving the status of "temporary roads." This work serves to improve watershed function and further LMP goals and objectives.

For roads under special use permit (which the permittee is required to maintain), work to ensure that permittee is aware of current road management standards and monitor condition of roads. Issue notices of non-compliance for roads not meeting forest standards that are contributing to degraded watershed conditions. Develop special use permits for existing, needed roads without permits when considering nearby projects.

Recreation Management
Continue to prepare operations and maintenance plans for Forest Service recreation sites over time.

Recreation events for the entire Forest should be analyzed in a single NEPA letter to the file and annually refreshed.

Watershed Management
Develop a prioritized plan for improving the condition of roads, trails, and facilities that do not meet Best Management Practice standards for protecting water quality, given currently insufficient funding for their maintenance.

10. Public Participation

Groups or individuals who have indicated an interest in Land Management Plan monitoring received an email notifying them of the availability of this report on the Cleveland NF web site and how to obtain a print version of this document.

11. Members of the Monitoring Team

Members of the fiscal year 2015 monitoring team were:

Archaeology:	Karin Klemic, Cleveland NF Heritage Resource Program Manager
Fuels/Forestry:	Andrew Weinhart, Cleveland NF Fuels Officer
Planning:	Jeff Heys, Cleveland NF Planner
Roads:	Foster Kuramata, Cleveland NF Road Manager
Special Uses:	Spencer Bleadorn, Cleveland Lands and Special Use Program Manager
Engineering:	Tammie Mather and Michelle Bearmar, Cleveland NF Civil Engineers
Soils/Hydrology:	Sean Velasquez, Water Resources Institute Intern
Invasive Species:	Lance Criley, Cleveland NF Rangeland Management Specialist
Botany:	Lisa Kluesner, Cleveland NF Botanist
Wildlife:	Jeff Wells, Cleveland NF Wildlife Biologist

Program monitoring information was contributed by:

Archaeology:	Karin Klemic, Cleveland NF Heritage Resource Program Manager
Fuels/Fire:	Stephen Fillmore, Cleveland NF Fuels Officer
Range:	Lance Criley, Cleveland NF Rangeland Management Specialist
Wildlife/Botany:	Kirsten Winter, Cleveland NF Biologist

Members of the monitoring team express their gratitude to the program and project leaders on the Descanso, Palomar, and Trabuco Ranger Districts, for their support throughout the monitoring and evaluation process, including efforts to compile planning documents and host field project site visits.

For more information about this report, contact:

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