



Land Management Plan Monitoring and Evaluation Report

October 2014

Cleveland National Forest Fiscal Year 2013



Dear Cleveland National Forest Stakeholders:

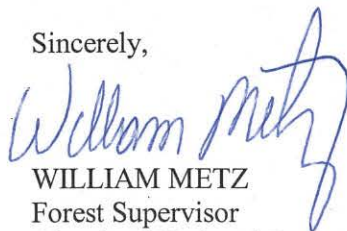
October 2014

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 eighth 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
Forest Supervisor
Cleveland National Forest

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Cleveland National Forest Land Management Plan Monitoring and Evaluation Report Fiscal Year 2013

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 2013, which began on October 1, 2012 and ended on September 30, 2013. The Cleveland NF Land Management Plan—referred to as the “Land Management Plan” or “LMP” throughout this document—went into effect on October 1, 2005. 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. 49 – 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

Monitoring question: 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?

Indicator: Acres of High Hazard and High Risk in WUI Defense Zone

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 2013, hazardous fuel treatments occurred on 1,710 acres in the wildland/urban interface. 2,536 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 7,919 baseline acres, and 319 additional acres of treatment in the wildland/urban interface defense zone during fiscal year 2013 leaves 7,600 adjusted acres. There were no changes in 2013 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 2012 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: 5,520 acres	0	0	84	5,436
Fire regimes III, IV, and V: 2,399 acres	0	0	235	2,164
Total: 7,919 acres	0	0	319	7,600

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 2,536 acres were treated during fiscal year 2013, of which 81 percent of the acres treated were in the threat zone, while 19 percent of the acres

treated were in the defense zone. No treatments 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.

Table 2: Treatments in 2013.				
Activity	Wildland/Urban Interface Class			Total
	Threat zone	Environment	Defense zone	
Broadcast burning	473	0	60	533
Burning of piled material	274	0	148	422
Fuelbreak	76	0	24	100
Piling	404	0	88	492
Rearrangement of fuels	171	0	63	234
Thinning for hazardous fuel reduction	657	0	98	755
Sum of all acres treated (some areas had more than one activity type)	2055	0	481	2536
Percent of total	81	0	19	100

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 1,220 acres had been treated by the end of fiscal year 2013. Starting with a baseline of 3,574 acres in the wildland/urban interface threat zone in fire regimes III, IV, and V in fiscal year 2006, some 1,410 acres had been treated by the end of fiscal year 2013.

Overall, between fiscal years 2006 and 2013, approximately 2,630 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?

Indicator: Mortality Risk Assessment

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: 2013 status of departures from mean fire return interval.			
Fire Return Interval Departure	Acres	Percent of total (2006)	Percent of total (2013*)
-3	19,661	6	5
-2	206,148	43	48
-1	133,036	33	31
1	11,741	7	3
2	35,696	2	8
3	12,139	5	3
Unclassified	7,536	2	2
Total	425,957	100	100

*GIS data published October 2013 – can be found at

<http://www.fs.usda.gov/detail/r5/landmanagement/gis/?cid=STELPRDB5327836>

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 2013, 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, 3% less of the forest in 2013 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 2013 a total of 543 acres were treated in montane conifer, of which 89% were in Condition Class 3, which are most in need of treatment. 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 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	0	0
Burning of piled material	0	18	0	19	154	191
Precommercial thinning	0	0	0	0	0	0
Underburn	0	0	0	3	249	252
Piling of fuels	0	12	0	6	29	47
Pruning to reduce canopy heights	0	0	0	0	0	0
Thinning for hazardous fuel reduction	0	0	0	0	53	53
Total	0	30	0	28	485	543

*Some units received more than one treatment in fiscal year 2013.

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 2013, approximately 3,070 acres were treated in montane conifer. Some 2,561 acres of the total, or 83 percent, were treated in Condition Class 3, while 224 acres, or 7 percent, were treated in Condition Class 2. Over that same period, only 285 acres, or 10 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 1,725 total acres were treated in Fire Regime IV in fiscal year 2013, 45% of which were in condition classes -1 or 1, meaning that they were within the natural range of variability expected for this vegetation type. Acres in negative condition classes where fire is overly frequent were treated by cutting, piling, burning piled materials, broadcast burning, rearrangement of fuels, and grazing, exclusively 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	51	169	22	31	273
Burning of piled material	0	0	114	95	0	24	233
Precommercial thinning	0	0	0	0	0	0	0
Piling of fuels	0	0	216	164	0	20	400
Rearrangement of fuels	0	0	63	93	0	15	171
Thinning for hazardous fuel reduction	0	0	293	225	0	29	547
Fuelbreak	0	20	81	0	0	0	101
Total	0	20	818	746	22	119	1,725

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 2013, firefighters put out 87 fires that would have otherwise consumed Cleveland NF lands. Only 10 of these fires grew to more than an acre in size. 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 2013, approximately 10,153 acres were treated in Fire Regime IV. Some 877 acres of the total, or 9 percent, were treated in condition classes 2 and 3, while 3,512 acres, or 35 percent, were treated in condition classes -2 and -3. Over that same period, 5,431 acres, or 53 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 3,512 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 2013, according to the Forest Service Activity Tracking System database, approximately 52 acres of invasive species were treated on the Cleveland NF. This included 48 acres of tamarisk treatment on the Descanso Ranger District, small infestations of purple pampas grass and yellow star-thistle on the Trabuco Ranger District, and Spanish broom on both Districts. No aquatic invasive species were treated in fiscal year 2013.

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 2013, approximately 771 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 star 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 six miles of San Mateo Creek were enhanced by removal of invasive fish and bullfrog species, with the exception of fiscal year 2012, when 14 miles of Trabuco Ranger District streams were enhanced. No aquatic invasive species were treated in fiscal year 2013.

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. The current report summarized data which were collected in 2009. Some 84.9 percent of respondents were satisfied with developed sites on the Cleveland NF; 95.5 percent were satisfied with access, including road and trail condition and parking availability; 79.4 percent were satisfied with services such as availability of information and signage; and 92.9 percent were satisfied with their perception of safety when they were recreating on the Cleveland NF. The report is available online at: <http://www.fs.fed.us/recreation/programs/nvum/>.

The third round of NVUM surveys began in 2013, but results are not yet available.

Wilderness management actions during fiscal year 2013 included recreation site inventory, volunteer contributions, information needs assessment, 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	2013	2006
Agua Tibia	81	73
Hauser	67	65
Pine Creek	71	65
San Mateo Canyon	76	61

Trends in annual indicators for Goal 3.1 and 3.2: Based on both the baseline NVUM survey and the current report from data collected in 2009, the Cleveland NF maintains a high level of user satisfaction. No trends can be determined between the two reports, however, because different methodology was used. The current report will serve as the baseline for determining trends in goals 3.1 and 3.2 for the next five-year reporting period due in fiscal year 2015. Wilderness condition is improving across the Cleveland NF.

Forest Program Goal – Her 1: Heritage Resource Protection

The desired condition is to preserve or enhance significant heritage resources. Fiscal year 2013 Cleveland NF Heritage Program accomplishments under the existing Programmatic Agreement (PA), the new Regional Programmatic Agreement (RPA), or Section 106 of the National Historic Preservation Act (NHPA) included the analysis of the potential for effects to historic properties on a total of 33 proposed undertakings. Thirty-one of these 33 proposed undertakings were determined to be compliant through the application of the stipulations of either the PA (17) or RPA (14). Two of the 33 proposed undertakings were determined to be not compliant under either PA, and were approved under the process defined in NHPA Section 106, in consultation with the State Historic Preservation Officer (SHPO).

Of the 31 projects approved as compliant under the PA or RPA in fiscal year 2013, two required cultural resource survey for the identification of historic properties and the assessment of the potential for effects. The two undertakings for which cultural resource surveys were conducted were completed in support of proposed undertakings associated with Cleveland NF Roads and Trails projects. Cultural resource surveys conducted in support of proposed undertakings resulted in the survey of approximately seven acres. No previously unrecorded archaeological sites were recorded as a result of these surveys. All of the newly recorded sites documented and entered into the corporate infrastructure database were recorded in support of inventory and cultural resource management activities undertaken in support of the proposed demolition of existing stream check dams included in the Trabuco District Dam Removal Project. No new survey was conducted in association with that project.

Table 7 provides a summary of the 31 proposed undertakings that were analyzed for potential effects to historic properties and authorized under the PA or RPA in fiscal year 2013, the type of data that was utilized for the identification and avoidance of potential effects (if any) to historic properties, either previous survey data (18) or new survey data (2), and the number of proposed projects determined to have no potential for effects to historic properties as Screened Exemptions (11). Of these 31 undertakings, 2 required new survey, 18 had been adequately surveyed in association with previous projects, and 11 were determined to be exempt from further Heritage Program review or consultation as Screened Undertakings.

Table 7: Project Summary					
Total Projects	36 CFR 800 Projects	PA/RPA Projects	Survey Projects	Previously Surveyed	Screened Undertakings
33	2	31	2	18	11

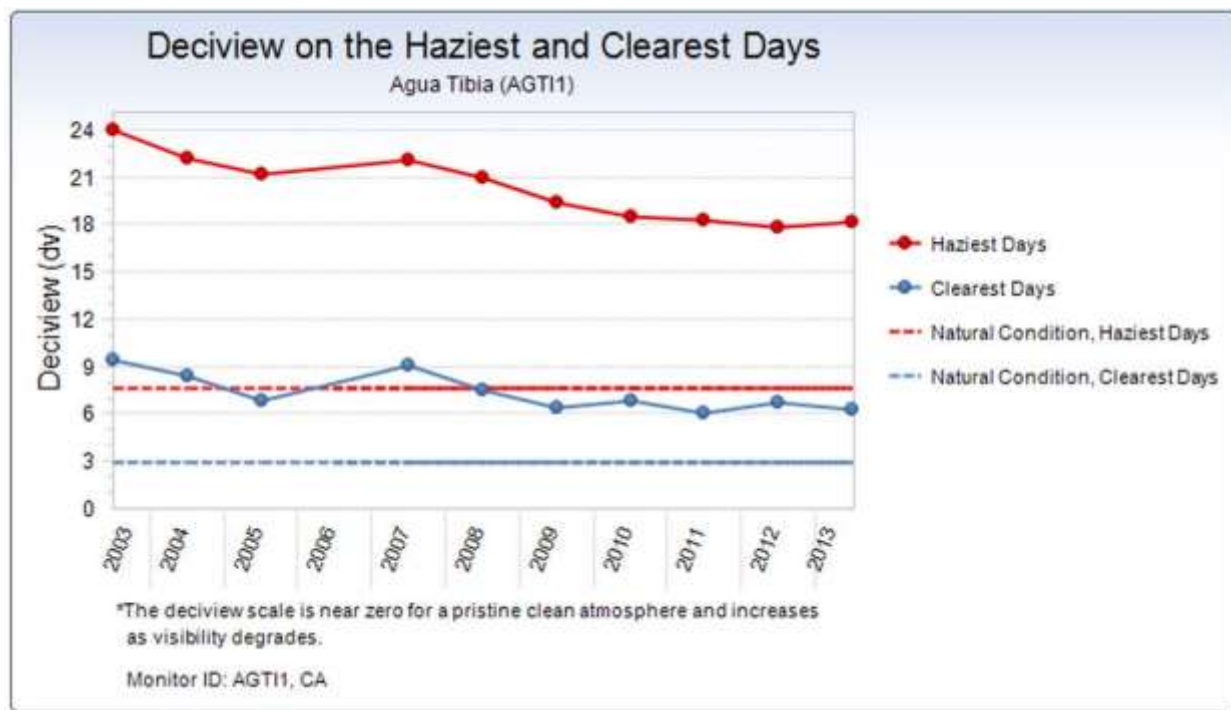
Table 8 contains the number of acres surveyed (7), the number of new cultural resources identified/recorded (25), the number of previously recorded resources that had new site record updates completed (34), the number of historic properties that were protected from potential effects through the implementation of Standard Protection Measures (SPM) (19), the number of sites that were monitored for the avoidance of potential effects (19), and the number of Inadvertent Effects (0) associated with projects approved or implemented under the PA or RPA.

Table 8: Historic Property and Survey Data					
Acres Surveyed	New Sites Recorded	Sites Updated	Sites Protected	Sites Monitored	Inadvertent Effects
7	25	20	19	19	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. 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.



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 2013, 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. The project contained significant mitigation elements to protect ecosystem health and preserve habitats that would otherwise be impacted by construction and operation. A total of 178 acres of land were acquired in fiscal year 2013 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.

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?

Indicators: (5.1) Number of Watersheds in each Condition Class (5.2) Change in Indicator Score for Aquatic Habitat, Aquatic Biota and Riparian Vegetation

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 2013, 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 Cedar Creek, a permit system was implemented during fiscal year 2013 to manage recreational use at Cedar Creek Falls through a permit system, with an adaptive management system including riparian condition used to fine-tune the permit numbers. In the Cottonwood Creek watershed, further tamarisk treatment was implemented during fiscal year 2013 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.

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 2013.

Table 10: Baseline and trend monitoring for range allotments in 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	2009
Corte Madera, Lower Bear Valley	Good – continued off-highway vehicle (OHV) trespass	Annual compliance monitoring	2013
Guatay	Good – stable but effects of drought evident in ground cover	Annual compliance monitoring	2013
Indian Creek	Ungrazed, not monitored	--	n/a

Table 11: Allotment grazing conditions.			
Allotment, pasture	Condition	Assessment type	Year
Laguna, Kitchen Valley	Moderate	Annual compliance monitoring	2012
Laguna, Cameron, La Posta Creek	Moderate	Region 5 long-term trend monitoring	2010
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	2009
Laguna Meadow, mid-meadow plot	Good	Annual compliance monitoring	2013
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	2013
Mendenhall, Lower	Good	Annual compliance monitoring	2013
Mendenhall, Upper	High	Region 5 long-term trend monitoring	2011
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	2013
Warner Ranch	Good	Annual compliance monitoring	2013

Trends in annual indicators for Goal 6.1: 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 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 rather than grazing management, including 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.

A water source in the Laguna Allotment was identified through monitoring to be in poor condition and causing resource damage to riparian vegetation. The permittee responded to requests to repair the spring box and piping. Monitoring in fiscal year 2013 showed this area to be in improved condition and back in compliance with Land Management Plan standards.

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.

Monitoring questions: Are trends in resource conditions indicating that habitat conditions for fish, wildlife, and rare plants are in a stable or upward trend?

Indicator: Management Indicator Species Habitat Condition

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

Management Indicator Species

Twelve management indicator species were selected to monitor certain habitat types and issues (LMP, Part 1, pp. 44 to 45). Ten of these species are found on the Cleveland NF and will be monitored along with other indicators of progress toward achieving desired conditions for biological resources. A Cleveland NF management indicator species report was prepared to describe the environmental baseline conditions. For California black oak there is also tracking of mortality (LMP, Part 1, Goal 1.2, pp. 20 et seq.). Approximately 18 management indicator species reports were completed for projects on the Cleveland NF for fiscal year 2013. None of the reports found that project implementation would affect populations or habitat trends for management indicator species. The Cleveland NF is working with the San Bernardino NF to provide additional updates to the California Spotted Owl account, as this species appears to be in decline due to drought.

Threatened and Endangered Species monitoring: In 2013, 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:

- Laguna Mountains skipper: Surveys were conducted to monitor skipper populations at Palomar Mountain in 2013. Survey report sent separately to US Fish and Wildlife Service.
- Arroyo toad: Arroyo toad populations were monitored where occurrences are near roads and campgrounds.
- California red-legged frog: No action. This species is extirpated from the Cleveland NF.
- Mountain yellow-legged frog: No action. This species is extirpated from the Cleveland NF.
- Southwestern willow flycatcher: Protocol surveys for this species were completed at the San Luis Rey River in 2013. The population appears to be relatively stable.
- California gnatcatcher: Awarded a contract for protocol surveys for this species to be conducted at the San Diego River in 2014. Worked on habitat restoration plans for the San Diego River area.
- Least Bell's vireo: Monitored Hauser Canyon population in 2013, population appears to be stable.
- Western yellow-billed cuckoo: No action in 2013.
- Stephen's kangaroo rat: No action in 2013.
- San Diego thornmint: No action in 2013.

- Munz's onion: Habitat was improved by removing a population of an invasive weed, yellow starthistle, near Elsinore Peak. Forest staff made a site visit to the population with FWS as part of the 5-year review for this species.
- Braunton's milkvetch: No action in 2013.
- Encinitas baccharis: No action in 2013.
- Nevin's barberry: No action in 2013.
- Thread-leaved brodiaea: No action in 2013.
- Vail Lake ceanothus: Forest staff made a site visit to the population with FWS as part of the 5-year review for this species.
- Slender-horned spineflower: No action in 2013.
- Oval-leaved dudleya: No action in 2013. The Cleveland NF population formerly thought to be this subspecies has been determined to be a different, non-listed subspecies of *Dudleya cymosa* ssp. *pumila*.
- San Bernardino bluegrass: No action in 2013.
- Southern steelhead: Forest is continuing to address fish passage issues in Trabuco Creek, San Juan Creek, and San Mateo Creek. See notes below.

Laguna Mountains skipper: The Cleveland NF no longer surveys the Laguna Mountains for the skipper because the species is considered to be extirpated in the area. A contractor continued surveys in the Palomar Mountains. The Cleveland NF continued monitoring recreation use at the El Prado and Laguna campgrounds and the Meadow Kiosk. No problems were identified. Monitoring for impacts to habitat continued at eight grazing exclosures on Laguna Meadow.

Arroyo Toad: Monitoring of roadkill and effects of recreation residences was completed. No mortality was detected. Completed habitat improvement work (noxious weed removal) in Trabuco and San Juan Canyons.

Least Bell's Vireo: Megan Jennings and Kirsten Winter checked the Hauser Creek population on June 26, 2013. We located four active territories of which two had fledglings and one had an unparasitized nest with one nestling. The nest was in an area that was east of previously known nesting territories.

Southwestern Willow Flycatcher: Under a cost-share agreement with the Cleveland NF, San Diego Natural History Museum completed protocol surveys for this species along a 2.5 mile segment of the San Luis Rey River.

Southern Steelhead: One existing creek crossing was removed (Tenaja Falls) to improve fish passage at San Mateo Creek. Five ford or culvert crossings will be replaced with bridges, and approximately 81 small dams will be removed. In 2013, the Forest completed a detailed inventory of the 81 check dams and prepared a draft EA analyzing the dam removal project.

Munz's Onion: Improved habitat by controlling yellow star thistle population at Elsinore Peak, along South Main Divide Road. Kirsten Winter, Forest Biologist, and Betty Grizzle, USFWS biologist, visited the Elsinore Peak population as part of the background work for the 5-year review for this species. The population and its habitat looked good and population numbers and extent appear stable.

Figure 2. Allium munzii - May 8, 2013 field visit, Elsinore Peak. Photo by Kirsten Winter.



Vail Lake Ceanothus: Kirsten Winter, Forest Biologist, and Betty Grizzle, USFWS biologist, visited the Woodchuck Road population as part of the background work for the 5-year review for this species. The population and its habitat looked good, and the number of individuals appeared to be equal to or greater than that present prior to the year 2000 Pechanga fire which reburned part of the population.

Figure 3. Ceanothus ophiochilus - March 15, 2013 field visit, Woodchuck Road. Photo by Kirsten Winter.



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

For 2014, the forest will continue with monitoring specified in various BOs. In addition, surveys for the following threatened and endangered species are planned:

- Laguna Mountains Skipper surveys – Palomar Mountains
- San Bernardino Bluegrass – Laguna and Palomar Mountains (reconfirm known locations)
- California Gnatcatcher – the Forest has hired a contractor to complete protocol surveys in the San Diego River area near San Diego Country Estates (Ramona)

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.

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.

Recommendations

Continue required monitoring.

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 corporate infrastructure 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 and overly 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.

Monitoring questions: Is the Cleveland NF balancing the need for new infrastructure with restoration opportunities or land ownership adjustment to meet the desired conditions?

Indicators: Land Ownership Complexity; Authorized and Administrative Infrastructure; Miles of Unauthorized Motorized Routes

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 2013, the Cleveland NF consists of 424,329 acres of land with 1,041 miles of exterior and interior boundary, yielding a perimeter to area ratio of 0.00245 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 2,235 acres of land acquisitions between 2006 and 2013, the 2006 Cleveland NF acreage has been recalculated at 422,094 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 2012, 288 administrative buildings existed; data are not available for the end of fiscal year 2013. While the number of buildings has increased slightly, large abandoned buildings at the Laguna Air Force Base have been decommissioned whereas small toilet 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 past year 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, despite that they have yet to be entered into the corporate infrastructure database. Specific changes from previous years 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 12 below shows that the Cleveland NF has successfully decommissioned 55.2 miles of unauthorized routes and approved decommissioning of an additional 24.3 miles between 2006 and 2013. Many of these routes impact riparian conservation areas or habitat for endangered or threatened species.

Table 12: Miles of road in Forest Service jurisdiction by type, 2006 baseline and 2013.

Maintenance level		NFS road	Permitted road	Unauthorized, undetermined	Unauthorized, unneeded, existing	Unauthorized, unneeded, decommissioned
Not applicable	2006	--	--	154.0	--	4.0
	2013	--	--	94.6	24.3	59.2
1: Basic custodial care (closed)	2006	34.4	--	--	--	--
	2013	41.3	--	--	--	--
2: High clearance vehicles	2006	280.9	136.9	--	--	--
	2013	258.7	133.5	--	--	--
3: Suitable for passenger cars	2006	11.5	--	--	--	--
	2013	25.5	--	--	--	--
4: Moderate degree of user comfort	2006	54.2	--	--	--	--
	2013	54.5	--	--	--	--
5: High degree of user comfort	2006	18.1	--	--	--	--
	2013	19.1	--	--	--	--
Totals	2006	399.1	136.9	154.0	--	4.0
	2013	399.1	133.5	94.6	24.3	59.2

Trends in annual indicators for Goal 7.1: As of fiscal year 2013, 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 2013, 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. Decommissioning work has occurred, and both analysis and implementation will continue in the future.

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 13. Part 2 Monitoring Summary Indicators	Fiscal Year 2013 Accomplishment	Part 2 Monitoring Summary Indicators	Fiscal Year 2013 Accomplishment
Acres of Terrestrial Habitat Enhanced	5,095 acres	Recreation Days Managed to Standard (General Forest Areas)	unassigned
Miles of Aquatic Habitat Enhanced	15 miles	Land Use Authorizations Administered to Standard	74
Acres of Noxious Weeds Treated	52 acres	Number of Mineral Operations Administered	1
Acres of Vegetation Improved (also see Hazardous Fuels Reduction)	76 acres	Number of Allotments Administered to Standard	25
Acres of Watershed Improved	747 acres	Acres of Hazardous Fuel Reduction	2,536 acres
Acres of Land Ownership Adjusted	178 acres	Miles of Passenger Car Roads Maintained to Objective Maintenance Level	99.1 miles
Heritage Program Management Points	41 (exceeds Standard)	Miles of High Clearance & Back Country Roads Maintained to Objective Maintenance Level	258.7 miles
Products Provided to Standard (Interpretation and Education)	obsolete	Miles of Road Decommissioned	0 miles
Recreation Special Use Authorizations Administered to Standard	301	Miles of Trail Operated and Maintained to Standard	52 miles
People-at-one-time Days Managed to Standard (Developed Sites)	0		

5. Part 3 Monitoring

This section addresses the monitoring and evaluation of projects and activities. As per 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 14.

Table 14. Fiscal year 2013 projects randomly selected for Part 3 monitoring.				
Ranger District	Project Name	Functional Area	New or Existing	Section in monitoring report
Descanso	Corte Madera Road	Public Use & Enjoyment	Existing	5.2
	Descanso Engine Garage and Warehouse	Facility Operations & Maintenance	New	5.3
	Descanso Ranger District Recreation Events	Public Use & Enjoyment	New	5.2
Palomar	Oak Grove Campground	Facility Operations & Maintenance	Existing	5.3
Trabuco	Elsinore Peak Yellow Starthistle Eradication	Resource Management	New	5.1
	Motorola Special Use Permit	Commodity & Commercial Uses	New	5.4
	Old Dominion Fuels Management	Fire & Aviation Management	New	5.5
	UNAVCO Special Use Permit	Commodity & Commercial Uses	Existing	5.4

5.1 Resource Management Projects

Elsinore Peak Yellow Starthistle Eradication

Monitoring

This activity occurred in the Elsinore Place of the Trabuco Ranger District along South Main Divide Road. The activity was analyzed in the Low-Impact Manual Noxious Weed Removal Decision Memo in 2008. The purpose of the project was to deter further invasion by yellow starthistle and resulting destruction of natural ecosystems.

Results

Since 2010, yellow starthistle eradication efforts along 3 miles of South Main Divide have been conducted annually by Back to Natives, a non-profit organization headquartered in Irvine, California. The Forest Service has provided funding for these efforts, along with technical and administrative guidance. As of 2013, Back to Natives estimates that yellow starthistle coverage has been reduced from 100% to 15%. Small patches were observed during the June 2014 site visits, as expected since manual control methods are expected to take long periods for eradication.

Communication has not been optimal between the Forest Service and Back to Natives, primarily due to turnover of Forest Service employees. As a result, activities do not always match Forest Service priorities. For example, Back to Natives controlled tecolote, a widespread non-native species, in addition to yellow starthistle, despite that tecolote is not a priority species for control on the Cleveland NF. One reason for this problem, apart from communication, is that the cooperative agreement that provided funding for this work was not specific about what work would be done. On the part of Back to Natives, survey and control data have not been provided to document the work completed, as was stipulated in the agreement.

Finally, since the Invasive Weed Management on the Cleveland National Forest environmental assessment and decision were recently completed, yellow starthistle may be targeted for herbicide application in future years rather than manual control to enable more rapid and cost-effective eradication.

Conclusions

The project has been implemented as designed but would benefit from improved communication. 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 for new infestations and retreat as necessary. Improve communication through a meeting among Back to Natives, the Trabuco Ranger District Volunteer Coordinator, and the Forest Invasive Weed Specialist to discuss re-prioritization of eradication efforts and assess training needs. In developing a new agreement, include a work plan with agreed-upon priorities.

Figure 4. The Forest Rangeland Management Specialist discusses yellow starthistle control with the monitoring team.



5.2 Public Use and Enjoyment Projects

Corte Madera Road

Monitoring

This road is in the Morena Place on the Descanso Ranger District. It is an official Forest Service System road and is open to the public year-round, with the exception of infrequent wet weather closures.

Results

Corte Madera Road was monitored as an existing asset for public use and enjoyment. 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.

Recent maintenance work to replace drainage culverts had recently been completed before the time of the visit. While good practices were observed, including the use of local rocks and the use of rocks to disperse outlet flows, problems were also noted. Specifically, two 18” culverts were used, whereas 24” culverts are considered the minimum diameter. Also, rolling dips should have been installed downslope to prepare for culvert failure as “diversion potential dips.”

Finally, stormproofing would help to prevent soil erosion and water quality impacts along the entire length of Corte Madera Road. Improvements could include increasing the frequency of rolling dips, dealing with drainage issues at their origin, and addressing gully formation.

Figure 5. The monitoring team evaluates a culvert replacement on Corte Madera Road.



Conclusions

Corte Madera 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. Stormproofing the road would better meet the direction to maintain a transportation system of roads and trails that is environmentally sound and efficient to manage.

Recommendations

Future culvert replacements should use a minimum of 24" for pipe diameter, and diversion potential dips should be installed downslope. Corte Madera Road should be stormproofed if funding permits or at least regularly maintained.

Descanso Ranger District Recreation Events

Monitoring

The Descanso Ranger District issued permits for six recreation events during fiscal year 2013, three of which were running races and the other three bicycle races. All of the events were held on National Forest System trails or used developed recreation sites for racer support. All but one occurred in the vicinity of Mount Laguna in the Laguna Place, while one mountain bike race was held at the Corral Canyon Off-Highway Vehicle Area in the Morena Place.

Results

Permits signed by the District Ranger were found in all six permit files. Four of the events had a NEPA Decision Memo in the permit files, two of which were signed in 2007 and the other two in 2010. All but one permit file had a letter to the file, signed by the District Ranger, indicating that the prior NEPA analysis was still valid. Of these, only one had been signed in 2013, and none cited the appropriate Decision Memo that originally authorized the permit.

The Decision Memos provided information about the average and maximum number of event participants, as well as design features to prevent resource damage that carried over into the permit language also. The one letter to the file issued in 2013 altered the course of one race in order to avoid the recent Chariot Fire burned area. Finally, the applicable category for the project was not disclosed in one of the Decision Memos.

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 fees from organizers to cover the cost of administering the permits.

Conclusions

Descanso Ranger District recreation events are 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. While attempts were made to comply with NEPA and resource protection occurred, the permit files should include the original NEPA decision along with an annual letter to the file, which should accurately cite the original decision.

Recommendations

For simplicity, recreation events for the entire District or the entire Forest could be analyzed in a single NEPA letter to the file and annually refreshed.

5.3 Facility Operations and Maintenance Projects

Descanso Engine Garage and Warehouse

Monitoring

The Descanso Engine Garage and Warehouse are existing facilities at the Descanso Fire Station in the Sweetwater Place on the Descanso Ranger District. Reconstruction of these buildings was made necessary by their deterioration and was completed in 2013.

Results

The NEPA decision for this project consisted of a 2011 Decision Memo citing the application of a categorical exclusion for “repair and maintenance of administrative sites.” The buildings of the station provide the best example of a historic building district on the Cleveland NF, and so State Historic Preservation Office concurrence with the demolition of two buildings was justified, obtained, and filed with the National Park Service and Library of Congress. The new buildings were designed to conform with the style of the remaining buildings in order to retain the historic character of the district.

Best management practices for protecting water quality were called for in the Decision Memo, and no erosion problems were observed on the site resulting from the project.

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), as well as other LMP objectives, standards, and place emphases.

Recommendations

Continue to maintain and monitor the condition of the facility.

Figure 6. The monitoring team surveys the grounds of the Descanso Fire Station.



Oak Grove Campground

Monitoring

Oak Grove Campground is an existing facility in the Aguanga Place on the Palomar Ranger District.

Results

Altogether, the campground was found to be in good condition, with adequate ground cover, few social trails, little ground disturbance, low erosion potential due to flat terrain, no litter, and fuel clearance around campsites for fire prevention. The campground lacks sensitive biological and archaeological resources, making it environmentally benign relative to other Cleveland NF campgrounds.

Two of the campground loops are open to use, while one was closed for two reasons: the 64 available campsites are more than warranted by use, and the closed loop tended to be frequented by miscreants. While it has disappointed some users such as stargazers, the closure has reduced problems at the site. The infrastructure of the closed loop awaits a long-term decision on its fate.

There was neither an operation and maintenance file nor any NEPA decision found for this site.

Conclusions

Oak Grove Campground 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

Continue to monitor the condition of Oak Grove Campground and decide the long-term fate of its closed loop.

Figure 7. The monitoring team discusses the closed loop of the Oak Grove Campground.



5.4 Commodity and Commercial Uses Projects

Motorola Special Use Permit

Monitoring

The project occurred in the Elsinore Place of the Trabuco Ranger District and consisted of an underground extension of an electric line beneath existing roads to the new El Cariso communications site.

Results

A 2010 Environmental Assessment and 2011 Decision Memo authorized the project as part of the construction of a new government-only El Cariso communication site, for which a project-specific LMP amendment was also completed. A total of 7,000 linear feet of electric line were installed beneath Long Canyon Road and an administrative road to an existing water tank. Approximately half of this length was undergrounded, and the other half was trenched in contrast to the permit, which authorized undergrounding for the entire length. In addition, the permit authorized an installation depth of 3', whereas the actual depth ranged from 4' to 6'.

Installation of the line within existing roads prevented impacts to biological and archaeological resources, but not soil and water resources or infrastructure. Specifically, the NEPA documents and permit called for any road damage to be repaired, but this work was not completed by the permittee, who was under contract with Riverside County. To summarize, Long Canyon Road was left in a partially paved condition, resulting in soil erosion and rough driving condition. The District Lands and Special Uses Officer has repeatedly attempted to enforce the permit requirements but to no avail with either the permittee or the County. An estimated \$69,000 would be needed to repair damage left behind by the line installation.

The permittee also performed unauthorized grading of the water tank access road, for which operation and maintenance is permitted to the Elsinore Valley Municipal Water District, and yet maintenance was needed at the time of the monitoring visit to prevent soil erosion. An agreement is needed between Riverside County and the Water District for shared maintenance of the road. At a minimum, rolling dips need to be installed for road drainage; ideally, the road would be stormproofed.

Regarding the communication site itself, which was not the focus of this monitoring, the monitoring team observed that unauthorized fuels treatment had occurred around the site, which was supposed to be designed to withstand fire. In addition, biological reports required for submission to the Cleveland NF by Riverside County have not been received.

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. On the other hand, as a result of the project, the roads beneath which the electric line was undergrounded fall short of meeting 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

Funds should be sought from Riverside County to repair the damage done by their contractor to Long Canyon Road. Elsinore Valley Municipal Water District should be notified of the need for maintenance of the water tank access road and encouraged to develop a maintenance agreement with the County, in which case a new permit for road operation and maintenance would be needed. Monitoring should continue.

Figure 8. The monitoring team surveys the degraded condition of Long Canyon Road.

***UNAVCO Special Use Permit*****Monitoring**

The project exists in the Elsinore Place of the Trabuco Ranger District and consists of an equipment installation for monitoring seismic activity.

Results

The monitoring team visited the site and found no resource issues of concern. The permit was authorized by a 2001 Decision Memo and expired in 2011.

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 new permit should be issued, and monitoring should continue.

Figure 9. The monitoring team discusses the seismic monitoring installation near El Cariso Village.



5.5 Fire and Aviation Management Projects

Old Dominion Fuels Management

Monitoring

The site is located in the Elsinore Place of the Trabuco Ranger District along North Main Divide Road. The project was designed to treat fuels to reduce the risk of wildfires moving from El Cariso Village to Lake Elsinore and vice-versa. It falls within the wildland/urban interface within the threat zone.

Results

During fiscal year 2013, the District cut and piled vegetation and burned some of the piles to reduce fuel loads in chaparral ecosystems where wildfire would funnel between the communities of El Cariso Village and Lake Elsinore. The purpose of the treatments was to alter the behavior of future fires to protect these communities from wildfire. Twenty (20) acres were treated in this area during the winter of 2012/2013.

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 2010 Decision Memo that authorized the project, however, categorized the project as “timber stand and/or wildlife habitat improvement activities.” While this characterization applies to other portions of the project area that consist of oak woodlands and meadows, the treatment area being monitored in this case had been comprised of chaparral vegetation. The project leader explained that this area was critical for preventing wildfire from moving from east to west or vice versa, but this purpose is no longer appropriate for NEPA compliance using a categorical exclusion.

Fuels that were cut and piled in the project area were not yet burnt, because of the NEPA issue identified above, but this created a safety issue by leaving fuels on site. The monitoring team relayed that it had been recommended by resource specialists to go ahead with the burning of existing piles, but not to initiate any new treatments in this area under a categorical exclusion. Instead, an environmental assessment will be prepared to include this area with others along South Main Divide and around El Cariso Village for appropriate NEPA compliance.

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. 19), as well as other LMP objectives, standards, and place emphases. Project documents are on file at the Trabuco Ranger District office.

Recommendations

Burn the extant piles that remain from previous treatments, and discontinue new treatments for the portion of the Old Dominion project along North Main Divide Road. Prepare an environmental assessment instead for new treatments in this area.

Figure 10. The monitoring team evaluates the results of a prescribed fire along North Main Divide Road.



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 recently authorized 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 2013 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.

The fiscal year 2013 monitoring team provides the following core recommendations to improve Land Management Plan implementation on the Cleveland NF:

Ensure that new 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.

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.

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

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 recently finalized Southern California LMP Amendment, with a Record of Decision **dated**, 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.

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:

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

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.

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.

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.

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.

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.

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

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. No one has requested to continue receiving a post card for notification, despite a mailing specifically offering the continuation of that service.

11. Members of the Monitoring Team

Members of the fiscal year 2013 monitoring team were:

Archaeology:	Steve Harvey, Cleveland NF Heritage Resource Program Manager
Fuels/Fire:	Stephen Fillmore, Cleveland NF Fuels Officer
Planning:	Jeff Heys, Cleveland NF Planner
Resources/Planning:	Gloria Silva, Cleveland NF Resources Staff Officer
Roads/Engineering:	Noelle Graham-Wakoski, Cleveland NF Engineer
Soils/Hydrology:	Emily Fudge, Cleveland NF Hydrologist
Wildlife:	Kirsten Winter and Jeff Wells, Cleveland NF Biologists

Program monitoring information was contributed by:

Archaeology:	Steve Harvey, Cleveland NF Heritage Resource Program Manager
Fuels/Fire:	Stephen Fillmore, Cleveland NF Fuels Officer
Range:	Lance Criley, Cleveland NF Rangeland Management Specialist
Wildlife:	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.

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