



United States Department of Agriculture

# Cibola National Forest and National Grasslands

## Fiscal Year 2017 Monitoring and Evaluation Report



Forest Service    Southwestern Region

August 2019

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## Contents

Executive Summary .....	1
Elements Monitored and Results under the 1985 Cibola Forest Plan for the Mountain Ranger Districts .....	1
Cultural Resources .....	1
Engineering .....	1
Fire Monitoring .....	1
Forestry .....	1
Land and Land Use .....	3
Range .....	3
Recreation .....	4
Soil and Water.....	4
Best Management Practices .....	5
Wildlife .....	5
Monitoring Questions and Findings under the 2012 Kiowa, Rita Blanca, Black Kettle, and McClellan Creek Land and Resource Management Plan.....	7
Developed Recreation .....	7
Ecological Indicators.....	7
Management Indicator Species .....	8
Grasslands Plan Background and Monitoring Administrative Correction.....	9
1985 Cibola Forest Plan (Mountain Ranger Districts only) Background and Amendments .....	10
FY 2017 Monitoring Results under the 1985 Cibola Forest Plan for Mountain Ranger Districts Only .....	12
FY 2017 Monitoring Results for the Kiowa, Rita Blanca, Black Kettle and McClellan Creek National Grasslands under the 2012 Land and Resource Management Plan .....	31
 <b><i>List of Tables</i></b>	
Table 1. Amendment history to the 1985 Cibola Forest Plan.....	12
Table 2. FY 2017 monitoring results by program area (1985 Cibola Forest Plan for Mountain Ranger Districts only).....	13
Table 3. Monitoring results for the Kiowa, Rita Blanca, Black Kettle and McClellan Creek National Grasslands .....	29
 <b><i>List of Figures</i></b>	
Figure 1. Cibola National Forest and National Grasslands and vicinity .....	iii

## Forest Supervisor Certification

I certify that the 1985 Cibola National Forest Plan (Forest Plan) as amended is sufficient to guide future management of the Cibola National Forest Mountain Ranger Districts, until the plan revision process is completed.

I certify that the 2012 Kiowa, Rita Blanca, Black Kettle, and McClellan Creek National Grasslands Land and Resources Management Plan is sufficient to guide future management of these four national grasslands.

This Monitoring and Evaluation Report meets regulatory requirements for completing an annual report for the fiscal year of 2017, based on Section 219 of the 2012 planning rule provisions.

  
Steven Hattenbach, Forest Supervisor

  
Date

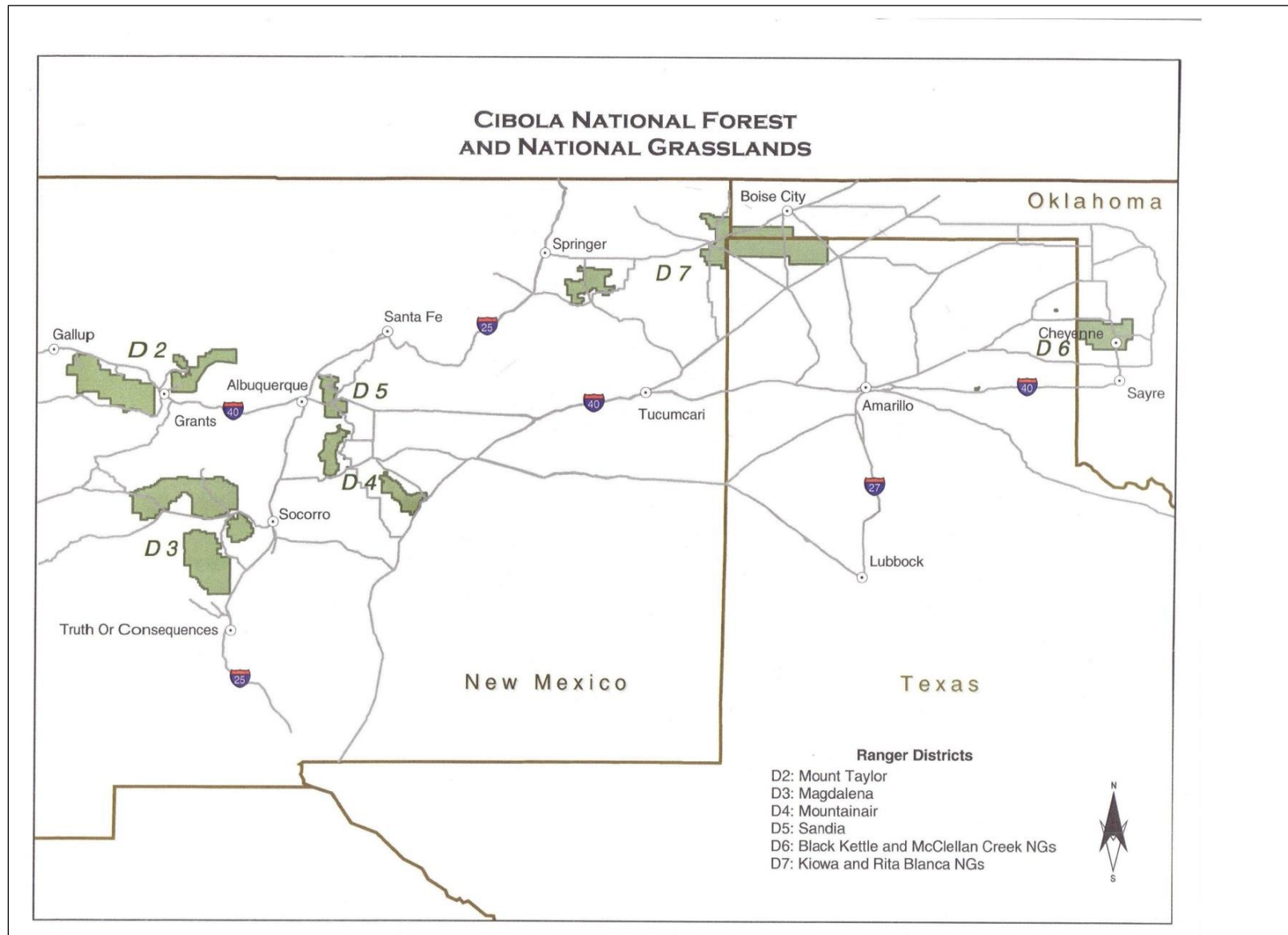


Figure 1. Cibola National Forest and National Grasslands and vicinity

## Executive Summary

This monitoring and evaluation report for fiscal year 2017 (FY 2017) gives monitoring results for land and resource management activities important to achieving Forestwide goals stated in the [1985 Cibola National Forest Land and Resource Management Plan](#) (1985 Cibola Forest Plan) and grasslands-wide desired conditions stated in the [2012 Kiowa, Rita Blanca, Black Kettle and McClellan Creek National Grasslands Plan](#) (2012 Cibola Grasslands Plan). The monitoring elements and questions addressed in this report are on pages 199–229 of the 1985 Cibola Forest Plan and pages 113–125 of the 2012 Cibola Grasslands Plan.

The following is a synopsis of information found in Table 3 and Table 4. Monitoring results, and inferences where appropriate, are presented for cultural resources, engineering, fire, forestry, lands and land use, minerals, range, recreation, soils and water, wildlife, vegetation conditions and ecological indicators, and wildlife management indicator species. These results and inferences are relevant to future adaptive management.

## Elements Monitored and Results under the 1985 Cibola Forest Plan for the Mountain Ranger Districts

### Cultural Resources

Cultural resources monitoring in FY 2017 involved 0 heritage resource sites, determined as eligible for the National Register. Archeologists conducted 13 surveys for section 106 clearances and documented 37 sites.

### Engineering

No new roads were constructed, and 4 miles of existing system roads were reconstructed in FY 2017. Approximately 369 miles of Forest Service system roads were maintained Forest-wide, and 5.5 miles of roads were decommissioned. Overall, Forest road conditions continued to deteriorate. Reductions in funding have prevented adequate maintenance, road improvement, and road decommissioning.

### Fire Monitoring

Fire and fuels staff conducted and monitored 4 prescribed burns on the Cibola National Forest totaling approximately 3,306 acres in FY 2017. 74 wildfires burned about 4,439 acres in FY 2017 on the Cibola NF & NG. A bulk of those acres was the Taylor Canyon Fire. The Magdalena Ranger District was able to capitalize on weather and fuel conditions and manage the Taylor Canyon Fire for resource benefit. The Red Canyon fire was an excellent example of fire managers returning fire to an ecosystem that was greatly departed from its natural range of variability. The fire burned in a mosaic pattern that met resource objectives across the board.

### Forestry

Forestry staff monitored compliance with silvicultural prescriptions, including post-treatment basal areas, canopy cover, stand densities, snag retention, and implementation of mitigation measures in timber sale and personal-use firewood programs. Monitoring allowed District staff to make area wide designations for personal-use firewood in Magdalena Ranger District and to make length-of-season adjustments in personal-use firewood in Mount Taylor Ranger District, Magdalena Ranger District, and Mountainair Ranger District.

Timely inspections were key to implementing “designation-by-description” silvicultural prescriptions on collaborative forest restoration projects (CFRP) and service projects in the Mountain Districts. District and contract marking crews marked and prepared approximately 2,000 acres for treatment across the forest.

District Foresters and the Silviculturist used ground sampling and aerial photos to monitor forest health, insect and disease damage.

Over 90% of the fir engraver activity mapped on the Cibola National Forest was on the Sandia Mountains where widespread mortality of white fir is occurring on the eastern slopes. White fir mortality has been occurring across the Sandia Mountains for at least the past 6 years Sandia District, where developed recreation sites experienced continued tree mortality, mostly white fir. Douglas-fir tussock moth activity on the Sandia Mountains also continued in 2016, affecting primarily white fir. Much of the detected insect and disease damage has occurred in wilderness areas or on steep, inaccessible slopes. Western spruce budworm and aspen defoliation are occurring primarily on the Mount Taylor Ranger District. A study analyzing the effectiveness of a commercially available insect pheromone “interruptant” to prevent attack from Douglas-fir bark beetles on individual trees and in actively infested forest stands was initiated on the Magdalena Ranger District in FY 2017.

Forest fire and fuels crews helped fall hazard trees at all developed recreation sites prior to the Spring opening of Mount Taylor, Magdalena, Mountainair, and Sandia recreation sites. Staff used hazard tree removal as training and coordinated with the wildlife staff on the timing of tree cutting to reduce the impact on cavity nesters. Fuelwood permittees and forest crews bucked fallen trees and carried them to parking areas for removal.

Forestry staff monitored commercial and personal-use fuelwood areas for compliance with permits and contract requirements. Wood theft, timber trespass, and incomplete compliance with closure orders continued to occur. Resource damage occurred in areas in the Mount Taylor, Magdalena, and Mountainair ranger districts. Due to the lack of sufficient funding and lack of Forest Protection and Law Enforcement Officers, the Forest continues to use the load ticket system and NEPA-designated fuelwood areas Forestwide.

The Forest did not utilize the silvicultural practices of overstory or final removal harvesting, perform reforestation, or restocking of regeneration harvests during FY 2017. Forestry staff accomplished timber stand improvement, hazardous fuel reduction, and commercial harvesting activities on over 13,480 acres in FY 2017. Some of these acres utilized cut/skid/deck treatments, which yarded merchantable timber to roadsides for public fuelwood gathering. Cunits (CCF or one-hundred cubic feet) of net sawtimber and fuelwood sold was 13,219 CCF in FY 2017.

The Forest also continued forest restoration treatments to restore forest resiliency in the Zuni Mountain Collaborative Forest Landscape Restoration Project (CFLRP) and the Isleta Joint Chief’s Project. Approximately 3,044 acres of uneven-aged group selection and commercial harvesting were completed on the ground in the Zuni Mountains Collaborative Forest Landscape Restoration Project (CFLRP) on the Mount Taylor Ranger District and will be reported as “accomplished” when treatment units are completed and accepted. Additionally, another 714 acres of forest restoration and thinning treatments were completed on the Sandia and Mountainair Ranger Districts.

## **Land and Land Use**

Lands staff continued to review desirable land acquisitions Forestwide and monitor right-of-way (ROW) acquisition through non-Forest Service inholdings. Property surveys identified property boundaries.

Staff addressed boundary line issues and notified individuals of encroachments. Staff worked with non-Forest Service property owners to provide an understanding of Forest goals and management activities and their effects. The purchases of Tampico Springs I and II with a Land and Water Conservation Fund contribution helped the Forest Service to preserve key pieces of land from future development and eliminated easements in that area. Through travel management analyses, staff also identified ROW needs and explored ROW opportunities. Overall, staff looked at the effects of management practices conducted on adjacent non-Forest Service lands on the goals of the Forest Plan.

Land use staff continued monitoring for NEPA compliance with authorization reissue and application processing for several expired authorizations. Staff also issued five new authorizations, two for communication sites, two for water transmission pipelines, and one for a research study.

## Range

Range monitoring continue to indicate the effects of long term drought as the primary reason for reduced stocking rates. Stocking rates for the FY 2017 grazing year on the mountain units were 20% below permitted, which changed little from the FY 2016 grazing year. This has been the trend the last five years where authorized use has been well below permitted use.

On the Grassland Units stocking rates continued to be conservative for FY 2017. The stocking rate for grazing year 2017 was 14% below permitted on the Black Kettle, and 72% below permitted on the Kiowa/Rita Blanca (KRB) grasslands (no change from 2016). Again as it was for 2016, KRB authorized use may be under reported due to actual use credits.

There was little change in overall drought conditions from 2015 to 2016. For the Central Highlands Division very dry conditions persisted between the reporting periods from January 2016 to December 30, 2016, which encompasses 2 out of the 4 Mountain Units which includes Sandia, and Mountainair. The Southwestern Plateau Division encompassing the majority of the Mount Taylor and Magdalena Ranger District also reported very conditions for the same period. The Standardized Precipitation Index (SPI) at the end of the reporting period (December 30) for the Central Highland Division was - 1.52 and - 1.39 for the Southwestern Mountains.

The same trend was also repeated for the Grasslands with little to no change from FY 2016; the Northeastern Plains Division recorded very dry conditions with an ending SPI of -1.44 encompassing the majority of the Kiowa Grasslands and -1.21 on the TX-High Plains Division encompassing the Rita Blanca Grasslands. On the Black Kettle for the reporting period ending on December 30, 2016 the SPI on the OK-West Central Division was -1.34.

The Standardized Precipitation Index (SPI) is a unit of measure that compares recent precipitation values for a period of interest with long term historical values to assess moisture conditions in a given area. In the Southwestern Region, anytime the SPI reaches a value of minus 1.00 or less for the preceding 12 month period, grazing allotments should be evaluated for existing drought conditions.

Reductions in livestock numbers and or season of use were generally the result of voluntary efforts from livestock permittees resulting in minimal permittee compliance. Annual planning, and proactive measures by the Cibola National Forest and National Grasslands to communicate ongoing drought issues early in the grazing season allowed permittees to adjust prior to the peak of the grazing season. Adaptive management processes outlined in grazing NEPA and Allotment Management Plans are carried forward to the Annual Operating Instructions (AOI), which outline specific grazing strategies for the year. All allotments monitored for the FY 2017 grazing year were in compliance with the AOI's. Range conditions

overall remained static, however increased production and vigor were noted at the end of the growing season.

The same trend for NEPA was repeated for FY 2017; to date NEPA has been completed for all 86 allotments on the Mount Taylor, Magdalena, and Mountainair Ranger Districts, however many of these documents are now over 15 to 20 years old with Section 18 reviews completed on a minimum of these allotments.

On the Mountain Units two pastures within two allotments were administered to standard, and on the Grasslands Units 38 pastures within 38 allotments were administered to standard all exclusively on the Kiowa/Rita Blanca grasslands.. Administered to standard includes the following metrics:

RG-GZ-ADM-STD: Because the AOI tiers to the AMP, which tiers to the NEPA, which tiers to the Forest Plan, we will use the AOI as the basis for administering allotments to standard. For example, the AOI includes special monitoring needs and the presence of T&E species. It also includes stubble height and pasture rotations; thus, “administered to standard” can include more than monitoring – it can include anything in the AOI. Before any acres can be entered into INFRA as having been “administered to standard” in accomplishment reporting, the following must be met: 1. The monitoring, inspections, or other work in the pasture must have been completed by a qualified range person. A “qualified range person” is supervised or overseen by the range staff and performs work to industry standards. 2. The monitoring, inspections, or other work in the pasture must meet the specifications in the AOI. 3. Written documentation of the monitoring, inspection, or work must be in at least one of the following locations: 2210, 2230, or 2240 files or INFRA. 4. Administered to standard includes corrective actions taken that year or the following AOI year. It is important to note that for accomplishment reporting, “administered to standard” constitutes the four points above. Whether the pasture is in compliance with the AOI is not part of “administered to standard”. The condition of the pasture is separate from the process of administering the pasture.

Coordinated Resource Management Planning continues to be a major focus for selected grazing allotments. This effort involves multi agency coordination to achieve objectives and desired conditions on an allotment basis. The basis for this effort is described in detail in the “Memorandum of Understanding between the USDA, Natural Resources Conservation Service Arizona State Office (NRCS – AZ), New Mexico State Office (NRCS – NM) and the USDA, Forest Service Southwestern Region” executed in 2013.

New range improvements continue to progress, however delays as a result of budgetary constraints along with deferred heritage backlog remain issues.

## **Recreation**

The Recreation Program increasingly depends on volunteers and youth corps organizations to accomplish trail construction, reconstruction, and maintenance. We continue to improve capabilities for accomplishing trail work by collaborating with other New Mexico forests and by taking advantage of grant opportunities, especially those that provide opportunities and benefit youth and veterans.

Our biggest challenge to improve the condition of recreation facilities is the short window of opportunity to award contracts for the purchase and installation of facilities, such as vault toilets, and to make improvement to existing structures. The recreation program is working toward having project plans “on the shelf,” so that the acquisition process can be initiated as soon as final appropriated funds are available.

## Soil and Water

### Watershed Condition Assessment

The Cibola National Forest rated watersheds with more than 10% within National Forest System Lands using the Watershed Condition Framework (USDA FS, FS-977, May 2011). This was done at the 12-digit hydrologic unit code (HUC) scale, also known as 6<sup>th</sup> code sub-watersheds. These watersheds are 10,000-40,000 acres in size.

- 161 watersheds rated as ‘good’ meaning the watershed processes are functioning properly.
- 50 watersheds rated as ‘fair’ meaning the watershed is functioning at risk
- 1 watershed rated as ‘poor’ meaning the watershed is not functioning properly.

Two priority watersheds have been identified, Bluewater and Las Huertas. A watershed improvement action plan (WRAP) is in progress for the Las Huertas watershed. A WRAP was completed for the Bluewater priority watershed in 2011. Many of the essential projects identified in the Bluewater WRAP have been implemented. The implemented projects are part of the Bluewater Ecosystem Management Project. Additional projects are being planned and scheduled such as fencing, cattle guard replacement, road work, and invasive weed treatments.

### Spring Inventory and Assessment

Springs on the Cibola National Forest and National Grasslands are a valuable, but limited resource. Springs provide water to an otherwise dry landscape. A new agreement to inventory springs across the Cibola National Forest and National Grasslands was signed in 2016 with the University of New Mexico using established protocols. Springs continued to be inventoried through this agreement in FY 2017. Currently, there are over 500 springs on the Cibola as identified using available GIS data and updated inventory information. While this number may seem large, these springs are located across 1.9 million acres on six ranger districts in New Mexico, Oklahoma and Texas. Many of these springs are associated with stream channels. More than half of these springs have been developed for drinking water, wildlife, and livestock use. Others have been impacted by adjacent wells. When springs are developed or nearby groundwater is pumped, the spring and associated stream ecosystem is often impacted. UNM continues to inventory springs across the Forest using this agreement.

In FY 2017, an additional agreement with the Spring Stewardship Institute (SSI) was completed. Through this agreement, a spring workshop was held in Albuquerque to provide training to interested Pueblos and Forest Service staff. In addition, SSI will review spring information as requested and provide information and assistance to design spring restoration projects.

### Watershed Improvement Projects

Opportunities for watershed improvement are being identified through an integrated approach. Wildlife, range, recreation, engineering, and vegetation management work together to identify and implement projects that will result in improvement to all resources, including soil and water. Vegetation management projects provide the opportunity to improve soil condition where woody material and/or ground cover are lacking. Wildlife is communicating with watershed resources to improve riparian and watershed conditions for both resources. Recreational uses provide opportunities to improve watershed condition by re-routing trails away from surface waters. Range is working with watershed to improve springs where these features are used as water sources for livestock. Engineering provides assistance with improving roads or trails, and as needed, removal, to reduce impacts to water resources. By combining resources, 8,453 acres of watershed were improved in FY 2017 on the Mountain Ranger Districts, largely through integration with wildlife and vegetation programs. This includes riparian restoration in

Limestone Canyon in the San Mateo Mountains and soil improvements through targeted vegetation management.

### **Best Management Practices (BMPs)**

The effectiveness and implementation of BMPs are monitored using the process described in the USDA Forest Service publication, National Best Management Practices for Water Quality Management on National Forest System Lands, Volume 1: National Core BMP Technical Guide (2012, FS-890a). BMP results from the last few years were summarized. This information showed the need to improve the implementation of BMP as described in NEPA documents. When implemented, BMPs were effective most of the time in limited impacts to water resource features.

### **Wildlife**

Results for wildlife monitoring elements of the 1985 Cibola Forest Plan Mountain Ranger Districts only are as follows. The Taylor Canyon Fire was managed for multiple objectives in order to restore fire to the fire-adapted ecosystems. The Taylor Canyon Fire originated from a lightning strike July 6th, 2016 and managed until July 12, 2016 and eventually encompassed 4,578 acres. Of the 4,578 acres, 3,037 acres were on Forest Service lands, 1,442 acres on BLM lands, and 99 acres on private land. Fifty-five wildlife waters were visited, accessed, maintained, and or reconstructed. The underground water catchment at David Canyon was replaced with a 3,500 gallon metal umbrella trick tank with local volunteers under the Adopt a Drop for Wildlife program.

For threatened, endangered, and sensitive species monitoring pertaining to the sensitive species northern goshawk on the Mount Taylor Ranger District, one post-family fledging area (PFA) in the Zuni Mountains was monitored, no detection. Surveys for northern goshawks were conducted on the Magdalena Ranger District on six out of the eight known PFAs, two pairs were detected. Of the five post-fledging family areas on Mountainair RD, two PFAs were monitored and one new PFA with an active nest was established. On the Sandia Ranger District, two PFAs were monitored and both had active nests.

For the threatened Mexican spotted owl, on the Mount Taylor Ranger District the Bird Conservancy of the Rockies (formerly Rocky Mountain Bird Observatory, RMBO) monitored one Mexican spotted owl protected activity center (PAC), but had no detections. Enterprise monitored the Foster PAC and detected occupancy, reproduction was unknown. Hogback PAC was monitored however, there were no detections. On the Magdalena Ranger District, the Fisher-Tia project area was surveyed for Mexican spotted owls on 500 acres of suitable habitat. Only the suitable habitat within a half-mile of the project or unit boundaries was surveyed. Sixteen PACs were informally monitored; five of these were adjacent to project survey areas. There was one incidental observation reported. Rocky Mountain Bird Observatory (RMBO) had responses at six of the twelve plots they were monitoring for the population study. On the Mountainair Ranger District the South West Conservation Association monitored roughly 4,385 acres of suitable habitat in Gallo Peak and Bartolo Canyon areas for the Capilla CFRP. The Bird Conservancy of the Rockies had no detections at the Mountainair nor the Sandia monitoring plots. Four protected activity centers monitored in Mountainair and Sandia ranger districts had one female owl detected.

For the endangered southwestern willow fly catcher, two potential habitats were not monitored, one each on Mount Taylor and Mountainair ranger districts.

There are no known federally endangered Aplomado falcon territories on the Mountain Ranger Districts. For the sensitive species peregrine falcon, no formal monitoring was conducted in 2011.

Persistence of the endangered Zuni bluehead sucker was confirmed in the Aqua Remora on the Mount Taylor Ranger District, the only occurrence on the Mountain Ranger Districts.

For the federally threatened Zuni fleabane plant, no monitoring was conducted in FY 2017.

For non-game management indicator species, the juniper titmouse's statewide population trend is down, but Cibola habitat trend is stable. The pygmy nuthatch's statewide population trend is up, and the Cibola habitat trend is stable. For the hairy woodpecker, statewide population trend is stable, and the Cibola habitat trend is stable. The red-breasted nuthatch statewide population trend is stable, and the Cibola habitat trend is stable.

For game-management indicator species, the elk population trend on the Mountain Ranger Districts rose. The mule deer population trend on the Mountain Ranger Districts is downward. Black bear populations appeared to be stable on the Mountain Ranger Districts. Bear scat surveys were conducted with the Sandia Mountain Bear Collaborative on the Sandia Ranger District. Population numbers are expected to increase in the future for the Rio Grande turkey, indicating an upward population trend on the Mountain Ranger Districts.

The Manzanos HawkWatch standard season ran from 27 August—5 November; in FY 2017 observers counted on 67 days during this period for a total of 570 hours. A total of 5,877 migrating raptors representing 18 species were counted in FY 2017. Notable among these was a single Variable Hawk, a South American species that had to this point never been documented at the Manzano Mountains HawkWatch. The crew counted above average numbers of: Turkey Vultures, Osprey, Sharp-shinned Hawks, Cooper's Hawks, Northern Goshawks, Broad-winged Hawks (a site record 23 birds), Red-tailed Hawks, and Peregrine Falcons. They counted below average numbers of: Bald Eagles, American Kestrels, and Prairie Falcons. During the season, a total of 251 individuals visited the site, primarily from New Mexico. Visitors also traveled from California, Florida, and Texas. Rio Grande Bird Research (RGBR) also banded neo-tropical migrant bird species at Capilla Peak on the Mountainair Ranger District during the fall of FY 2017, as well as banded rosy finches on the Sandia Ranger District during the winter of FY 2017.

## **Monitoring Questions and Findings under the 2012 Kiowa, Rita Blanca, Black Kettle, and McClellan Creek Land and Resource Management Plan**

This section of this report presents fiscal year (FY) 2017 monitoring results of land and resource management activities important to achieving Grasslands wide and management-area-specific plan direction stated in the 2012 Kiowa, Rita Blanca, Black Kettle, and McClellan Creek National Grasslands (Cibola Grasslands) Land and Resource Management Plan. The annual monitoring elements addressed by this report are presented on pages 113–126 of the 2012 Cibola Grasslands Plan. This section summarizes information presented in Table 3 and Table 4 of this report. Monitoring results and inferences, where appropriate, are presented for recreation, vegetation conditions, and wildlife management indicator species. These results and inferences are relevant to future adaptive management.

### **Developed Recreation**

Condition surveys are required to be conducted on developed recreation sites in a 5-year cycle; FY17 is year 5 of the current cycle. Results for developed recreation monitoring are that condition surveys/inventories were conducted on 100% percent of developed recreation sites on the Kiowa and Rita Blanca Management Area and 90% percent on the Black Kettle and McClellan Creek Management Area. Six out of 7 developed sites met national standards on the Kiowa and Rita Blanca Management Area, and 21 out of 29 developed sites met national standards on the Black Kettle and McClellan Creek

Management Area. On the Kiowa and Rita Blanca Management Area, ¼ mile of user created roads was decommissioned through the installation of barriers, North of Mills Lower Campground. Completing deferred maintenance on developed recreation facilities continues to be hampered because of limited program funds and the difficulty of attracting qualified contractors.

## **Ecological Indicators**

For the Mixed Grass Prairie ecological indicator on the Black Kettle and McClellan Creek and the Shinnery Oak and Deep Plowed Inclusion ecological indicator of the Black Kettle were not monitored for this period.

The following ecological indicators are not required for FY17:

- Cottonwood-willow (Canadian River) (presence of undesirable trees) within the Kiowa and Mills Canyon Management Areas

## **Management Indicator Species**

Rio Grande turkey, a management indicator species for mixed riparian hardwood vegetation on the Black Kettle National Grassland, remained at the same population levels in 2014 (1800) and 2015 (1800) but down slightly from 2016 (2000) for Roger Mills County. Population estimate in FY 2017 is 1800 individuals. While showing an increase from a low in 2013 (1650), this reflects a reduced population over the last 10 years (2900 in FY 08 & 09). This low is contributed to extreme drought conditions from 2011-2013 where habitat conditions were greatly deteriorated. Drought conditions continue to exist at a less severe level which is resulting in a slower recovery rate.

Management Indicator Species monitoring reporting for the Kiowa and Rita Blanca National Grasslands is as follows:

### Rio Grande turkey

The Rio Grande turkey is a management indicator species for mixed riparian hardwood vegetation on the Kiowa and Rita Blanca National Grassland. For these purposes, we are assessing the trends of the Wild Turkey because data for the Rio Grande turkey subspecies is not available. In FY 2017, one Wild Turkey was detected on the Rocky Mountain Bird Observatory (RMBO) survey in New Mexico (See Figure 1). The very small number of detections over the survey years makes it impossible to conduct a reliable trend analysis for this area for the RMBO data, and they were not able to estimate population density for FY 2017.

The Breeding Bird Survey (BBS) data for FY 2017 for the two routes nearest the Kiowa National Grassland are not available yet. BBS for the Texas routes that are nearest the Rita Blanca National Grassland were not conducted in FY 2017. BBS in Oklahoma were conducted in FY 2017, but neither route detected wild turkeys. Because of the limited amount of local data, the long-term BBS data for the shortgrass prairie Bird Conservation Region (BCR) was used for analysis. These only include data up to 2013, but the trends are informative for management purposes. Overall, in regions that include the Kiowa and Rita Blanca National Grasslands, the population is increasing.

### Western Bluebird

The western bluebird is the management indicator species in pinyon juniper and juniper grassland on the Kiowa National Grassland. It was detected by the Bird Conservancy of the Rockies (BCR; Formerly Rocky Mountain Bird Observatory) on the Kiowa National Grassland intermittently from 2009 – 2015,

but unfortunately the routes were not completed in FY 2016 or FY 2017. The Breeding Bird Survey (BBS) data for FY2017 for the two routes nearest the Kiowa National Grassland (Farley and Grenville routes) did not detect Western Bluebirds – but they usually do not. No trend estimates regarding the status of the species can be made from these available data.

### Burrowing Owl

The western burrowing owl is a management indicator species for the shortgrass prairie early successional stage on the Kiowa and Rita Blanca Management Area. Recent monitoring effort on the Kiowa National Grassland by BCR in FY 2016 and FY 2017 did not detect any burrowing owls. Burrowing owls were detected intermittently in the Eastern part of the Kiowa National Grassland from 2009 - 2015. Recent monitoring effort on the Rita Blanca National Grassland by the BCR in FY 2017 detected four burrowing owls, an increase from zero detections in 2016. Burrowing owls were detected intermittently in the Rita Blanca National Grassland from 2009 – 2015, so these numbers are within the normal expected range. BCR was not able to estimate density for the Burrowing Owl in FY 2017.

All USGS Breeding bird surveys (BBS) near the Kiowa and Rita Blanca National Grasslands were conducted in FY 2017 (Table 2), and three of four routes detected Burrowing Owls. The Felt, Oklahoma BBS route has had high numbers of Burrowing Owl detections in recent years, and the Texline route also detected a large amount of Burrowing owls. Both New Mexico routes, Farley and Grenville, had low numbers of Burrowing Owls in FY 2017 with 0 and 3, respectively.

**Table 1. USGS Breeding Bird Survey Results for Burrowing Owls**

BBS route name	State	Associated National Grassland	FY2014	FY2015	FY2016	FY2017
Grenville	NM	Kiowa	3	4	10	3
Farley	NM	Kiowa	0	11	5	0
Texline	TX	Rita Blanca	-	-	16	11
Felt	OK	Rita Blanca	2	9	13	14

Because of the limited amount of local data, the long-term BBS data for the shortgrass prairie Bird Conservation Region was used for analysis. These only include data up to 2015, but the trends are informative for management purposes. Overall, there is no significant direction of population change from 2005 - 2015. This indicates a stable population.

## **Grasslands Plan Background and Monitoring Administrative Correction**

The Cibola Grasslands plan and associated environmental impact statement (EIS) were published and implemented in 2012 under the 1982 Planning Rule. Previously, the Cibola Grasslands were managed under direction of the 1985 Cibola Forest Plan, as amended. The 2012 Cibola Grasslands Plan has not been amended to date.

However, there is an administrative correction to part 6, page 124 (Monitoring Elements) of the Cibola Grasslands Plan currently being undertaken. A typographical mistake was made in identifying the

mountain bluebird (*Sialia currucoides*) as a management indicator species (MIS) in pinyon-juniper and juniper grasslands on the Kiowa and Rita Blanca Management Area. The correct MIS for the above vegetation communities on the aforesaid management area is the western bluebird (*Sialia mexicana*). The western bluebird is more suited as a MIS because of its more consistently documented occurrence and ease of detection on the management area, versus the sporadic, occasional occurrence of the mountain bluebird. The analysis conducted and documented in the final EIS for the Cibola Grasslands Plan focused on the need for a MIS specifically for cavity nesting birds that would reveal a change in vegetation structure and species composition in the pinyon-juniper and juniper grasslands vegetation communities due to Forest Service management. The western bluebird is a cavity nesting species better suited to reveal such changes. This species was indeed selected as an MIS in collaborative interagency meetings of USFS biologists with biologists of the New Mexico Department of Fish and Game and the U.S. Fish and Wildlife Service in July 2010 and was documented in the planning record; however, the name of the species became transposed in the final documents. Thus, the trends of the western bluebird, not the mountain bluebird, are reported in this FY 2015 Monitoring and Evaluation Report.

## **1985 Cibola Forest Plan (Mountain Ranger Districts only) Background and Amendments**

The 1985 Cibola Forest plan and associated EIS were published in 1985. After 1985, the following amendments listed in Table 2 were made to the 1985 Forest Plan. The 1985 Cibola Forest Plan as amended remains in effect until a current forest plan revision effort underway is completed under the 2012 National Forest System Land Management Planning Rule. That revision effort is anticipated to be completed by summer 2018.

**Table 2. Amendment history to the 1985 Cibola Forest Plan**

<b>Amendment Number</b>	<b>Decision Date</b>	<b>Amendment Description</b>
Amendment #1	01/09/87	Clarified language throughout all five chapters
Amendment #2	05/25/89	Added electronic site near Boise City, Oklahoma, for the Coast Guard's Long-Range Aid to Navigation (LORAN-C)
Amendment #3	06/30/89	Changed timber projections based on projects in Las Huertas Canyon near Placitas, New Mexico
Amendment #4	05/29/90	Revised the ten-year timber sale schedule, amended fire management standards and guidelines, added black bear and curlew to the MIS (management indicator species) list, and changed recreation opportunity spectrum for management areas 8 and 13
Amendment #5	06/27/90	Designated Oso Ridge Lookout as an electronic site
Amendment #6	09/06/91	Established standards and guidelines for capital investment priorities and Sandia winter use; added the grasshopper sparrow to the MIS list and established standards and guidelines for Abert's squirrel
Amendment #7	09/09/96	Added regional direction for management of Mexican spotted owl, northern goshawk, grazing and old growth
Amendment #8	12/20/96	Returned Federal lands near Kirkland Air Force Base from Department of Energy back to the National Forest System
Amendment #9	09/18/97	Established Bernalillo Watershed Research Natural Area
Amendment #10	10/17/02	Identified eligible wild and scenic rivers and added direction for protecting their values
Amendment #11	07/10/08	Changes to Sandia Ranger District direction required by travel management decision
Amendment #12	08/26/08	Changes to Grasslands Management Areas 4 and 5 oil and gas leasing stipulations
Amendment #13	05/07/12	Travel management on the Mountainair Ranger District
Amendment #14	06/19/12	Deleted plan standards related to Casa Loma summer homes, Sandia Ranger District
Amendment #15	04/14/11	Travel management on the Mount Taylor Ranger District

## FY 2017 Monitoring Results under the 1985 Cibola Forest Plan for Mountain Ranger Districts Only

Table 3. FY 2017 monitoring results by program area (1985 Cibola Forest Plan for Mountain Ranger Districts only)

Program Area/LRMP Monitoring Element Addressed	Monitoring Accomplished	Record Location	Districts	Results	Comments
<b>Cultural Resources</b>					
Cultural Resources	Cultural resources listed in or eligible to the National Register of Historic Places: 0	Supervisor's Office	All	Twenty-two new-determination, heritage resource sites were determined eligible to the National Register.	Total number of sites documented in FY 2015 was 37.
Cultural Resources	Clearance surveys for cultural resources: 13	Supervisor's Office	All	8 surveys, totaling 825 acres for section 106 clearances.	Total acres cleared for undertakings based on previous and new surveys were 837 acres.
<b>Engineering and Facilities</b>					
EF1	Miles of road construction/reconstruction	Work accomplishment records (local drive)	Mount Taylor Magdalena Sandia	Spot gravel placement and storm damage repairs make up the 4 reconstruction miles.	Limited budgets necessitated prioritizing safety mitigations, resource damage, and restoration project areas for reconstruction efforts.
EF2	Miles of level 3, 4, and 5 road maintenance	Work accomplishment records (local drive)	Mount Taylor Magdalena Mountainair Sandia Black Kettle and McClellan Creek National Grasslands	Roughly 369 miles of passenger car roads were maintained throughout the Forest, which included surface maintenance and drainage structure maintenance.	Although targets were met, a large amount of road mileage was not maintained due to reduced or stagnant budgets; lack of maintenance means further deterioration of road infrastructure.
EF3	Miles of road obliterated	Work accomplishment	Mount Taylor	0.21 miles of unauthorized road were obliterated to	Although targets were met, a large amount of unauthorized

Program Area/LRMP Monitoring Element Addressed	Monitoring Accomplished	Record Location	Districts	Results	Comments
		records (local drive)		improve resource condition in the area.	road mileage was not obliterated due to reduced or stagnant budgets; failure to obliterate these roads will allow further deterioration of resource condition.
<b>Fire</b>					
Broadcast Burning (covers a majority of the unit)	Broadcast burning	District files	Mount Taylor	1,885	
Resource Benefit Managed Wildfire	Change of Natural Fuels	District files	Mount Taylor	205	
Resource Benefit Managed Wildfire	Change of Natural Fuels Wildfire	District files	Magdalena	3,037	
Broadcast Burning (covers a majority of the unit)	Broadcast burning	District files	Mountainair	256	
Broadcast Burning (covers a majority of the unit)	Broadcast Burning	District files	Sandia	94	
Resource Benefit Managed Wildfire	Change of Natural Fuels Wildfire	District files	Sandia	10	
Broadcast Burning (covers	Broadcast burning	District files	Black Kettle	1,071	

Program Area/LRMP Monitoring Element Addressed	Monitoring Accomplished	Record Location	Districts	Results	Comments
a majority of the unit)					
<b>Forestry</b>					
Forestry	Monitored compliance with silvicultural prescriptions, including post-treatment basal areas, canopy cover, stand densities, snag retention, and implementation of mitigation measures in timber sale, in personal use firewood programs, and in CFRP thinning grants administered in FY 2017	Forestry records located in individual District project files and at Supervisor's Office	Mount Taylor Magdalena Mountainair Sandia Supervisor's Office	Inspections indicated compliance.	Timely inspections are key to achieving desired results when implementing; Designation by Description on Collaborative Forest Restoration Projects and service contracts in pinyon-juniper stands (Mount Taylor, Magdalena, Mountainair, Sandia).  Monitoring has allowed the districts to make length of season adjustments in personal-use firewood (Mount Taylor, Magdalena, Mountainair).  Monitoring has also allowed districts to make area-wide designations for personal-use firewood (Magdalena).  Desired results are also achieved through interaction and collaboration with grant partners (Mount Taylor, Magdalena, Mountainair).
Forestry	Monitored for insect and disease damage to forest stands through aerial photos and ground sampling by district foresters and silviculturists; monitored for insect activity within active timber sales and thinning	Forestry files	Mount Taylor Magdalena Mountainair Sandia	Sandia Mountains accounted for the majority of the fir engraver damage in New Mexico in 2017. This concentrated area has been particularly affected the past couple of years. Douglas-fir tussock moth activity on the	On-going forest restoration projects located across the Cibola National Forest created conditions that are more resilient to disturbances such as insect and disease outbreaks.

Program Area/LRMP Monitoring Element Addressed	Monitoring Accomplished	Record Location	Districts	Results	Comments
	projects in Mount Taylor, Magdalena, Mountainair, and Sandia			Sanidas also continued in 2017. Western spruce budworm and aspen defoliation occurred primarily on the Mount Taylor RD. In 2015 a new study analyzing the effectiveness of an insect pheromone "interruptant" was initiated on the Magdalena RD.	
Forestry	Monitored for hazard trees at all developed recreation sites	District recreation files	Forestwide	There is continued mortality, mostly of white fir, in the Sandia District's developed recreation sites in Sandia.	<p>Forest fire/fuels crews helped fell hazard trees and provided new training opportunities or refreshers for sawyers. Staff coordinated with wildlife on the timing of hazard tree removal to reduce the impact on cavity nesters. Although the Fall is the best time of the year for tree removal, hazard trees are typically felled in the spring prior to opening up recreation sites in Mount Taylor, Magdalena, Mountainair, and Sandia.</p> <p>Bucking of fallen trees is unnecessary to ensure removal, because permittees buck and remove them.</p>
Forestry	Monitored commercial and personal-use fuelwood areas for compliance with permits and contract requirements	District forestry files	Forestwide	Wood theft and timber trespass continued; compliance with closure orders was not always adhered to.	Due to lack of forest protection officers and law enforcement officers, the Forest has moved to load ticket system and NEPA-designated fuelwood areas Forestwide. Law enforcement is insufficient in

Program Area/LRMP Monitoring Element Addressed	Monitoring Accomplished	Record Location	Districts	Results	Comments
					Mount Taylor, Magdalena and Mountainair. There continues to be inadequate funding of the forest protection officers program for Mount Taylor, Magdalena and Mountainair. Resource damage occurred with little, if any, repercussion. Law enforcement is insufficient in those areas incurring resource damage (particularly in Mount Taylor, Magdalena and Mountainair).
Forestry	Acres of overstory and final removal harvest	FACTS	Forestwide	In FY2017, the Forest did not use this silvicultural practice.	
Forestry	Acres of intermediate harvest (Commercial Thinning and Thinning for Hazardous Fuels Reduction)	FACTS	Forestwide	In FY 2017, the Forest accomplished 13,480 acres of this harvest system.	
Forestry	Acres in need of reforestation	FACTS	Forestwide	Zero acres were in need of reforestation in FY 2017.	
Forestry	Timber Stand Improvement acres	FACTS	Forestwide	In FY17 the Forest accomplished over 13,000 acres of TSI;	Some of these acres utilized cut/skid/deck treatments, where merchantable material was yarded to roadsides and made available for public fuelwood gathering.
Forestry	CCF of net sawtimber and fuelwood sold	PTSAR	Forestwide	13,219 CCF were sold in FY17.	
Forestry	Adequate restocking of regeneration harvest	FACTS	Forestwide	0 acres in FY2017.	

<b>Program Area/LRMP Monitoring Element Addressed</b>	<b>Monitoring Accomplished</b>	<b>Record Location</b>	<b>Districts</b>	<b>Results</b>	<b>Comments</b>
Forestry	Stands and acres of forest lands identified and tracked in FSveg-Common Stand Exams	FSVeg; Stand Exam Contracts at Supervisor's Office and Mount Taylor	Forestwide	No new stands were examined in FY 2017.	
<b>Lands</b>					
Lands	Monitoring of right-of-way (ROW) acquisition through non-Forest Service inholdings	Supervisor's Office	Forestwide	Easements were eliminated with the purchase of Tampico Springs in Mount Taylor.	Through travel management analyses, ROW needs were identified and opportunities were explored.
Lands	Effect of goals, objectives and management activities of the Forest on adjacent, non-Forest Service lands	Supervisor's Office	Forestwide	Continued to identify property boundaries through property surveys; worked with non-Forest Service property owners to provide an understanding of Forest goals. The purchase of Tampico Springs I & II with LWCF contribution helped the Forest Service preserve key pieces of land from future development.	Continued to peruse opportunistic and desirable land acquisitions.
Lands	Effect of management practices conducted on adjacent non-Forest Service lands on goals and objectives of the Forest Plan	Supervisor's Office	Forestwide	Issued five new special use authorizations, two for communication sites, two for water transmission pipelines, and one for a research study.	Monitoring continues for NEPA compliance with authorization reissue and application processing.
<b>Non-recreation, Special Use Authorizations</b>					
Lands (Special Use Authorizations)	Monitoring for compliance with authorization terms and conditions	Supervisor's Office/Districts	Forestwide	Processed four authorizations that have expired, one military training area permit and three telecommunication site leases. Accepted and approved two applications for	Monitoring continues for NEPA compliance with authorization reissue and application processing. Funding set aside

<b>Program Area/LRMP Monitoring Element Addressed</b>	<b>Monitoring Accomplished</b>	<b>Record Location</b>	<b>Districts</b>	<b>Results</b>	<b>Comments</b>
				new authorizations, one for road use to access private property and one for water transmission pipeline.	for audits of telecommunication sites for FY 2015.
<b>Range</b>					
Range 1 and Range 3	Range improvements (nonstructural) inspections	FACTS	Mount Taylor	81,354 Acres Range Cover Manipulation	Integrated target from Broadcast Burning, Thinning for Hazardous Fuels Reduction, and Commercial thinning.
Range 3	Range improvements (structural) maintenance	FACTS	Magdalena	7,383 Acres Improved - Construction/Reconstruction of Range Grz Structural Improv Area	Limestone Pipeline on Beartrap Allotment
Range 3	Range improvements (structural) maintenance	FACTS	Magdalena	5,581 Acres Improved - Construction/Reconstruction of Range Grz Structural Improv Area	Stock tank cleanout on the Deep Canyon and Horse Mt. Grazing allotments.
Range 3	Range improvements (structural) maintenance	FACTS	Magdalena	30,534 Acres Improved - Construction/Reconstruction of Range Grz Structural Improv Area	Solar conversion on two wells on the Whitehouse and Flying V grazing allotments
Range 1 and Range 3	Range improvements (nonstructural) inspections	FACTS	Mountainair	4,936 Acres Range Cover Manipulation	Integrated target from Broadcast Burning, Thinning for Hazardous Fuels Reduction, and Commercial thinning.
<b>Recreation</b>					
Wilderness1 (W1)	Wilderness use by wilderness opportunity spectrum	N/A	N/A	N/A	We did not measure use by wilderness opportunity spectrum. It was not practical using the National Visitor Use

Program Area/LRMP Monitoring Element Addressed	Monitoring Accomplished	Record Location	Districts	Results	Comments
					Monitoring process for estimating visitation.
W2	Miles of wilderness trail construction/reconstruction and maintenance	Infra, Work Accomplishment Records	Mountainair Sandia Magdalena	Mountainair: 25.735 miles maintained  Sandia: 16.8532 miles improved; 38.4745 miles maintained  Magdalena: 16.194 miles maintained	Accomplished through a combination of varying partnerships, volunteers, and force account.
Recreation 1 (REC1)	Miles of non-wilderness trail construction/reconstruction and maintenance	Infra, Work Accomplishment Records	Mount Taylor Magdalena Mountainair Sandia	Mt Taylor: 38.25 miles maintained (21.79 miles on CDNST)  Magdalena: 0 miles  Mountainair 8.46 miles maintained  Sandia: 14.2264 miles improved; 46.7942 maintained	Accomplished through a combination of varying partnerships, volunteers, and force account.
REC2	Developed site use, public and private sector	Infra	Mount Taylor Magdalena Mountainair Sandia	11, 680 PAOT capacity OR 943,000 visits to developed recreation sites	PAOT = Persons at one time

<b>Program Area/LRMP Monitoring Element Addressed</b>	<b>Monitoring Accomplished</b>	<b>Record Location</b>	<b>Districts</b>	<b>Results</b>	<b>Comments</b>
REC3	Condition of developed sites in the public sector	NRM	Mount Taylor Magdalena Mountainair Sandia	Class I: 93 sites – 78% Class II: 25 sites-- 21%	Any facility condition index less than 0.90 is considered class II and not maintained to standard.
REC4	Provision of increased development of PAOT for recreation use	RMIS	Black Kettle and McClellan Creek National Grasslands Kiowa and Rita Blanca National Grasslands	N/A	There was no increase in PAOTs.
Visual Resources 1 (V1)	Effect of management activities on acres of visual quality objectives		Black Kettle and McClellan Creek National Grasslands Kiowa and Rita Blanca National Grasslands	N/A	Scenery is considered in every project analysis, along with other resources. The Scenery Management System (SMS) is the best available science for management of scenic resources, and the Grasslands now use SMS under the 2012 Grasslands Plan. Therefore this monitoring element is no longer valid for the Grasslands
<b>Soil and Water</b>					
SW1 (Watershed improvement acres and watershed condition inventories)	Watershed improvement acres	Work Plan project files on districts WIT	Integrated projects on all districts	Watershed condition improved on 8,290 acres.	Accomplished through integrated projects with vegetation, range, and wildlife programs.
SW1 (Watershed improvement acres and watershed)	Watershed improvement acres	Work Plan project files on districts WIT	Integrated projects on all districts	Watershed condition improved on 8,453 acres.	Accomplished through integrated projects with vegetation, range, and wildlife programs.

Program Area/LRMP Monitoring Element Addressed	Monitoring Accomplished	Record Location	Districts	Results	Comments
condition inventories)					
SW1 (Watershed improvement acres and watershed condition inventories)	Watershed Condition Assessment	WCATT (Watershed Condition Assessment Tracking Tool)	All districts	161 watersheds rated as <i>good</i> 50 watersheds rated as <i>fair</i> 1 watershed rated as <i>poor</i> Watershed Restoration Action Plan (WRAP) developed for Bluewater Watershed. Essential projects identified to bring watershed to properly functioning condition. Las Huertas WRAP in progress.	Reassessment to occur in 2016.
SW2 (Riparian acres treated to bring to satisfactory condition)	Riparian acres treated to bring to satisfactory condition	Supervisor's Office, WIT	Magdalena	8.4 acres improved in Limestone Canyon.	Wildlife program has the lead on these integrated projects.
SW2 (Riparian acres treated to bring to satisfactory condition)	Spring inventory	Supervisor's Office	All districts	Interim report received for 110 springs inventoried through cost share agreement with UNM. Springs characterized in terms of chemistry, flow, and condition.	Spring monitoring through cost share agreement with UNM (led to appropriate prioritization and restoration).
SW3 (Best management practicesBMPs)	BMPs	Supervisor's Office project support files BMP database	All districts	Summarized BMP monitoring results for last few years. Effectiveness varies across project type. Common weakness is BMPs being implemented in the field according to NEPA document.	
SW4 (Closing and obliteration of temporary roads and trails)	Close and restore non-designated routes	Supervisor's Office	Mount Taylor	Closure/ restoration of non-designated routes are part of Zuni Mountain Trail Project on Mount Taylor which was	

Program Area/LRMP Monitoring Element Addressed	Monitoring Accomplished	Record Location	Districts	Results	Comments
				signed. This project will lead to the stabilization of portions of unauthorized roads.	
<b>Wildlife</b>					
Wildlife (WL1 & 2)	Acres of browse vegetation treated to improve availability and productivity	2630-1 SO, District Files WIT Database	Mount Taylor Magdalena Mountainair Sandia	HBT-ENH-TERR 15,496 acres of terrestrial habitat were improved from management activities	
Wildlife (WL3)	Monitored water developments	2630-1 SO, District Files HSP Maintenance Report	Mount Taylor Magdalena Mountainair Sandia	Number of monitored developments: 55 David Canyon water catchment in Sandia was completely replaced with a 3500 gallon catchment	
Wildlife (WL4)	Monitored number of quality snags per acre	2620-3 SO, District Files Triannual Field Review of forest product sale areas	Mount Taylor Magdalena Mountainair Sandia	Not monitored this period.	
Wildlife (WL5)	Monitored number of roost groups	2620-3 SO, District Files Triannual Field review of forest product sale areas	Mount Taylor Magdalena Mountainair Sandia	Not monitored this period.	
Wildlife (WL6)	Threatened, endangered or sensitive animals Monitored for goshawk occupancy and reproductive success	2670-6 SO, District Files	Mount Taylor Magdalena Mountainair Sandia	One PFA was monitored on Mt. Taylor with no detection.  Six of the eight known PFAs on the Magdalena RD were	Project surveys were also conducted on the Mt. Taylor Ranger district. Although individual birds were sighted, no occupied nests or territories were found.

Program Area/LRMP Monitoring Element Addressed	Monitoring Accomplished	Record Location	Districts	Results	Comments
				<p>monitored. Two pairs were detected on these PFAs.</p> <p>Two of the five known PFAs on Mountainair, were monitored. One new PFA was established.</p> <p>In Sandia, two of four PFAs were monitored and both had active nests.</p>	
Wildlife (WL6)	Threatened, endangered or sensitive animals Southwestern willow flycatcher territories monitored	2670-6 SO, District Files	Mount Taylor Mountainair	Not monitored this period.	<p>Historically, SWWF were known to have nested close by the Cibola. In 1994, surveys in the Zuni and Manzano Mountains resulted in the discovery of a single pair at Bluewater Creek in the Zunis, the first and only nesting pair documented on the Cibola. These surveys also identified portions of Tajique Canyon as potential habitat for the SWWF.</p> <p>As yet, Tajique Canyon has no SWWF, but two areas within the canyon have potential: the first lies just to the north of Tajique CC and the second is three miles farther up the road. This flycatcher does travel along the Estancia Valley corridor and has been seen only 15 miles to the south at Quarai.</p>

Program Area/LRMP Monitoring Element Addressed	Monitoring Accomplished	Record Location	Districts	Results	Comments
Wildlife (WL6)	Threatened, Endangered or sensitive animals Mexican spotted owl	2670-6 SO, District Files	Mount Taylor Magdalena Mountainair Sandia	Twenty-three PACs were monitored across the Forest. Of these, two detected owls.  Foster PAC on Mt. Taylor was active with a successful nest. A new PAC was also discovered with a nest but the success of the fledglings is unknown.	Approximately 3000 acres were surveyed for this species on the Mt. Taylor Ranger District. Multiple owls were detected although no nests were found.  Approximately 500 acres of habitat was surveyed on the Magdalena Ranger District. One incidental observation was recorded.  Approximately 4,385 acres of habitat was surveyed on the Mountainair Ranger District. There were no detections within this project area.
Wildlife (WL6)	Threatened, Endangered or sensitive animals Monitored Aplomado falcon prey species and population trend (two 1-mile BBS transects conducted annually by volunteers)	2670-6 SO, District Files	Magdalena	There are no Aplomado falcon territories on the Forest. No monitoring occurred this period.	
Wildlife (WL6)	Threatened, endangered or sensitive animals Monitored peregrine falcon eyrie occupancy and nest success (random sample conducted by NMDGF contractors, monitoring by CIF staff)	2670-6 SO, District Files	Mount Taylor Magdalena Mountainair Sandia	Not monitored this period.	

Program Area/LRMP Monitoring Element Addressed	Monitoring Accomplished	Record Location	Districts	Results	Comments
Wildlife (WL6)	Threatened, endangered or sensitive animals Zuni bluehead sucker monitoring	2670-6 SO, District Files	Mount Taylor	Persistence of Zuni bluehead sucker was confirmed in the Aqua Remora.	<p>The pool enhanced in FY2014 does not get regular flow from a spring or other running water. It stays stagnate and fish have not been found to survive in this pool. However, a pipe fence was constructed around the spring and pools where known populations of ZBS exist.</p> <p>The Forest Service continues to partner with the University of New Mexico to complete a spring inventory and water quality monitoring analysis in the Rio Nutria watershed. The purpose of the study is to gather baseline data to determine if water withdrawals in the Tampico Springs subdivision are affecting water availability in the watersheds occupied by the Zuni bluehead sucker.</p>
Wildlife (WL7)	Threatened and endangered or sensitive plants Zuni fleabane	2670-6 SO, District Files	Mount Taylor Magdalena	Not monitored this period.	
Wildlife (WL8)	Population and habitat trends of management indicator species Monitored occurrence and population trend of migratory and resident birds on about 140 miles of transects to	2620-3 SO, District Files	Mount Taylor Magdalena Mountainair Sandia	<p><b>Management Indicator Species (MIS)</b> <i>Juniper titmouse</i>: statewide population trend down, Cibola habitat trend stable.</p>	

Program Area/LRMP Monitoring Element Addressed	Monitoring Accomplished	Record Location	Districts	Results	Comments
	determine habitat trends-habitat diversity			<p><i>Pygmy nuthatch</i>: statewide population trend up, Cibola habitat trend stable.</p> <p><i>Hairy woodpecker</i>: statewide population trend stable, Cibola habitat trend stable.</p> <p><i>Red-breasted nuthatch</i>: statewide population trend stable, habitat trend stable.</p> <p><i>Red-napped sapsucker</i>: statewide population trend stable, habitat trend stable.</p> <p><i>House wren</i>: statewide population trend down, Cibola habitat trend down.</p>	
Wildlife (WL8)	Population and habitat trends of management indicator species Monitored Game-Management Indicator Species: Merriam’s turkey Rocky Mountain elk Mule deer Black bear	2620-3 SO, District Files	Mount Taylor Magdalena Mountainair Sandia	The elk population trend on the Cibola National Forest is upward. The mule deer population trend on the Forest is downward. Black bear populations appeared to be stable on the Forest. Population numbers for the Turkey are expected to increase in the future, indicating an upward population trend on the Cibola National Forest.	On the four mountain districts, the Cibola National Forest relies on survey data collected by the New Mexico Department of Game & Fish (NMDGF) for population numbers and trend analysis of all game species. The NMDGF uses this data to set harvest regulations and population goals for the species under their jurisdiction.  Bear scat surveys were also conducted with the Sandia Mountain Bear Collaborative on the Sandia RD.
Wildlife (WL8)	Population and habitat trends of management indicator species	2620-3 SO, District Files	Mountainair	Observers counted raptors for a total of 67 days. 5,877 migrating raptors representing 18 species were detected. A single Variable Hawk, a South	HawkWatch Raptor monitoring site on the Manzano Mountains near Capilla Peak through a Challenge Cost Share

Program Area/LRMP Monitoring Element Addressed	Monitoring Accomplished	Record Location	Districts	Results	Comments
	Monitored trends of migrating raptor populations on the Manzano Mountains			<p>American species, was detected for the first time during this HawkWatch.</p> <p>Below average numbers were reported for Bald Eagles, American Kestrels, and Prairie Falcons, although average numbers for all other species was reported.</p>	Agreement occurred from 27 August – 5 November
Wildlife (WL8)	<p>Population and habitat trends of management indicator species</p> <p>Monitored fall passerine bird species by trapping at Capilla Peak</p>	2620-3 SO, District Files	Mountainair	<p>RGBR banded neo-tropic migrant species at Capilla Peak in the fall of 2017 on the Mountainair RD. The overall trend for these migrants is unknown.</p> <p>Rosy Finches were also banded at Sandia Peak during the winter of 2017 on the Sandia RD.</p>	Rio Grande Bird Research monitoring through a Challenge Cost Share Agreement.

## FY 2017 Monitoring Results for the Kiowa, Rita Blanca, Black Kettle and McClellan Creek National Grasslands under the 2012 Land and Resource Management Plan

Table 4. Monitoring results for the Kiowa, Rita Blanca, Black Kettle and McClellan Creek National Grasslands

Program Area/LRMP Monitoring Element Addressed	Monitoring Accomplished	Record Location	Districts	Results	Comments
<b><i>Black Kettle and McClellan Creek Management Area Vegetation Types Represented by Ecological Indicators</i></b>					
Black Kettle and McClellan Creek Management Area Mixed Grass Prairie Ecological Indicator (presence of undesirable trees)	Not monitored this period		Black Kettle and McClellan Creek National Grasslands	Not monitored this period.	
Black Kettle and McClellan Creek Management Area Shinnery Oak and Deep-Plowed Inclusions Ecological Indicator (presence of undesirable trees)	Not monitored this period		Black Kettle and McClellan Creek National Grasslands	Not monitored this period.	

Program Area/LRMP Monitoring Element Addressed	Monitoring Accomplished	Record Location	Districts	Results	Comments
<b>Developed Recreation: Kiowa, Rita Blanca, Black Kettle and McClellan Creek National Grasslands-wide</b>					
Developed Recreation, Grasslands-wide	Condition surveys and inventories were conducted on 20% of developed recreation facilities grasslands wide.	Recreation files and INFRA data for Black Kettle and McClellan Creek National Grasslands and Kiowa and Rita Blanca National Grasslands	Black Kettle and McClellan Creek National Grasslands Kiowa and Rita Blanca National Grasslands	Completed all condition surveys in FY17; completed 5 year real property and condition survey cycle; In FY17, two sites were brought up to standard on the Black Kettle RD and one site was brought up to standard on the Kiowa Rita Blanca RD (FCI of more than 0.9) due to addressing deferred maintenance.	A Facility Condition Index (FCI) value less than 10% is regarded as class I; a FCI greater than 10% is regarded as class II. FCI is an indicator of the depleted value of an asset. The value is calculated by dividing the deferred maintenance cost (DM) by the current replacement value (CRV).
<b>Engineering: Kiowa, Rita Blanca, Black Kettle and McClellan Creek National Grasslands-wide</b>					
Roads and Access, Grasslands-wide	Miles of road decommissioned; roads rehabilitated and miles of road obliterated.	North of Mills Lower campground	Black Kettle and McClellan Creek National Grasslands Kiowa and Rita Blanca National Grasslands	Decommissioned ¼ mile of user created road by installing barriers.	
<b>Black Kettle and Kiowa and Rita Blanca Management Areas Vegetation Types Represented by Management Indicator Species</b>					
Black Kettle National Grasslands Mixed Hardwood Riparian Management	Annual surveys to monitor Rio Grande turkey ( <i>Meleagris gallopavo intermedia</i> ) as a MIS The Rio Grande turkey populations on Black Kettle National Grasslands are monitored by U.S. Forest Service (USFS) and Oklahoma Department of Wildlife Conservation (ODWC). ODWC conducts winter flock counts on BKNG and	2620-3 Survey data from ODWC for Rogers Mills County. District files	Black Kettle and McClellan Creek National Grasslands	ODWC completed 100% of winter flock surveys. USFS complete 100% of Oklahoma and Texas surveys	FY 17 weather conditions were both a blessing and a deterrent to Rio Grande turkeys. Over all habitat was improved with much needed rain falling on the area. However, severe storms associated with the

Program Area/LRMP Monitoring Element Addressed	Monitoring Accomplished	Record Location	Districts	Results	Comments
Indicator Species (MIS)	throughout Roger Mills County. USFS conducts spring call surveys during breeding season. Eight survey routes are run twice a season when conditions are favorable. Six routes are in Oklahoma and two are in Texas (Lake Marvin Recreational Area and Lake McClellan Creek National Grassland)				rain impacted nesting success as several storms dropped large hail during nesting season. Birds radio collared and monitored by ODWC had 100% nest failure rate. This set back population numbers to the same densities as in FY 14 and 15. USFS call survey number mirror those of the ODWC as samples were collected at 146 survey points. In FY 2017 surveys, 31 stations recorded 35 responses resulting in 21.23% of stations with positive records. This is down from FY 15 and 16. Additionally in FY 17 the Black Kettle Biologist documented and large increase in the number of feral hogs on the area. Feral hogs are known for being very successful predators of nests. Which is also likely to be a part of the decline from FY 16.
Kiowa National Grasslands Pinyon-juniper and Juniper Grasslands MIS	USGS Breeding Bird Survey (BBS) to monitor breeding birds including western bluebird MIS	2620-3 Kiowa and Rita Blanca National Grasslands Office Wildlife files	Kiowa and Rita Blanca National Grasslands	The BBS data for FY 2017 for the two routes nearest the Kiowa National Grassland (Farley and Grenville routes) did not detect Western Bluebirds – but they usually do not.	This species was detected by the Bird Conservancy of the Rockies (Formerly Rocky Mountain Bird Observatory) on the Kiowa National Grassland intermittently from 2009 – 2015, but unfortunately the

Program Area/LRMP Monitoring Element Addressed	Monitoring Accomplished	Record Location	Districts	Results	Comments
				No local trend estimates regarding the status of the species can be made from these available data.	routes were not completed in FY 2016 or FY 2017. Surveys by the USGS from 1966 through 2015 indicated a slightly downward trend for New Mexico; the downward trend is stronger 2005 - 2015. Reasons for recent declines in New Mexico as a whole are not well understood. Proper Pinyon-juniper woodland management as provided for in the Cibola Grasslands Plan will ensure habitat is provided for the western bluebird.
Kiowa and Rita Blanca National Grasslands Early Successional Shortgrass Prairie MIS	Annual breeding bird survey to monitor burrowing owl ( <i>Athene cunicularia hypugaea</i> ) as a MIS for early successional shortgrass prairie associated with black-tailed prairie dogs. Bird conservancy of the Rockies (BCR) surveyed the Kiowa and Rita Blanca National Grasslands in 2017.	2620-3 Kiowa and Rita Blanca National Grasslands Office Wildlife files	Kiowa and Rita Blanca National Grasslands	Recent monitoring effort by BCR in FY 2017 did not detect any burrowing owls on the Kiowa National Grassland, and detected 4 owls on the Rita Blanca National Grassland. Burrowing owls were detected intermittently in the both National Grasslands from 2009 – 2015, so these numbers are within the normal expected range. All USGS Breeding bird surveys (BBS) near the Kiowa and Rita Blanca	Overall, there is no significant direction of population change from 2005 – 2015 in the shortgrass prairie region. This indicates a stable population. Burrowing owls are heavily dependent on prairie dogs for burrows, for burrow maintenance, and for the preferred low vegetation profile. Beginning in the fall of FY 2015 and continuing into FY 2016 and FY 2017, a fatal plague event swept through the prairie dog towns on the Rita Blanca

Program Area/LRMP Monitoring Element Addressed	Monitoring Accomplished	Record Location	Districts	Results	Comments
				<p>National Grasslands (total 4) were conducted in FY 2017, and all four routes detected burrowing owls. The Felt, Oklahoma BBS route had similar detections (14), and the Texline route had a small decrease in burrowing owl detections (11). The Grenville, New Mexico route's burrowing owl detections dropped to 3, and Farley's count dropped to 0 detections.</p>	<p>National Grasslands, killing the prairie dogs on approximately 95% of their occupied acreage. Colonies on the Kiowa are also beginning to be affected. Burrowing owls typically don't show direct effects from plague events until a few years later, when burrows become dilapidated. Programs to maintain prairie dog populations are expected to be beneficial to burrowing owl populations, because they maintain breeding habitat.</p>