

**Annual Monitoring Report**

**Gila National Forest Land Management Plan**

**FY 2012**



**2012 Wildlife habitat improvement monitoring utilizing game cameras on Quemado Ranger District. Project funded through New Mexico Department of Game and Fish Habitat Stamp Program**

**July 2013**

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### Forest Supervisor Certification

I certify that the Gila National Forest Plan as amended is sufficient to guide management of the Forest over the next year. A need for change analysis conducted as part of this monitoring report will be considered during the Forest Plan revision process scheduled to begin in FY2015.

*/s/ Kelly Russell*  
KELLY RUSSELL  
Forest Supervisor

7/15/2013  
Date

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# Annual Monitoring Report

## FY 2012

### *Overview*

This report summarizes monitoring results on the Gila National Forest for the fiscal year 2011/12. Recommendations are provided to improve effectiveness of the current monitoring plan as outlined in the Gila National Forest Land Management Plan (Forest Plan). A monitoring action plan for 2013 work activities is provided as part of this report.

### **1. Monitoring and Trend Evaluation**

Monitoring and trend evaluations are analyzed for the following 13 resources:

- Air
- Cultural Resources
- Facilities
- Fire Management
- Lands
- Protection
- Range
- Recreation
- Riparian / Aquatic
- Soil and Water
- Timber
- Wilderness
- Wildlife

The number of monitoring activities, monitoring frequencies, accuracy, and precision standards vary for each of the items listed above. Individual monitoring activities are selected annually based on the annual plan of work and, as described in the Gila National Forest Plan, not all monitoring items are applicable each year. Annual work plan activities are based on the Agency's and the public's priorities, concerns and interests. Some monitoring methods have become obsolete and will be updated during the next Forest Plan revision to reflect information that is relevant to reflect present standards.

## *Air*

### **Air 1: Visibility in Class I Wilderness Areas**

#### **Monitoring Intent:**

Obtain baseline condition of visibility and determine if any visibility degradation is occurring in Class I areas.

#### **Monitoring Method/Unit of Measure:**

The Forest Plan states that monitoring will occur through the use of an automated camera system and additional particulate sampling. Color slides are to be analyzed for standard visual range by micro densitometer. This method, however, is no longer used due to availability of new technology that has been adopted by Region 3. The Gila National Forest became a participant in the Interagency Monitoring of Protected Visual Environments (IMPROVE) particulate monitoring network in 1994. The IMPROVE protocol aerosol monitoring program is designed to collect quantitative information on the composition and concentration of fine (PM<sub>2.5</sub>) aerosol particles that reduce visibility. These data correlate visibility with aerosol concentrations and compositions. The IMPROVE monitoring protocol collects fine and coarse particles from the air in sizes ranging from 0 – 10 mm. These particles are then analyzed for elemental composition, acidic gases (nitrate, sulfate, and chlorine), organic and elemental carbon, and Particulate Matter 10 mass loading. Optical extinction is also collected at the site through the use of a nephelometer, which measures light scattered by aerosols and gasses in a sampled air volume.

#### **Measuring Frequency:**

The Forest Plan states that pictures will be taken 3 times daily, with particulate data collected on opportunity basis. This frequency is no longer valid in the IMPROVE monitoring protocol. IMPROVE is programmed to collect two twenty-four one-hour samples per week, on Wednesdays and Saturdays from midnight to midnight. The filter cassettes are changed weekly by on-site personnel and shipped to University of California at Davis for processing and analysis.

#### **Percent Accuracy/Precision:**

The Forest Plan states that these values will be +10%; +10%. These values are not consistent with IMPROVE monitoring values. The following table shows the relative precision of key measured variables, calculated by taking the ratio of mean precision divided by mean concentration:

<b>Range</b>	<b>Key Measured Variables</b>
4%-6%	PM <sub>2.5</sub> , PM <sub>10</sub> , S, Si, K, Ca, Fe, Cu, Zn, SO <sub>4</sub> =, NO <sub>3</sub> -, SO <sub>2</sub>
6%-15%	H, Na, Ti, Se, As, Br, Sr, Pb, O <sub>4</sub> , E <sub>1</sub>
>15%	V, Mn, O <sub>1</sub> , O <sub>2</sub> , O <sub>3</sub> , O <sub>P</sub> , E <sub>2</sub> , E <sub>3</sub>

**Re-evaluation:**

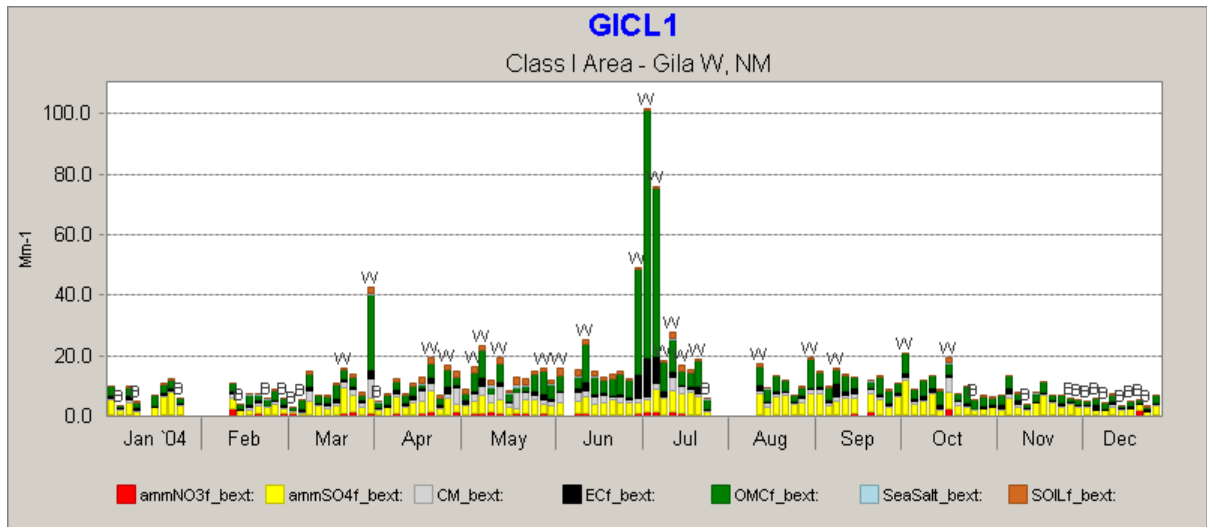
The Forest Plan states that re-evaluation needs to occur when form, line texture, and color of characteristic landscape is not clearly distinguishable from middle ground. These criteria do not pertain to IMPROVE monitoring protocol. The IMPROVE data are evaluated by the University of California at Davis. A determination is made if a problem is indicated. Correspondence between the University and the Forest Service occurs to determine if there is equipment error, or if a valid air quality problem is occurring.

**Monitoring and Trend Evaluation**

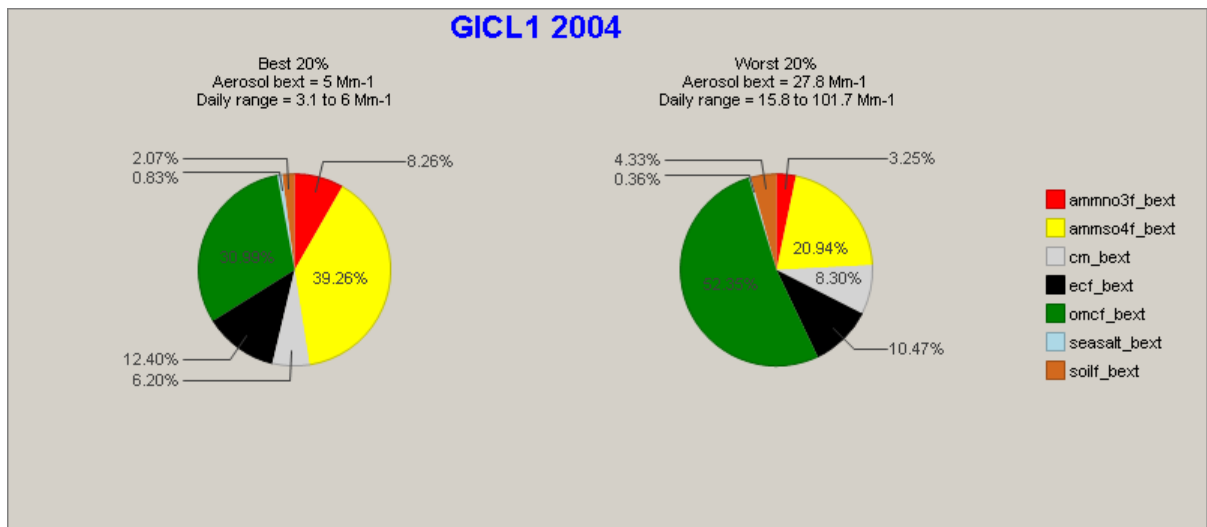
In 2002, the Gila Wilderness Class I air shed was formally certified for visibility impairment greater than ten percent (10%) above natural background. This certification was based, in part, on collected monitoring data at the Forest's site near the Gila Cliff Dwellings, adjacent to the wilderness area. In the past several years, climate and resource conditions have led to a high risk and occurrence of extreme wildland fire behavior across the Southwest. Smoke from these occurrences has contributed, at times, to degradation of visibility in the Wilderness. The Forest has continued to be an advocate of managing wildland fire to achieve multiple resource benefits. This type of active fire management may contribute to smoke lingering for a longer period of time in Wilderness. In urban areas south of the Forest (Deming, Lordsburg), energy facilities have maintained their emission outputs in recent years. Over the past several years, trends for visibility have likely been static from October through February, with more days of decreased visibility possibly occurring during spring winds (dust) and summer fire season (smoke).

The Gila National Forest continues to maintain and monitor air quality at the IMPROVE site. Data is summarized on <http://vista.cira.colostate.edu/improve/> through 2010. Data is also available on <http://views.cira.colostate.edu/web/> in VIEWS 2.0 (Visibility Information Exchange Web System). VIEWS is an online system of tools and resources designed to provide easy access to air quality data. Its original goal of providing data and results related to visibility impairment in Class I Areas has since been expanded to include climate change, health effects, emissions control strategies, and general environmental impacts. VIEWS integrates data from ground-based monitoring stations, air quality models, emissions inventories, and satellites into a unified system of tools and resources.

The following two charts provide an aerosol composition analysis. These are based on the 2004 timeline showing daily extinction by aerosol species with pie charts of best and worst 20% average by species.



**Chart 1. Aerosol Composition**



**Chart 2. Aerosol Composition, Best 20% and Worst 20% Average by Species**



The National Atmospheric Deposition Program also maintains a monitoring site at the Gila Cliff Dwellings National Monument (Site NM01). This site has been in operation from July 29, 1985, to present.



**Figure 1. NM01 Atmospheric Deposition Sampling Site.**

The Forest purchased two e-samplers in 2008, which are nephelometers that estimate particulate matter by measuring visibility. The e-samplers are used at various sites throughout the year to monitor smoke effects from fire activities, including wildland and prescribed burns. The data is uploaded by satellite to the Interagency Real Time Smoke Monitoring website which is found at <http://www.satguard.com/usfs/realtime.asp>. This Data is available as real time and historic data is also available back to 2008. The two unit identifiers are USFS 1035 and USFS 1036

## *Cultural Resources*

### **Cultural Resources 1: Protection of Significant Cultural Properties**

**Monitoring Intent:**

Compliance with law and executive order; assure resource protection.

**Monitoring Method/Unit of Measure:**

Aerial and ground inspection in conjunction with other resource activities

**Measuring Frequency:**

Annual

**Percent Accuracy/Precision:**

No variance allowed.

**Monitoring and Trend Evaluation**

The Forest meets the intent of this item with 100% accuracy by complying with laws and executive orders related to assuring cultural resource protection and consideration for all projects in the Forest's program of work.

All significant cultural resources encountered each year during cultural resource compliance activities (i.e. Sec. 106 of the National Historic Preservation Act) are assessed, inspected, inventoried and/or monitored. In addition, a program of site preservation and protection under Sec. 110 provides inventory and monitoring of additional significant cultural sites and Priority Heritage Assets every year. These include both previously recorded and newly identified cultural resource sites.

Site "protection" under the NHPA means that the federal agency (Gila National Forest) takes into account the effects of its actions (i.e. ground-disturbing projects) on significant cultural resources. On the Gila NF, this takes the form of avoiding and/or minimizing project effects to significant or unevaluated archeological and historic sites through project design, mitigating effects through a variety of data recovery techniques, or following protocols and treatments provided in the Forest Service Programmatic Agreement with the New Mexico State Historic Preservation Officer.

Activities carried out during FY2010-2012 include cultural resource sites monitored, inspected, protected and/or stabilized during Section 110 and related actions, newly recorded sites, sites addressed during project activities, determinations of eligibility to the National Register of Historic Places, public education, outreach, volunteer projects, partnerships, and Section 106 project surveys and compliance. The Forest maintains an active Site Steward program monitoring the condition of significant cultural resources.

It is currently difficult to obtain consistent annual figures for heritage program accomplishments from Forest Service heritage databases (INFRA and CRAIS). It is not feasible to compile and confirm these figures by hand from hard copy records. Therefore, the following figures are estimates.

In FY2010, approximately 600 cultural resource sites were assessed, visited, monitored and/or inspected in conjunction with other resource activities and Sec.110 activities. These include 30 sites monitored, inspected, protected, or stabilized during Sec. 110 and related activities, 129 newly recorded sites, and 218 sites inspected during Sec. 106 project activities sufficient to make determinations of eligibility for the National Register of Historic Places.

In FY2011, approximately 567 cultural resource sites were assessed, visited, monitored and/or inspected in conjunction with other resource activities and Sec.110 activities. These include 69 sites monitored, inspected, visited, protected, or stabilized during Sec. 110 and related activities, 258 newly recorded sites, and 226 sites inspected during Sec. 106 project activities sufficient to make determinations of eligibility for the National Register of Historic Places.

In FY2012, approximately 909 cultural resource sites were assessed, visited, monitored and/or inspected in conjunction with other resource activities and Sec.110 activities. These include 58 sites monitored, inspected, visited, protected, or stabilized during Sec. 110 and related activities, 142 newly recorded sites, and 384 sites inspected during Sec. 106 project activities sufficient to make determinations of eligibility for the National Register of Historic Places.

The current trend for numbers of cultural sites inventoried, assessed, and monitored in this category is heavily influenced by cultural compliance related to the Travel Management Rule, with FY2012 seeing a substantial increase over FY2010 (34%) and FY2011 (38%), respectively. This trend should stabilize or decrease with completion of heritage Travel Management work in the next 1-2 years, though upcoming Forest Plan Revision may again increase heritage workload.

Sites addressed under Section 110 increased (57%) from FY10 to FY11, then decreased by slightly (-16%) from FY2011 to FY2012. The increase seen from FY2010 to 2011 is most likely due to Heritage Resource Targets for those years. These targets were based solely on Priority Heritage Assets. This target changed from FY2011-2012. Targets are still based on Section 110 of the NHPA, but allow for more activities to be counted toward the target. Therefore, little change is seen from FY2011 to 2012.

Unauthorized and illegal activities under the Archaeological Resources Protection Act of 1979, Antiquities Act of 1906, and others, are an ongoing occurrence at a number of archeological sites. These activities continue to be an issue for the Gila heritage program and law enforcement, and are subject to investigation. Evidence of past looting and vandalism at archeological and historic sites on the Gila is widespread, partially due to a tradition of such activities in the area for more than a century. During FY10, one ARPA case was successfully concluded against individuals who removed prehistoric artifacts from the Forest. There appears to be no change in the frequency of this activity Forest-wide.

During FY2010-FY2012, inadvertent discoveries of prehistoric NAGPRA materials on Forest-administered lands continued to occur rarely. Tribal consultation and handling these materials was carried out according to NAGPRA regulations at 43 CFR Part 10.

In upcoming years, trends in heritage accomplishments may be influenced by (1) increasing demands related to managing complex electronic heritage INFRA and GIS

databases including legacy data, (2) evolving definition of how to meet the Heritage Resources target for a well-rounded “Heritage Program Managed to Standard”, (3) Forest Plan revision, (4) accountability required under Federal Financial Accounting Standards for Heritage Assets, including upward reporting, and (5) ongoing Travel Management Rule compliance including completion of cultural resource portions of the Final EIS and decision.

## **Cultural Resources 2: Cultural Resource Compliance**

### **Monitoring Intent:**

Meet Federal regulation; ensure project compliance with guidelines.

### **Monitoring Method/Unit of Measure:**

Approved cultural resource clearance for each ground disturbing activity project

### **Measuring Frequency:**

Before every ground disturbing activity

### **Percent Accuracy/Precision:**

No variance allowed.

### **Monitoring and Trend Evaluation:**

This accomplishment meets the intent of this item with 100% accuracy by following federal regulations and Forest Service direction to obtain cultural resource “clearance”, concurrence, and compliance for all known ground-disturbing projects.

The Gila National Forest completes a cultural resource compliance report for each ground-disturbing project in accordance with the 36 CFR 800 regulations of the National Historic Preservation Act, or the Forest Service Region 3 Programmatic Agreement with the New Mexico State Historic Preservation Officer (which offers an approved alternate process that complies with federal regulations). Appropriate, legally mandated concurrence is obtained from New Mexico SHPO for each of these reports.

Per 36 CFR 800, compliance is completed prior to each ground disturbing activity. The only exception is emergencies such as wildfire when compliance is initiated during the event and completed shortly thereafter. Under the Programmatic Agreement, if there are no cultural resources in the project area, or no cultural resources will be affected, the project is given approval to proceed, and the compliance report is completed and sent to SHPO within 30 days.

For the database reasons cited above in “Cultural Resources 1”, the number of acres of intensive inventory and number of cultural resource compliance reports for ground disturbing projects can only be estimated. These projects included both in-house Forest-initiated activities, and externally-initiated special uses.

FY2010 reports and projects number approximately 83, covering approximately 19,348 acres of new survey within project areas encompassing 84,005 acres. FY2011 reports number approximately 63, covering approximately 23,738 acres of new survey within project areas encompassing 107,507 acres. FY2012 reports number approximately 79,

covering approximately 21,581 acres of new survey within project areas encompassing 328,963 acres. FY2010-2012 acres surveyed are fairly consistent.

There is an emphasis on large, landscape level projects, including fuels reduction, ecosystem management, and grazing allotment permit renewal projects for which literature searches and sample surveys are undertaken for cultural resource compliance. Other types of ground-disturbing projects requiring 100% heritage survey include engineering/facilities, recreation, timber, watershed, wildlife, minerals, and special uses.

The current heritage workforce is 7 with the addition of two assistant Zone Archeologists for the North (currently a Pathways position) and South Zones. While this is an increase in personal, heritage resources, at times, continues to be spread thin in meeting the demands of project workload. In addition to contracting for Travel Management surveys, a number of professional and student archeologists were hired in temporary positions from FY2010-2011.

**Recommendations:**

1. Add Tribal Consultation under the National Historic Preservation Act as a new monitoring activity during Forest Plan revision.
2. Remove "clearance" term from monitoring method/unit of measure #2. Instead, should be Sec. 106 compliance & SHPO concurrence.
3. There are two cultural resource compliance elements: compliance with regulations and compliance with laws and policies. These are basically the same elements. To reduce confusion, it is recommended to display compliance elements as Sec. 106 compliance and Sec. 110 activities.
4. New Forest Plan may need to reflect increased accountability of Heritage Program under Statement of Federal Financial Accounting Standards 29 for Heritage Assets and Land Stewardship, and it's Implementation Guide.
5. New Forest Plan may need to reflect accomplishments related to electronic information & database management including Heritage Infra, evolving definitions of Heritage Program target and ways to meet it, monitoring cycle of Priority Heritage Assets, mandatory upward reporting, resolving data discrepancies, and GIS layers. All of these create a trend that perhaps should be captured in annual I&M reports, but definitely should be captured in the next Forest Plan.

## *Facilities*

### **Facilities 1: Forest transportation system**

#### **Monitoring Intent:**

Assure adequate road system to meet goals and objectives of Forest Plan.

#### **Monitoring Method/Unit of Measure:**

National Forest Transportation Inventory System miles constructed and reconstructed. Road management records on miles of travel ways closed. Road maintenance records for roads maintained to standard. Traffic use and distribution data will be collected on 5% of the Forest system from:

- 1) State of New Mexico Highway Department;
- 2) Forest Service traffic counters and surveillance methods.

#### **Measuring Frequency:**

Annual

#### **Percent Accuracy/Precision:**

+/-15%; +/-15%

#### **Variability that would indicate Re-evaluation:**

Change in average size of the system and in average miles not maintained to standard that exceed 25% of planned level. Review every 3 years.

#### **Monitoring and Trend Evaluation:**

**Amount and distribution of use of the Forest transportation system and the total miles in the system:** The transportation system inventory is verified every year in September.

At the end of FY 2012, the following mileages were: Level 1 - 524 miles, Level 2 - 4,235 miles, Level 3 – 252 miles, Level 4 – 125 miles, Level 5 – 24 miles. Of the total 5,160 miles that comprise the transportation system, 368 miles are considered to be arterial and collector roads, while the majority of the remaining 4,792 miles are classified as high clearance vehicle roads. Any changes in the disposition of roads are recorded in the Travel Routes module of INFRA. The forest has not obliterated (decommissioned) any roads over the last 5 years as compared with 15 obliterated (decommissioned) miles during the previous 3 years.

**Assure adequate road system to meet goals and objectives of Forest Plan:** On an annual basis, the engineering staff meets with each District Ranger to determine construction, reconstruction and maintenance needs for the coming fiscal year. Upon completion of District meetings, an overall Forest priority schedule is developed for project implementation.

**National Forest Transportation Inventory System (miles constructed and reconstructed):** At the end of each fiscal year, a report is generated listing the amount of roads that were constructed/reconstructed over the past 12 months. Trends show less construction/reconstruction projects are being completed. No new roads were constructed over the last 5 years. Road reconstruction over the same time period averaged approximately 1.2 miles on an annual basis.

**Road management records on miles of travel-ways closed:** The INFRA database is used to track the disposition of each road within the Forest, with one of the categories being closed roads. The current inventory shows that 524 miles of roads are classified as closed. While the number of closed roads does vary slightly from year to year, the number has remained fairly stable over the last 10 years. The change in mileage is associated with corrections to the data.

**Road maintenance records for roads maintained to standard:** Road maintenance accomplishments are reported at the end of each fiscal year through the Road Accomplishment Report (RAR). In FY 2012, 290 miles of roads received maintenance. This represents 5.6% of the open system roads. The majority of these miles are not fully maintained, i.e., correcting all deficiencies to ensure the road and all its appurtenances are functioning properly. Trends indicate that no substantial change in the percentage of roads maintained will occur in the near future.

**Recommendations:**

1. Traffic counting is no longer utilized as a monitoring measure on the Forest. Recommend removal of this measuring method during Forest Plan revision.

**Change in average size of the system and in average miles not maintained to standard that exceed 25% of planned level. Review every 3 years:** The number of miles of roads within each maintenance level category is verified each September. Trends show that decreasing budgets are causing the number of miles of roads maintained to standard to decrease. As a result, the amount of deferred maintenance is subject to increase over time.

## ***Fire Management***

### **Fire Management 1: Fire suppression effectiveness**

**Monitoring Intent:**

Follow Federal regulations and measure prescriptions and effects.

**Monitoring Method/Unit of Measure:**

a) Periodic inspections and review to determine if the fire management organization is effective in controlling fire losses within prescription, b) The use of the fire budget analysis process to determine fire management efficiency, and c) Fire review of select projects.

**Measuring Frequency:** Annual inspections, periodic reviews, and fire budget analysis as needed.

**Percent Accuracy/Precision:**

+/-10%; +/-10%

**Variability that would indicate Re-evaluation:**

Fire management organization is not insuring compliance with standards and guidelines applied to 90% of the wildfires. To be reviewed every 3 years.

**Monitoring and Trend Evaluation:**

Annual and periodic reviews of the fire management organization were conducted from FY2004 through FY2012, to determine the effectiveness in meeting fire suppression needs on the Forest. A comprehensive unit review in the form of Forest and District Readiness Inspections was conducted in May of 2011.

The Fire Qualifications Review Committee on Forest provides oversight for the qualifications and training of 250 to 300 people. Training is conducted each year to ensure crew safety and effectiveness in managing wildland fire. All Incident Qualification carded fire fighters both seasonal and permanent undergo basic firefighter training S130 /190. All red carded personnel attend fire refresher training each year. Additional training is taken as required for different positions and skill needs. A complete review of all red card files for all employees was completed in 2007 and we continue the audit process to ensure accuracy and currency of all of our personnel. The results of the review have identified areas for refinement and revision of all red card documentation as well as help identify training needs and position shortages. This past year we revised our Red Card Committee Operating Plan to better meet the needs of our employees.

The budgeting process was updated as needed to address needs in the fire organization. This is currently done in the National Fire Management Analysis System (NFMAS). The forest is currently working on the Fire Planning Analysis (FPA) process that will be implemented in 2013 or later, and will replace NFMAS.

The 2012 fire season on the Gila National Forest was roughly 3 times above average due to the White-Water Baldy Fire Complex which burned approximately 295,000 acres.

The forest had a total of 98 fires totaling 298,833 acres. Of the total, 75 were lightning caused fires totaling 298,377 acres. Additionally, there were 23 person caused fires totaling 475 acres. Gila NF fire managers will continue to allow fire to perform its natural role on the landscape to the greatest extent possible, coordinating with all other resource areas (wildlife, soils, air quality, watershed and range). As the process of fire is allowed to be an integral part of the ecosystem the structure of the Gila NF will continue to improve.



## Fire Management 2: Project generated fuel treatment

### Monitoring Intent:

Meet Federal regulations, measure prescriptions and effects. Assure that fuel treatment following the various timber activities is meeting fire protection and insect and disease control objectives.

### Monitoring Method/Unit of Measure:

Annual fuel treatment report. Data is generated from field personnel who monitor and/or direct fuel treatment by Forest Service crews, logging companies, contractors, etc.

### Measuring Frequency:

Annual

### Percent Accuracy/Precision:

+/-10%; +/-10%

### Variability that would indicate Re-evaluation:

Less than 80% of the fuels are not being treated within 2 years of generation.

### Monitoring and Trend Evaluation:

**Activity Generated Fuel Treatment:** In 2012 the Forest treated 3,986 acres through the use of prescribed fire and mechanical manipulation/removal. Of the 3,986 acres treated using prescribed fire, approximately 1,728 were cutting units from timber sales and commercial fuelwood sales offered in 2009 and 2010. An increase in demand for saw logs and other forest products has resulted in an increase of activity generated fuels averaging approximately 2,000 acres per year beginning in 2011. Fuel wood (Commercial and Non-Commercial) acres are also increasing however treatments will vary as the Forest's Travel Management Rule is implemented. Some areas may take longer than two years to be treated or slash may remain to promote grass / herbaceous cover.

The Forest continues to incorporate activity generated fuels treatments with larger landscape burns when and where it is appropriate. Ongoing planning efforts are incorporating larger landscape scale treatments that include burning, thinning and harvesting or combinations of treatments to improve and restore watershed functionality and allow fire to resume its' natural role in the environment.

In general, there is support for fire to assume its natural role. Smoke is an issue when it settles into a community area. However, this has been the exception, rather than the rule. The Forest works with the New Mexico Air Quality Bureau and registers burn activities as required by the New Mexico Smoke Management Program. The Forest also informs potentially affected communities in advance of prescribed burns.

### Recommendations:

It is recommended that the fuel monitoring item (Fire 2) include both activity and natural fuels. This would include fire use acres, which is the result of fire treatments associated with prescribed burns and fires managed for resource benefits.

## *Lands*

### **Lands 1: Rights-of-way acquired**

**Monitoring Intent:**

Meet Federal regulations; measured prescriptions and effects.

**Monitoring Method/Unit of Measure:**

Work accomplishment report in miles

**Measuring Frequency:**

Annual

**Percent Accuracy/Precision:**

+/-5%; +/-5%

**Variability that would indicate Re-evaluation:**

Failure to acquire projected needed rights-of-way at the end of the seventh year

**Monitoring and Trend Evaluation:**

Per the Land Management Plan, the priorities for rights-of-way acquisition are:  
1) resource harvesting programs; 2) administration of National Forest lands and  
3) public access to National Forest lands (pg. 38).

Over the past years, private landowners have blocked traditional access to the Forest by exercising their private land rights. Acquisition of rights-of-way ensures that the public will continue to have access to the Forest. As timber harvesting programs have declined, the need for access for resource harvesting has also declined. Access for the range program has not been an issue. However, the need for access for recreation and administration has increased; since the Forest Plan was approved, due to traditional routes being blocked.

At this time, right-of-way (ROW) acquisition is unpredictable due to its dependency on willing sellers. Owners of high priority ROWs need to always be approached for possible conveyance. When these owners are not interested, the ROWs of willing owners of property with lesser significance, will receive our efforts.

Public access is not solely dependent on the Forest Service acquiring easements. By law, County roads are open to the public. As subdivisions are created, some of the subdivision roads are dedicated to public use through dedication of the access roads to the County.

Table 10, Plan Correction No.1, 7/1991 lists 72.9 miles where ROW is needed. Of these 72.9 miles, approximately 40.0 miles can be deleted as they are either County Roads or a decision has been made to reroute the road or trail through National Forest

NFLM funding has been very limited in the past with the bulk of the funding going towards the salaries of a couple of individuals. The majority of the lands program deals with special use management.

**Recommendation:**

Of the 72.9 miles of trail and road access identified in this Plan to be acquired, 31.4 miles of roads and trails are still in need of acquisition. Many of the miles of roads and trails that are acquired are not listed in the Plan, as they may be within a parcel of land which is acquired. As this exceeds the 5% of variation, the Forest Plan should be re-valuated during revision.

The following rights-of-way can be deleted from Table 10, Plan Amendment No.6a, and 7/10/1991 (Correction Notice Number 1):

Road/Trail	Name	Miles	Status as of 9/30/2012
TR #179	DeLoche Trail	0.4	S1, T11S R19W: No ROW acquired. Per decision of Ranger, the trail is to be rerouted
TR #77	Bloodgood and Cooney	0.4	S27, T14S R11W: FT #77 was rerouted from the Mimbres River Trailhead at the Bloodgood Place to the CDNST Trailhead. S33, T14S R11W: FT #77 no longer goes through the Cooney Place.
FR #522	Tierra Blanca	1.0	S20, T16S R8W: No ROW acquired; prior to FY 2000, the road was rerouted around the private land. Portion of road outside of NF is Sierra County B013.
FR #19	Bill Knight Gap	0.1	Now Catron County Road B-007.
FR #19	Spur Lake	0.3	Now Catron County Road B-007.
FR #157N	Hermosa	14.0	Should be listed as FR #157N (not FR #157S) S20, T12S R8W is Sierra County Road C003; S23, T13S R9W: Most of the road was rerouted around the private land. ROW on the remaining portion of the road on private land was acquired in 1993. There is a 0.5 mile of road yet to process to complete this acquisition.
FR #3228 (#4074 & #4053)	Wildhorse (Elephant Lode)	1.5	Attempt to purchase was made. Landowner wanted more than the appraised value. No ROW acquired. Silver Creek Permits substitute for this route (see below).
FR #226	Chloride Creek	2.0	S31, T10S R10W ROW acquired in 1978 (outside of NF) is Sierra County Road C006.
FR #142	Snow Lake	0.5	S22, T10S R15W: now Catron County Road #C-021 (outside of NF).
FR #886	Royal John	8.1	(outside of NF): Grant County Road 3-77.
FR #210	Centerfire Creek	4.7	Now Catron County Road B-009.
FR #28	Y Canyon TS	4.0	Outside of NF: Catron County Road B-019 and B-054. Pvt. within NFS land: S24, 25 T7S R15W is now crossed by Catron Co. Rd. B-054
FR #49	Toriette Lakes	0.5	FY 2004 Review of existing deeds showed that the Forest already has a 1955 right-of-way for FR #49.
FR #519	Frisco Hot Springs	0.5	No ROW acquired; Forest rerouted access to Sundial Mountain Road.
FR #216 and #23	East Camp	2.0	FR #216: Now Catron County Road B-012. FR #23: Now Catron County Road B-029.
FR #506	Bear Creek	1.5	S23, 24, & 25, T16S R14W
Total		41.5	

The following rights-of-way are still needed per Table 10, Plan Amendment No.6a, 7/10/1991, (Correction Notice Number 1):

Road/Trail	Name	Miles	Status as of 9/30/2012
TR #724	Turkey Creek Trail	0.3	FT 724 is entirely on NF, No ROW acquired for FT 155 in S15, T14S R16W.
TR #708	East Fork Jeep Trail	2.0	S3, 4, 9, 11, T13S R13W: No ROW acquired
TR #247	Sapillo Creek	0.4	S31, T14S R13W: No ROW acquired
FR #231	Corduroy Canyon	10.0	S31, T8S R10W; S6, 7, T9S R10W, S12, 14, 15, 21, 22, 28, 29, 30, 31 T9S R11W, S1, T10S R12W: No ROW acquired. US Gov't may already own this road.
FR #524, #902, #896, #758	Area 2D Access	10.0	FR 524: S23, T10S R9W: No ROW acquired FR 524: S30, T10S R8W: No ROW acquired FR 902: S1, T10S R9W: No ROW acquired FR 896: S1, T11S R9W: No ROW acquired FR 896: (outside of NF); S8, 9, 10, T11S R8W: No ROW acquired FR 758: S18, T11S R8W; No ROW acquired FR 758: S12, T11S R9W: No ROW acquired FR 758 (outside of NF) S17, 21, T11S R8W: No ROW acquired
FR #157S	North Percha	3.0	(Identified as FR 157N on Plan.) (outside the NF), S4, 9, 16, T16S R8W: No ROW acquired S24, 25, 36, T15S R9W: No ROW acquired.
FR #40E	Kingston	2.0	S18, T16S R8W: No ROW acquired S13, T16S R9W: No ROW acquired. This is a designated County Road (#B082).
FR #521	Adobe	2.8	S22, T9S R10W; ROW acquisition in progress (outside of NF): S12, S7, T7S R9W; S17, 18, 19, 30 T7S R10W; S1, 12 T8S R10W
FR #886	Royal John	0.4	S9 & 17, T17S R9W.
FR #157N	Hermosa	0.5	S23, T13S R9W: Most of the private land under which this road crossed was purchased (Aldo Leopold acquisition). An 80 acre tract of land remained that the road was routed around. A remaining short section of easement remains to be cleared up. (Shows up as 157S on the Plan.)
Total		31.4	

The following rights-of-way have been acquired, since the Plan was written.

Road/Trail	Name	Miles	Status as of 9/30/2012
FR #157N	Dines	0.25	ROW acquired by purchasing the property <b>1993</b>
FR #727	Dines	0.50	ROW acquired by easement purchase. <b>1993</b>
FR #727	North Fork Palomas	1.00	ROW acquired by purchasing the property. <b>1993</b>
FR #157N	North Fork Palomas	0.50	ROW acquired by purchasing the property. <b>1993</b>
FR #157N	Circle Seven	2.00	ROW acquired by purchasing the property. <b>1993</b>
FR #730	Circle Seven	0.50	ROW acquired by purchasing the property. <b>1993</b>
FR#4081A	Hickland	0.25	ROW acquired by purchasing the property. <b>2002</b>
No #	Curtis	0.75	ROW acquired by purchasing the property. <b>2002</b>
FR #891	S. Fork Palomas Ck	0.50	ROW acquired by purchasing the property. <b>1993</b>

Road/Trail	Name	Miles	Status as of 9/30/2012
FR #157N	S. Fork Palomas Ck	0.50	ROW acquired by purchasing the property. <b>1993</b>
FR #732	Morgan Creek	1.50	ROW acquired by purchasing the property. <b>1993</b>
FR #893	Seco Canyon	1.50	ROW acquired by purchasing the property. <b>1993</b>
FT #110	Seco Canyon	2.00	(Formerly FR 893) ROW acquired by purchasing the property. <b>1993</b>
FR #761	Animas Creek	0.50	ROW acquired by purchasing the property. <b>2002</b>
FT #114	Animas Creek	1.75	ROW acquired by purchasing the property. <b>2001 &amp; 2002</b>
		Total 14.0	The Above Roads & Trails are all part of the Hermosa 14.5 mile target. (0.5mi remains to clear-up)
FT #201	Mineral Creek Trail	0.25	ROW acquired by property donation. <b>2006</b>
FR #119	Copper Creek Road	0.10	ROW acquired by property donation <b>2006</b>
FR #323	North Access	3.00	Permits from State of NM & BLM <b>2007</b>
FR#4053N	Silver Creek	4.50	Permits from State of NM & BLM <b>2008 &amp; 2009</b>
FT #241	Little Cherry Ck Trail	0.07	ROW acquired by purchasing the property <b>2009</b>
FR #701	Cooney's Tomb	0.25	ROW acquired by land purchase. <b>2009</b>
FR #506	Bear Creek	3.00	ROW acquired by purchase of the property the road is located on. <b>2010</b>
FR #32	San Francisco River	1.00	ROW acquired by purchasing the property <b>2011</b>
Total		23.17	

The following rights-of-way are in need of acquisition, in addition to the needs identified in the Plan.

Road/Trail	Name	Miles	Status as of 9/30/2012
FR 4318P	Cruzville (Trujillo, Ernestina)	0.25	SE¼NE¼ S11, T6S. R.18 W. Easement granted is not valid. Need to have easement re-issued by the legal owners. This was a reciprocal easement exchange.
FR #119 & C 010	Claremont	0.75	S14 & 15, T.10 S., R.19 W. Easement document of record appears to have problems.
FR #141	Stotts (Tract #39)	0.50	Tract #39, T8S, R19W, Major, paved Forest Road crosses this parcel with no easement.
FR #506	Bear Creek	1.5	S23, 24, & 25, T16S R14W; ROW acquired by reciprocal easement, from the seller of the property to the west.
Total		3.00	

## *Protection*

### **Protection 1: Law Enforcement**

#### **Monitoring Intent:**

Based on federal regulations, increase law enforcement efforts by the Forest Service, aided by cooperative agreements with regional law enforcement agencies, to serve and protect the lands, resources, people and services available on the Gila National Forest.

**Monitoring Method/Unit of Measure:**

Professional evaluation of trend based on a review of case loads, solution rates, and public complaints. The evaluation will be based on a review of 1) protection of cultural resources; 2) fuel wood theft; 3) fire and recreation violations; 4) wilderness entry; 5) occupancy use; 6) ORV damage and complaints; 7) dollar cost of vandalism; and 8) trends in user protection. Data in the LEIMARS system will be reviewed and used as a Database along with information provided by Ranger Districts.

**Measuring Frequency:**

*The LEIMARS system is updated monthly.*

Reports are pulled on a monthly basis. With recent upgrades to the LEIMARS system, officers can now enter data from the field through a fully-mobile application. The data in LEIMARS is now more current, more accurate, and more complete than in the past. Uploading of ancillary data (i.e. photos and documents) has also made LEIMARS a much better tool for capturing offense statistics and trends.

**Percent Accuracy/Precision:**

+/- 10%; +/- 10%

**Variability that would indicate Re-evaluation:**

Review every 3 years indicates law enforcement activities are becoming less effective.

The LEIMARS system updates did not take effect until mid-2012; the improvement gains are still being realized. If, however, the system were to become overburdened and subsequently too slow to respond, additional support would be needed. A slow response time could potentially affect officer safety, e.g., when data is being entered in proximity to a subject/incident.

**Monitoring and Trend Evaluation:**

In the 2010 Monitoring Report, there were three patrol officers and one supervisor covering the 3.3 million acres of the Gila. The situation was exacerbated in first quarter 2012, when one officer retired and another left the agency. The search for, and hiring of, replacements was time-consuming. As a result, there were fewer patrols, fewer citations, during the bulk of the year.

By the fourth quarter 2012, one experienced officer transferred in from another state; two new officers and a special agent were hired. These three attended FLETC at the end of 2012. The increase in Law Enforcement presence in 2013 and going forward will impact the offense statistics, and thereby shape the view of protection issues on the Gila.

We were able to improve and maintain law enforcement efforts by the Forest Service, in cooperation the New Mexico Department of Game and Fish. In 2012, USFS LEI was awarded a Grant from NM Game & Fish, to fund additional patrols for OHV compliance. These shared goals and activities strengthened the ties between our two agencies. Furthermore, USFS LEI on the Gila has reached out recently to NM State Police in order to develop a Cooperative Law Enforcement Agreement between the two. Both agencies share mutual law enforcement goals and need to have a mutual understanding of process, in order to successfully mount joint operations.

By far the highest number of citations and warnings were issued for violating fire restrictions and for improperly operating a vehicle.

In our review of data from 2011 and 2012, we see a greater problem in Occupancy issues than originally anticipated.

**Cultural Resource** cases in the LEIMARS system do not reflect the full scope of the problem that is happening on the forest. Because of the vast amount of dispersed cultural resource sites, and the inability to check the sites on a regular basis in the recent past, some incidents of disturbance and theft are thought to be undiscovered and unreported.

**Fuel wood theft** on the forest continues to be a problem. There were a number of individuals using the sale of fuel wood to increase their income, especially as the local mining economy remained flat. The lack of easily-accessible dead oak and juniper has pushed cutters to cut green wood that is close to a road. Even when green fuel wood areas are provided, the cutters are not purchasing green wood permits or cutting in the green wood zones.

**Fire and Recreation** incidents continue to frustrate Forest personnel. A significant number of warnings and citations were issued for abandoned campfires. High occupancy rates and camper proximity increase the chances for conflicts among forest users. Officers received calls from Camp Hosts for assistance regularly. These 'new' campers must be warned about how to completely douse a camp fire, respect other campers, shoot at targets without endangering others, etc.

**Occupancy and Use** has increased in all areas of the Forest. This area has good weather year around and it brings visitors from all over the United States. Problems include residential use of the forest, abandoning personal property (not simply campsite trash), and violating terms of campsite/commercial permits. The vast open space also attracts homeless and mentally-challenged individuals. Officers have become better equipped with ATV and GPS devices in the last year, and can now get further into the back-country to flush out hidden residents and related problems.

**Off Road Vehicle (OHV)** use continues as a major attraction each year on the forest. Hunters and family groups use OHV to ride cross-country so they can access areas where there are no roads. This creates problems for both the terrain and the wildlife. Patrol data indicate that young riders without helmets and unregistered vehicles were a significant problem as well; a number of citations were written in this category.

Law Enforcement Officers on the forest concentrated on heavy-use recreational areas to protect forest visitors and resources. During the hunting, fuel wood cutting, and outfitter/guide seasons, additional patrols were scheduled. Officers employed cameras and other technology to capture important data on these activities.

**Vandalism** on the forest continues to increase each year. The recreation program is constantly repairing tables, restrooms, signs, grills and informational structures due to vandalism or theft. Trash dumping (sofas, tires, old appliances and so forth) goes hand-in-hand with vandalism. Much of this is repaired without a report to Law Enforcement. Only in major cases is Law Enforcement involved.

**Recommendations:**

At present, Gila visitor offices are not open to sell wood cutting permits on Saturday. It's undetermined if Saturday hours for the Gila Visitor Center would increase the sale of permits or prevent fuel wood violations.

Recommend adding a seasonal OHV law enforcement position to assist with educating and enforcement along with collecting information during the TMR roll out.

***Range*****Range 1: Over story modification in woodland type****Monitoring Intent:**

Meet Federal regulation; measure prescription and effects. Assure increase forage production in analysis areas where over story modification is scheduled.

**Monitoring Method/Unit of Measure**

Review of annual work accomplishment reports / acres.

**Measuring Frequency:**

Annual

**Percent Accuracy / Precision:**

+/-10%; +/-20%

**Variability that would indicate Re-evaluation:**

The acres of overstory modification completed for the evaluation period (ending at the 7<sup>th</sup> year) should be within 10% of projection level.

**Monitoring and Trend Evaluation:**

For the period 2003-2012, over-story modification has continued at the pace of approximately 3,000 acres per year. This activity was primarily accomplished via prescribed burning, fire use fires and mechanical treatment.

In FY2012 treatments occurred on the Black Range, Quemado, Glenwood, Wilderness, and the Silver City Ranger Districts using a variety of funding sources. The projects completed in 2012 included approximately 626 acres of mechanical thinning and tree pulling and approximately 3320 acres of burning.

It is expected that in the future mechanical treatment will average about 500 acres per year and prescribed fire treatment will average about 3,000 acres per year.

It is projected that these activities will continue at the rate of approximately 3,500 acres per year.



## **Range 2: Brush conversion and reseedling**

### **Monitoring Intent:**

Meet Federal regulation; measure prescription and effects. Assure increased forage production.

### **Monitoring Method / Units of Measure**

Review of annual work accomplishment reports / acres.

### **Measuring Frequency:**

Annual.

### **Percent Accuracy/Precision:**

+/-10%; +/-20%

### **Variability that would indicate Re-evaluation:**

The acres of brush conversion and reseedling completed for the evaluation period (ending the 5<sup>th</sup> and 9<sup>th</sup> year) should be within 25% of projection.

### **Monitoring and Trend Evaluation:**

For the period 2003-2012, brush control and seeding (control of rabbit brush and snakeweed) has declined significantly. No acres of rabbit brush or snakeweed were treated via mechanical methods on the Gila in 2012. In the future it is expected that treatments of this nature will decline however will be implemented as funding allows. This activity (rabbit brush and snakeweed control) is not expected to significantly increase in the future.

## ***Recreation***

### **Recreation 1: Dispersed Recreation Use**

#### **Monitoring Intent:**

Meet Federal regulations; measure prescriptions and effects. Assure that demand for dispersed recreation use will be within anticipated capacity.

#### **Monitoring Method/Unit of Measure:**

a) Recreation Information Management Report, and b) Inspections of heavily used dispersed areas, including evaluation of vegetative deterioration and soil erosion / Recreation Visitor Days (RVDs) and site condition.

#### **Monitoring Frequency:**

Annual

#### **Percent Accuracy / Precision:**

+/-15%; +/-15%

**Variability that would indicate Re-evaluation:**

Actual use exceeds 30% of projected use by ROS setting, and/or the trend in ORV violations increase 20% over current violations by year 5 and 10.

**Monitoring and Trend Evaluation:**

a) The Recreation Inventory Management (RIM) reporting system has been eliminated. The Gila NF had an estimated 514,000 site visits per year as recorded from the National Visitor Use Monitoring Survey (NVUM) (See Appendix A of FY2011 Annual Monitoring Report). About 402,000 visits took place in dispersed, undeveloped areas and about 21,000 visits took place in one of the three designated wilderness areas. The general conclusion is the trend for Forest visits will increase. Results from the NVUM survey show that almost 88 percent of visitors rated their satisfaction with undeveloped areas as good or very good in the satisfaction elements for developed facilities, access, services, and feeling of safety. About 65 percent rated their satisfaction within the same elements in designated wilderness areas as good or very good. A discussion of the NVUM is found at <http://www.fs.fed.us/recreation/programs/nvum/>

b) There is no data available on inspections on heavily used dispersed areas, therefore unknown site conditions.

**Recreation 2: Developed site use, public and private sector****Monitoring Intent:**

Meet Federal regulation: sample output

**Monitoring Method/Unit of Measure:**

The RIM reporting system has been eliminated and the agency is currently using the number of Recreation Sites Managed to Standard and Recreation Site Capacity Operated to Standard. We also use the National Survey on Recreation and the Environment (NRSE) to help describe outdoor recreation by the general public and their interest in and around the Gila National Forest. Recommend changing the RIM reporting system to the number of Recreation Sites Managed to Standard and Recreation Site Capacity Operated to Standard.

**Measuring Frequency:**

Annually

**Percent Accuracy/Precision:**

+/-15%; +/-15%

**Variability that would indicate Re-evaluation:**

Actual use exceeds 30% in PAOT. Review in year 3, 6, and 9.

**Monitoring and Trend Evaluation:**

The Recreation Inventory Management (RIM) reporting system has been eliminated and the agency is currently using number of Recreation Sites Managed to Standard and Recreation Site Capacity Operated to Standard. The Gila NF had an estimated 514,000 site visits per year as recorded from the FY2011 National Visitor Use Monitoring Survey

(NVUM). Of these, about 214,000 were at developed day use sites and about 62,000 were at developed overnight use sites.

The Forest has reported an average of 200,000 PAOT's (People At One Time) days per year in the FY 2012 accomplishment for the measure Recreation Site Capacity Operated to Standard. The general conclusion is the trend for Forest visits will continue to increase. The Forest averaged 98 recreation sites managed to standard over the last five years with 105 sites managed to standard in FY2012. Results from the FY2011 NVUM survey show that almost 94 percent of visitors rated their satisfaction with developed day use and overnight use sites as good or very good in the elements for developed facilities, access, services, and feeling of safety. A discussion of the NVUM is found at <http://www.fs.fed.us/recreation/programs/nvum/>.

### **Recreation 3: Visual quality levels**

#### **Monitoring Intent:**

Meet Federal regulations: measure prescriptions and effect. Assure compliance with visual quality objectives.

#### **Monitoring Method/Unit of Measure:**

The Visual Resource Management System will be used as a basis of the monitoring activity / acres by visual quality level.

#### **Measuring Frequency:**

4<sup>th</sup> and 9<sup>th</sup> year

#### **Percent Accuracy/Precision:**

+/-10% / +/-10%

#### **Variability that would indicate re-evaluation:**

Visual quality level acres are changed by larger percent than indicated in Forest wide Standards and Guidelines.

#### **Monitoring and Trend Evaluation:**

There are no known effects on visual quality levels from management activities within the last 5 years. Most vegetation treatments have been limited in scope and size. Any changes in visual quality levels for all vegetation treatments were within the allowable limits for Retention, Partial Retention, & Modification, and no changes have been made for Preservation within the last 5 years. All treatment activities have complied with the visual quality objectives through mitigation in project proposal development and application of best management practices.

#### **Recommendations:**

Re-evaluate during Forest Plan revision.

## ***Riparian/Aquatic***

### **Riparian 1: Riparian/aquatic condition**

#### **Monitoring Intent:**

Ensure improvement of riparian condition

#### **Monitoring Method/Unit of Measure:**

The Forest Plan states the following methodology: *Establish baseline data on existing riparian condition during the first decade. Establish 20 aquatic sample stations and complete aquatic/fisheries habitat, evaluation. Sample each station during May, June, and July every 5 years in conjunction with Emlen and riparian condition transects. Establish 20 Emlen survey transects on lower Gila and San Francisco Rivers under 5500 ft. elevation. Establish 15 additional transects in riparian communities above 5500 ft. elevation. Transects will be read during May, June, and July every fifth year, with low elevation transects being read in years 6 and 1 and high elevation transects being read in years 7 and 2. Re-evaluate if sufficient progress is not being made to meet Regional Riparian Condition Goals found in Forest wide Standards and Guidelines.* Methods used for aquatic monitoring currently include specific protocol developed for each stream, depending upon species and macro habitats present and relative size of stream. Monitoring includes efforts to characterize species and habitat associations, species populations and community dynamics, species interactions, and changes in species status and distributions. Riparian condition transect methods used in the last 10 years include Riparian Area Survey and Evaluation System surveys and Proper Functioning Condition surveys.

#### **Measuring Frequency:**

The Forest Plan states that this will occur every five years. Aquatic habitat monitoring is currently done annually on 15 stations; most occurring during October to avoid reproductive periods of T&E species. Riparian condition transects are recommended for rereading every 10 years, or during project analysis, whichever comes first.

#### **Percent Accuracy/Precision:**

±15%; ±15%.

#### **Variability that would indicate Re-evaluation:**

Sufficient progress is not being made to meet Regional Riparian Condition Goals found in Forest wide Standards and Guidelines

#### **Monitoring and Trend Evaluation:**

The Forest has continued its evaluation of riparian/aquatic conditions across the Forest. In the past several years fire management activities have affected aquatic habitats. Some effects have been localized; others have been far-ranging. Monitoring efforts to identify the scope of these effects have not been completed, however known effects have included the loss of T&E species populations, severely depleted populations after fire occurrence, and habitat modification. Where fire has occurred at low to moderate intensities within watersheds, results have included reduced fuel loading, increased ground cover, reduced fire danger, and nutrient recycling, all of which lead to potential aquatic habitat improvement.

The Forest has continued its management of excluding permitted livestock through fencing on the Gila and San Francisco Rivers and major tributaries. These exclusions protect riparian condition and aquatic habitat. Riparian condition across the Forest indicates an upward trend due to more restrictive, site-specific management requirements. Some localized areas of poor condition occur, in particular those areas affected by fire, drought, roads, and heavy use by ungulates. Riparian systems also experience negative effects where unauthorized use by livestock occurs. The Forest amended the 1986 Forest Plan to address inconsistencies in scheduled activities associated with the riparian standards and guidelines in 2005 (See Forest Plan Amendment #10).

The following tables list monitoring activities that have occurred in 2011 and 2012:

#### 2011 and 20102 Monitoring Activities

Location	District	Activity	Description	Trend
Frisco Plaza Allotment, Berenda Allotment, Deadman Allotment, OBarO Allotment, Y Canyon Allotment, Cox Canyon Allotment.	Quemado, Reserve, Glenwood, Silver City, Wildernes, Black Range	Proper Functioning Condition survey and ocular evaluations, cross section and flow analysis.	Assessment completed on all riparian areas and springs related to 2011 and 2012 allotment decisions, and assorted project work.	Trend varied among reaches from upward to static to downward. These trends were based on site specific factors. Recommendations were made to improve trend with management actions where possible.
East Fork and Mainstem of Gila River	Wilderness	Salt Cedar treatment monitoring	Monitoring done as follow-up after reaches were treated for salt cedar in previous years	No trend analysis completed.

## Soil and Water

### Soil and Water 1: Watershed condition of forest lands

#### Monitoring Intent:

Increase acres of watershed in satisfactory condition.

#### Monitoring Method/Unit of Measure:

Standard watershed condition transects (Hydro. Note 14), ocular estimates, evaluation of treated acres, range management plans implemented, professional judgment/ satisfactory or unsatisfactory acres, and field validation of cluster and pace transects

#### Measuring Frequency:

10% annually

#### Percent Accuracy/Precision:

±80% / ±80%;

**Variability that would indicate Re-evaluation:**

Re-evaluation if improvement acres show a 5% decrease in ground cover in transition zones or less, or 10% decrease in ground cover in ponderosa pine zones or greater.

**Monitoring and Trend Evaluation:**

Watershed condition monitoring is primarily conducted during allotment analysis to determine what management action, if any, may be required to maintain satisfactory conditions or move unsatisfactory conditions to satisfactory. Allotment analyses are currently being done according to congressionally mandated 1995 Rescission Schedule. The majority of fifth code watersheds are in satisfactory condition, with a limited number of fifth codes in unsatisfactory condition. The long time period required to reverse soil loss makes it difficult to move unsatisfactory watershed condition to satisfactory condition very quickly. The following tables indicate watershed condition monitoring that has occurred in FY2011 and FY2012.

**2011 and 2012: Watershed Condition**

Location	District	Activity	Description	Trend
Forest wide	All	Monitoring of livestock grazing allotments for permit compliance	Utilization levels monitored to ensure that overuse not occurring that would precipitate the loss of herbaceous ground cover.	No trend analysis completed
Frisco Plaza Allotment, Berenda Allotment, Deadman Allotment, OBarO Allotment, Y Canyon Allotment, Cox Canyon Allotment. V+T Allotment	Reserve, Black Range	Watershed condition monitoring	Monitoring done for allotment analysis to determine management action needed to protect resources	Overall stable to upward with isolated areas of static and/or downward trend on some allotments.
Wahoo Peaks, Elk Mountains, Black Mountain, Indian Peaks, Blue Range Wilderness, Roberts Park Gila Wilderness	Reserve, Glenwood, Wilderness, Black Range	2011 – 381,000 acres; 2012 – 310,000 acres of Terrestrial Ecosystem Survey	Ongoing forest wide survey by New Mexico TES crew	Initial assessment, no trend noted
East Fork and Mainstem of Gila River	Wilderness	Monitoring of Salt Cedar treatment effectiveness	Monitoring done as follow-up after area was treated for salt cedar in previous years	No trend analysis completed.
Whitewater Baldy Fire	Reserve, Glenwood, Wilderness, Silver City	Assessment of Post Fire watershed conditions of the Whitewater Baldy Fire	Monitoring post fire watershed response to precipitation events	No trend analysis completed

## Soil and Water 2: Watershed and Soils Prescriptions

### **Monitoring Intent:**

Meet State and Federal regulations. Monitor projects to determine compliance with project recommendations and to determine the suitability of recommendations (Best Management Practices). Assure improvement of watershed conditions.

### **Monitoring Method/Unit of Measure:**

The Forest Plan states that the following items will be monitored:

Review timber sales for following measures: 1) drainage structure density, construction, and function 2) road relocations and obliterations 3) stream course and channel protection.

The Forest currently has very limited activities involving the removal of timber.

All project activities involving ground disturbance are designed to utilized Best Management Practices as set forth in the Watershed Specialist Report and 404/401 Permit(s) if required. Projects are reviewed on a site-specific basis to see if Best Management Practices are sufficient or if additional measures are required to protect water and soil resources.

### **Measuring Frequency:**

The Forest Plan states that this will occur by sale/district/year. The Forest currently measures by project/district/year.

### **Percent Accuracy/Precision:**

Not applicable

### **Variability that would indicate Re-evaluation:**

a) 10% failure of drainage structures within 1 year of installation b) 20% of road closures being used within 3 years; c) 10% of road obliteration/relocation being closed within 3 years; d) 5% of drainages being damaged to the point that flows are concentrated and channel instability initiated.

### **Monitoring and Trend Evaluation:**

The Forest uses Region 3 Soil and Water Conservation Practices during implementation of all ground disturbing projects. For all projects requiring certification under the Clean Water Act, a 404/401 permit is obtained from the US Army Corps of Engineers and New Mexico Environment Department. If additional best management practices are required under these permits, these are followed. Projects related to restoring fire adapted ecosystems, including prescribed burning and woodland thinning are currently the priority work on the Forest. Little monitoring has been done to determine the effects of prescribed burning on watershed conditions.

## 2011 and 2012 Soil and Watershed Monitoring

Location	District	Activity	Description	Trend
Forest wide, Forest Road 150 (ARRA), Pueblo Creek Bridge replacement, TEP Tower replacement project, Pine Lawn Hazard Tree Salvage, Wallow Hazard tree Salvage, Tierra Blanca PJ thinning, Kemp Mesa PJ thinning	All	BMP monitoring on implementation of ground disturbing projects	Watershed personnel evaluate BMPs during implementation to determine effectiveness. Recommendations for additional mitigation may occur if monitoring indicates the need.	Upward—District project work complies with state and federal regulations. No warning or citations have been given during inspection by NM Environment Department of US Army Corps
Wallow Fire	Quemado	Post Fire monitoring	1 year post fire BAER seeding effectiveness monitoring and campground closure monitoring	Seeding was somewhat successful though Elk use was high, overall upward watershed trend since 2011 fire.
Whitewater Baldy fire	Reserve, Glenwood, Wilderness,	Post fire treatment implementation monitoring	Monitoring of aerial seeding and straw mulching application rates during these operations.	Application rates met contact specifications.

## *Timber*

### Timber 1: Intermediate and removal harvest

#### Monitoring Intent:

Meet Federal regulations and measure prescriptions and effects. To achieve a more balanced age class distribution appropriate growing stock levels, appropriate rotations, and provide wildlife habitat needs. Acres of intermediate harvest and removal harvest are evaluated based on treatment prescriptions and effects of implementation of prescription treatments. The desired outcome of the treatment prescriptions is improvement in age class distribution for the appropriate growing stock levels, appropriate rotations, and meeting wildlife habitat needs.



**Monitoring Method/Unit of Measure:**

Timber Management information system (FSH 2409.21e): staff field reviews of 5% of treatment projects/Acres.

**Measuring Frequency:**

Annual

**Percent Accuracy/Precision:**

$\pm 10\%$ ;  $\pm 20\%$

**Variability that would initiate re-evaluation:**

Planned treatment varies 35% from schedule at 5 year intervals.

**Monitoring and Trend Evaluation:**

This item has traditionally been tied to specific silvicultural prescriptions for seed tree harvest and clear cuts. The description has been expanded more recently to include other general types of silvicultural prescriptions including free thinning where trees from all age classes are removed.

From 2004 through 2009, commercial timber sale treatments were designed to thin trees from below over story trees. The treatment prescriptions focused on smaller diameter trees and the younger age classes. Current treatment prescriptions for understory thinning do not fit the definition of intermediate and removal harvests as defined in the forest plan. The original definition of intermediate and removal harvests did not take into consideration natural fuels reduction. The current emphasis in understory treatments focuses on forest restoration and reducing the risk of crown fire by creating more open conditions within forested stands focusing on age classes with the highest number of trees; this primarily smaller diameter classes.

Wildland Urban Interface (WUI) treatment prescriptions meet the original Forest Plan definition of intermediate and removal harvests where fuel breaks were implemented.

The following table lists acres of intermediate and removal harvest for commercial sales and WUI fuel break treatments by year treated during the monitoring period. The 2009 acres include all timber sales, WUI treatment and Collaborative Forest Restoration Program treatment acres.

Year	Acres of Intermediate and Removal Harvest Units
2007	115
2008	487
2009	2,017
2010	1,519
2011	1,963
2012	2,049

The Forest Plan 5 year schedule is not applicable due to current market conditions. The opening of two mills in Reserve, NM has caused an increase in demand for material to be utilized as saw timber. These mills are able to process and make products from material down to 6 inches DBH with a 5 inch top. The amount of acres the Gila NF could treat mechanically could increase if the demand for timber was the actual target. The 5 year schedule has been replaced by the 10 year schedule which is updated annually based on this table is based on expected targets based on past flat or decreased budgets. The capability of local markets and demand from local mills will be much higher than expected target.

<b>10 Year Plan for Timber Volume Offered (ccf) 2011 – 2021</b>	<b>Volume Offered (ccf)</b>
2011	11,492
2012	10,582
2013	10,000
2014	9,000
2015	9,000
2016	9,000
2017	9,000
2018	10,000
2019	10,000
2020	10,000
2021	10,000
Sum 10 Years	108,074

### **Timber 3: Timber Stand Improvement**

**Monitoring Intent:**

To meet Federal regulation, assure control of stocking levels for accelerated growth. Forested areas are evaluated to ensure that timber growth meets Federal regulations and that recently established timber stands are meeting the desired rate of growth.

**Monitoring Method/Unit of Measure:**

Timber Management Information System (FSH 2409.21e) and examination procedures in compartment examination and prescription handbook/acres.

**Measuring Frequency:**

Annual

**Percent Accuracy/Precision:**

+ 10%; +20%

**Variability that would indicate Re-evaluation:**

Cumulative deviation for 5 years falls 20 percent below planned program.

**Monitoring and Trend Evaluation:**

This item is a Federal Regulation to ensure control of stocking levels for accelerated growth. This is a specific item that is tracked in the National Forest Vegetation and Watershed Management (NFVW) and National Forest Timber Management (NFTM) Timber Stand Improvement budget items. An increase in acres treated over the past two years is due to markets in place (Catron County Citizens Group Mill in Reserve and Gila Woodnet in Silver City) to process smaller diameter timber. The use of tools such as; grants, agreements, contracts, and updated utilization standards in the past two years has improved our ability to treat more acres compared to traditional timber sale contracts that would not sell due to long haul distances. The following table lists the acres of timber stand improvement areas.

**Timber Stand Improvement Areas**

Year	Acres
2007	1,513
2008	1,740
2009	1,537
2010	1,510
2011	1,027
2012	1,041

**Timber 5: Fuel wood****Monitoring Intent:**

This item is in accordance with Federal Regulation that states green wood sales will continue on a sustain yield basis. Residue from commercial timber sales will be available for firewood.

**Monitoring and Trend Evaluation:**

Due to the minimal amount of commercial timber sales sold on the Gila NF, districts have ensured fuel wood was available by preparing designated green fuel wood areas. The Gila NF also allows the gathering of dead fuel wood district wide in areas that are not designated Wilderness and limits the gathering of fuel wood in designated Roadless areas. This item is now reported in PAMARS (MAR) and timber data bases in CCF and is reported with volume offered and volume sold. The following table lists the net volume offered in CCF and cords. The number of cords is derived by dividing the CCF by .8 in accordance with the Conversion Factor form FSH 2400 page 8 of the Gila National Forest Supplement. The increased cost of fuel and electricity has resulted in an increased demand for fuel wood.

**Cords of Fuel wood Made Available**

Year	CCF	Cords
2007	4,650	5,813
2008	5,350	6,687
2009	5,753	7,191
2010	5,432	7,191
2011	5,451	6,813
2012	5,253	6,566

**Recommendations:**

The regional priorities, role of timber and regional market conditions have changed from when the Gila NF Forest Plan was first implemented. The current Gila NF priority is to restore and maintain ecosystems that are adapted to fire. Traditional timber markets that purchased forest products from the Gila NF have closed and since 2002 new smaller markets have begun to emerge. The way timber is awarded has also changed as we no longer use only timber sale contracts. To ensure accurate monitoring of activities now and in the future, we must modify existing items and monitor new items previously not considered. Given current priorities and conditions on the forest the following is recommended for future timber monitoring:

**Timber 1: Acres of Intermediate and Removal Harvest**

Recommend item be changed to acres treated with commercial component. Currently only certain types of prescriptions fall under the existing definition. The suggested change would ensure all prescription and harvest activities that are awarded with some type of contract would be monitored.

**Timber 4: Board Feet of Net Saw timber Offered**

Recommend changing units from board feet (bf) to agency standard of hundred cubic feet (CCF) and changing saw timber to volume to reflect changing market conditions within our region.

Recommend adding category of volume awarded to track what is accomplished on the ground. During the monitoring period timber was offered but not awarded.

**Timber 5: Cords of Fuel wood Made Available**

Recommend this item be incorporated into the new volume offered and volume awarded categories as it is tracked in MARS and TIMS. Volume of fuel wood could be determined by the type of contract awarded (i.e. 2400-4 versus 2400-6).

**Timber 8: Review of Timber Land Classification**

Add new monitoring item that shows where restoration of fire adapted ecosystems is occurring and incorporate the work and maintenance of each project as fire regime condition class (FRCC) changes in project areas. Report change in FRCC by vegetation type and type of treatment (mechanical and burning).

## *Wilderness*

### **Wilderness 1: Wilderness use by Wilderness Opportunity Spectrum Class**

**Monitoring Intent:**

Meet Federal regulation; measure prescriptions and effects. Assure demand is within capacity so resource does not deteriorate.

**Monitoring Method/Unit of Measure:**

Use information from the 2002 and 2007 National Visitor Use Monitoring (NVUM) Survey Reports in concert with success in meeting the Forest Service 10-Year Wilderness Stewardship Challenge.

**Measuring Frequency:**

NVUM schedule and annually for the meeting the Forest Service 10-Year Wilderness Stewardship Challenge.

**Percent Accuracy/Precision:**

+/-20%; +/-20%

**Variability that would indicate re-evaluation:**

Actual use exceeds 30% of total projected use for any wilderness. Review in year 3, 6, and 9.

**Monitoring and Trend Evaluation:**

Based on the 2011 National Visitor Use Monitoring (NVUM) survey results, the Gila NF has about 21,000 National Forest visits to the three designated wilderness areas. The Forest managed the Gila Wilderness to a minimum stewardship level according to the criteria of the 10-Year Wilderness Stewardship Challenge. The goal is to have all three designated wilderness areas managed to a minimum stewardship level by 2014. The Gila Wilderness met the minimum stewardship level as determined by the criteria of the 10-year Wilderness Stewardship Challenge. A discussion of the NVUM is found at <http://www.fs.fed.us/recreation/programs/nvum/>.

### **Wilderness 2: Wilderness trail construction & reconstruction and maintenance**

**Monitoring Intent:**

Meet Federal regulations; measure prescriptions and effects. Assure that an improved trail system through construction, reconstruction and maintenance will provide for better distribution of visitor use and improve wilderness opportunities.

**Monitoring Method/Unit of Measure:**

Work Accomplishment Reports / Miles.

**Measuring Frequency:**

Annual

**Percent Accuracy/Precision:**

+/-5%; +/-5%

**Variability that would indicate re-evaluation:**

Cumulative deviation from the planned level varies by more than +/-25%. Review at years 3, 6, and 9.

**Monitoring and Trend Evaluation:**

Forest Plan projections are for 115 miles of reconstruction per decade. From 1986 – 2001 the Forest met the plan projections. In the last 5 years (2008 – 2012) the Forest maintained an average of 274 miles of trail maintenance per year. In FY2012 the forest maintained 83 miles of trail. A significant portion of the trail maintenance was accomplished with the assistance of various outside organizations. The Forest constructed/reconstructed about 20 miles of trail in FY2012.

## *Wildlife*

### **Wildlife 1 and 2:**

The Forest Plan places priority on monitoring wildlife population and habitat trends of management indicator species, State and Federally listed plants, animals, and sensitive species. High priority will be placed on gathering data where management actions are likely to result in habitat changes.

**Monitoring Intent:**

Evaluate trends and meet Federal and State regulations. Assure that wildlife habitat will be maintained or increased and that sensitive species will be protected.

Evaluate relationships of effects of forest management activities to habitat changes and MIS populations.

**Monitoring and Trend Evaluation:**

Federally and State Listed Species

***Mexican spotted owl***

**Monitoring Method:** Single season monitoring

**Trend:** New Mexico's Gila Region provides an important stronghold for the Mexican spotted owl (*Strix occidentalis lucida*). Studies on and adjacent to the Gila National Forest indicate that owls are both relatively abundant and well distributed in this Region at present. Despite their abundance and widespread distribution studies between 1990 and 2005 suggest that some local owl populations may be declining, and the overall population trend is unknown. Uncertainty regarding population trend warrants the need for continued monitoring (Ganey et al. 2006).

Catastrophic (uncharacteristic) fire is the major threat identified in the Mexican spotted owl recovery plan. On the Gila high intensity fire has caused negative impacts to Mexican spotted owl habitat. In an attempt to use naturally-occurring wildland fire management to reduce fuel levels, the Gila allows natural fire starts to burn if climatic conditions are favorable to reduce fuels without subjecting large areas to unwanted

impacts. Wildland fire management has caused some negative impacts to the Mexican spotted owl and its habitat, but these fires have also helped reduce the potential of high intensity fire which can have a more significant effect to the spotted owl. These actions have allowed for the long term improvement of Mexican spotted owl habitat on the forest. The reduced risk of catastrophic fire has improved the quality of the existing habitat. Available data suggest that Mexican spotted owls are fairly resilient to wildfires that burn up portions of their management areas, at least in the short term.

Since the last reporting period no projects have been designed within or adjacent to occupied MSO habitat that would adversely affect this species or its habitat. However, during 2011 the Wallow Fire burned approximately 16,000 acres on the Forest and 4 PACS were within the fire perimeter in NM. During 2012 the Whitewater Baldy Fire impacted 297,000 + or – acres on the Forest and 101 PACs were within the fire perimeter. Most of these PACs have had managed fire within their boundaries, some several times within the last 10 years, and fire behavior moderated once it reached these areas. Fifteen PACs that had not experienced recent fire had greater than 50% of their area that burned with moderate to high fire severities. Three of these fifteen PACs had greater than 80% of their area impacted by moderate to high severity fire. It is unknown at this time if owls are still utilizing unburned and low intensity burn areas adjacent to or within these PACs. 2013 monitoring will efforts will concentrate on some of these PACs.

In 2011 monitoring on the Forest occurred in 29 PACs. Mexican Spotted Owls were located nesting or roosting within the boundary of 22 of these PACs. Pairs were documented in 10 of these PACs. Reproduction was confirmed at 3 of these PACS. Two new PACs were identified with pairs of owls present.

In 2012 monitoring on the Forest occurred in 60 PACs. Mexican Spotted Owls were located nesting or roosting within the boundary of 35 PACs. Pairs were documented in 22 and reproduction confirmed in 11 of these PACs. Four new PACs were identified with reproduction confirmed in each.

### ***Southwestern willow flycatcher***

**Monitoring Method:** Single season monitoring

**Trend:** Habitat conditions on the Forest for the Southwestern willow flycatcher are improving. Suitable and potential Southwestern willow flycatcher habitat on the Gila has been excluded from management activities that have the potential to impact these riparian areas.

In 2011 and 2012 monitoring on the Forest for this species occurred along the Gila River in the Gila Bird Area, the Fort West Ditch area, and at the WS Dam site on the San Francisco River. Nesting birds continue to be documented in both areas along the Gila River. However, no nesting was documented at the WS dam site. The number of breeding pairs increased at the Ft. West Site during 2011 but decreased back to 2010 numbers during 2012. The number of breeding pairs decreased at the Gila Bird Area site during 2011 but returned to 2010 numbers during 2012.

Since the last reporting period no projects have been designed within or adjacent to occupied SWWF habitat that would adversely affect this species or its habitat.

Reports of SWWF nesting along the San Francisco River are scant according to the New Mexico Department of Game and Fish. Until the 2007 nesting season the Gila had no documented records of SWWF nesting along the San Francisco River. This population was being monitored by the New Mexico Department up until 2008. However the Department has not monitored this site regularly so the Forest initiated monitoring during 2011. The site was occupied during the 2011 breeding season but no SWWF were detected during 2012.

### ***Chiricahua leopard frog***

**Monitoring Method:** Single season monitoring

**Trend:** Most of the suitable and potential habitat for the Chiricahua leopard frog on the Gila has been excluded from management activities that have the potential to directly impact this species habitat; therefore, habitat conditions for this species are improving. Annual species monitoring by the Forest, New Mexico Department of Game and Fish and U.S. Fish and Wildlife service indicates that the population on the Forest continues to decline. The continued decline is not related to Forest management activities. The decline is a result of competition with non-native species and disease.

During 2011, 44 sites including six previously occupied sites were monitored. CLF were determined to be present at two previously occupied sites and no new populations were detected. During 2012, 154 sites including seven previously occupied sites were monitored for CLF and three sites were determined to be occupied. Chiricahua leopard frog tadpoles (600) were stocked into an existing, unoccupied stock tank during 2012 and one new population was discovered on the Forest during 2012. The Forest has two steel rim tanks that are currently being utilized as refugia for the species, with two additional tanks available when needed. The Forest also has a refugium, constructed during 2011, on the Reserve Ranger District.

Since the last reporting period no projects have been designed within or adjacent to occupied Chiricahua leopard frog habitat that would adversely affect this species or its habitat.

### ***Loach minnow and Spikedace***

**Monitoring Method:** Single season monitoring

**Trend:** Management activities that have the potential to directly impact both these species habitat, including livestock grazing and off road vehicle use (in some areas), have been excluded from areas with occupied and potential habitat. This has allowed for the improvement of habitat conditions for these species. Management activities on the slopes upstream of these species habitat, like wildland fire use, have contributed some sediment and ash to streams that have occupied and potential habitat. Habitat conditions for the loach minnow and spikedace that have the potential to be impacted by forest management activities are improving on the Gila National Forest. The main threat to these species and other native fishes continues to be nonnative fishes that prey upon and/or compete with them.

Surveys and monitoring were conducted by Gila NF and in cooperation with NMDGF. Annual monitoring of warm water fishes at 8 permanent sites in the Gila and San Francisco River drainages was accomplished during October of 2011 and 2012 in



cooperation with NMDGF. The Gila NF funded D. Miller of Western NM University to monitor two sites within the Gila River Bird Area, one site on the San Francisco River, and one site near the confluence of the East and West forks Gila River during this period of time. Annual species monitoring on the Gila National Forest indicates that the loach minnow are continue to be present at most historical sites during 2011 and 2012. However, spikedace continue to be absent from many historically occupied areas. Loach minnow population numbers are stable in the San Francisco River and the Tularosa River. The Forest has been working with the NM Department of Game and Fish to re-introduce spikedace to the San Francisco River where they were extirpated during the early 1950s.

Since the last reporting period no projects have been designed within or adjacent to occupied loach minnow or spikedace habitat that would adversely affect these species or their habitat.

During 2011 the Wallow Fire burned within the Blue River Drainage and impacts from fire runoff was evident in the Dry Blue. Prior to 2010 loach minnow had been detected in the lower reach of Dry Blue during annual monitoring efforts. Post fire monitoring during 2011 failed to detect any loach minnow. Monitoring will be conducted during 2013 to determine the status of the species in the Dry Blue.

During 2012 the Whitewater-Baldy Fire burned 297,000 + or- acres in watersheds that drain into occupied loach minnow and spikedace habitat in the Gila and San Francisco River basins. Post fire evacuation/salvage of these two species occurred at one site on the San Francisco River and at several sites near the East, Middle, and West forks Gila River. All salvaged fish were transported to Dexter Natl. Fish Hatchery where they will remain until habitat conditions improve. Post fire monitoring during Oct. 2012 indicated that both species were still present at the Forks sites but no fish of any species was detected at the San Francisco River site.

### ***Gila trout***

**Monitoring Method:** Single season monitoring

**Trend:** Overall, habitat conditions and population levels for the Gila trout on the Gila National Forest are improving. Drought during 2011 and 2012 has impacted populations in lower elevation streams such as Black Canyon and McKnight Creek. Monitoring during 2011 and 2012 indicates that most Gila trout populations are stable. Supplemental stocking in lower elevation streams has offset any decrease due to drought conditions.

The Whitewater Baldy Fire during 2012 impacted seven Gila trout streams in the Gila Wilderness. Fish from Whiskey Creek, Langstroth Creek, and Spruce Creek were evacuated and are being held at the Mora National Fish Hatchery. Some Spruce Creek fish were transported to Arizona and stocked into Ash Creek to establish a new population. Some fish from Langstroth Creek were trans-located to McKenna Creek to establish a new population there. Monitoring of these streams during 2013 will determine if the populations were, at most, lost, or at least, severely impacted.

Since the last reporting period no projects have been designed within or adjacent to occupied Gila trout habitat that would adversely affect this species or its habitat.

## **Gila Chub**

**Monitoring Method:** Single season monitoring

**Trend:** During 2011 the Miller Fire burned within the Turkey Creek drainage and due to possible runoff affects during the monsoon season Gila Chub were evacuated and held at the Dexter National Fish Hatchery. The population at Turkey Creek was determined to be stable with multiple age classes represented during the evacuation effort. During 2012 habitat conditions were assessed in Turkey Creek and determined to be capable of supporting Gila chub and the evacuated fish were returned during April. Gila Chub were determined to still occupy Turkey Creek prior to returning the evacuated fish. During summer 2012 the Whitewater Baldy Fire burned into the Turkey Creek drainage and fish were again evacuated. These fish were returned to the stream during fall 2012 when it was determined that habitat conditions had not been impacted by fire runoff.

During 2012 the Forest, in cooperation with NM Department of Game and Fish established a new population of Gila Chub in Mule Creek. Mule Creek is a tributary of the San Francisco River and believed to be historically occupied by the species. Gila Chub were obtained from a population in Harden Cienega Creek which is located downstream of Mule Creek.

### **Monitoring and Trend Evaluation:**

Management Indicator and Region 3 Sensitive Species

**Species:** *Hairy Woodpecker, Plain Titmouse, Common Black-Hawk, Abert's Towhee, Arizona Bell's Vireo, Gila Woodpecker, Bald Eagle, Yellow Billed Cuckoo, goshawk, and Mearn's quail.*

**Monitoring Method:** Single Season Monitoring, and Point-counting (consists of establishing transects of points regularly distributed through the habitat to be monitored. The Forest has transects that are monitored on a weekly, seasonal and others on an annual basis).

**Trend:** The hairy woodpecker is an indicator of high seral stage ponderosa pine and mixed conifer because the older age classes within these vegetation types provide snags and an abundance of insects. Across the Gila National Forest, the acreage of high seral condition, ponderosa pine and mixed conifer has decreased since the Forest Plan was developed. This change has occurred primarily due to natural fire events. These events have been a benefit to the Hairy woodpecker, because they have increased the snag densities on the Forest. The Forest Plan projected a downward trend in this species habitat. Monitoring along the Breeding Bird Survey routes on the Forest have shown a small decline in the detection of this species. Monitoring in the Gila Bird Area over the last few years has documented a non-statistical increase. Monitoring in the Burro Mountains over the last several years has continued to document that this species is common. Population trends for this species are estimated to be stable.

Plain titmouse habitat conditions on the Gila have remained stable. The Plan projected an upward trend in this species habitat. Monitoring along the Breeding Bird Survey routes on the Forest have shown no apparent trend, long-term population trends for the

titmouse appear to be stable to slightly decreasing at the Forest level. Limiting factors for the Plain Titmouse include cavities in snags and hollow trees. With the large amount of woodland vegetation type on the Gila National Forest, cavities are expected to be abundant for this species.

Common black hawk habitat conditions on the Gila National Forest have improved. Suitable and potential habitat on the Forest has been excluded from management activities that have the potential to impact these riparian areas. The Forest Plan predicted an upward trend in habitat conditions for this species. Forest monitoring in the Gila Bird Area and single season observations suggests that the trend for this species is stable.

Abert's Towhee habitat conditions on the Gila National Forest appear to have improved. Suitable and potential habitat on the Forest has been excluded from management activities that have the potential to impact these riparian areas. A study on and adjacent to the Forest documents that this species continues to be documented in areas of historical occurrence. Forest monitoring in the Gila Bird Area has not been able to document an apparent trend.

Bell's Vireo habitat conditions on the Gila National Forest have improved. Suitable and potential habitat on the Forest is primarily excluded from management activities that have the potential to impact these riparian areas. Forest monitoring in the Gila Bird Area has documented a significant increase in average detection for this species. Available data suggest that on the Forest the apparent trend for this species is up.

Gila Woodpecker habitat conditions on the Forest have improved. Suitable and potential habitat on the Gila is primarily excluded from management activities that have the potential to impact these riparian areas. Forest monitoring in the Gila Bird Area in most years documents the occurrence of the species, but no significant change has been detected. Available data suggest that on the Forest the apparent trend for this species is stable.

Bald Eagle habitat conditions on the Forest have improved. Suitable and potential riparian habitat is primarily excluded from management activities that have the potential to impact habitat conditions for this species. Monitoring in the Gila Bird Area and across the Forest indicates that this species commonly occurs on the Forest during the winter. The available information indicates that the trend for the Bald Eagle is stable. During 2012 a pair of Bald Eagles attempted to nest at Quemado Lake. This nesting attempt was unsuccessful.

Yellow-Billed Cuckoo habitat conditions on the Forest have improved. Suitable and potential riparian habitat is primarily excluded from management activities that have the potential to impact habitat conditions for this species. Monitoring in the Gila Bird Area and areas that have nesting Southwestern Willow Flycatchers document that this species commonly occurs on the Forest. The available information indicates that the trend for this species is stable.

The Gila National Forest Land and Resource Management Plan Amendment #10 for Management Indicator Species (MIS) amended the MIS list for the Gila National Forest. This amendment added the northern goshawk to the Forest MIS list. Northern goshawks (*Accipiter gentilis*) were selected to represent species using ponderosa pine

habitat. This species primarily uses late-seral ponderosa pine habitat. Late-seral mixed conifer habitat is also important to this species. A total of 55 northern goshawk sites have been identified on the Gila, some of these nesting areas were first documented in the 1970's and monitoring on the Forest started in the 1980's. A review of this information suggests that goshawk populations on the Forest are stable.

The Mearns' Quail is an indicator of moderate- to high-seral stage woodland, and high-seral stage grassland. Mearns' Quail are uncommon, breeding residents of the Gila National Forest. Comprehensive censusing for Mearns' Quail has not occurred on the Forest, however, over the past five years the species has been observed in various locations where they were previously unknown. More numerous and larger coveys of Mearns' Quail have been seen on Glenwood, Quemado, Wilderness and Silver City Ranger Districts (Jerry Monzingo, Wilderness District Wildlife Biologist, pers. comm.; Russell Ward, Range and Wildlife Assistant Staff, Gila National Forest, pers. comm., Pat Morrison, Quemado Wildlife Biologist, pers. comm.). Mearns' Quail populations on the Forest are declining to stable currently due to ongoing drought conditions.

### ***Mule deer, Beaver, and Big Horn Sheep***

**Monitoring Method:** Single season monitoring, NMDGF Deer Counts

**Trend:** Mule deer habitat conditions in the seral stages of the vegetative types that this species was chosen for have remained stable. The plan predicted an upward trend in habitat conditions for this species. This predicted trend increase was tied to vegetative treatments that have not occurred. Monitoring on the Forest has shown a decrease in the overall deer numbers on the Forest. This decrease is more a result of weather and hunting pressures than forest management activities. The Whitewater Baldy fire will likely benefit early to mid seral stage species such as the mule deer.

Beaver habitat conditions on the Gila National Forest have improved as riparian habitats have improved. The Forest Plan predicted an upward trend in habitat conditions for this species. Population levels on the Gila appear to be stable.

Two herds of big horn sheep occur on the Forest, the Turkey Creek and San Francisco River herds. Monitoring by the New Mexico Game and Fish indicates that both populations continue to decline.

### ***Desert sucker, and Sonora sucker***

**Monitoring Method:** Single season monitoring – Surveys and monitoring were conducted by Gila NF and in cooperation with NMDGF. Annual monitoring of warm water fishes at 8 permanent sites in the Gila and San Francisco River drainages was accomplished during October of 2011 and 2012 in cooperation with NMDGF. In addition, the Forest funded D. Miller of Western NM University to monitor two sites within the Gila River Bird Area, one site on the San Francisco River, and one site near the confluence of the East and West forks Gila River during this period of time.

**Trend:** Annual monitoring on the Forest shows considerable year-to-year variation in desert and Sonora sucker densities; however no long-term positive or negative trend can be discerned. Population levels for these species appear to be stable. However, one area that has seen a decrease in populations of these two species is the East Fork

Gila River. This decrease is likely a result of predation and competition by and with nonnative fishes including small mouth bass and flathead catfish.

It is unknown at this time what impact runoff from the Whitewater Baldy fire has or will continue to have on these species. It is likely that short term population decreases will be experienced. Monitoring during 2013 will be utilized to determine population trends in streams impacted by the fire.

## Action Plan for 2013

The Action Plan for 2013 identifies which monitoring items and monitoring activities will be reported on fiscal year 2013 monitoring report.

Monitoring Item	Monitoring Activity	Description of Monitoring Activity	2013 Monitoring Item
Air 1	Class I wilderness	Visibility baseline and current	Yes
Cost 1	Units costs	Ability to implement Forest Plan	No <sup>1</sup>
Cost 2	Annual budget	Ability to implement Forest Plan	No <sup>1</sup>
Cost 3	Program budget	Ability to implement Forest Plan	No <sup>1</sup>
Cultural 1	Protection of significant cultural resource properties	Resource protection	Yes
Cultural 2	Compliance	Project clearance	Yes
Facilities	Transportation system amount and distribution	Forest Plan goals and objectives	Yes
Fire 1	Fire suppression	Prescriptions and effects	Yes
Fire 2	Fuel treatment (activity fuels) need uncharacteristic levels/FRCC	Prescriptions and effects	Yes
Lands 1	Rights-of-way acquired	Prescriptions and effects	Yes
Protection 1	Law enforcement	Effectiveness and cooperative agreements	Yes
Range 1	Woodland over story	Forage production	Yes
Range 2	Brush conversion and reseeding	Forage production	Yes
Range 3	Range development	Range use and capacity	No
Range 4	Permitted use	Balance use with capacity	No
Range 5	Grazing Capacity	Projected levels	No <sup>2</sup>
Recreation 1	Dispersed recreation (ROS settings)	Demand and capacity	Yes
Recreation 2	Developed sites (public and private)	Output	Yes
Recreation 3	Visual quality	Prescriptions and effects	Yes
Riparian and Aquatic	Riparian and aquatic condition	Improve condition	No
Soil and Water 1	Watershed condition	Increase in satisfactory condition (acres)	Yes
Soil and Water 2	Prescriptions	Compliance with State and federal regulations	Yes
Timber 1	Intermediate and removal harvest	Prescriptions and effects	Yes
Timber 2	Regeneration harvest	Prescriptions and effects	No <sup>3</sup>
Timber 3	Timber stand improvement	Stocking levels	Yes
Timber 4	Saw timber	Allowable sale quantity	Yes <sup>4</sup>

<b>Monitoring Item</b>	<b>Monitoring Activity</b>	<b>Description of Monitoring Activity</b>	<b>2013 Monitoring Item</b>
Timber 5	Fuel wood	Sustained yield	Yes
Timber 6	Restocking regeneration Harvests	Restoration standards (5 years and 80%)	No <sup>5</sup>
Timber 7	Harvest area size	Opening size limits	No <sup>6</sup>
Timber 8	Timber Land Classification	Suitable for sustained yield production	No <sup>7</sup>
Wilderness 1	Wilderness or recreation opportunity spectrum class	Prescriptions and effects. Ensure demand does not exceed capacity	Yes
Wilderness 2	Trails	Construction, reconstruction and maintenance	Yes
Wildlife 1 & 2	Threatened and endangered species, management indicator species and sensitive species	Population and habitat trends	Yes

1. Measuring progress toward achieving the goals, objectives and standards of the Forest plan using unit costs is a difficult measure and not always an effective tool. Fund code and accomplishment definitions have changed extensively over the life of the plan and fund codes have been added, deleted and/or combined during this period.
2. This is based on no clear guidance on how to determine capacity for our Range NEPA.
3. The Gila is currently not doing regeneration cuts.
4. The ASQ is outdated in the plan and will be revisited during Plan Revision.
5. The Gila is currently not doing regeneration cuts.
6. The Gila NF is not clear cutting openings since the Goshawk guidelines have been implemented.
7. The Gila NF will re-evaluate classification of suitable timber lands in Plan Revision.

## Preparers

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