

**Annual Monitoring Report**  
**Gila National Forest Land Management Plan**  
**FY 2007**

**June 2008**

### 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 FY2010.

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Signed  
RICHARD MARKLEY  
Forest Supervisor

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July 9, 2008  
Date

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# Annual Monitoring Report FY 2007

## Overview

This report summarizes monitoring results on the Gila National Forest for the fiscal year 2007. 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 2008 work activities is provided as part of this report.

## 1. Monitoring and Trend Evaluation

Monitoring and trend evaluations are analyzed for the following 14 resources:

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

The number of monitoring activities, monitoring frequencies, accuracy and precision standards vary for each of the 14 resource items listed above. Individual monitoring activities are selected annually based on the annual plan of work, not all monitoring items are applicable each year. Annual work plan activities are formulated based on Regional and Forest priorities, concerns expressed by land users and land managers, and agency funding.

# 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:

Range	Key Measured Variables
4%-6%	PM <sub>2.5</sub> , PM <sub>10</sub> , S, Si, K, Ca, Fe, Cu, Zn, SO <sub>4</sub> <sup>=</sup> , NO <sub>3</sub> <sup>-</sup> , SO <sub>2</sub>
6%-15%	H, Na, Ti, Se, As, Br, Sr, Pb, O <sub>4</sub> , E1
>15%	V, Mn, O1, O2, O3, OP, E2, E3

**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. In addition, the Forest has continued to be an advocate of Wildland Fire Use for Resource Benefit fires. This type of 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 increased their emission outputs, however modeling has indicated that no negative impacts to air quality are expected to the Gila Wilderness. Over the past several years, trends for visibility have likely been static from October through March, with more days of decreased visibility possibly occurring during spring and summer fire season.

An air quality report was completed in 2007 by the National Park Service for the Aldo Leopold, Blue Range and Gila Wilderness Areas. A copy of the document can be found on the Gila National Forest web site: [www2.srs.fs.fed.us/r3/gila/publications/](http://www2.srs.fs.fed.us/r3/gila/publications/).

**Recommendations:**

1. Request the regional contract be modified to include an annual summary of air quality for summer months and special summary reports that address large fire events.
2. Create a new monitoring activity during Forest Plan Revision that addresses air quality during prescribed fire activities to aid in tracking impacts to visibility in the Gila Wilderness air shed.

**Costs****Cost 1: Units costs by selected activities****Monitoring Intent:**

Verify ability to implement Forest Plan

**Monitoring Method/Unit of Measure:**

Expanded Budget Line Item (EBLI) which has replaced PAMARS

**Monitoring and Trend Evaluation**

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

definitions have changed extensively over the life of the plan and fund codes have been added, deleted and/or combined during this period. For example, for several years three separate Expanded Budget Line Items (EBLI) were used to allocate recreation management related work—recreation management, heritage resources and wilderness. Currently, there is only one EBLI for the recreation programs. Another change is the allocation of facility maintenance dollars. Up until a couple of years ago all facility maintenance funds were predominately allocated in one facility maintenance fund which included both recreation facility maintenance and non-recreation facility maintenance. In the last two years these have been separated. Other similar changes occurred in several other activities. In addition, accomplishment definitions have changed significantly over recent years. This makes comparisons on unit costs difficult and a less than effective tool for monitoring results in many program areas.

## **Cost 2: Total annual budget**

### **Monitoring Activity Description:**

Verify ability to implement Forest Plan

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

Annual PAMARS reporting system and Regional Forester's Program, Budgeting and Information System.

### **Monitoring and Trend Evaluation**

Excluding a higher budget year in FY 2002 and a lower budget year in FY 2006 an analysis of the Forest's annual NFS budget over the last six years shows that annual budget has varied by -10% to +10% from the average over the past six years. The FY 2006 annual fire preparedness budget was significantly lower than previous years and total construction has declined significantly over the past two years. Much of the decline in construction budgets has been in facilities maintenance and road maintenance. Even when budgets remain fairly stable or there is a slight increase there are less dollars available when such factors as inflation, increased project costs and increased fixed costs are factored in. It is unknown how this has affected the Forest's ability to implement the Forest plan without additional analysis as to how monitoring this item is a true measure of plan implementation.

## **Cost 3: Budget by program component**

### **Monitoring Activity Description:**

Verify ability to implement Forest Plan

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

Annual PAMARS reporting system and Regional Forester's Program, Budgeting and Information System.

### **Monitoring and Trend Evaluation**

As with Cost 1 above, 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 definitions have changed extensively over life of the plan's existence and fund codes have been added, deleted and/or combined during this period.

For example, for several years three separate Expanded Budget Line Items (EBLI) were used to allocate recreation management related work—recreation management, heritage resources and wilderness. Currently, there is only one EBLI for the recreation programs. Another change is the allocation of facility maintenance dollars. Up until a couple of years ago all facility maintenance funds were predominately allocated in one facility maintenance fund which included both recreation facility maintenance and non-recreation facility maintenance. In the last two years these have been separated. Other similar changes occurred in several other activities. In addition, accomplishment definitions have changed significantly over recent years. This makes comparisons on unit costs difficult and a less than effective tool for monitoring results in many program areas.

Several program areas within this monitoring report have provided assessments as to the budget effects on the program component. Some programs have noted that reduced or static budgets have affected their ability to manage resources.

**Recommendations:**

Re-evaluate monitoring items during Forest Plan Revision.

## ***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**

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 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 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.

In FY2007, at least 445 cultural resource sites were monitored and inspected in conjunction with other resource activities, and Sec.110 activities. These include 80 sites monitored by archeological site stewards, 65 sites monitored, inspected, protected, or stabilized during Sec. 110 and related activities, 135 newly recorded sites, and 165 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 and monitored each year in this category is less than 500, though FY07 is an increase over FY06, and the general trend is increasing. 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.

In upcoming years, the trend in heritage accomplishments will be influenced by (1) new Federal Financial Accounting Standards for Heritage Assets which treat many as real property with more stringent accountability, (2) the new definition of Heritage Resources Managed to Standard such that only Priority Heritage Assets may generally be used to meet this unit of measure, and (3) increasing demands related to electronic database management. Although the definition used to meet this standard has changed as of FY07, the direction is towards continuing to meet the target, with workload exceeding that of the present.

Unauthorized and illegal activities (under the Archaeological Resources Protection Act) by members of the public are ongoing at a number of archeological sites, and continue to be a heritage program and law enforcement issue.

During FY07, inadvertent discoveries of prehistoric NAGPRA materials on Forest-administered lands occurred rarely. Tribal consultation and handling of these materials was carried out according to NAGPRA regulations at 43 CFR Part 10.

## **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**

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 (SHPO, 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. 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.

In FY2007, the number of cultural resource compliance reports for ground disturbing projects was 106, representing intensive inventories of 22,469 acres. These projects included both in-house Forest-initiated activities, and externally initiated special uses.

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.

In FY07, the trend was toward larger and more numerous projects, resulting in a 300% increase in amount of acreage inventoried, with a 66% increase in number of compliance reports. There is an emphasis on large, landscape level fuels reduction, ecosystem management, and grazing allotment permit renewal projects for which literature searches and sample surveys are undertaken for cultural resource compliance. The current heritage workforce continues to be spread thin in meeting the demands of this trend.

A vacancy in one Zone archeologist position for half of FY07 left the Heritage Program short-staffed.

**Recommendations:**

Heritage recommendations were omitted due to their sensitive nature.

***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

**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 and a report is generated showing the number of miles of road in each maintenance level category. At the end of FY 2007, the following mileages were reported: Level 1 - 523 miles, Level 2 - 4, 221 miles, Level 3 – 293 miles, Level 4 – 144 miles, Level 5 – 25 miles. Of the total 5,207 miles that comprise the transportation system, 381 miles are considered to be arterial and collector type roads, while the majority of the remaining 4,815 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 number of miles of roads obliterated (decommissioned) on an annual basis has averaged 11 miles over the last five years, as compared with 47 miles over the previous 3 year period.

***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. No new roads were constructed over the last 5 years. Road reconstruction over the same time period averaged approximately 10 miles on an annual basis, while the average miles of roads maintained to standard over the last five years is 59 on an annual basis.

***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 that as a result of reduced roads related budgets, less construction/reconstruction projects are being completed.

***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 523 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.

***Road maintenance records for roads maintained to standard:*** The road maintenance crew tracks their operations on a daily basis on paper forms. Those forms are retained in the Operations Engineer's files. In FY 2007, 1% of the roads were maintained to standard. Trends indicate that no substantial change in the percentage of roads maintained to standard will occur in the near future. This is mainly due to the 50% decrease in road maintenance budgets over the last four years.

**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 in each road maintenance category is steadily increasing over time. At the end of FY 2007, the following deferred maintenance needs were shown: Level 1 - \$857,543, Level 2 – \$7,973,010, Level 3 - \$76,461,058, Level 4 - \$52,040,021, Level 5 - \$19,492,972. Deferred maintenance inventories were started in 1999, therefore no data is available prior to that date.

The Gila National Forest will be able to effectively implement the travel management portion of the Forest plan. However, with decreasing budgets, it is important to note that the amount of maintenance performed on passenger car roads (level 3-5) will decrease accordingly.

**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.

## ***Fire Management***

### **Fire Management 1: Fire Suppression Effectiveness**

**Monitoring Intent:**

Federal regulations, 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 FY2003 through FY2007, 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 and June of 2007.

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. 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.

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 2009 or later, and will replace NFMAS.

The Gila had a relatively active fire season in 2007, with most of the activity from the management of Wildland Fire Use (WFU) fires. In all the forest managed 20 WFU fires for a total of 25,551 acres. Additionally, there were 160 suppressed fires of which 5 fires for 89 acres were person caused and 155 lightning caused for 462 acres. Fire reviews were conducted on some of the larger WFU fires and the forest hosted a fire season After Action Review for the Forest Leadership Team and Fire Managers. The 2007 fire season was a great opportunity for WFU management due to the relatively mild conditions, the objective of managing fire to achieve resource benefits is being met.

Reports were prepared to address burned area emergency response monitoring for three 2006 fires. A copy is provided on the Gila National Forest web site:  
[www2.srs.fs.fed.us/r3/gila/publications/](http://www2.srs.fs.fed.us/r3/gila/publications/).

## **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:**

Complete annual fuel treatment report, generated by district personnel directly associated with fuels treatment on the Forest. Fire Management 2 is interpreted to address only activity fuels.

### **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 2007 the Forest treated a total of 15,690 acres through the use of prescribed fire and mechanical manipulation/removal. The majority of those acres were treated with prescribed fire. The forest was not able to meet targets in 2007 due to the lack of suitable burning windows towards the end of the fiscal year. An additional 1,879 acres of target was claimed as the result of the Martinez Suppression Fire which burned a portion of the Reserve WUI Fuel Treatment Area. The results of monitoring indicated the project objectives were successfully achieved.

The Forest continues to treat fuels across the landscape. In the last four years the mechanical treatment projects emphasis have focused on the wildland urban interface (WUI) areas. Most of this work has been primarily mechanical treatment, removing accumulation of fuels around these areas. Secondary treatments may utilize fire to maintain the original fuel reduction treatment. The Forest still continues to treat large areas other than WUI to encourage fire to resume its natural role in the environment and provide for a healthier forest landscape.

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. We work with the New Mexico Air Quality Bureau and register burn activities as required by the New Mexico Smoke Management Program.

## **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 wildland fire use fires.

## **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). In FY 2006, 0 miles of rights-of-way were acquired.

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. Instead, 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. Although it is useful to determine highest priority ROW acquisition to determine who to approach, the actual cases are the ones with willing sellers; not necessarily, the highest priority cases.

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 roads to the County.

Table 10, Plan Correction No. 1, 7/1991 lists 69.2 miles where ROW is needed. Of these 69.1 miles approximately 35.3 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 limited in the past with the bulk of the funding going toward special use management.

**Recommendation:**

Of the 69.2 miles of trail and road access identified to be acquired, 0 miles have been acquired in FY 2006. 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 Correction No. 1, 7/1991:

Road/Trail	Name	Miles	Status as of 8/9/2006
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: Trail 77 was rerouted from the Mimbres River Trailhead at the Bloodgood Place to the Continental Divide Trailhead. S33, T14S R11W: Trail 77 does not go 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 157S	Hermosa	14.5	Probably should be FR 157N S20, T12S R8W is Sierra County Road C003; S23, T13S R9W: Most of the road was rerouted around the private land. Right-of-way on the remaining portion of the road on private land was acquired prior to FY 2000.
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):now Catron County Road C-021
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	0.3	Outside of NF: Catron County Road B-019 and B-054 S24, 25 T7S R15W: Now Catron County Road 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 right-of-way 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
<i>Total</i>		35.3	

The following rights-of-way are still needed per Table 10, Plan Correction No. 1, 7/1991:

Road/Trail	Name	Miles	Status as of 8/9/2006
TR 724	Turkey Creek Trail	0.3	FT 724 is entirely on NF; No ROW acquired for FT 155 in S15, T14S R16W, 0.3 miles
TR 708	East Fork Jeep Trail	2.0	S9, T13S R13W: No ROW acquired S3, 4, T13S R13W: No ROW acquired S11, T13S R13W: No ROW acquired;
TR 247	Sapillo Trail	0.4	S31, T14S R13W: No ROW acquired
FR 506	Bear Creek	1.5	S20, 24, T16S R14W; No ROW acquired; Road is located in creek bottom and Forest should review whether it still wants to pursue ROW
FR 3228	Wild Horse	1.5	Unable to determine road location
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
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); S8-10, 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

Road/Trail	Name	Miles	Status as of 8/9/2006
FR 157N	North Percha	3.0	Probably FR 157S, now known as Kingston (outside the NF), S4, 9, 16, T16S R8W: No ROW acquired S24, 25, T15S R9W: No ROW acquired S36, T15S R9W: No ROW acquired
FR 40E	Kingston	2.0	S18, T16S R8W: No ROW acquired S13, T16S R9W: No ROW acquired
FR 521	Adobe	2.8	S22, T9S R10W; ROW acquisition in progress (outside of NF): S12, S7, T7S R9W; S17, 18, 19, 30 T7S R10; S1, 12 T8S R10W
FR 886	Royal John	0.4	S9, 17, T17S R9W: No ROW acquired.
<i>Total</i>		<b>33.9</b>	

## ***Protection***

### **Protection 1: Law enforcement**

#### **Monitoring Intent:**

Based on federal regulations, increase law enforcement efforts by the Forest Service, aided by cooperative agreements with local Sheriff's Departments, to commensurate with the goods and services produced on the Forest.

Recommend a change in the monitoring intent to include increasing law enforcement efforts by the Forest Service with the aid of the local New Mexico Department of Game and Fish. The Gila NF shares mutual law enforcement goals with the New Mexico Department of Game and Fish and provides and receives assistance in different law enforcement activities to ensure resource protection of National Forest Land.

#### **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; 7) dollar cost of vandalism; and 8) trends in user protection. Data in the LEIMARS system will be reviewed and used as a Database.

Recommend adding a monitoring unit of measure for a more comprehensive evaluation that would include Off Highway Vehicle (OHV) Compliance. OHV use has become an increasing recreational activity on the Forest. It is necessary to begin monitoring and reviewing this rising use in order to ensure sufficient yearly evaluations.

#### **Measuring Frequency:**

The LEIMARS system is updated monthly but not all information is in the system. The present input into LEIMARS is behind and can have an effect on what is really happening on the forest.

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

+/- 10%; +/- 10%

Recommend changing percent accuracy and precision to +0%; +/- 20%

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

The LEIMARS system is updated monthly but not all information is in the system. The present input into LEIMARS is behind and can have an effect on what is really happening on the Forest.

**Monitoring and Trend Evaluation:**

The Gila National Forest has shown an increase in activity in all the requested evaluation criteria. This can be shown more in incident reports than in violation and case reports. There are two officers to cover the 3.3 million acres and the Forest Protection Officer program has been reduced in numbers due to program changes.

Cultural Resources cases in the LEIMARS system do not indicate the problem that is happening on the forest. Due to the vast amount of cultural resource sites and the inability to check the sites on a regular basis there are incidents and cases that are unreported.

Fuel wood theft on the forest has increased over the years. There are more individuals using the sale of fuel wood to increase their income. The lack of easily accessible dead oak and juniper has pushed cutters to cut green wood. Even when green fuel wood areas are provided the cutters are not purchasing them.

Fire and Recreation incidents have increased over the past years. There are more visitors coming to the forest. This increases the chances for conflicts between forest users. Due to the severe fire seasons there have been more closures of recreational areas and parts of the forest. More visitors and severe fire conditions create and increase in fire problems.

Wilderness entries have increased due to a better knowledge by the public to report suspected violations. There is one Law Enforcement Officer assigned to patrol the wilderness and then there is the problem of availability, access, and distances traveled. This has a major impact on the enforcement of regulations in the wilderness.

Occupancy and Use has increased in all areas of the Forest. This area has good weather year around and it bring visitors from all over the United States. Many of them like the area and decide to stay on the Forest. Structures are built and livestock are allowed to roam the forest. This is a constant problem but it not reported most of the time.

Off Road Vehicle (OHV) use is increasing each year on the forest. The Travel Management Rule is just getting started on the NEPA process thus it will take time to start. This is a major form of transportation for forest users. There have been roads and trails constructed in many areas of the forest. Hunters and visitors use them to cross country ride to access areas where there are no roads and this creates new problems. New OHV Regulations were passed by the State and adopted by the Forest Service. These regulations are for Federal and State Lands and require State and County Law Enforcement Agencies to work together for a common law enforcement goal. Other agency enforcement is limited, due to the remote locations and the availability of personnel.

Vandalism on the forest increases each year. The recreation program is constantly repairing tables, restrooms, signs, grills and informational structures do to vandalism or theft. Much of this is repaired and not reported to Law Enforcement because that is the

cost of doing business. An estimate to damage to facilities and resources may range between 150 to 200 thousand dollars.

Law Enforcement Officers on the forest concentrate on heavy use recreational areas to protect the forest visitors and the resource. During the hunting, and fuel wood seasons more patrols are in the remote locations. All uses of the forest have increased and enforcement is even more important. The enforcement actions are effective when done on a consistent basis. However, this is not possible when a few officers are required to cover such a large area.

**Recommendations:**

Recommend a change in the monitoring intent to include increasing law enforcement efforts by the Forest Service with the aid of the local New Mexico Department of Game and Fish.

Recommend adding a monitoring unit of measure for a more comprehensive evaluation that would include Off Highway Vehicle (OHV) Compliance. . Eventually the Travel Management Rule will be in place and this will require more enforcement efforts

Recommend changing percent accuracy and precision to +0%; +/- 20%

***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.

**Measuring Frequency:**

Review of annual work accomplishment reports / acres.

**Percent Accuracy/Precision:**

The acres of over story modification completed for the evaluation period (ending at the 7th year) should be within 10% of projected level.

**Monitoring and Trend Evaluation**

Forest decade projection (pg 19): 21,590 acres in first decade (2,159 acres per year);

For the period 2002-2007, 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 2007 the primary treatments occurred on the Black Range, Wilderness, Reserve and Silver City Ranger Districts using a variety of funding sources. The projects completed in 2007 included approximately 300 acres of mechanical thinning and tree pulling and approximately 2800 acres of burning.

It is expected that in the future mechanical treatment will average about 75 acres per year and prescribed fire treatment will average about 2,000 acres per year.

It is projected that this activity will continue at the rate of approximately 3,000 acres per year.

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

### **Monitoring Intent**

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

### **Measuring Frequency:**

Review of annual work accomplishment reports / acres.

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

The acres of brush conversion and reseeding 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**

Forest Decade Projection: 450 acres in first decade (45 acres per year); page 20;

For the period 2001-2007, brush control and seeding (control of rabbitbrush and snakeweed) has declined significantly. No acres of rabbitbrush or snakeweed were treated via mechanical methods on the Gila in 2007. In the future it is expected that, treatments will be less than 20 acres per year. This activity (rabbitbrush and snakeweed control) is not expected to significantly increase in the future.

## **Range 3: Range development**

### **Monitoring Intent:**

Meet Federal regulations; sample prescriptions and effects. In order to move toward balancing range use with capacity, the following structural improvements will be added or reconstructed:

1. 36 miles of fence
2. 32 miles of pipeline
3. 52 water developments by the end of the first decade.

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

Annual work accomplishment reports / improvements.

### **Measuring Frequency:**

Annual

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

+/-10%; +/-20%

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

Less than 90% of the planned improvements are accomplished at the end of the 5<sup>th</sup> and 9<sup>th</sup> year.

**Monitoring and Trend Evaluation**

This activity has increased at the rate above what was projected in the Forest Plan. The Forest Plan underestimated the number of developments expected to be added or reconstructed. The majority of the work that has been completed has addressed reconstruction of existing improvements. These improvements have been repaired or reconstructed in order to provide for improved range management and prevent the loss of capital investments.

On a yearly basis, planned improvements are either added or reconstructed at the rate of approximately 6.5 miles of pipeline per year; 15 miles of fence per year; and approximately 22 water developments per year. This activity has occurred on all Ranger Districts. It is projected that this activity will continue at approximately the same rate in future years.

In 2007 approximately 40 miles of fence was either constructed or reconstructed on the Gila. There will approximately 7 miles of pipeline replaced and 11 water developments restored to a functioning condition.

**Range 4: Permitted use**

**Monitoring Intent:**

Meet Federal regulations; measure prescriptions and effects. Assure that range permitted use is balanced with capacity by the end of the second decade.

**Monitoring Method/Unit of Measure:**

Data generated from grazing permits and displayed in Annual Grazing Statistical Report/ permitted AUMs.

**Measuring Frequency:**

Annual

**Percent Accuracy/Precision:**

+/-10%; +/-10%

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

Evaluate at 5 year intervals. Reevaluate if permitted use exceeds projected levels or is more than 10% below projected levels.

## Monitoring and Trend Evaluation

Year	Cattle	AUM's	Horses	AUM's
2001	29,817	328,041	304	4,051
2002	32,914	341,763	284	3,891
2003	29,064	304,354	303	4,180
2004	30,079	310,319	308	4,252
2005	27,135	209,032	414	3,972
2006	29,399	308,392	304	4,966
2007	29,238	285,884	352	4,442

Permitted use is expected to change more than 10% below projected levels as NEPA analysis is completed and revised management is implemented on most allotments.

## Range 5: Grazing capacity

### Monitoring Intent:

Meet Federal regulation; sample output. Assure that through improved management and additional structural and nonstructural range improvements, range capacity is increased to projected level.

### Monitoring Method/Unit of Measure:

Production and utilization studies, range analysis data, and capacity (AUMs).

### Measuring Frequency:

5<sup>th</sup> year

### Percent Accuracy/Precision:

+/-10%; +/-20%

### Variability that would indicate Re-evaluation:

Evaluate at 5 year intervals to determine rate in meeting expected capacity. Re-evaluate if below anticipated capacity or more than 10% above anticipated capacity.

## Monitoring and Trend Evaluation

Projected capacity within the Forest Plan is 329,994 AUM's (average annual output).

Annual permitted AUM's for 2007 was 285,884. This was a decrease in permitted AUM's due to 2007 NEPA decisions that reduced permitted numbers. Authorized use is within projected capacity.

### Recommendations:

*Range2: Brush Conversion and Range Seeding* - Acres of rabbitbrush and snakeweed treated should be dropped from Forest Plan monitoring requirements. This activity occurs on such a small scale, the utility of this monitoring requirement is questionable.

## **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) National Visitor Use Monitoring Survey and Report (NVUM) August 2002), b) Inspections of heavily used dispersed areas, including evaluation of vegetative deterioration and soil erosion/ Recreation Visitor Days and site condition, c) A second National Visitor Use Monitoring Survey was done in FY2006, the report is not official. But the tentative numbers show a substantial decrease in visitors.

#### **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 by year 5 and 10.

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

a) The RIM reporting system has been eliminated and the agency is currently using Recreation Days Managed to Standard. The Gila NF has averaged approximately 1.5MM days for the last 5 years. There is no data available on actual Recreation Visitor Days (RVD) for the Forest. The general conclusion is the trend for Forest visits will continue to increase although the use figures from 2006 reflect a decrease. The 2006 National Visitor Use Monitoring survey is completed, but the findings of the survey are not yet finalized. These tentative numbers show a drastic reduction in visitors. We are waiting for the WO to reissue the results.

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:**

National Visitor Use Monitoring report for 2002 and 2007. Use report (Based on District Ranger estimates and on actual count of tickets sold or other counts by private sector operators.)

The RIM reporting system has been eliminated and the agency is currently using Recreation Site Capacity, Operated to Standard and Recreation Sites. 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 Recreation Site Capacity, Operated to Standard and Recreation Sites reporting.

**Measuring Frequency:**

Annual

**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 RIM reporting system has been eliminated and the agency is currently using Recreation People At One Time (PAOT) Days Managed to Standard (PAOT). The Gila has averaged approximately 250,000 PAOT days (RDMS) per year for the last 5 years. The general conclusion is the trend for Forest visits will continue to increase. Based on NVUM the Gila NF had 1,361M NF visits in FY 2001. The 2006 National Visitor Use Monitoring survey is completed, but the findings of the survey are not finalized. These tentative numbers show a drastic reduction in visitors. We are waiting for the WO to reissue the results. Although the 2006 survey use suggests our visitation is down our observations reflect a flat or slight increase in visitation.

**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 four 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. The Forest amended the 1986 Forest Plan to address inconsistencies in scheduled activities associated with the riparian standards and guidelines.

The following tables list monitoring activities that have occurred in 2007:

**2007 Monitoring Activities**

Location	District	Activity	Description	Trend
Forest travel routes	Forest wide	Connected Disturbed Area (CDA) surveys on roads	Monitoring related to Travel Management Rule. CDA assessments to determine if roads have adequate drainage features necessary to disperse sediment prior to reaching drainage network. Several hundreds of miles completed across forest. Exact figure unknown.	Initial assessment, no trend data available
Walnut Creek Allotment, Reading Mountain Allotment, C Bar Allotment, Jewett Gap Allotment, Bullard Peak Allotment, Burro Mountain Allotment,	Reserve, Black Range, Quemado, Silver City, Glenwood	Proper Functioning Condition survey and ocular evaluations	Assessment completed on all riparian areas related to 2007 allotment decisions, and assorted project work.	Trend varied amongst 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.

<p>Schoolhouse Allotment, Silver City Watershed Allotment, V+T Allotment, Turkey Run Allotment, Silver Creek Allotment, North Wahoo Allotment, Mackey Allotment, Dark Canyon Allotment, Y Canyon Allotment, O Bar O Allotment, Long Canyon Allotment, Cox Canyon Allotment, Deadman Allotment, Pine Cienega Allotment, Rough Canyon Allotment, Dripping Springs Allotment, Blue Creek Allotment, 74 Mountain/Rain Creek Allotment, Harve Gulch Allotment, Apache Creek Allotment</p>				
<p>Gila &amp; San Francisco Rivers and major tributaries, Dry Blue Creek, Mimbres River</p>	<p>Wilderness , Silver City, Glenwood, Quemado, Reserve</p>	<p>Fish survey</p>	<p>15 annual monitoring points for fish species and populations. Completed in cooperation with NM Game and Fish Dept. &amp; Western NM University. Some habitat monitoring included in some points.</p>	<p>No trend analysis completed. Noted trend for Gila trout is upward; trend for other T&amp;E aquatic species is considered stable to downward. Native non T&amp;E species trend considered stable.</p>

**Recommendations:**

1. Establish additional permanent aquatic monitoring stations.
2. Develop monitoring protocol in conjunction with fire planning to gain further understanding of fire's impacts on aquatic species and their habitats, riparian condition, and channel stability.
3. Create Forest-wide GIS layer documenting riparian condition and trend.

***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, and professional judgment/satisfactory or unsatisfactory acres

**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 FY2007.

**2007: 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
Hoodoo Allotment, Spar Canyon Allotment,	Silver City	Watershed condition monitoring	Monitoring done for allotment analysis to determine management action needed to protect resources	Overall stable to upward, some isolated areas of downward trend
Luna	Quemado	95,000 acres of Terrestrial Ecosystem Survey	Ongoing forest wide survey by New Mexico TES crew	Initial assessment, no trend noted

**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 utilize 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. The Forest and NMED modeled soil movement following a prescribed burn, and predicted future ground cover on the site. This project continues to be monitored.

**2007 Soil and Watershed Monitoring**

Location	District	Activity	Description	Trend
Forest wide	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
Burro Mountains 2007	Silver City	Post-fire monitoring for erosion	Hillslope Erosion Model data collected on Bullard Peak to determine watershed post fire effects following prescribed burn.	Short term soil loss
Bear Fire	Reserve	Post-Burn Monitoring, including pace transects	1-yr post-implementation monitoring for BAER treatments on Bear Fire	Response to seeding varied based on soil type. Good response noted on deep basalt soils, moderate to low response noted on shallow rhyolite soils
Skates Fire	Silver City	Post-Burn Monitoring, including pace transects	1-yr post-implementation monitoring for BAER treatments on Skates Fire	Response to seeding varied based on soil type. Good response noted on deep basalt soils, moderate to low response noted on shallow rhyolite soils

Martinez Fire	Reserve	Post-Burn Monitoring, including pace transects	1-yr post-implementation monitoring for BAER seeding treatments on Martinez Fire	Shallow soils within Gordon Canyon had moderate to low response to seeding efforts.
Wilson Fire	Reserve	Post-Burn Monitoring, including pace transects	1-yr post-implementation monitoring for BAER seeding treatments on Wilson Fire	Response to seeding varied based on soil type. Good response noted on deep basalt soils, moderate to low response noted on shallow rhyolite soils
Mackey Allotment	Black Range	Soil Condition Monitoring	R3 protocol used to evaluate site conditions on allotment with serious erosion issues	Unsatisfactory soil conditions noted in two pastures, Recommendations were made to improve trend with management actions where possible
Bear Fire	Reserve	Noxious Weed Survey	Evaluation of heavily trafficked areas of fire to see if noxious weeds were transported	No evidence of new species in Bear Fire area. Still presence of spotted knapweed at Negrito Firebase, and field bindweed noted in Sheep Basin.

**Recommendations:**

1. Soil and Water 1: Initiate roads assessment by fifth code watershed basis to determine potential impacts to watershed resources. Establish monitoring plan of roads to see if changes in management are necessary.
2. Soil and Water 2: Develop post-treatment monitoring plans to determine watershed effects of implementing projects that meet the Region’s central priority of restoring functionality to fire adapted ecosystems.
3. Continue monitoring of Bear Fire for 2-3 years to determine trend and watershed stability.

***Timber***

**Timber 1: Intermediate and Removal Harvest**

**Monitoring Intent:**

To meet Federal regulation; 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:**

± 10%; ± 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.

During 2002 through 2007, 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 fuel reduction. The current emphasis in understory treatments focuses on reducing risk of crown fire by creating more open conditions within forested stands.

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.

**Acres of Intermediate and Removal Harvest**

Unit	2002	2003	2004	2005	2006	2007
Acres	110	918	359	389	453	115

The Forest Plan 5 year schedule is not applicable due to current market conditions and closure of mill in Reserve. The 5 year schedule has been replaced by the 10 year schedule which is updated annually based on capability of local markets.

### 10 Year Plan for Timber Volume Offered (ccf), 2006 – 2016

Year	Volume Offered (ccf)
2007	8,350
2008	12,500
2009	13,700
2010	14,000
2011	14,200
2012	14,200
2013	14,650
2014	14,650
2015	14,650
2016	14,650
201	14,650
Sum 10 Years	150,200

## Timber 2: Regeneration Harvest

### Monitoring Intent:

To meet Federal regulations; measure prescriptions and effects. Achieve a balanced age class distribution, appropriate growing stock levels, and appropriate rotations.

### 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:

Planned treatment varies 25% from schedule at 5 year intervals.

### Monitoring and Trend Evaluation

The definition of this item is to achieve and maintain a balanced age class distribution, appropriate growing stock levels, and appropriate rotations for timber production. The Gila NF did not implement prescriptions of this nature during this monitoring period.

Prescriptions implemented during this period were primarily designed to reduce the amount of younger age classes, smaller diameter trees, and to enhance the growth of middle / older age classes.

### 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 stewardship contracts in the past two years has improved our ability to treat more acres compared to traditional timber sale contracts that would not sell because the closet mill was in Alamogordo, New Mexico. The following table lists the acres of timber stand improvement areas.

**Timber Stand Improvement Areas**

Unit of Measure	2002	2003	2004	2005	2006	2007
Acres	210	1,600	7,495	1,345	1,837	1,500

### Timber 4: Board Feet of Net Saw Timber Offered

**Monitoring Intent:**

This item is monitored to ensure timber offered does not exceed allowable sale quantity (ASQ) for a 10 year period. The original ASQ in the Forest Plan was based on the presence of a local saw mill and markets for products. Saw logs were processed in Reserve (Stone Container), small logs were processed by Stone Container in Springerville, Arizona, and pulp was processed in Snowflake, Arizona. The annual ASQ for the Gila NF is 10 million board beet or 10,000 Mbf. Stone Container closed all of their mills in Arizona and New Mexico, including the local mill located in Reserve, which closed in 1992. The

closest mill to the Forest is located in Alamogordo, NM which is more than a 300 mile one-way haul trip. This long haul distance has eliminated the local market for forest products and has severely decreased the amount of timber sold on the Forest. The Forest now has a mill in Reserve, New Mexico that will need approximately 14,000 CCF of material annually for the next 3 -5 years. This mill will be able to process material down to 7" DBH and is expected to be online by April of 2009.

### Monitoring and Trend Evaluation

This item is now reported in PAMARS (MAR) and timber data bases in CCF. The following table lists the net volume offered in Mbf and CCF. Volume is derived by dividing the CCF by 2 in accordance with the Conversion Factor from FSH 2400 page 8 of the Gila National Forest Supplement. The recent increase in saw timber offered is due to new mills at Silver City and Reserve that have created a small local market that provide a variety of products such as pole trusses, furniture, fencing, chip-crete and custom beams.

#### Saw timber (net) Offered

Units of Measure	2002	2003	2004	2005	2006	2007
CCF	0	6,379	7,186	5,736	6,189	5,350
Mbf	0	3,189	3,593	3,593	3,095	2,675

## 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.

#### Cords of Fuel wood Made Available

Unit of Measure	2002	2003	2004	2005	2006	2007
CCF	4,284	5,954	6,659	7,001	4,181	4,650
Cords	5,355	7,442	8,323	8,752	5,226	5,813

## Timber 6: Restocking of Regeneration Harvests

### Monitoring Intent:

This item is used to monitor all regeneration cuttings are adequately restocked 5 years after final harvest.

### Monitoring and Trend Evaluation

The Gila NF has not implemented any regeneration harvest prescriptions during the monitoring period and this prescription is not normally done on forest.

## Timber 7: Size Limits for Harvest Areas

### Monitoring Intent:

This item is designed to meet the Federal Regulation of assuring size limits timber sales and openings are not exceeded. This item is designed to limit the size of clear cut acres and ensure harvest activities do not exceed the limit of 10 acres in one opening.

### Monitoring and Trend Evaluation

The Gila NF has used prescriptions that include creating openings up to 4 acres in size which is considerably less than the 10 acre size limitation.

## Timber 8: Review of Timber Land Classification

### Monitoring Intent:

This item meets the Federal Regulation that states the agency will better define those areas which may be suitable for sustained yield timber production. It includes review of new or updated soil survey data, development of better technology for regeneration establishment, stand exams, and timber inventory results.

### Monitoring and Trend Evaluation

The Gila NF has conducted stand exams, reviewed timber inventory results, and updated soil survey data during the monitoring period. The table below shows the number of acres of stand exams reflect acres that are planned for mechanical treatment. Soil data was reviewed but may not have been updated on all projects.

Unit of Measure	2002	2003	2004	2005	2006	2007
Acres	756	1,753	1,565	1,435	1,759	1,368

### 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 National Visitor Use Monitoring Reports (2002 and 2007) in concert with wilderness situation model. The numbers taken in 2001 and 2006 are drastically different. Need to try and verify with on the ground information.

**Measuring Frequency:**

Annual

**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 NVUM, the Gila NF had 134,000 NF visits in FY 2001. The 2006 National Visitor Use Monitoring Survey is complete; however, the report from the survey is not yet official. Based on the tentative 2006 numbers there is a decrease in the usage of the wilderness.

**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. The current trend is a substantial decrease in funding reaching the ground for trail construction, reconstruction and maintenance. Last 4 years (2004 – 2007) we have only accomplished 5-10 miles of reconstruction per year. Condition of trails is deteriorating at an accelerating rate.

**Recommendations:**

Wilderness 1: Wilderness use by Wilderness Opportunity Spectrum Class

At this time the Forest is not implementing a permit entry system as the method of monitoring as described in the plan. Instead the Forest is using the National Visitor Use Monitoring (NVUM) as the method of monitoring. The NVUM is a better method and recommend during Plan revision replacing the permit entry system with the NVUM monitoring method.

The Gila NF conducted a NVUM survey in 2001 and just completed another survey in 2006. The 2001 survey suggested that there is relatively high visitor use on the Gila Wilderness. We think this estimate is higher than actual use due to design flaws in the survey. The survey method has been modified to correct previous problems and we expect the 2006 survey to provide more accurate information. Those figures from 2006 are substantially less than 2001. We are looking at those numbers and making some adjustments.

## **Wildlife**

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

High priority will be placed on gathering base data where management actions are likely to result in habitat changes. Monitoring of population and habitat trends will be for State and Federally listed plants, animals, sensitive species and management indicator species (MIS).

#### **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:** The Gila National Forest has established 258 Mexican spotted owl (MSO) management areas (Protected Activity Centers [PACs]) on the Forest. During this monitoring period, wildland fire on the Forest impacted 4 management areas. Three PACs experienced high intensity fire, and the fourth PAC had moderate to low intensity fire. Within the three PACs that had high intensity fire the amount of acreage that burned hot was 143 acres (24% of the PAC), 121 acres (20% of the PAC), and 16 acres (2% of the PAC). Catastrophic fire is a 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 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 stand replacement fire. Wildland fire use has caused short term 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 (Bond et al. 2002, Jenness et al. 2000, Ganey et al. in print).

Studies on and adjacent to the Gila between 1990 and 2005 suggest that some local populations may be declining in the region; however there is conflicting data (Ganey et al. in print). Uncertainty regarding population trend warrants the need for continued monitoring (Ganey et al. in print).

In 2007 monitoring on the Forest occurred in 17 PACs. Mexican Spotted Owls were located nesting or roosting within the boundary of 11 PACs, and outside the established boundary of 3 PACs. So relative to the areas monitored 14 of the 17 areas had documented nesting or roosting activity.

## **Citations**

Bond, M.L., Gutierrez, R.J., Franklin, A.B., LaHaye, W.S., May, C.A., and Seamans, M.E. 2002. Short term effects of wildfires on spotted owl survival, site fidelity, mate fidelity, and reproductive success. *Wildlife Society Bulletin*.

Jenness, J. S. 2000. The Effects of Fire on Mexican Spotted Owls in Arizona and New Mexico. Degree of Master of Science in Forestry. Northern Arizona University

### ***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 2007 monitoring on the Forest for this species occurred along the Gila River in the Gila Bird Area, Fort West Ditch Area, and along the San Francisco River in the Keller Canyon area. Nesting birds were documented in all three areas.

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. Annual monitoring indicates that the population on the Forest is stable to increasing.

### ***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 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.

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

**Monitoring Method:** Single season monitoring

**Trend:** Management activities that have the potential to directly impact both these species habitat, like livestock grazing and off road vehicle use, 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. Fire use has caused temporary impacts to instream habitat conditions, but has also helped protect these areas from the more significant effects of catastrophic wildfire; therefore, allowing for the long term improvement of loach minnow and spikedace habitat on the Forest. 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. Both these species and their habitat are being negatively affected by non-native fish.

Annual species monitoring on the Gila National Forest indicates that the loach minnow and spikedace are doing better on some parts of the Forest than others. Loach minnow and spikedace population numbers are down in the west, middle and east forks of the Gila River. Loach minnow population numbers are stable in the San Francisco River and the Tularosa River. These rivers do not have occupied spikedace habitat. Loach minnow and spikedace numbers are up in the mainstem of the Gila River. Loach minnows and spikedace numbers are high within an area known as the Bird Area on the mainstem of the Gila River on the Gila National Forest. This area remains a strong hold for both species within their historic ranges.

### ***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. Gila trout habitat has been excluded from most management activities that have the potential to directly impact suitable and potential habitat. Prior to 2005 wildland fire use did have temporary adverse effect to Gila trout habitat, but these same fire use fires have helped reduce fuel levels in Gila trout habitat, thus helping to protect this species and its habitat from the potential long term effects of future catastrophic wildfires. Gila trout monitoring shows an upward trend for this species.

### **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 basis 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. 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 to increasing.

Albert'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. 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 the 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. The available information indicates that the trend for the Bald Eagle is stable.

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 stable to increasing.

### ***Mule deer, Beaver, Arizona grey squirrel, and Big Horn Sheep***

**Monitoring Method:** Single season monitoring –monitoring at different locations and collectively through time the data provides an estimate of trend.

**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.

Arizona gray squirrel habitat conditions on the Gila National Forest have improved. The Forest Plan predicted an upward trend in habitat conditions for this species. Population levels on the Gila appear to be stable.

Beaver habitat conditions on the Gila National Forest 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 the Turkey Creek population levels are growing, and the San Francisco River herd numbers are stable.

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

**Monitoring Method:** Single season monitoring –monitoring at different locations and collectively through time the data provides an estimate of trend and point-counting – consists of establishing transects of points regularly distributed through the habitat to be monitored. The Forest has point-counting transects that are monitored on an annual basis.

**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.

## 2. Action Plan for 2008

The action plan for 2008 identifies which monitoring items and monitoring activities will be reported on in the next years monitoring report. Activities monitored are selected from the Forest Plan list and may include recommended monitoring items from previous reports.

Monitoring Item	Monitoring Activity	Description of Monitoring Activity	2008 Monitoring Item
Air 1	Class I wilderness	Visibility baseline and current	Yes
Cost 1	Units costs	Ability to implement Forest Plan	No
Cost 2	Annual budget	Ability to implement Forest Plan	No
Cost 3	Program budget	Ability to implement Forest Plan	No
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	Yes
Range 4	Permitted use	Balance use with capacity	Yes

<b>Monitoring Item</b>	<b>Monitoring Activity</b>	<b>Description of Monitoring Activity</b>	<b>2008 Monitoring Item</b>
Range 5	Grazing Capacity	Projected levels	Yes
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	Yes
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	Yes
Timber 3	Timber stand improvement	Stocking levels	Yes
Timber 4	Saw timber	Allowable sale quantity	Yes
Timber 5	Fuel wood	Sustained yield	Yes
Timber 6	Restocking regeneration Harvests	Restoration standards (5 years and 80%)	Yes
Timber 7	Harvest area size	Opening size limits	Yes
Timber 8	Timber Land Classification	Suitable for sustained yield production	Yes
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

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