



United States
Department of
Agriculture

Forest
Service

**Southwestern
Region**

May 2011



Annual Monitoring Report

Gila National Forest Land Management Plan, FY 2010



Photo Credit: U.S. Forest Service, Southwestern Region, Gila National Forest

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 FY 2011.

/s/ Kelly Russell
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Forest Supervisor

5-12-2011
Date

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On the Cover: McKnight Fire Lookout Cabin on the Black Range of the Gila National Forest, circa. 1931. Photo copied from Gila National Forest website.

Overview

This report summarizes monitoring results on the Gila National Forest (NF) for the fiscal year 2010. 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 2011 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 items listed above. Individual monitoring activities are selected annually based on the annual plan of work and, as described in the Gila National Forest Plan, not all monitoring items are applicable each year. Annual work plan activities are based on the Agency's and the public's priorities, concerns and interests. Some monitoring methods have become obsolete and will be updated during the next Forest Plan revision to reflect information that is relevant to reflect present standards.

Air

Air 1: Visibility in Class I Wilderness Areas

Monitoring Intent

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

Monitoring Method/Unit of Measure

The Forest Plan states that monitoring will occur through the use of an automated camera system and additional particulate sampling. Color slides are to be analyzed for standard visual range by micro densitometer. This method, however, is no longer used due to availability of new technology that has been adopted by Region 3. The Gila NF 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 (PM2.5) 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%	PM2.5, PM10, S, Si, K, Ca, Fe, Cu, Zn, SO4=, NO3-, SO2
6%-15%	H, Na, Ti, Se, As, Br, Sr, Pb, O4, 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 10 percent above natural background. This certification was based, in part, on collected monitoring data at the Forest's site near the Gila Cliff Dwellings, adjacent to the wilderness area. In the past several years, climate and resource conditions have led to a high risk and occurrence of extreme wildland fire behavior across the Southwest. Smoke from these occurrences has contributed, at times, to degradation of visibility in the Wilderness. The Forest has continued to be an advocate of managing wildland fire to achieve multiple resource benefits. This type of active fire management may contribute to smoke lingering for a longer period of time in Wilderness. In urban areas south of the Forest (Deming, Lordsburg), energy facilities have maintained their emission outputs in recent years. Over the past several years, trends for visibility have likely been static from October through February, with more days of decreased visibility possibly occurring during spring winds (dust) and summer fire season (smoke).

The Gila National Forest continues to maintain and monitor air quality at the IMPROVE site. Data is summarized on <http://vista.cira.colostate.edu/improve/> through 2008. Data is also available on <http://views.cira.colostate.edu/web/> in VIEWS 2.0 (Visibility Information Exchange Web System). VIEWS is an online system of tools and resources designed to provide easy access to air quality data. Its original goal of providing data and results related to visibility impairment in Class I Areas has since been expanded to include climate change, health effects, emissions control strategies, and general environmental impacts. VIEWS integrates data from ground-based monitoring stations, air quality models, emissions inventories, and satellites into a unified system of tools and resources. Charts displaying the results from the time period 1995 to 2009 for the Gila Wilderness IMPROVE site are included in **Appendix A**.

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

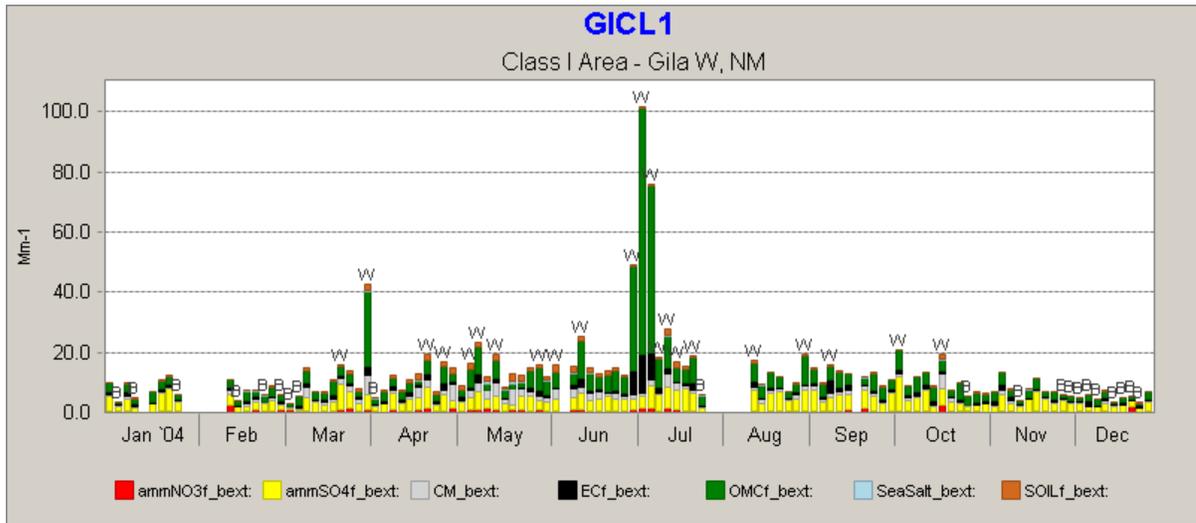


Chart 1. Aerosol Composition

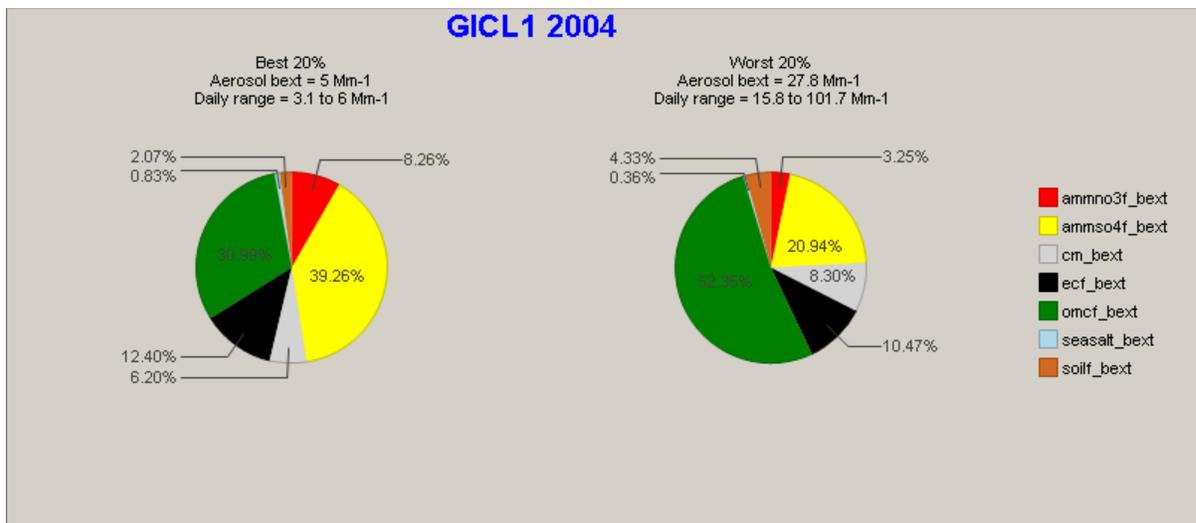


Chart 2. Aerosol Composition, Best 20 Percent and Worst 20 Percent Average by Species

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



Figure 1. NM01 Atmospheric Deposition Sampling Site.

Appendix B contains the 2009 Annual and Seasonal Data Summary for Site NM01. **Appendix C** contains the data associated with seasonal depositions and seasonal precipitations – weighted means for the period of record (1985 – 2009).

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

Cultural Resources

Cultural Resources 1: Protection of Significant Cultural Properties

Monitoring Intent

Compliance with law and executive order; assure resource protection.
Monitoring Method/Unit of Measure

Aerial and ground inspection in conjunction with other resource activities
Measuring Frequency

Annual
Percent Accuracy/Precision

No variance allowed.

Monitoring and Trend Evaluation

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

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

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

Activities carried out during FY 2009 and FY 2010 include cultural resource sites monitored, inspected, protected and/or stabilized during Section 110 and related actions, newly recorded sites, sites addressed during project activities, determinations of eligibility to the National Register of Historic Places, public education, outreach, volunteer projects, partnerships, and Section 106 project surveys and compliance. The Forest maintains an active Site Steward program monitoring the condition of significant cultural resources.

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

In FY 2009, at least 347 cultural resource sites were assessed, visited, monitored and/or inspected in conjunction with other resource activities and Sec.110 activities. These include approximately 80 sites monitored by archeological site stewards, 79 sites

monitored, inspected, protected, or stabilized during Sec. 110 and related activities, 107 newly recorded sites, and 147 sites inspected during Sec. 106 project activities sufficient to make determinations of eligibility for the National Register of Historic Places.

In FY 2010, at least 593 cultural resource sites were assessed, visited, monitored and/or inspected in conjunction with other resource activities and Sec.110 activities. These include approximately 80 sites monitored by archeological site stewards, 32 sites monitored, inspected, protected, or stabilized during Sec. 110 and related activities, 126 newly recorded sites, and 198 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 in this category is heavily influenced by cultural compliance related to the Travel Management Rule, with FY 2010 seeing a substantial (71 percent) increase over FY 2009. This trend should stabilize or decrease with completion of heritage Travel Management work in the next 2-3 years, though upcoming Forest Plan Revision may again increase heritage workload.

Sites addressed under Section 110 decreased dramatically (-42 percent) from FY 2009 to FY 2010, also probably due to Travel Management limiting the amount of time and effort available to devote to non-project activities.

Unauthorized and illegal activities under the Archaeological Resources Protection Act of 1979, Antiquities Act of 1906, and others, are an ongoing problem at a number of archeological sites. These activities continue to be an issue for the Gila heritage program and law enforcement, and are subject to investigation. Evidence of past looting and vandalism at archeological and historic sites on the Gila is widespread, partially due to a tradition of such activities in the area for more than a century. During FY 2009 and FY 2010, one ARPA case was successfully prosecuted against individuals who removed prehistoric artifacts from the Forest. There appears to be no change in the frequency of this activity.

During FY 2009 and FY 2010, inadvertent discoveries of prehistoric Native American Graves Protection and Repatriation Act (NAGPRA) materials on Forest-administered lands continued to occur rarely. Tribal consultation and handling of these materials was carried out according to NAGPRA regulations at 43 CFR Part 10. In FY 2009, a second NAGPRA repatriation and reburial was carried out for remaining materials previously excavated from archeological sites on the Gila during early projects or under NAGPRA Action Plans.

In upcoming years, trends in heritage accomplishments may be influenced by (1) increasing demands related to managing complex electronic heritage INFRA and GIS databases including legacy data, (2) evolving definition of how to meet the Heritage Resources target for a well-rounded Heritage Program, (3) Forest Plan revision, (4) accountability required under Federal Financial Accounting Standards for Heritage Assets, including upward reporting, and (5) ongoing Travel Management Rule compliance. Although the heritage target definition used to meet this standard changes

every few years, the direction is towards continuing to meet the target, with workload exceeding that of the present.

Cultural Resources 2: Cultural Resource Compliance

Monitoring Intent

Meet Federal regulation; ensure project compliance with guidelines.

Monitoring Method/Unit of Measure

Approved cultural resource clearance for each ground disturbing activity project

Measuring Frequency

Before every ground disturbing activity

Percent Accuracy/Precision

No variance allowed.

Monitoring and Trend Evaluation

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

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

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

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

Fiscal year 2009 reports and projects number about 56, covering 5,403 acres of new cultural resource survey within project areas equaling more than 70,000 acres. Fiscal year 2010 reports number approximately 82, covering 19,168 acres of new survey within project areas encompassing 84,000 acres. Fiscal year 2009 and FY 2010 increased emphasis and effort on the heritage portion of Travel Management Rule analysis, including initiating and completing contracts for large cultural resource surveys related to Travel Management Rule proposals and preferred alternative. Travel Management contracts begun in FY 2008 and FY 2009 were completed in FY 2010, accounting for the large increase in accomplishments shown in FY 2010 (+255 percent in survey acreage).

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

The current heritage workforce continues to be spread thin in meeting the demands of project workload. This is a trend that is unlikely to change in the future. In addition to contracting for Travel Management surveys, a number of professional and student archeologists were hired in temporary positions to beef up the heritage workforce for the Travel Management project. In late FY 2009, the Assistant Forest Archeologist position was filled on a permanent basis, having been vacant for more than 9 months. Five permanent archeologists comprise the full-time workforce of the Gila heritage program.

Recommendations

1. Add Tribal Consultation under the National Historic Preservation Act as a new monitoring activity during Forest Plan revision. Measure: Number of consultation letters.
2. Remove “clearance” term from monitoring method/unit of measure #2. Instead, should be Sec. 106 compliance & SHPO concurrence.
3. There are two cultural resource compliance elements: compliance with regulations and compliance with laws and policies. These are basically the same elements. To reduce confusion, it is recommended to display compliance elements as Sec. 106 compliance and Sec. 110 activities.
4. New Forest Plan will need to reflect increased accountability of Heritage Program under Statement of Federal Financial Accounting Standards 29 for Heritage Assets and Land Stewardship, and its Implementation Guide (the latter of which is currently in draft form).

New Forest Plan will need to reflect accomplishments related to electronic information & database management including Heritage Infra, evolving definitions of Heritage Program target and ways to meet it, monitoring cycle of Priority Heritage Assets, mandatory upward reporting, resolving data discrepancies, and GIS layers. All of these create a

trend that perhaps should be captured in annual I&M reports, but definitely should be captured in the next Forest Plan.

Facilities

Facilities 1: Forest transportation system

Monitoring Intent

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

Monitoring Method/Unit of Measure

National Forest Transportation Inventory System miles constructed and reconstructed. Road management records on miles of travel ways closed. Road maintenance records for roads maintained to standard. Traffic use and distribution data will be collected on 5 percent 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 percent of planned level. Review every 3 years.

Monitoring and Trend Evaluation

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

At the end of FY 2009, the following mileages were: Level 1 - 572 miles, Level 2 - 4,191 miles, Level 3 – 282 miles, Level 4 – 150 miles, Level 5 – 26 miles. Between FY2004 and FY2009, 15 miles of road was obliterated (decommissioned). In the three years previous to FY2004, 25 miles of road was obliterated (decommissioned).

At the end of FY 2010, the following mileages were: Level 1 - 527 miles, Level 2 - 4,196 miles, Level 3 – 262 miles, Level 4 – 131 miles, Level 5 – 24 miles. Of the total 5,140

miles that comprise the transportation system, 298 miles are considered to be arterial and collector roads, while the majority of the remaining 4,842 miles are classified as high clearance vehicle roads. Any changes in the disposition of roads are recorded in the Travel Routes module of INFRA. The forest has not obliterated (decommissioned) any roads from FY 2005 to FY 2010. In the 3 years previous to FY 2005, 18 miles of road was obliterated (decommissioned).

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, FY 2009 and FY 2010, averaged approximately 1.1 miles 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 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. At the end of FY 2009, the inventory shows that 572 miles of roads were classified as closed. The current inventory (FY 2010) shows that 527 miles of roads are closed. While the number of closed roads does vary slightly from year to year, the number has remained fairly stable over the last 10 years. The change in mileage is associated with corrections to the data.

Road maintenance records for roads maintained to standard: Road maintenance accomplishments are reported at the end of each fiscal year through the Road Accomplishment Report (RAR). In FY 2009, 510 miles of roads received maintenance while 545.5 miles were maintained in FY 2010. This represents 10 percent of total system roads. The majority of these miles are not fully maintained, i.e., correcting all deficiencies to ensure the road and all its appurtenances are functioning properly. Trends indicate that no substantial change in the percentage of roads maintained will occur in the near future.

Recommendations

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

Change in average size of the system and in average miles not maintained to standard that exceed 25 percent 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.

Fire Management

Fire Management 1: Fire suppression effectiveness

Monitoring Intent

Follow Federal regulations and measure prescriptions and effects.

Monitoring Method/Unit of Measure

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

Measuring Frequency

Annual inspections, periodic reviews, and fire budget analysis as needed.

Percent Accuracy/Precision

+/-10%; +/-10%

Variability that would indicate Re-evaluation

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

Monitoring and Trend Evaluation

Annual and periodic reviews of the fire management organization were conducted from FY2004 through FY2010, to determine the effectiveness in meeting fire suppression needs on the Forest. A comprehensive unit review in the form of Forest and District Readiness Inspections was conducted in May of 2010.

The Fire Qualifications Review Committee on Forest provides oversight for the qualifications and training of 250 to 300 people. Training is conducted each year to ensure crew safety and effectiveness in managing wildland fire. All Incident Qualification carded fire fighters both seasonal and permanent undergo basic firefighter training S130 /190. All red carded personnel attend fire refresher training each year. Additional training is taken as required for different positions and skill needs. A complete review of all red

card files for all employees was completed in 2007 and we continue the audit process to ensure accuracy and currency of all of our personnel. The results of the review have identified areas for refinement and revision of all red card documentation as well as help identify training needs and position shortages. This past year we revised our Red Card Committee Operating Plan to better meet the needs of our employees.

The budgeting process was updated as needed to address needs in the fire organization. This is currently done in the National Fire Management Analysis System (NFMAS). The forest is currently working on the Fire Planning Analysis (FPA) process that will be implemented in 2011 or later, and will replace NFMAS.

The 2010 fire season on the Gila National Forest was pretty close to average for total number of fires and acres burned. Our person caused fires are still above average. This trend concerns us and we are stepping up our Fire Prevention programs. This increase is partially due to an abundant amount of grass in the Wildland Urban Interface and a very dry spring. People burning trash, vegetation or using equipment that caused sparks quickly started fires in the heavy grass.

The forest had a total of 108 fires for 4617 acres. The forest had 96 lightning caused fires (4,612 acres) of which we managed 14 of those fires for resource benefits (WFU) for a total of 4,476 acres. Resource benefits achieved by restoring fire's role to our fire-dependent ecosystem include eliminating heavy fuels, creating vegetative diversity, and improving wildlife habitat. Additionally, there were 12 person caused for 4 acres.

Gila NF fire managers will continue to allow fire to perform its natural role on the landscape to the greatest extent possible, coordinating with all other resource areas (wildlife, soils, air quality, watershed and range). As the process of fire is allowed to be an integral part of the ecosystem the structure of the Gila NF will continue to improve.

Fire Management 2: Project generated fuel treatment

Monitoring Intent

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

Monitoring Method/Unit of Measure

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 percent of the fuels are not being treated within 2 years of generation.

Monitoring and Trend Evaluation

Activity Generated Fuel Treatment: In 2010 the Forest treated a total of 23,400 acres through the use of prescribed fire and mechanical manipulation/removal. The majority of those acres were treated with prescribed fire. The forest was able to meet targets in 2010 due to the great coordination amongst the districts and good conditions for burning.

The Forest continues to treat fuels across the landscape. In the last five 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).

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

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

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

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

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

Recommendation

Of the 72.9 miles of trail and road access identified in this Plan to be acquired, 32.9 miles of roads and trails are still in need of acquisition. An additional 1.0 miles of road should

be added to the ROW Needs List in correcting a problem in an existing easement document. Many of the miles of roads and trails that are acquired are not listed in the Plan, as they may be within a parcel of land which is acquired. As this exceeds the 5 percent of variation, the Forest Plan should be re-evaluated during revision.

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

Road/Trail	Name	Miles	Status as of 9/30/2010
TR #179	DeLoche Trail	0.4	S1, T11S R19W: No ROW acquired. Per decision of Ranger, the trail is to be rerouted
TR #77	Bloodgood and Cooney	0.4	S27, T14S R11W: FT #77 was rerouted from the Mimbres River Trailhead at the Bloodgood Place to the CDNST Trailhead. S33, T14S R11W: FT #77 no longer goes through the Cooney Place.
FR #522	Tierra Blanca	1.0	S20, T16S R8W: No ROW acquired; prior to FY 2000, the road was rerouted around the private land. Portion of road outside of NF is Sierra County B013.
FR #19	Bill Knight Gap	0.1	Now Catron County Road B-007.
FR #19	Spur Lake	0.3	Now Catron County Road B-007.
FR #157N	Hermosa	14.0	Should be listed as FR #157N (not FR #157S) S20, T12S R8W is Sierra County Road C003; S23, T13S R9W: Most of the road was rerouted around the private land. ROW on the remaining portion of the road on private land was acquired in 1993. There is a 0.5 mile of road yet to process to complete this acquisition.
FR #3228 (#4074 & #4053)	Wildhorse (Elephant Lode)	1.5	Attempt to purchase was made. Landowner wanted more than the appraised value. No ROW acquired. Silver Creek Permits substitute for this route (see below).
FR #226	Chloride Creek	2.0	S31, T10S R10W ROW acquired in 1978 (outside of NF) is Sierra County Road C006.
FR #142	Snow Lake	0.5	S22, T10S R15W: now Catron County Road #C-021 (outside of NF).
FR #886	Royal John	8.1	(outside of NF): Grant County Road 3-77.
FR #210	Centerfire Creek	4.7	Now Catron County Road B-009.
FR #28	Y Canyon TS	4.0	Outside of NF: Catron County Road B-019 and B-054. Pvt. within NFS land: S24, 25 T7S R15W is now crossed by Catron Co. Rd. B-054

Road/Trail	Name	Miles	Status as of 9/30/2010
FR #49	Toriette Lakes	0.5	FY 2004 Review of existing deeds showed that the Forest already has a 1955 right-of-way for FR #49.
FR #519	Frisco Hot Springs	0.5	No ROW acquired; Forest rerouted access to Sundial Mountain Road.
FR #216 and #23	East Camp	2.0	FR #216: Now Catron County Road B-012. FR #23: Now Catron County Road B-029.
FR #506	Bear Creek	1.5	S23, 24, & 25, T16S R14W
Total		41.5	

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

Road/Trail	Name	Miles	Status as of 9/30/2010
TR #724	Turkey Creek Trail	0.3	FT 724 is entirely on NF, No ROW acquired for FT 155 in S15, T14S R16W.
TR #708	East Fork Jeep Trail	2.0	S3, 4, 9, 11, T13S R13W: No ROW acquired
TR #247	Sapillo Creek	0.4	S31, T14S R13W: No ROW acquired
FR #231	Corduroy Canyon	10.0	S31, T8S R10W; S6, 7, T9S R10W, S12, 14, 15, 21, 22, 28, 29, 30, 31 T9S R11W, S1, T10S R12W: No ROW acquired. US Gov't may already own this road.
FR #524, #902, #896, #758	Area 2D Access	10.0	FR 524: S23, T10S R9W: No ROW acquired FR 524: S30, T10S R8W: No ROW acquired FR 902: S1, T10S R9W: No ROW acquired FR 896: S1, T11S R9W: No ROW acquired FR 896: (outside of NF); S8, 9, 10, T11S R8W: No ROW acquired FR 758: S18, T11S R8W; No ROW acquired FR 758: S12, T11S R9W: No ROW acquired FR 758 (outside of NF) S17, 21, T11S R8W: No ROW acquired
FR #157S	North Percha	3.0	(Identified as FR 157N on Plan.) (outside the NF), S4, 9, 16, T16S R8W: No ROW acquired S24, 25, 36, T15S R9W: No ROW acquired.
FR #40E	Kingston	2.0	S18, T16S R8W: No ROW acquired S13, T16S R9W: No ROW acquired. This is a designated County Road (#B082).
FR #521	Adobe	2.8	S22, T9S R10W; ROW acquisition in progress (outside of NF): S12, S7, T7S R9W; S17, 18, 19, 30 T7S R10W; S1, 12 T8S R10W
FR #886	Royal John	0.4	S9 & 17, T17S R9W.

Road/Trail	Name	Miles	Status as of 9/30/2010
FR #157N	Hermosa	0.5	S23, T13S R9W: Most of the private land under which this road crossed was purchased (Aldo Leopold acquisition). An 80 acre tract of land remained that the road was routed around. A remaining short section of easement remains to be cleared up. (Shows up as 157S on the Plan.)
Total		31.4	

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

Road/Trail	Name	Miles	Status as of 9/30/2010
FR #157N	Dines	0.25	ROW acquired by purchasing the property 1993
FR #727	Dines	0.50	ROW acquired by easement purchase. 1993
FR #727	North Fork Palomas	1.00	ROW acquired by purchasing the property. 1993
FR #157N	North Fork Palomas	0.50	ROW acquired by purchasing the property. 1993
FR #157N	Circle Seven	2.00	ROW acquired by purchasing the property. 1993
FR #730	Circle Seven	0.50	ROW acquired by purchasing the property. 1993
FR#4081A	Hickland	0.25	ROW acquired by purchasing the property. 2002
No #	Curtis	0.75	ROW acquired by purchasing the property. 2002
FR #891	S. Fork Palomas Ck	0.50	ROW acquired by purchasing the property. 1993
FR #157N	S. Fork Palomas Ck	0.50	ROW acquired by purchasing the property. 1993
FR #732	Morgan Creek	1.50	ROW acquired by purchasing the property. 1993
FR #893	Seco Canyon	1.50	ROW acquired by purchasing the property. 1993
FT #110	Seco Canyon	2.00	(Formerly FR 893) ROW acquired by purchasing the property. 1993
FR #761	Animas Creek	0.50	ROW acquired by purchasing the property. 2002
FT #114	Animas Creek	1.75	ROW acquired by purchasing the property. 2001 & 2002
		Total 14.0	The Above Roads & Trails are all part of the Hermosa 14.5 mile target. (0.5mi remains to clear-up)

FT #201	Mineral Creek Trail	0.25	ROW acquired by property donation. 2006
FR #119	Copper Creek Road	0.10	ROW acquired by property donation. 2006
FR #323	North Access	3.00	Permits from State of NM & BLM 2007
FR#4053N	Silver Creek	4.50	Permits from State of NM & BLM 2008 & 2009
FT #241	Little Cherry Ck Trail	0.07	ROW acquired by purchasing the property 2009
FR #701	Cooney's Tomb	0.25	ROW acquired by land purchase. 2009
FR #506	Bear Creek	3.00	ROW acquired by purchase of the property the road is located on. 2010
Total		22.17	

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

Road/Trail	Name	Miles	Status as of 9/30/2010
FR 4318P	Cruzville (Trujillo, Ernestina)	0.25	SE $\frac{1}{4}$ NE $\frac{1}{4}$ S11, T6S. R.18 W. Easement granted is not valid. Need to have easement re-issued by the legal owners. This was a reciprocal easement exchange.
FR #119 & C 010	Claremont	0.75	S14 & 15, T.10 S., R.19 W. Easement document of record appears to have problems.
FR #141	Stotts (Tract #39)	.50	Tract #39, T8S, R19W, Major, paved Forest Road crosses this parcel with no easement.
FR #506	Bear Creek	1.5	S23, 24, & 25, T16S R14W; ROW acquired by reciprocal easement, from the seller of the property to the west.
Total		3.00	

Protection

Protection 1: Law enforcement

Monitoring Intent

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

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) off-road vehicle (ORV) damage and complaints; 7) dollar cost of vandalism; and 8) trends in user protection. Data in the LEIMARS system will be reviewed and used as a Database along with information provided by Ranger Districts.

Recommend adding a monitoring unit of measure for a more comprehensive evaluation that would include off-highway vehicle (OHV) compliance. Off-highway vehicle use is 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%

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. This is being addressed by constant checking of the statistics in the LEIMARS program to ensure timely input of information.

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 currently 3 officers and 1 supervisor to cover the 3.3 million acres and the Forest Protection Officer program has been reduced in numbers due to program changes

Cultural Resource 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. There have been two minor cases that turned into a major recovery of artifacts and this is due to increased cooperation with our law enforcement partners.

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. Also, with unemployment high, there will be more theft of wood products for income.

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. There have also been more man caused fires on one district than normal. This may be due to more people in the woods because of higher unemployment in the area.

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 brings 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 is not reported most of the time.

Off-highway vehicle use is increasing each year on the forest. The Travel Management Rule is getting closer to completion and this could happen in about a year or so. There have been roads and trails constructed in many areas of the forest. Hunters and visitors use them to ride cross country 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. The primary enforcement agency is NM Game and Fish and the Forest Service works closely with them to address these issued on the National Forest.

Vandalism on the forest continues to increase each year. The recreation program is constantly repairing tables, restrooms, signs, grills and informational structures due to vandalism or theft. Much of this is repaired and not reported to Law Enforcement because that is the cost of doing business. An estimate of damage to facilities and resources may range between 100 to 125 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, fuel wood cutting and Outfitter/Guide seasons more patrols are in 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 OHV compliance. Eventually the Travel Management Rule will be in place and this will require more enforcement efforts

Recommend keeping percent accuracy and precision to +/-10%;

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 percent 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 2003–2010, 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 FY 2010 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 2010 included approximately 1486 acres of mechanical thinning and tree pulling and approximately 5274 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 these activities will continue at the rate of approximately 2,000 acres per year.

Range 2: Brush conversion and reseeded

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 reseeded completed for the evaluation period (ending the 5th and 9th year) should be within 25 percent of projection.

Monitoring and Trend Evaluation

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

For the period 2003–2010, brush control and seeding (control of rabbit brush and snakeweed) has declined significantly. No acres of rabbit brush or snakeweed were treated via mechanical methods on the Gila in 2010. In the future it is expected that treatments will continue. This activity (rabbit brush and snakeweed control) is not expected to significantly increase in the future. Approximately 30 acres of reseeded occurred on the Reserve Ranger District.

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), 2006 and b) inspections of heavily used dispersed areas, including evaluation of vegetative deterioration and soil erosion/ Recreation Visitor Days and site condition. A discussion of the NVUM is found at <http://www.fs.fed.us/recreation/programs/nvum/>

Monitoring Frequency

NVUM survey frequency

Percent Accuracy / Precision

+/-15%; +/-15%

Variability that would indicate Re-evaluation

Actual use exceeds 30 percent of projected use by Recreation Opportunity Spectrum (ROS) setting, and/or the trend in ORV violations increase by year 5 and 10.

Monitoring and Trend Evaluation:

1. The Resource Information Management (RIM) reporting system has been eliminated. The Gila NF had an estimated 468,000 site visits in 2006. Of these about 158,500 were at developed day use sites and 63,700 were at developed overnight use sites. About 232,500 were in dispersed, undeveloped areas and about 15,400 took place in one of the three designated wilderness areas. The general conclusion is the trend for Forest visits will increase. An NVUM survey will be conducted in FY 2011. A discussion of the NVUM is found at <http://www.fs.fed.us/recreation/programs/nvum/>.
2. There is no data available on inspections on heavily used dispersed areas, therefore unknown site conditions.

Recreation 2: Developed site use, public and private sector

Monitoring Intent

Meet Federal regulation: sample output

Monitoring Method/Unit of Measure

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

Measuring Frequency

Annually

Percent Accuracy/Precision

+/-15%; +/-15%

Variability that would indicate Re-evaluation

Actual use exceeds 30 percent in People At One Time (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 number of Recreation Sites Managed to Standard and Recreation Site Capacity Operated to Standard. The Gila has reported as an average of about 444,399 PAOT's days per year for the last 5 years as its accomplishment for the measure Recreation Site Capacity Operated to Standard. The general conclusion is the trend for Forest visits will continue to increase. The forest averaged 92 recreation sites managed to standard over the last 5 years with 106 sites managed to standard in 2010.

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

4th and 9th 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, and 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 feet elevation. Establish 15 additional transects in riparian communities above 5500 feet elevation. Transects will be read during May, June, and July every fifth year, with low elevation transects being read in years 6 and 1 and high elevation transects being read in years 7 and 2. Re-evaluate if sufficient progress is not being made to meet Regional Riparian Condition Goals found in Forest wide Standards and Guidelines.* Methods used for aquatic monitoring currently include specific protocol developed for each stream, depending upon species and macro habitats present and relative size of stream. Monitoring includes efforts to characterize species and habitat associations, species populations and community dynamics, species interactions, and changes in species status and distributions. Riparian condition transect methods used in the last 10 years include Riparian Area Survey and Evaluation System surveys and Proper Functioning Condition surveys.

Measuring Frequency

The Forest Plan states that this will occur every 5 years. Aquatic habitat monitoring is currently done annually on 15 stations; most occurring during October to avoid reproductive periods of threatened and endangered (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 Forestwide Standards and Guidelines

Monitoring and Trend Evaluation

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

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

The following tables list monitoring activities that have occurred in 2009 and 2010:

2009 and 2010 Monitoring Activities

Location	District	Activity	Description	Trend
Mud Springs Allotment; Luna Out year Planning; Signal Peak; Mineral Creek Allotment, Slaughter Mesa, T Bar Allotment; Cooney, Beaver Creek, 7 Troughs, Bear Creek, Noonday-Gallinas, Little Creek Fish Barrier Feasibility study, Dry Blue, Pace Creek, Bear	Quemado, Reserve, Glenwood, Silver City, Wilderness, Black Range	Proper Functioning Condition survey and ocular evaluations, cross section and flow analysis.	Assessment completed on all riparian areas related to 2009 and 2010 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.

Location	District	Activity	Description	Trend
Creek, San Francisco River				
*Gila & San Francisco Rivers and major tributaries, Dry Blue Creek, Mimbres River	Wilderness, Silver City, Glenwood, Quemado, Reserve	Fish survey	15 annual monitoring points for fish species and populations. Completed in cooperation with NM Game and Fish Dept. And US Fish and Wildlife Service. Some habitat monitoring included in some points.	No trend analysis completed. Noted trend for Gila trout is upward; Chihuahua chub was found 11 miles upstream of known occupied habitat on Forest in 2008 and the population has continued to persist in 2009 and 2010; trend for other T&E aquatic species is considered stable to downward. Native non T&E species trend considered stable. During 2009, fisheries inventory of the East, Middle and West Forks Gila River was completed.
**Lake Roberts, Quemado Lake	Wilderness, Quemado	Water Quality sampling	Water quality sampling on lakes after installation of Solar Bees (water circulators)	No trend analysis completed.
***Whitewater Creek	Glenwood	Water Quality sampling	Turbidity sampling at 3 sites located within 319 trail project to assess success of BMPs	Turbidity sampling indicated low turbidity during all sample visits. One sampling visit occurred during removal of low water crossing, resulting in slighter higher turbidity readings.

*See *Appendix D* for Inventory of the East, Middle and West Forks of the Gila River 2005-2008

**See *Appendix E1 and E2* for Lake Roberts Quemado Lake monitoring reports

***See *Appendix F* for Whitewater Creek Monitoring Report

Soil and Water

Soil and Water 1: Watershed condition of forest lands

Monitoring Intent

Increase acres of watershed in satisfactory condition.

Monitoring Method/Unit of Measure

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

Measuring Frequency

10 percent annually

Percent Accuracy/Precision

±80% / ±80%;

Variability that would indicate Re-evaluation

Re-evaluation if improvement acres show a 5 percent decrease in ground cover in transition zones or less, or 10 percent 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 FY 2009 and FY 2010.

2009 and 2010: 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
Mud Springs, Noonday-Gallinas Allotment, T Bar Allotment, Frisco Plaza Allotment, Berenda Allotment,	Silver City, Reserve, Black Range	Watershed condition monitoring	Monitoring done for allotment analysis to determine management action needed to protect resources	Overall stable to upward with isolated areas of static and/or downward trend on some

Location	District	Activity	Description	Trend
				allotments.
Luna, John Kerr Peak, Gila Wilderness	Quemado, Reserve, Glenwood, Wilderness	2009 – 210,000 acres; 2010 – 383,000 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 percent failure of drainage structures within 1 year of installation b) 20 percent of road closures being used within 3 years; c) 10 percent of road obliteration/relocation being closed within 3 years; d) 5 percent of drainages being damaged to the point that flows are concentrated and channel instability initiated.

Monitoring and Trend Evaluation

The Forest uses Regional 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 U.S. 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.

2009 and 2010 Soil and Watershed Monitoring

Location	District	Activity	Description	Trend
Forest wide, Forest Road 150 (ARRA), Forest Road 28 (ERFO)	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
*Bear Fire	Reserve	Post-Burn Monitoring, including pace transects	2-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. Moss cover noted that in many areas that is susceptible to ungulate trampling. Watershed condition is in an upward trend from 2006.

*See *Appendix G* for Bear Fire Monitoring Report (November 2008)

Timber

Timber 1: Intermediate and removal harvest

Monitoring Intent

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

Monitoring Method/Unit of Measure

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

Measuring Frequency

Annual

Percent Accuracy/Precision

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

Variability that would initiate re-evaluation

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

Monitoring and Trend Evaluation

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

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

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

Acres of Intermediate and Removal Harvest Unit	2004	2005	2006	2007	2008	2009
Acres	359	389	453	115	487	2017

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

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

10 Year Plan for Timber Volume Offered (ccf), 2006 – 2016 Year	Volume Offered (ccf)
2010	8,000
2011	9,000
2012	9,000
2013	9,000
2014	9,000
2015	9,000
2016	9,000
2017	10,000
2018	10,000
2019	10,000
2020	10,000
Sum 10 Years	102,000

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 (Forest Service Handbook 2409.21e) and examination procedures in compartment examination and prescription handbook/acres.

Measuring Frequency

Annual

Percent Accuracy/Precision

+ 10%; +20%

Variability that would indicate Re-evaluation

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

Monitoring and Trend Evaluation

This item is a Federal Regulation to ensure control of stocking levels for accelerated growth. This is a specific item that is tracked in the National Forest Vegetation and Watershed Management (NFVW) and National Forest Timber Management (NFTM) Timber Stand Improvement budget items. An increase in acres treated over the past two years is due to markets in place (Catron County Citizens Group Mill in Reserve and Gila Woodnet in Silver City) to process smaller diameter timber. The use of tools such as; grants, agreements, contracts, and updated utilization standards in the past 2 years has improved our ability to treat more acres compared to traditional timber sale contracts that would not sell due to long haul distances. The following table lists the acres of timber stand improvement areas.

Timber Stand Improvement Areas

Unit of Measure	2004	2005	2006	2007	2008	2009
Acres	7,495	1,345	1,837	1,500	5,000	5,500

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 Forest Service Handbook 2400 page 8 of the Gila National Forest Supplement. The increased cost of fuel and electricity has resulted in an increased demand for fuel wood.

Cords of Fuel wood Made Available

Unit of Measure	2004	2005	2006	2007	2008	2009
CCF	6,659	7,001	4,818	4,650	5,350	5,753
Cords	8,323	8,752	5,226	5,813	6,678	7,191

Recommendation

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 began to emerge. The way timber is awarded has also changed as we no longer use only timber sale contracts. To ensure accurate monitoring of activities now and in the future, we must modify existing items and monitor new items previously not considered. Given current priorities and conditions on the forest the following is recommended for future timber monitoring:

Timber 1: Acres of Intermediate and Removal Harvest

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

Timber 4: Board Feet of Net Saw timber Offered

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

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

Timber 5: Cords of Fuel wood Made Available

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

Timber 8: Review of Timber Land Classification

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

Wilderness

Wilderness 1: Wilderness use by Wilderness Opportunity Spectrum Class

Monitoring Intent

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

Monitoring Method/Unit of Measure

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

Measuring Frequency

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

Percent Accuracy/Precision

+/-20%; +/-20%

Variability that would indicate re-evaluation

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

Monitoring and Trend Evaluation

Based on the 2006 NVUM survey results, the Gila NF had about 15,400 visits to the three designated wilderness areas in FY 2006. The Forest currently manages two of the three designated wilderness areas to a minimum stewardship level according to the criteria of 10-Year Wilderness Stewardship Challenge. These are the Blue Range Wilderness on the

Glenwood Ranger District and the Gila Wilderness on the Wilderness Ranger District. The goal is to have all three designated wilderness areas managed to a minimum stewardship level by 2014. The Forest will conduct a NVUM survey in FY 2011.

Wilderness 2: Wilderness trail construction & reconstruction and maintenance

Monitoring Intent

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

Monitoring Method/Unit of Measure

Work Accomplishment Reports / Miles.

Measuring Frequency

Annual

Percent Accuracy/Precision

+/-5%; +/-5%

Variability that would indicate re-evaluation

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

Monitoring and Trend Evaluation

Forest Plan projections are for 115 miles of reconstruction per decade. From 1986–2001 the Forest met the plan projections. In the last 5 years (2006–2010) we maintained an average of 245 miles of trail maintenance per year. In 2010 alone we maintained about 589 miles of trail; 369 miles of this maintenance was accomplished with Recovery Act funding. A significant portion of the trail maintenance was accomplished with the assistance of various outside organizations. The Forest constructed/reconstructed 73 miles of trail from 2006 through 2010. Forty miles of trail was constructed in 2010 with 6 miles of this being a new segment of the Continental Divide Trail that runs through the Quemado Ranger District.

Wildlife

Wildlife 1 and 2

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

Monitoring Intent

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

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

Monitoring and Trend Evaluation

Federally and State Listed Species

Mexican spotted owl

Monitoring Method: Single season monitoring

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

In 2009 the Gila added an additional 24 Mexican Spotted Owl (MSO) management areas to the already established 262 Protected Activity Centers (PAC), bringing the total to 286 PACs.

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 some negative impacts to the Mexican spotted owl and its habitat, but these fires have also helped reduce the potential of high intensity fire which can have a more significant effect to the spotted owl. These actions have allowed for the long term improvement of Mexican spotted owl habitat on the forest. The reduced risk of

catastrophic fire has improved the quality of the existing habitat. Available data suggest that Mexican spotted owls are fairly resilient to wildfires that burn up portions of their management areas, at least in the short term.

In 2009 approximately 52,658 acres of wildfire occurred on the Gila. Acreage managed under a resource benefit strategy was approximately 51,113 acres; the remaining acreage was managed under a wildfire/suppression strategy.

In 2009 wildland fire burned through approximately 18 PACs in the Moraga and Willow fires. An estimated 442 acres of PAC habitat burned at a high intensity, the remainder of the habitat burned at a low to moderate intensity. Areas that burned at the low to moderate severity did not drastically alter the habitat characteristics for this species, rather this type of fire helped to protect these areas from future high intensity fire. Suppression actions to help mitigate fire intensities did cause potential disturbance effects to owls using these PACs during this year. Additionally, suppression actions on the Ladron fire caused potential disturbance effects to two additional PACs. The MSO Recovery plan identified high intensity fire as one of the reasons for needing to list the MSO; therefore, FWS has recognized the importance of lower intensity fires on the landscape to help provide long term protection to this species.

In 2010 approximately 4,617 acres of wildfire occurred on the Gila. Acreage managed under a resource benefit strategy was approximately 4,475 acres; the remaining acreage was managed under a wildfire/suppression strategy.

In 2010 wildland fire did not result in any adverse affects to Mexican spotted owl PACs. Suppression actions did temporally cause a disturbance affect to single MSO PAC, but did not have any long term affect.

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

In 2009 monitoring on the Forest occurred in 28 PACs. Mexican Spotted Owls were located nesting or roosting within the boundary of 18 PACs. Pairs were documented in 9 PACs.

In 2010 monitoring on the Forest occurred in 47 PACs. Mexican Spotted Owls were located nesting or roosting within the boundary of 27 PACs. Pairs were documented in 15 PACs.

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 2009 and 2010 monitoring on the Forest for this species occurred along the Gila River in the Gila Bird Area, and the Fort West Ditch Area. Nesting birds continue to be documented in both areas. The number of breeding territories moved up above the 2007 and 2008 levels, back to about 2005 and 2006 levels.

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

Reports of SWWF nesting along the San Francisco River are scant according to the New Mexico Department of Game and Fish. Until the 2007 nesting season the Gila had no documented records of SWWF nesting along the San Francisco River. This population was being monitored by the New Mexico Department up until 2008, since the department has not been able to continue with this work the Forest plans to start monitoring the population on the Forest in 2011.

Chiricahua leopard frog

Monitoring Method: Single season monitoring

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

One new population was discovered on the Forest and the Gila partnered with the FWS to re-establish another population. Additionally, the Reserve Ranger District constructed a rearing and holding facility to assist with the recovery of this species.

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

Loach minnow and Spikedace

Monitoring Method: Single season monitoring

Trend: Management activities that have the potential to directly impact both these species habitat, 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. No wildland suppression activities caused impacts to these species during this reporting period. Habitat conditions for the loach minnow and spokedace 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.

Surveys and monitoring were conducted by Gila NF and in cooperation with New Mexico Department of Game and Fish (NMDGF). Annual monitoring of warm water fishes at 8 permanent sites in the Gila and San Francisco River drainages was accomplished during October of 2009 and 2010 in cooperation with NMDGF. The Gila NF funded D. Miller of Western New Mexico University to monitor two sites within the Gila River Bird Area during this period of time. Annual species monitoring on the Gila National Forest indicates that the loach minnow and spokedace are doing better on some parts of the Forest than others. Loach minnow and spokedace 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. The Forest has been working with the NMDGF to re-introduce spokedace to the San Francisco River. Spokedace are absent from the Tularosa River. Loach minnow and spokedace numbers are up in the mainstem of the Gila River. Loach minnows and spokedace 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.

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

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.

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

Monitoring and Trend Evaluation:

Management Indicator and Region 3 Sensitive Species

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

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

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

Plain titmouse habitat conditions on the Gila have remained stable. The Plan projected an upward trend in this species habitat. Monitoring along the Breeding Bird Survey routes on the Forest have shown no apparent trend, long-term population trends for the titmouse appear to be stable to slightly decreasing at the Forest level. Limiting factors for the Plain Titmouse include cavities in snags and hollow trees. With the large amount of woodland vegetation type on the Gila National Forest, cavities are expected to be abundant for this species.

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

Abert's Towhee habitat conditions on the Gila National Forest appear to have improved. Suitable and potential habitat on the Forest has been excluded from management activities that have the potential to impact these riparian areas. A study on and adjacent to the Forest documents that this species continues to be documented

in areas of historical occurrence. Forest monitoring in the Gila Bird Area has not been able to document an apparent trend.

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

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

Bald Eagle habitat conditions on the Forest have improved. Suitable and potential riparian habitat is primarily excluded from management activities that have the potential to impact habitat conditions for this species. Monitoring in the Gila Bird Area and across the Forest indicates that this species commonly occurs on the Forest. 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 other 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.

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. Population levels for these species appear to be stable.

2. Action Plan for 2011

The Action Plan for 2011 identifies which monitoring items and monitoring activities will be reported on fiscal year 2011 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	2011 Monitoring Item
Air 1	Class I wilderness	Visibility baseline and current	Yes
Cost 1	Units costs	Ability to implement Forest Plan	No ¹
Cost 2	Annual budget	Ability to implement Forest Plan	No ¹
Cost 3	Program budget	Ability to implement Forest Plan	No ¹
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 reseeded	Forage production	Yes
Range 3	Range development	Range use and capacity	No
Range 4	Permitted use	Balance use with capacity	No
Range 5	Grazing Capacity	Projected levels	No ²
Recreation 1	Dispersed recreation (ROS settings)	Demand and capacity	Yes
Recreation 2	Developed sites (public and private)	Output	Yes
Recreation 3	Visual quality	Prescriptions and effects	Yes
Riparian and Aquatic	Riparian and aquatic condition	Improve condition	No ³
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	No ⁴
Timber 2	Regeneration harvest	Prescriptions and effects	Yes
Timber 3	Timber stand improvement	Stocking levels	No ⁵

Monitoring Item	Monitoring Activity	Description of Monitoring Activity	2011 Monitoring Item
Timber 4	Saw timber	Allowable sale quantity	Yes
Timber 5	Fuel wood	Sustained yield	No ⁴
Timber 6	Restocking regeneration Harvests	Restoration standards (5 years and 80%)	No ⁷
Timber 7	Harvest area size	Opening size limits	No ⁸
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

¹ Measuring progress toward achieving the goals, objectives and standards of the Forest plan using unit costs is a difficult measure and not always an effective tool. Fund code and accomplishment definitions have changed extensively over the life of the plan and fund codes have been added, deleted and/or combined during this period.

² This is based on no clear guidance on how to determine capacity for our Range NEPA.

³ This is based on changing the method for monitoring nationwide. The method for report HUC6 has been announced in 2009 and was implemented in FY2011 and will be reported in the FY 2011 monitoring report.

⁴ The Gila is currently not doing regeneration cuts.

⁵ The ASQ is outdated in the plan and will be revisited during Plan Revision.

⁶ The Gila is currently not doing regeneration cuts.

⁷ The Gila NF is not clear cutting openings since the Goshawk guidelines have been implemented.

⁸ The Gila NF will re-evaluate classification of suitable timber lands in Plan Revision.

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