United States Department of Agriculture

Forest Service

Southwestern Region

2009 Forest Plan Monitoring and Evaluation Report

Prescott National Forest

Photo by Noel Fletcher

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Introduction

Forest Plan monitoring is an ongoing process that assesses the response of the forest environment to management activities undertaken to move the Prescott National Forest (PNF) from an existing condition to a desired condition as described in the *1986 Prescott National Forest Land Management Plan* ("Forest Plan," as amended, and as republished in December, 2004) (herein referred to as Forest Plan). Stress on the Forest's natural systems by drought and other factors further elevates the importance of monitoring because of the need to assess the extent of the response of ecosystems to the stress and to determine appropriate management actions.

The purpose of monitoring and evaluating the implementation of the Forest Plan is to inform the decision maker of the progress toward achieving the goals, objectives, and following standards and guidelines. This report documents and evaluates the results of the monitoring that occurred during fiscal year (FY) 2009 (October 2008 through September, 2009) and describes the rationale for any changes to the Plan recommended by the monitoring team.

This report meets the intent of Chapter 5 of the Forest Plan to "analyze and evaluate the significance of the results of the monitoring action plan" (p.73). It also provides an important communication link with the public and within the agency. By disclosing the effectiveness of the Forest Plan, the Forest is able to better identify future research needs and to shift monitoring activities to more effectively measure overall Forest health.

In addition, one of the requirements of the 1980s Forest planning process was a commitment to monitor and evaluate how well Plans are implemented. The process includes opportunities for modifications to the Plan in response to this monitoring.

Forest Plan monitoring requirements are included in chapter 5 of the PNF's Forest Plan, available on our website at *www.fs.fed.us/r3/prescott*. For each activity or practice, the effect to be monitored, one or more measurement techniques, and the expected future condition to be met are specified. A frequency for measuring and reporting the monitored item is established, and the expected precision[1] and reliability of that measurement is stated.

In general, monitoring will determine:

- If management prescriptions are applied as directed.
- If standards are being followed.
- If the Forest is achieving its objectives.
- If management prescriptions are responsive to public issues and management concerns.
- If effects of implementing the Forest Plan are as predicted.
- If management practices on adjacent or intermingled non-Forest lands are affecting Forest Plan goals and objectives.

[1] Precision is the exactness or accuracy with which the data will be collected; reliability is the degree to which the monitoring accurately reflects the total Forest situation.

Based on the evaluation of the results, the monitoring team makes recommendations to the Forest Supervisor. These can include:

- No Action Needed - Monitoring indicates goals; objectives and standards are being reasonably achieved.
- Refer Recommended Action to the appropriate line officer(s) for improvement or application of management prescriptions.
- Modify the Management Prescription or assignment of a prescription as a Forest Plan amendment.
- Revise the Projected Schedule of outputs; Initiate Revision of the Forest Plan.
- Identify Research Needs.

It is important to note this is not a monitoring report on individual projects, which is an ongoing Forest activity. However, results of some individual projects have been considered in the preparation of this report.

Section 1 – Resource Monitoring Summary

Fire Management

Periodic inspections and readiness reviews were used during FY2009 to validate that the fire management organization could function in a safe and effective manner.

FY2009 – Fall 2008 and January 2009 moisture was at or above historic averages. The remainder of Winter and Spring 2009 moisture levels were below normal. This supported good initial growth of all types of plant life including grasses, shrubs and trees, but discontinued when moisture events diminished and spring temperatures began to rise. Monsoon moisture began in late May (slightly earlier than normal). Moisture amounts were below normal, but occurred at periodic events which supported moderate fire behaviors throughout most of the summer months.

Table 1 shows moisture amounts received at various weather stations across the Prescott National Forest (PNF) during the course of FY2008 and FY2009.

Table 1: Moisture Levels Recorded at PNF Weather Stations During FY2008 and FY2009

Weather Station	**2007**	**2008**			**TOTAL**
	Oct 1-Dec 31	Jan 1–Mar 31	Apr 1-Jun 30	Jul 1-Sep 30	
Iron Springs	4.82”	7.50”	0.66”	5.23”	**18.21”**
Crown King	11.60”	9.78”	1.12”	10.50”	**33.00”**
Verde	3.62”	3.12”	0.85”	4.28”	**11.87”**
Cherry	4.87”	6.14”	2.29”	6.12”	**19.42”**
Weather Station	**2008**	**2009**			**TOTAL**
	Oct 1-Dec 31	Jan 1–Mar 31	Apr 1-Jun 30	Jul 1-Sep 30	
Iron Springs	5.46”	2.02”	2.78”	4.97”	**15.23”**
Crown King	9.38”	2.23”	3.27”	4.96”	**19.84”**
Verde	3.95”	2.22”	1.08”	1.88”	**9.13”**
Cherry	5.48”	2.49”	1.86”	5.54”	**15.37”**

The PNF implemented campfire and smoking restrictions on May 21st in 2009. Timely and abundant monsoon moistures permitted restrictions to be lifted on July 23rd. Moisture amounts and the lack of heavy lightning during the summer monsoon season was enough to restrict potential wildfire starts and spread. As a result, suppression efforts were successful for most wildfires after the start of the monsoon period on the PNF.

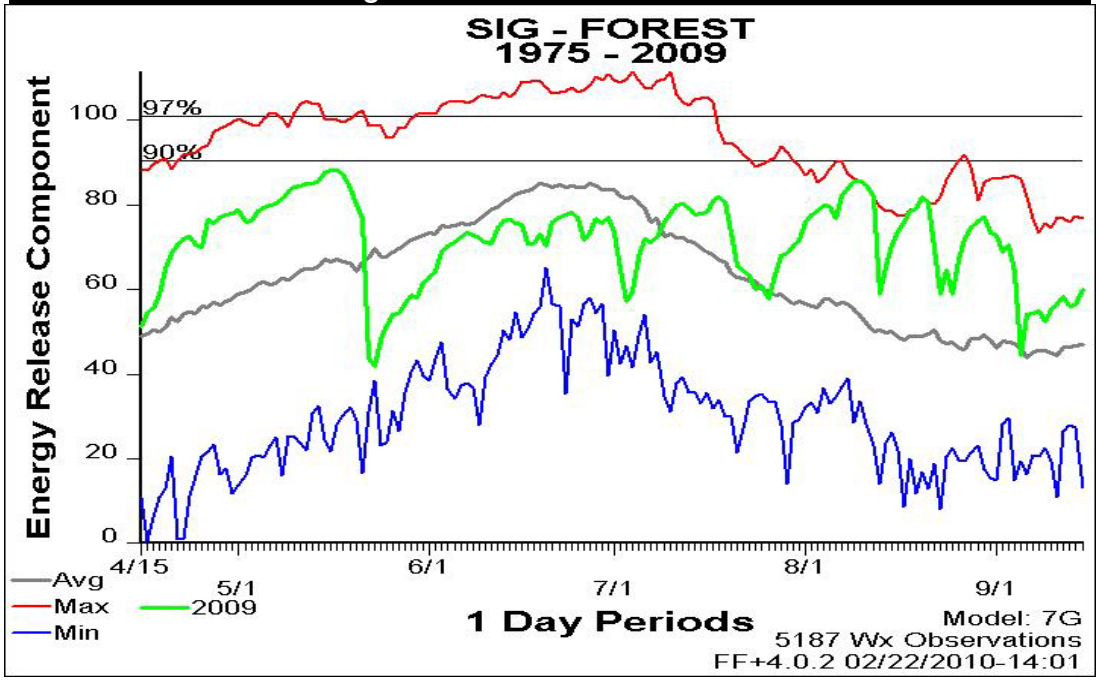
Periodic moisture and moderate fire behaviors supported decisions to manage two lightning-caused fires (Hyde and Woodchute) with objectives other than full suppression. These wildfires successfully accomplished resource objectives and functioned in a manner similar to pre-European settlement wildfire events.

FY2009 – Table 2 displays the number, size, and cause of wildfires that occurred during FY2008 and FY2009. The majority were less than one acre in size.

Table 2: Wildfires on the PNF During 2008 and 2009			
	WILDFIRE SIZE (Acres)	**# OF WILDFIRES**	**CAUSE**
2008	< 1	46	Human
	< 1	21	Lightning
WILDFIRE NAME	1 - 100	2	Human
	1 - 100	0	Lightning
August	630	1	Human
Lane 2	9,629	1	Human
TOTAL		**71**	
2009	< 1	20	Human
	< 1	23	Lightning
WILDFIRE NAME	1 - 100	2	Human
	1 - 100	8	Lightning
Hyde	255	1	Lightning
Woodchute	779	1	Lightning
TOTAL		**55**	

FY2009 – Drought conditions from FY2007-FY2008 prevailed through the first few months of FY2009. Winter moisture eventually moderated wildfire indices, but a dry spring allowed the Energy Release Component (ERC) to rise above historic averages by mid-May (Figure 1). Monsoon-like moisture began the latter part of May. Accumulations from May throughout the summer months was below normal, but light periodic moisture events and high humidity maintained ERC below historic levels through most of June and July.

Figure 1: FY2009 ERC for PNF



In FY2009 large wildfire activity throughout the nation was light during most of the summer, but picked up during late summer with several large long-term fire events occurring in California. Off-Forest wildfire assignments for the Prescott Hotshots and most wildfire-fighting resources

were at or slightly below normal. Many of these assignments were in support of wildfires being managed for resource benefits and at less than full suppression efforts. Shortages of all types of wildfire-fighting resources occurred during the late summer months with numerous large wildfires occurring in California.

Annually, the Forest monitors wildfire and fuels conditions on treated, untreated, and wildfire sites in various vegetation types to evaluate vegetation trends. This program was implemented in 1999. Currently, there are 13 permanent plots established in the pine type, seven plots in the chaparral type, and three control plots. Nine of the pine plots have been burned, and all seven of the chaparral plots have been brush-crushed. Plots are monitored right after the treatment, and at one, two, and five year intervals. These plots help determine how well objectives are being met, or if modifications are needed during future treatments to help move Forest lands towards desired conditions. Individual prescribed burns and wildfires being managed with less than a full suppression objective are being monitored for weather conditions, fire behavior, and pre and post-fire fuels loadings (live and dead) to identify on-going trends. This information will be used as an adaptive management tool to support successful management of fire in the future.

In FY2009 both mechanical and prescribed fire treatments were used to reduce fuel loadings. Mechanical treatments were conducted in the ponderosa chaparral and woodland vegetation type to improve the condition class, enhance the ecosystem, and to construct fuelbreaks to support future prescribed burn activities. Approximately 309 acres of mechanical treatments were completed during FY2009. The objective was fuelbreak construction and fuels reduction.

The PNF completed 9,391 acres of prescribed fire in FY2009. Prescribed fire was applied in wildland / urban interface areas in ponderosa pine, as well as in chaparral, which created the desired mosaic and resulted in reduced fire hazard.

Table 3 displays the number of acres treated by year and vegetation type since the PNF Forest Plan was approved.

Table 3: Prescribed Wildfire History
Acres Treated by Vegetation Type

YEAR	GRASS	CHAPARRAL	PINE	WOODLAND
1987	5,000	11,930	0	0
1988	3,500	9,358	984	0
1989	6,000	1,000	910	152
1990	3,500	0	1,150	270
1991	2,344	1,800	0	410
1992	2,500	0	75	1,176
1993	2,000	1,200	96	0
1994	1,500	4,800	150	0
1995	3,200	2,100	110	0
1996	0	1,200	241	0
1997	0	3,492	768	0
1998	0	6,000	0	0
1999	0	7,500	0	0
2000	3,000	2,500	1,100	0
2001	6,000	8,000	100	1,000
2002	0	300	288	0
2003	0	7150	500	0
2004	0	4071	1800	0

Table 3: Prescribed Wildfire History Acres Treated by Vegetation Type				
2005	0	5,483	667	0
2006	0	4,300	5,500	0
2007	0	3,866	4,518	0
2008	0	5,885	7,236	0
2009	0	6,383	3,016	301
TOTAL	**38,544**	**98,318**	**29,212**	**3,309**

Heritage Resources

The PNF manages 36 sites that are listed as National Register Properties. Since a number of these are Forest Service administrative sites that are actively being used, many are visited throughout the year by heritage resource management personnel. Those National Register properties that are not used on a day-to-day basis are visited less regularly. The less-visited sites are customarily checked as the opportunity arises, which usually occurs every few years. All 36 properties experience little overall change from year to year. Since most of these sites are historic properties, the primary activity involves routine maintenance on historic buildings. Forest maintenance funds for such structures are stretched thinly to cover these sites; not surprisingly, those that are continuously occupied are given more attention. Prehistoric sites that are listed as National Register properties seem to be more affected by natural processes than direct acts of vandalism. As far as can be determined, prehistoric sites remain in fairly stable condition with no major impacts having altered their historic integrity.

There were 57 heritage resource projects completed in FY2009 on the PNF. Twenty-five new archaeological properties were recorded, with the addition of 53 sites added as part of an earlier survey involving the Northern Arizona Land Exchange. Many sites were monitored as part of project activities. There were 179 previous recorded sites accounted for on FY2009 proposed projects. Any pre-project monitoring that was done consisted of assuring that sites were properly identified and marked for avoidance, and checking the sites and removing identification boundary markers once the project was completed. It is not uncommon that sites are visited more than once during the life of a project to ensure that they are protected. Sometimes pre-project work simply involved making sure that project managers were aware that archaeological sites existed in the project area.

Monitoring also consisted of checking over 50 sites during non-project-related fieldwork for signs of vandalism and natural deterioration. These sites are located throughout the Forest and consist of a variety of site-types. Monitoring identified two primary sources related to site integrity. The first involves environmental factors, typically related to weather events. Rain in the form of "downpours" creates sheet and rill erosion, causing artifacts to be displaced and archaeological features to be compromised. Although no quantitative data exist as to the seriousness of this problem, sites are being impacted when heavy rains occur. The second issue that affects site integrity is direct and indirect vandalism. During FY2009 vandalism was sporadic and small-scale, and no individuals were identified. The number of vandalism reports remained about the same as in previous years. Vandalism is documented and filed with our archaeological site data.

Two damage assessments were completed. One of the damage assessments concerned the direct impact of a small site in the Groom Creek area. The site was impacted by machinery. The other assessment was done for a mid-size pueblo in the Verde Valley where illegal digging was discovered.

In addition to monitoring National Register Properties, monitoring efforts included inspecting a number of archaeological sites that fell within timber harvesting areas. This work included relocating and reflagging archaeological sites. Monitoring occurred on several smaller projects, including trails projects, road improvement projects, mining projects, historic site improvements, and others. Some monitoring efforts do get reported because they involve quick" spot checks" of known heritage resources when the opportunity arises while either going to, or coming from, project areas. Overall, monitoring efforts on the PNF appear to be effective and helpful in our continuing efforts to protect prehistoric and historic resources.

Insects and Disease

The PNF monitors insect and disease conditions annually in order to better predict future impacts. The desired condition is that insect and disease problems will not have serious adverse effects on the Forest due to an appropriate mix of silvicultural activities, treatment of slash, and various other control methods. Steve Dudley, Biological Technician, Forest Health, Arizona Zone, flew over the PNF and adjacent state and private forested lands on July 20, 21, and 22, 2009. Bark beetle activity continued to decline in 2009 with less than 86 acres recorded. This is down from 259 acres in 2008. Arizona five-spined ips beetle impacted the largest area with 66 acres of ponderosa pine showing activity in 2009.

Lands

No rights-of-way were acquired in FY2009.

Noxious Weeds

The PNF continues to be involved in the Southwestern Vegetation Management Association, the Western Yavapai and the Verde Valley Weed Management areas. Participation in these weed management programs provides a networking of information on noxious weed species presence and eradication treatments with other federal and state agencies and private entities. Noxious and invasive weed species surveys are conducted yearlong across the PNF by trained personnel from various resource programs. Once these species are located, they are plotted and identified by GPS and added to the PNF's Weed Atlas and the PNF's GIS noxious weed layer. This data is loaded into the Weed Atlas and is shared statewide in Arizona.

Monitoring of the PNF's noxious populations has resulted in treatment accomplishment of 800 acres in FY2009. Monitoring and inventory of noxious weed on 12 miles of the Upper Verde River in FY2009 resulted in priority treatment of 75 acres; protecting the integrity of this important riparian habitat and critical habitat for threatened and endangered wildlife and fish species.

Many developed and dispersed camping sites, day-use areas; dispersed recreational activity areas, wilderness areas, trails, and the Verde River have established populations of invasive weeds.

Range Management

Livestock authorized permitted grazing numbers on the PNF's range allotments in FY2009 decreased from previous years. The livestock numbers authorized in FY2009 was 69% (83,380 head months) of the total allowable permitted numbers (120,311 head months) within the ten-

year term grazing permits. This decrease in authorized numbers is in response to the drought conditions experienced across the PNF.

No range National Environmental Policy Act (NEPA) decisions were completed for the Forest in FY2009.

Grazing capacity for livestock is monitored in numerous ways:

1. By the re-reading of the Parker Three-Step Clusters which were established on the Forest in the late 1950s and early 1960s. Collection of repeatable data points allows comparison of herbaceous frequency, density and soil stability indicators aid in the determination long term trends for each allotment.
2. Annual range allotment inspections determine the short-term needs for adjustment of authorized livestock numbers stocked within each allotment.
3. The analysis of rangeland resources is supplemented by data collected via numerous monitoring methods for the assessment of grazing use within allotments as required by NEPA.

Parker Three-Step Clusters were re-read and evaluated for trend and condition of rangeland resources on numerous allotments in 2009. This monitoring was conducted on the following allotments as shown in Table 4.

Table 4: FY2009 Allotment Long-Term Trend Monitoring

Reanalysis of Parker Three-Step Clusters	
ALLOTMENT NAME	ACRES ANALYZED
Yolo North	*14,884*
Peck Canyon	*26,045*
Williamson Valley	*48,817*

Forest research and range scientists have documented for years that climatic cycles of drought and wet periods often have more effect on vegetative ground cover than resource management (i.e., livestock grazing). The monitoring assessment noted that the climatic drought conditions in the last 15 years have reduced the frequency and density of vegetation particularly in the graminoids (grass-like vegetation). In 2009 the Prescott National Forest was exceptionally dry, with extreme drought indicators present in the southern and western portions of the Forest and moderate to severe drought conditions found elsewhere. .

The 2009 monitoring results for each allotment are summarized as follows:

Yolo North - Vegetation and Soil indicators for the allotment's three clusters found static conditions, with little change in plant species, frequency and density. Pinyon and juniper encroachment has increased and in future time will reduce effective ground cover and forage availability. Soil indicators found stable conditions - no rill or cutting present. No soil compaction was observed.

Peck Canyon - Vegetative monitoring found conditions in a downward trend at the allotment's five clusters sites and across the allotment in general. The allotment's chaparral-brush communities were stable with static trends. However the desert grassland communities found lower plant frequencies and densities with the remaining perennial forage plants receiving heavy grazing. Review of the allotment's livestock grazing numbers over the last five years found livestock had been dramatically reduced due to the lack of water and forage availability. Specifically in 2009, winter and spring grazing occurred, but no plant growth or recovery followed due to the extreme drought conditions. Livestock were reduced to 25-30 percent of total permitted for the remainder

of 2009 and into 2010. All soil monitoring conditions were found to be stable and in a static trend condition.

Williamson Valley - Vegetation condition and trend had mixed results. Nine clusters were monitored; six had downward trends caused by high density of pinyon/juniper tree encroachment. The remaining three clusters had static vegetative conditions as the graminoid species frequency and density did not significantly change. Poor vigor was observed and documented in all plants as a result of the drought conditions. Soil conditions were static with signs of upward trends, as soils were stable and old rills and cuts were revegetating and heeling.

Range allotments "administered to standard" (range permit compliance monitoring), in FY2009 evaluated total of 305,228 acres of rangeland. This compliance monitoring includes accounting for the authorized/actual use livestock on the allotment, monitoring the livestock use on forage vegetation, ensuring pasture rotations are timely and followed, and maintenance of structural range improvements.

Recreation

Developed recreation facilities usage decreased in FY2009 with only 2 sites showing a marked increase in use from FY2008. The weak national and world economies, the housing market, and other major factors contributed to this decline in use. Lynx Campground continues to be the most popular recreation site on the Prescott National Forest with a 63.7% occupancy rate in FY2009.

Concentrated developed recreation usage occurs on weekends during the spring, summer, and early fall. In FY2009 there were approximately 73,462* overnight camping visits, including group sites, and 120,196 day-use visits. The overall recreation visitor day (RVD) is based on a RVD multiplier of 6 for an average 2-day camping stay. In 2009 the RVD total was 125,934. Currently the PNF LMP provides 380,000 RVD's or 52% of the demand. There appears to be available capacity in the current developed recreation facilities. During the peak recreation summer months, campground occupancy can average 80 – 100% on weekends but occupancy over the entire seven month season is considerably less (Table 5).

Table 5 Campgrounds	2009 % Annual Occupancy
Groom Creek Horse Camp	**23.1**
Hilltop	**38.3**
Yavapai	**20.7**
Lower Wolf Creek	**23.3**
Lynx Lake	**63.7**
Mingus Mountain	**41.4**

**Approximately 20,989 camping days, including group camp site days were used in 2009. Recreation statistics use 3.5 people/overnight visits in developed campsites. Monte Richardson – Developed Recreation Program Manager*

The PNF has 2 developed off highway vehicle (OHV) areas: Alto Pit and Hayfield Draw. Visits (based on an analysis of fees collected) for both OHV areas totaled about 7,562.

There are 115 designated dispersed campsites within the Prescott Basin These sites do not have any facilities (trash, toilets, water, etc.) and no fee is required. Forest-wide dispersed site

Table 6 – 2009 Verde Wild & Scenic River Patrol				
YEAR	**VISITOR CONTACTS**	**TRASH (ITEMS & WEIGHT)**	**FIRE RINGS DESTOYED**	**OTHER WORK**
2009	**447**	**31 TIRES** **33 BAGS OF TRASH** **3 PALLETS** **2175 lbs.**	**54**	**Invasive weed treatment and re-treatment, fence repair, re-painted gaging station, assisted AGFD in eagle inventory, assisted Dept. of AZ Geological Survey in mapping the Verde River,**

monitoring is conducted from April through October each year by fire prevention and forest protection officer patrols. Prior to April and after October, there are little or no patrols of dispersed sites. Volunteers are assigned the responsibility of inventorying, monitoring, and maintaining each site. Fire Prevention and Forest Patrol Officer patrols help monitor these sites: concentrating on fire prevention, camping limits/compliance, and education. Volunteers are used for maintaining dispersed camp areas year-round and report anything they feel is unusual about the use of dispersed camp areas and the condition of the area itself.

The PNF manages 41 miles of Verde Wild and Scenic River in cooperation with the Tonto and Coconino National Forests. Eighteen river trips were conducted in FY2009.

The trips were conducted with volunteers, other recreation managers, and members from other agencies. As shown in Table 6, a variety of work was accomplished:

Dispersed shooting areas have been observed forest wide by Forest personnel, volunteers and forest visitors every year. Some dispersed shooting sites are lightly used while others are heavily used and are very popular for gun enthusiasts. Often in the more popular sites, trash is dumped and used for target shooting. Heavily impacted dispersed shooting sites have been adopted by local groups who clean up the sites and maintain them when needed.

In FY2009 Forest Service personnel, sponsored volunteers (groups), and individual volunteers worked on projects and adopt a trail programs and maintained approximately 103 miles of trail to USFS trail standards on general forest lands and wilderness.

Table 7 displays the approximate number of visitors to the PNF's eight wilderness areas during FY2008 and FY2009. Wilderness is categorized as 'Primitive" in the Recreation Opportunity Spectrum rating. Only visits recorded at a trailhead register are included in these totals. This likely underestimates actual use because (1) not every visitor registers; (2) there is not a register at every trailhead; (3) there are gaps in the data; or (4) emergency situations (fire and illegal activity) prohibit visitation on some or all trails in wilderness.

Table 7: FY2008 and FY2009 Approximate Wilderness Visitation		
Wilderness	**Number of Visits 2008**	**Number of Visits 2009**
Granite Mountain	**1,082**	**2,572**
Pine Mountain	**237**	**265**
Sycamore Canyon	**86**	**34**
Juniper Mesa	**32**	**260**
Castle Creek	**n/a**	**154**
Woodchute	**963**	**2,035**
Cedar Bench	**46**	**n/a**
Apache Creek	**n/a**	**n/a**
TOTAL	**2,446**	**5,320**

Roads and Facilities

During fiscal year 2009, 16 miles of existing Forest roads were reconstructed to improve access and improve watershed conditions, 181 miles of the existing 1,512 miles of system roads (12%) were maintained to the desired maintenance standard, 4 miles of road were decommissioned.

The official Prescott Motor Vehicle Use Map (MVUM) was released. The MVUM designates road, trails, and areas open to motorized vehicles.

The Forest disinvested in the administrative facilities and land at the Verde Ranger Station, and constructed a new office, warehouse, and engine bay facility, meeting Leadership in Energy and Environmental Design (LEED) Certification.

Soil and Water

Monitoring of soil and water resources was predominantly connected with project work that was not necessarily affiliated with watershed targets.

Administrative monitoring of best management practices affiliated with mining operations, prescribed fire and fuel management, range allotment NEPA, rangeland management, timber harvesting, roads, recreation sites, and roads continue to be implemented. Findings of this monitoring are ongoing and are used to make adjustments to ensure the protection of the watershed resources.

Soil condition monitoring occurred on approximately 74,329 acres. Approximately 26 miles of stream/riparian corridor and 7 acres of emergent riparian/wetland resources were assessed.

Improvement of soil and watershed condition occurred on approximately 312 acres for FY2009. This occurred through the implementation of prescribed burning, timber and fuel wood sales.

Burned Area Emergency Response

In FY2009, no wildland fires greater than 300 acres occurred on the PNF thus no Burned Area Emergency Response (BAER) was conducted.

Water Quality/Quantity

Instream flow measurements continued through 2009 on four (4) perennial stream reaches. These streams include Apache Creek and Walnut Creek in the Verde River sub-basin; and Big Bug Creek, and Cienega Creek in the Agua Fria sub-basin.

A water right for Sycamore Creek was secured from the Arizona Department of Water Resources as a result of instream flow data collection and analysis from 2003-2008.

Watershed Based Community Partnerships

The Forest continued participation in a number of federal, municipal, and local watershed working groups and partnerships focusing on watershed management and water quality/quantity issues.

Timber

Federal regulation requires the Forest Service to measure and report the amount of sawtimber offered for sale annually. In FY2009 the PNF offered and sold approximately 2,650 CCF (CCF =100 cubic feet) of sawtimber and 8,126 CCF of fuelwood. Sawtimber sales allowed for reduced stand densities and improved forest health on 150 acres in FY2009.

Acreage of intermediate harvest, regeneration harvest, and removal harvest monitoring is done to measure attainment of treatment prescriptions and effects of implementation. The desired condition is a more balanced age class distribution, appropriate growing stock levels, and provision for wildlife habitat needs. All harvesting that occurred in both the pine and pinyon-juniper vegetation types in FY2009 were considered intermediate harvests. The number of acres of harvest for each different treatment type from FY1987 through FY2009 is depicted in Tables 8 and 9.

Table 8: Harvest History in pine type (acres)		
YEAR	**Regeneration Harvest**	**Intermediate Harvest**
1987	0	116
1988	8	604
1989	256	931
1990	42	570
1991	0	146
1992	0	304
1993	12	0
1994	20	92
1995	0	0
1996	0	0
1997	92	478
1998	0	0
1999	0	0
2000	162	1,082
2001	0	530
2002	0	0
2003	0	0
2004	0	613
2005	5	738
2006	13	451
2007	0	504
2008	0	1,065
2009	0	328
TOTAL	**610**	**8,552**

Table 9: Harvest History, Pinyon-Juniper type (acres)			
YEAR	**Regeneration Harvest**	**Intermediate Harvest**	**Removal Harvest**
1987	0	0	0
1988	0	0	239
1989	32	47	211
1990	0	166	44
1991	0	0	70
1992	0	0	202
1993	0	0	240
1994	0	0	120
1995	0	0	212
1996	0	0	247
1997	0	0	256
1998	0	0	256
1999	0	0	256

Table 9: Harvest History, Pinyon-Juniper type (acres)			
YEAR	Regeneration Harvest	Intermediate Harvest	Removal Harvest
2000	0	0	250
2001	0	0	255
2002	0	0	250
2003	0	0	55
2004	0	0	55
2005	0	0	40
2006	0	0	67
2007	0	45	0
2008	0	120	0
2009	0	80	0
TOTAL	**32**	**458**	**3,325**

The forest plan identifies that the amount of fuelwood made available each year will be reported every five years. Table 10 summarizes this information from FY2005 through FY2009.

Table 10. Fuelwood Sold on the PNF	
YEAR	Fuelwood Sold (cords)
2005	5,052
2006	5,307
2007	7,811
2008	6,568
2009	7,644
TOTAL	**32,382**

Wildlife

Bald Eagle

In January 2009, PNF employees and volunteers monitored bald eagle winter roosts in the Prescott area including one site on the PNF and three sites on surrounding areas. A nesting pair was seen near Lynx Lake, no eagles were seen at Watson or Willow Lakes, and nine bald eagles were seen at Goldwater Lake. For breeding bald eagles in FY2009, the PNF had two separate efforts simultaneously monitoring nesting bald eagles on different parts of the Forest.

On the Verde Ranger District (RD), the PNF entered into their annual Challenge Cost Share Agreement with the Arizona Game and Fish Department to implement seasonal closures around the bald eagle breeding areas and monitor their progress. In FY2009, no eagles were fledged from the Ladders and Towers nest sites due to no nesting activity.

For the breeding area near Lynx Lake, the nest location changed away from the lake and a closure was no longer warranted. Volunteers still continued to monitor the eagles' nesting progress. In FY2009, breeding bald eagles at the nesting area near Lynx Lake successfully hatched and fledged two young eagles from the nest.

Mexican Spotted Owl

Monitoring of the PACs and inventory of the restricted habitat was conducted between April 23 and June 18, 2009. All PACs and restricted habitat were monitored and inventoried according to USFWS protocol (USFWS 2003). PAC monitoring included a combination of daytime searches of historical nesting and roosting sites, establishing call stations, and establishing call routes for night-time calling. Five PACs were originally scheduled to be monitored on Mingus Mountain and around the Bradshaw Mountains (Highland Pines, Wolf, Transcendent, Mingus, and Mt. Tritle). Additionally, restricted habitat was inventoried, including one area in the Bradshaw Mountains and several areas on Mingus Mountain. Habitat assessments of the PACs and restricted habitat were done by comparing what was observed on the ground with what is described in the Recovery Plan (pages 26-27).

Mingus PAC
No MSO were detected during four visits to this PAC.

Highland Pines PAC
No MSO were detected during four visits to this PAC. Mobbing behavior by Stellar's jays, acorn woodpeckers, and northern flickers was encountered during every visit, especially in the vicinity of the most recent MSO detections (2003, 2004) in the northern portion of the PAC.

Wolf PAC
No MSO were detected within the PAC during four visits to this PAC. The historic nest site was located; however, no current activity (pellets, feathers, birds) was noted. Mobbing behavior by Stellar's jays was very common in the vicinity of the historic nest site. A single MSO responded to calling from the trail leading south down from the Spruce Mountain Lookout Tower on April 29, 2009; however, it was determined based on the distance and direction of the response that this bird was in the Smith Ravine PAC in a northwest canyon below Spruce Mountain. Because of the distance of the calling bird, its sex was not determined.

Smith Ravine PAC
Although this PAC was not scheduled to be monitored, the detection of the MSO from the WolfPAC on April 29, 2009, prompted a daytime search of the area near the detection on May 11, 2009 with PNF personnel. No MSO were observed or detected; however, mobbing behavior from Stellar's jays and nuthatches was very prominent from the upper reaches of the canyon where the MSO was heard calling.

Trancendent PAC
A pair of MSO was detected on the first night of monitoring this PAC. The male vocalized from the hillside above the Isabella Trail running along the canyon in the southeast portion of this PAC. The female vocalized from farther up the same canyon. The pair was not located during four subsequent morning follow-up visits; however, mobbing behavior from Stellar's jays was prominent farther up that drainage. On the last morning follow-up visit, a single MSO was heard calling from across the main canyon,

south of Walker Road outside of the Trancendent PAC. Based on the volume of the call, this MSO was likely calling from either the private land west of Potato Patch or the western portion of the Mt. Pine Acres PAC.

Mt. Tritle PAC

Although no formal monitoring was conducted for this PAC, a daytime search of the last known roosting site was conducted in the western portion of the Mt. Tritle PAC. A pair of MSO and three young were observed on the morning of June 4, 2009. During a return trip to this PAC on June 18, 2009, a third fledgling was observed and all three young were out of the nest. One of the young was in a nearby Gambel's oak and the other two were approximately 10 feet above the nest in the same Douglas fir tree. This nest site is thought to be a new nest site since the previously known nest tree was in the eastern portion of the PAC.

Mingus Mountain Restricted Habitat

No MSO were detected during four visits to these areas of restricted habitat. No mobbing behavior by any species of birds was observed throughout the various areas along Yeager Canyon, Little Yeager Canyon, Burnt Canyon, and the north slope of Mingus Mountain. Great horned owls and flammulated owls were common throughout the various patches of this restricted habitat.

East Walker Restricted Habitat

No MSO were detected during four visits to this area of restricted habitat. No mobbing behavior by any species of birds was observed throughout the various areas along Lynx Creek or FR 670. Flammulated owls were common throughout the Lynx Creek portion of this restricted habitat.

Habitat Quality Observations

Mingus PAC

The Mingus PAC appears to have been affected by both fire and bark beetles in recent years. The upper portion of the PAC, from Gaddes Spring north contains high-quality nesting and roosting MSO habitat on both sides of the canyon. This area around the spring contains several mature stands of dense old-growth, closed-canopy forest. Additionally, sufficient ground cover (downed logs, shrubs, grass, etc.) exists to provide foraging habitat. Further down canyon, beginning where the hiking trail crosses the canyon, nesting habitat begins to become sparse along the west slope of the canyon. Patches of suitable nesting habitat occur farther down canyon between the two major tributaries from the east. Below the last tributary from the east, suitable nesting habitat occurs along the west slope throughout the remainder of the PAC and continues outside of the PAC to the south. Although much of the habitat along the west slope is not suitable for nesting due to its open nature, it provides sufficient foraging habitat for MSO. Suitable ground cover exists to provide sufficient cover for MSO prey and scattered trees allow for perching while hunting. Suitable nesting habitat occurs throughout the canyon bottom and along the east slope, including the two tributaries along the east side. Critical habitat does not occur in this PAC.

Highland Pines PAC

The Highland Pines PAC contains suitable nesting and foraging habitat throughout the entire PAC. The entire PAC contains several mature stands of dense old-growth, closed-canopy forest. Additionally, sufficient ground cover exists to provide foraging habitat. It does not appear that habitat in this PAC has been affected by fire or bark beetles. The northern portion of this PAC does not contain designated critical habitat;

however, the southern portion of this PAC, surrounding West Spruce Mountain and Porter Mountain does contain designated critical habitat.

Wolf PAC

The Wolf PAC contains suitable nesting and foraging habitat throughout the entire PAC. Similar to the Highland Pines PAC, the entire PAC contains mature stands of dense old-growth, closed-canopy forest. Sufficient ground cover exists throughout the PAC to provide foraging habitat. It does not appear that habitat in this PAC has been affected by fire or bark beetles. Critical habitat does not occur in this PAC because of its inclusion in the Boundary WUI fuels reduction project.

Trancendent PAC

The Trancendent PAC contains suitable nesting and foraging habitat throughout the entire PAC. The entire PAC contains mature stands of dense old-growth, closed-canopy forest as well as sufficient ground cover to provide foraging habitat. It does not appear that habitat in this PAC has been affected by fire or bark beetles. Critical habitat does not occur in this PAC because of its inclusion in the Boundary WUI fuels reduction project.

Mt. Tritle PAC

Only the general area where MSO were observed nesting was evaluated for habitat suitability as described above in the Methods section. It does not appear that habitat in the western portion of this PAC has been affected by fire or bark beetles. The canyon that the active nest was located in contained several dense stands of mature old-growth forest with closed canopies. Downed logs, shrubs, and grasses provided ample ground cover for foraging habitat throughout the area. Designated critical habitat does not occur in this PAC because of its inclusion in the Boundary WUI fuels reduction project.

Mingus Mountain Restricted Habitat

The patches of restricted habitat on Mingus Mountain contain a mix of high-quality MSO habitat (nesting, roosting, and foraging) and low-quality MSO habitat. Restricted habitat along Little Yeager Canyon, Burnt Canyon, and north of the Mingus Work Center all contain high-quality habitat. These three areas of high-quality habitat contain very dense stands of closed-canopy old-growth forest with sufficient ground cover for a prey base. Fire and bark beetles do not appear to have affected these patches of habitat. Restricted habitat delineated along Yeager Canyon (Highway 89A and Forest Road 104) contains a mix of high-quality, marginal- and low quality habitat. Much of the north facing slope of Yeager Canyon appears to have been heavily affected by fire and/or bark beetles and is very open with little canopy cover. Much of this area has few standing pine trees and looks more like chaparral/oak-scrub habitat. The canyon bottom contains larger, denser stands of pine trees and appears to provide the best suitable habitat for MSO, extending into several side drainages along the north facing slope. The canyon bottom and several side drainages contain dense stands of old-growth forest with closed canopies that may provide nesting and/or roosting habitat for MSO. Similarly, the area around Hardwood Spring appears to contain a smaller patch of high-quality habitat (dense old growth, closed canopy forest) surrounded by marginal habitat up and down canyon. These marginal habitat areas aren't as dense as the surrounding high-quality habitat areas and the canopies are more open. The south facing slopes along Yeager Canyon contain low-quality nesting habitat (open canopy, sparsely vegetated); however, this habitat, along with the open habitat on the north facing slope contains large amounts of ground cover and may provide valuable foraging habitat for any MSO that may attempt to nest in the nearby dense forest stands or migrate through the area, including dispersing young. The patch of restricted habitat delineated along Hiking Trail 29, in a

tributary of Yeager Canyon, contains marginal- to low-quality nesting habitat. This patch of habitat contains very little canopy cover and is not very dense. Like several of the areas in Yeager Canyon along Highway 89A, this patch of restricted habitat is more like oak/juniper scrub habitat. This area is not designated critical habitat.

East Walker Restricted Habitat

The restricted habitat along Lynx Creek and Forest Road 673 (Big Bug Road) south of Walker contains a mix of high- and marginal-quality nesting habitat for MSO. The habitat along Lynx Creek and the slope to the east contain high-quality nesting, roosting, and foraging habitat. The restricted habitat delineated along Forest Road 673 also contains high-quality MSO habitat, particularly in the drainages and canyons above and below the road. These areas contain dense stands of old-growth forest with closed canopies and sufficient ground cover. Many of the hillsides above the road contain a mix of high- and marginal-quality nesting habitat for MSO; however, it should all be considered good foraging habitat, particularly those areas that are adjacent to the high-quality nesting habitat. The high-quality habitat areas contain dense stands of old-growth, multi-storied forest with closed canopies. The areas considered marginal-quality habitat aren't as dense and lack the canopy closure typically associated with nesting habitat. These areas have sufficient ground cover to provide foraging habitat. This restricted habitat is designated critical habitat (area is outside of the Boundary WUI fuels reduction project).

Northern Goshawk

The Prescott National Forest (PNF) conducted northern goshawk (*Accipiter gentilis)* (NOGO) surveys from 6/1/09 to 9/4/09. The Camp Wood, Seven-Up, and Pine Creek Post-fledgling Family Areas (PFAs) were surveyed to determine occupancy and reproductive status. Suitable habitat that occurs inside the boundaries of two projects on forest was also surveyed. Within these two projects, areas were selected based on the criteria that they could be surveyed in one day and that they were geographically separated in order to eliminate the possibility of detecting the same goshawk from several areas. The latter of the two criteria was difficult to achieve because the areas were adjacent to one another in many cases. Both the locations that are established PFAs and the areas inside project boundaries were surveyed twice this season in accordance with the monitoring protocol of the region.

Table 11. Survey and monitoring results, Northern Goshawk PFA's

PFA	Monitoring Results
Camp Wood (A-1)	Unoccupied
Seven-up (A-3)	Unoccupied
Pine Creek (A-2)	Occupied
Bradshaw Vegetation Survey Area (A-5)	**Survey Results**
Spence Spring	No goshawks detected
Deering	No goshawks detected
Mt. Francis	No goshawks detected
Goldwater	No goshawks detected
East Walker	No goshawks detected
Black Hills Survey Area (A-4)	**Survey Results**
South Cherry	No goshawks detected
North Cherry	No goshawks detected
Upper Ash Creek	Goshawk displaying defensive behavior-new PFA established

Table 11. Survey and monitoring results, Northern Goshawk PFA's	
Mingus PFA	No goshawks detected
Little Yeager Canyon	Single goshawk observed
Burnt Tank	Single goshawk observed
Gaddes Canyon	No goshawks detected
Mountain Top	No goshawks detected
Haywood Canyon	No goshawks detected

Incidental sightings of goshawk include one on April 10, 2009 in Groom Creek which was not associated with an established PFA. The goshawk was seen taking a squirrel. The second incidental sighting was in the Camp Wood area on August 20, 2009 within the Pine Creek PFA. This incidental sighting can indicate occupancy but cannot confer any particular breeding status to the PFA. The third incidental sighting was on June 4, 2009 in the Mt. Tritle PFA. Brian Wooldridge with the FWS, observed an adult northern goshawk, in the course of conducting informal MSO surveys in the Mt. Tritle MSO PAC (also the Mt. Tritle/Kendall Camp PFA). Another sighting of a goshawk in the same location occurred on September 10, 2009. This observation was made by a local birdwatcher. These sightings can indicate occupancy of the PFA, but it cannot confirm breeding status. The fourth incidental sighting was on August 25, 2009 at the helicopter landing pad on top of Mt. Union, this sighting was also reported by a local birdwatcher.

Peregrine Falcon

Thumb Butte and Granite Mountain sites on the Bradshaw RD were monitored for peregrine falcon breeding activity by volunteers. Volunteers were not able to confirm the nesting status at either of these sites. The three remote territories on the Chino Valley RD were not monitored.

Southwestern willow flycatcher

No Southwestern willow flycatcher (SWWF) population or habitat monitoring was completed by the PNF in FY2009. SWWF population monitoring by the USGS and the USFWS occurred off the PNF.

Yellow-billed Cuckoo

No Yellow-billed Cuckoo population or habitat monitoring was completed by the PNF in FY2009.

Spikedace

As part of a program begun with Rocky Mountain Research Station in 1994, all seven permanent sites on the upper Verde River were monitored in spring of 2009 for occurrence of spikedace and information on habitat conditions. Fish sampling methods include backpack electrofishing and seining of habitats. Habitat conditions were documented with photos. Fisheries surveys were conducted by Arizona Game and Fish Department for spikedace in 2009in the upper Verde River. Spikedace continued to be absent in fish surveys, as has been the situation since 1996. Monitoring of livestock river crossings at Perkinsville determined that effects to the habitat are minimal.

Gila chub

Aquatic habitat conditions in Upper Water Spring and Middle Water Spring (Indian Creek), Little Sycamore Creek, and a portion of Sycamore Creek were altered by sediment and ash runoff due to the Cave Creek Complex Fire in summer of 2005. Gila chub habitat conditions were monitored in portions of Indian, Sycamore, and Little Sycamore creeks on the PNF in FY2009. Aquatic conditions are altered in all occupied Gila chub habitat affected by the Cave Creek

Complex Fire. Visual observations of the Gila chub populations revealed the typical distribution of fish has decreased due to loss of pool habitat.

Gila-trout

The Arizona Game and Fish Department (AGFD) stocked Gila trout (*Oncorhynchus gilae*) into Grapevine Creek, a tributary to Big Bug Creek, Agua Fria River drainage, in fall 2009. Gila trout are a federally threatened species under the Endangered Species Act that have been extirpated from the Verde River and the Agua Fria River drainages. The establishment of Gila trout in Grapevine Creek will provide an additional replicated population of this specie. Monitoring of the introduced population will be done regularly to assess the success of the transplant.

Narrow-headed and Mexican Gartersnakes

Reconnaissance and preliminary surveys for Narrow-headed and Mexican gartersnakes in the upper Verde River of the Prescott National Forest were conducted summer 2009, with the goals of determining extant population locations and collecting supplemental information on potential aquatic prey species for gartersnakes (amphibians and fish).

One reconnaissance and four survey trips occurred along the upper Verde River above Clarkdale and in Sycamore Creek at the confluence with the Verde River between July 14 and September 26, 2009. Reconnaissance only occurred at King Spring and the river below Prospect Point. Each survey trip occurred over three days and two nights in locations with previous capture records for Mexican or Narrow-headed gartersnakes or in potentially suitable habitat.

Thirty-eight to forty traps were placed in pairs along each bank of the river in places where snakes would normally travel (e.g. cut banks, streamside vegetation, and cienega areas). Traps were placed in a linear transect on the Prescott National Forest side of Sycamore Creek. Traps were checked once or twice per day, and potential prey species were retained in traps to encourage snake visitation. There were a total of 314 trap-nights (# traps operating x number of nights open). Visual encounter surveys were conducted on at least two days of each survey trip, by one to three people.

No Mexican or Narrow-headed gartersnakes were seen. No Ranid frogs were confirmed, although one possible Lowland Leopard Frog may have been seen at FS Road 638/Pipeline Road. One neonate Western Terrestrial (Wandering) gartersnake *T. elegans vagrans* was found on AZGFD property near the headwaters, and Sonora Mud Turtles *Kinosternon sonoriense* were found during almost all surveys.

Captures in minnow traps at all sites were dominated by non-native fish, bullfrog *Rana catesbeiana* tadpoles, and crayfish *Orconectes virilis*. Only two native fish species were trapped: Long-finned Dace *Agosia chrysogaster* (headwaters site) and a Desert Sucker *Catostomus insignis* juvenile (FS Road 638/Pipeline Road.

Beaver *Castor canadensis* and River Otter *Lontra canadensis* occurred at many of the sites sampled. Beaver dams likely improve habitat conditions for Mexican gartersnakes, as they create extensive marshy areas, but decrease habitat quality for Narrow-headed gartersnakes, which tend to occur in or near riffle areas

Rocky Mountain Bird Observatory

In 2009 a challenge cost share agreement was implemented between the Rocky Mountain Bird Observatory and Prescott National Forest to accomplish Forest-wide monitoring of breeding bird populations and mammalian and bird management indicator species (MIS) species found in a variety of habitats on the Prescott National Forest (Table 11). The project will implement point-

transect sampling and result in a report that documents densities and or occurrence of breeding birds and MIS across the forest. The 2009 report is pending.

Management Indicator Species

Table 12: MANAGEMENT INDICATOR SPECIES TRENDS (2009 MIS REPORT)

Population trends for Management Indicator Species have leveled off during 2006 after a decline in 2005 due to insect infestations, drought and related vegetation changes and tree mortality. A draft MIS report has been nearly completed in FY2009.

SPECIES	HABITAT	CURRENT POPULATION TREND
Turkey	Ponderosa pine, late seral	**Increasing**
Mule deer	Pinyon/juniper/chaparral, early seral	***Decreasing***
Pronghorn antelope	Grassland, desert shrub	***Declining***
Aquatic Macroinvertebrates	Riparian, aquatic, late seral	Stable
Goshawk	Ponderosa pine, late seral	***Unknown***
Hairy woodpecker	Ponderosa pine, snags	Stable
Lucy's warbler	Riparian, late seral	***Unknown***
Juniper (Plain) titmouse	Pinyon/juniper snags	***Unknown***
Pygmy nuthatch	Ponderosa pine, late seral	Stable
Spotted (Rufous-sided) towhee	Chaparral, late seral	***Unknown***
Tassel-eared squirrel	Ponderosa pine, early seral	***Unknown***

Note: All Forest Plan page number references are to the 2004 Republished version of the 1986 Forest Plan, as amended (version 1.1), available on the Prescott National Forest public website (www.fs.fed.us/r3/prescott).

Section 2 – Progress toward Desired Condition

Fire Management

"Provide for fire management support services necessary to sustain resource yields while protecting improvements, investments, and providing for public safety. In as much as possible, return fire to its natural role in the ecosystem." (Forest Plan, p. 14)

Prior to August 2006, the PNF Forest Plan allowed naturally occurring wildfires to be managed for resource benefit only in designated wilderness areas. During August 2006, the Forest Plan was amended (Amendment #16) to include additional areas outside of designated wilderness areas to allow naturally occurring wildfires to be managed for resource benefits.

During FY2009, two lightning-caused wildfires were managed with objectives that included resource benefits. These were the Hyde Fire (255 acres) located south of Hyde Mountain on the Chino Valley Ranger District and the Woodchute Fire (779 acres) located in and adjacent to the Woodchute Wildness Area on the Chino Valley and Verde Ranger Districts.

The PNF is becoming successful in returning wildfire to its natural role in various ecosystems, even with the complexity of implementing this strategy at a larger scale. Use of prescribed fire is expected to continue with success in vegetation and fuels management to restore wildfire-adapted ecosystems.

Heritage Resources

"Heritage resources represent an opportunity for research, education, understanding and enjoyment that enhances their stewardship and protection." (Forest Plan, p. 12)

In general, budgets and staffing for heritage resources management are focused on project implementation, which involves direct on-the-ground work as well as consultation with federal and state agencies, and Native American Indian tribes, communities, and nations. On-the-ground work includes the inventory, documentation, and protection of prehistoric and historic sites. Consultation typically concerns the Arizona State Historic Preservation Office and, to a much lesser extent, the Advisory Council on Historic Preservation. The consultation with Native American tribes, communities, and nations occurs on a regular basis by the Forest Archaeologist, designated as the Forest's Tribal Liaison. Due to pressing matters concerning project implementation and consultation, and a lack of discretionary heritage resource funding, heritage resource personnel are able to spend little time working on research, outreaches, education, and enhancement activities. Exceptions to this include archaeological inventory that was conducted under the auspices of the Walnut Creek consortium in the Walnut Creek area of the Chino Valley RD, the PNF's support for research pertaining to the function of walled hilltop sites, and the coordination of an involved Site Steward Program.

The PNF has numerous archaeological sites that are extremely visible and easily accessed. While the vast majority of sites are important from a research and traditional cultural property standpoint, most do not lend themselves to capital investment for the purposes of interpretation.

Nevertheless, opportunities for interpretation do exist, particularly for some of the larger sites and those that fit into a particular thematic category. Clearly, the opportunity for interpretation does not need to rely on a single location, but can focus on some broad pattern of history or prehistory as it relates to the PNF.

Land Management Planning

“Ensure interdisciplinary input and coordination for implementing, monitoring and updating the Forest Plan.” (Forest Plan, p. 14)

Interdisciplinary teams of resource specialists are routinely involved in planning projects designed to implement the Forest Plan. A wide variety of specialists also provide input to the annual Forest Plan Monitoring and Evaluation Report (this document

In FY 2009 the PNF completed its Analysis of the Management Situation which documented rationale for needs for change (focus areas) to be addressed during preparation of the revised Forest Plan. The previously prepared Ecological Sustainability Report and the Economic and Social Sustainability Assessment for the PNF informed the Analysis of the Management Situation. Needs for Change include: 1)Restore of vegetation composition, structural, and disturbance characteristics to ecosystems; 2)Maintain and improve watershed integrity; 3) Provide sustainable diverse recreation experiences that minimize resource damage; 4) Provide habitat for native fish species; and 5) Enhance the value of Prescott National Forest provided open space. Plan Revision continues into Fiscal Year 2010 with development of a revised Forest Plan and initial work on a Draft Environmental Impact Statement.

Lands

"Conduct landownership adjustment, right-of-way acquisition, landline location, and special-uses programs to promote efficient management." (Forest Plan, p. 14)

The Forest lands staff continues to implement efficient land management practices through the effective use of land exchanges, special uses, small tracts, and when necessary, encroachment resolution with the help of law enforcement.

Noxious Weeds

“Prevent any new noxious or invasive weed species from becoming established, contain or control the spread of known weed species, and eradicate species that are the most invasive and pose the greatest threat to biological diversity and watershed condition.” (Forest Plan Amendment #14, Final Environmental Impact Statement for Integrated Treatment of Noxious or Invasive Weeds, January 2005, p. 265)

The completion of the Environmental Impact Statement for the PNF, Kaibab, and Coconino National Forests has been beneficial to continue managing the ever increasing invasive weed species populations.

Currently there are 27 noxious weed species found within the three national forests and four additional species on other adjacent lands. The desired condition is to prevent any new plants from becoming established on national forest lands. Controlling these plants would promote ecosystem health and prevent losses in the productive capacity of the land.

In 2009 the PNF treated 800 acres of invasive weed species. During 2009 the PNF monitored 500 acres of treatment areas for effectiveness and found that our biological, herbicidal and hand-labor treatments were successful.

Range

"Provide forage to grazing and browsing animals to the extent benefits are relatively commensurate with costs, without impairing land productivity, in accordance with management area objectives. Cooperate with other agencies and private range landowners to reduce impacts of livestock grazing. Identify and manage areas that contain threatened and endangered species of plants." (Forest Plan, p.12).

The PNF has treated 10,109 acres for resource vegetative improvement, accomplished as part of the Nation's Healthy Forest Restoration Act (HFRA) for potential reductions of catastrophic wildfires. These improvement projects reduced fuel loading and wildfire hazard potentials and secondarily improved forage production, vegetative ground cover and watershed conditions.

Adjustments were made to stocking and grazing management that corresponded with changing climatic conditions. Authorized livestock numbers in FY2009 was 69% of term permitted numbers and actual use livestock numbers were 65% of term. This is in response to the dry summer and fall, an extension of the ongoing fifteen-year drought. Grazing permittees are actively involved in range inspections and surveys.

Range structural improvements listed below in Table 12 will improve livestock distribution and healthy watersheds to sustain and improve productivity of rangelands.

Table 13: FY2009 Range Structural Improvements

Description	Allotment
Indian Springs and Pipeline Betterment/Reconstruction	K4
Bottle Cattleguard Construction	Bottle
V-Bar Well Storage Tanks (Two @ 5,000 gallons each)	V-Bar
Peck Storage Tanks (Two @ 5,000 gallons each, w/ Troughs)	Peck Canyon
Ash Creek Pipeline and Troughs (1.25 miles w/ three troughs)	Ash Creek

Recreation

"Recreation users enjoy a full spectrum of experiences and benefits in appropriately managed facilities and other forest settings. All recreation sites are managed at a capacity of use level that ensures that the natural resources will be maintained at a desirable condition over the expected life of the project and/or activity." (Forest Plan, p. 12)

Based on the 2007 Prescott National Visitor Use Monitoring Survey (NVUM), completed every 5 years, visitors gave the Forest high marks for visitor satisfaction in all major categories: Developed Day Use and Overnight Sites, Wilderness and General Forest areas.

The Forest continues to actively upgrade developed facilities infrastructure, and has a strong construction/reconstruction program in place for camping facilities and trails. The recreation team continues to rely heavily on volunteer help.

Recreation planning efforts seek to provide diverse recreation experiences. A mix of multiple uses, motorized and non-motorized trail opportunities is the primary focus for the next few years.

Considerable progress has been made in providing interpretation of the Forest through environmental education, both within the trail program as well as through partnerships (i.e., Highland Center for Natural History).

The Prescott National Forest managed 18 miles of the Verde Wild & Scenic River. This adds diversity of recreational experiences for those visitors who wish to float the Verde River.

Diverse camping opportunities exist throughout the Forest at both designated dispersed, undesignated dispersed and developed sites.

Progressive steps to reduce the maintenance backlog on trails, designated dispersed campsites and at developed sites (campgrounds, trailheads and picnic areas) continues to have the potential to improve through increased volunteer support, grants and funds, but the forest has not fully utilized the potential volunteer force to date.

In the eight wilderness areas of the Prescott NF, 109 staff patrols were completed by the wilderness ranger March through October resulting in 413 public contacts, 59 of which conveyed Leave No Trace information and 46 were wilderness education contacts. Volunteers contributed 1,103 hours of service in designated wilderness areas.

Roads and Facilities

"Maintain a transportation system to support resource goals. Construct, maintain and regulate use of Forest Service facilities to protect natural resources, correct safety hazards, reduce disinvestments, and support management activities." (Forest Plan, p.14)

Budgets for Roads and Facilities continue to decline. The Forest just barely manages to maintain level 3, 4, and 5 roads to meet Highway safety standards. Protection of resources is not being accomplished on the majority of level 1 and 2 roads. In general, the available budget only allows us to address safety, and the most critical resource protection needs. In FY2009, the forest aggressively pursued and procured additional funding and accomplished 15 miles of road and trail watershed improvement projects.

Regarding administrative facilities, the Forest has managed to reduce some deferred maintenance and made inroads to reduce operating costs. Water systems are safe and maintained to standard. All of the occurred buildings are safe for employee use. The Verde Ranger Station is a Silver LEED Certified building, supporting sustainable,green construction, and conservation initiatives.

Soil and Water

"Protect and improve the soil resource. Provide for long-term waterflow needs through improved management technology. Avoid adverse impacts to the public, Government facilities and all uses in floodplains and wetlands. Restore all lands to satisfactory watershed condition." (Forest Plan, p. 13-14)

"Give riparian-dependant resources preference over other resources. Improve all riparian areas and maintain in satisfactory condition." (Forest Plan, p. 14)

During project planning, Best Management Practices (BMPs) were developed and implemented at the project level to minimize impacts to soil, riparian, and water resources.

The minerals program established specific measures for activities occurring within streamside management zones and implemented erosion control measures. Prescribe fire operations were

completed in a mosaic pattern to maintain vegetative cover and established special burn prescriptions for streamside management zones. Rangeland management strategies incorporate utilization standards and other management tools measures to maintain/improve vegetative ground cover and overall watershed condition. The timber program harvested areas identified as suitable for mechanical operations, implemented erosion control measures on disturbed areas, and utilized streamside management zones. Road and trail maintenance focused on improving drainage by out-sloping travel surfaces and creating rolling dips.

In addition to BMP monitoring, soil and water resource inventory and assessment efforts were completed for project level support. Soil condition inventory/ monitoring utilized Terrestrial Ecosystem Survey (TES) and the Southwest - Region 3 Protocols. Riparian conditions were analyzed using the Proper Functioning Condition (PFC) or other methods. The results of these surveys were utilized to document existing conditions, develop desired conditions, and in the development of the proposed actions or design features.

Table 14.
Soil and water resource condition assessment and analysis was conducted on the following projects in FY2009.

Year	Project	Ranger District	TES/Soil Acres	Stream/ Riparian Corridor (miles)	Emergent Riparian/ Wetland (acres)
2009	Sycamore Allotment	Verde	27,789	5.0	1.0
2009	Bottle Allotment	Verde	11,040	9.0	4.0
2009	Black Hills	Verde and Chino Valley	35,500	12.0	2.0

In 2009, the timber program completed harvest/ fuels treatment on 748 acres for the Groom Creek Timber Sale, and 884 acres on the Fluhart Timber Sale. BMP implementation/ effectiveness monitoring was also completed on the two timber harvest/fuels treatment areas.

Burned Area Emergency Response

In 2009 the PNF did not have wildland fires greater than 300 acres, consequently no Burned Area Emergency Response (BAER) monitoring and evaluation occurred.

Water Quality and Quantity

Every two years Arizona Department of Environmental Quality (ADEQ) is required by the federal Clean Water Act (CWA) to conduct a comprehensive analysis of water quality data associated with Arizona's surface waters to determine whether state surface water quality standards are being met and designated uses are being supported. This report is submitted to the U.S. Environmental Protection Agency (EPA) for approval. Once approved it is used to guide water resource management decisions. The objective of the analysis is to:

- Determine whether each designated use assigned to an assessment unit is “attaining” or “impaired;”
- If impaired, determine the pollutant(s) causing impairment;
- Compile descriptive information about the surface water; and
- Provide future monitoring priorities (the planning list).

If impaired and development of a Total Maximum Daily Load (TMDL) is needed, the surface water is placed on the federal 303(d) list. Impaired water is not placed on this list when alternative pollution control requirements are in place that will bring the surface water into compliance with its standards (e.g., a consent decree), if an approved TMDL is being implemented, or if the impairment is solely due to natural conditions. Further information on this assessment is included in *Surface Water Assessment Methods and Technical Support* authored by ADEQ and available online at http://www.azdeq.gov/environ/water/index.html.

A number of waters within the PNF are included in the 2009 Status of Ambient Surface Water Quality in Arizona – Arizona’s Integrated 305(b) Assessment and 303(d) Listing Report. This report is available on Arizona Department of Environmental Quality (ADEQ) website at http://www.azdeq.gov/environ/water/assessment/assess.html. The water bodies listed in Table 14 are included on the 2009 Arizona Status List for not attaining beneficial uses or for impairment:

Table 15: Impaired or Non-Attaining Waters on PNF

Water	Pollutants for Listing	Status
Upper Hassayampa River	Cadmium, Copper, Zink, and low pH	Impaired
Cash Mine Creek and Unnamed Tributary (headwaters of Hassayampa R.)	Cadmium, Copper, Zink, and low pH	Not Attaining
Granite Creek	Dissolved Oxygen, Fecal Coli-form, Nutrients	Not Attaining*
Watson Lake	Nitrogen, Dissolved Oxygen, pH	Impaired
Verde River (from Perkinsville to East Verde River)	Sediment/Turbidity	Not Attaining

Total Maximum Daily Loads are one of many tools in the Clean Water Act to help achieve the Act's main objective to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters" (CWA Section 101 (a)). When pollutants impair the use of water a study may be completed to determine how to reduce them and restore water quality. A TMDL establishes the maximum amount of a pollutant allowed in the water while maintaining all of its designated beneficial uses. Arizona is required by law to identify polluted waters and to develop TMDLs to help address these problems.

TMDLs completed for waters on or adjacent to the PNF include Turkey Creek, Verde River, and Upper Hassayampa River. These studies are available on ADEQ’s website at http://www.azdeq.gov/environ/water/assessment/tmdl.html.

Watershed Instream Flow

PNF instream flow (ISF) measurements have continued in 2009 on four (4) perennial stream reaches. Streams include Apache and Walnut Creeks in the Verde River sub-basin; and Big Bug, and Cienega Creeks in the Agua Fria sub-basin.

Watershed Based Community Partnerships

PNF line officers and resource specialists are members or participants in a number of local, state, and federal organizations or working groups focusing on watershed and water issues. The Forest continued participation with the Verde Watershed Association, Yavapai County Water Advisory Council, and Upper Agua Fria Watershed Partnership. The Verde District Ranger continues to serve as the PNF representative in the Verde River Basin Partnership.

The Bradshaw District Ranger and the Forest watershed specialist are on Watershed Improvement Council (WIC) sponsored by Prescott Creeks, a local non-profit organization. The goal of the WIC is to monitor and assess the nature of pollutants in the Granite Creek watershed above Willow and Watson Lakes. To complete this work, the Prescott Creeks organization applied for and was awarded a grant through the ADEQ Water Quality Improvement program to complete this monitoring work.

Timber

"Provide for non-declining sustained yield of timber. Establish improved balance in age class distribution through silvicultural prescribed stand management. Focus on reducing constraining components of stand strata. Protect existing old-growth stands. Improve stand productivity through management. Provide green and dead firewood and other forest products on a sustained yield basis. Timber harvest will be used as a tool to accomplish multiple resource objectives when it is identified as the optimum method through site-specific environmental analyses." (Forest Plan, p. 13)

In general, the PNF is moving towards desired conditions in terms of stand structure and productivity, although this is occurring at a rate that is slower than it should be. The PNF will continue to supply firewood sufficient to meet existing demand.

During the first six years of the Forest Plan, the number of ponderosa pine acres treated by intermediate and regeneration harvests was relatively constant. From 1992 until 2000 treatments were sporadic and only the Maverick, Schoolhouse, Dearing and Goldwater Timber Sales were offered. Since 2000, the PNF has been offering and selling a timber sale each year. The 1987 Forest Plan estimates that there are 130,350 acres of the Pine Management Area (Management Area 4 – “MA 4”) of which, 61,651 acres are tentatively suitable lands, and 30,653 are considered commercial timberlands. An estimated 2,962 acres of commercial timberland in the Woodland and Chaparral Management Areas (MA 2 & 3, respectively) is also listed. From 1987 through FY2009, approximately 38% of the commercial timberland has been treated. In 2006, the timber program moved toward a green tree harvest program that is more typically found within the region. The objectives of a green tree harvest program are to improve forest health and wildlife habitat by thinning overstocked timber stands, and to move the forest toward a more balanced age-class distribution.

One of the concerns during the Forest planning process was that the demand for pinyon-juniper fuelwood would exceed the PNF's production capability for sustained yield from accessible

lands. Only a small percentage (0.8%) of the 454,598 acres of juniper/pinyon-juniper in MA 2 (woodland) has been treated since 1987.

The shift in management emphasis from harvesting timber for commodity production to harvesting timber for the purpose of restoring or improving forest health has facilitated the protection and recruitment of old growth.

Wildlife

"Manage for a diverse, well distributed pattern of habitats for wildlife populations and fish species in cooperation with states and other agencies. Cooperate with Arizona Game and Fish Department to meet or exceed management goals and objectives in the Arizona Cold Water Fisheries Strategic Plan.

Maintain and/or improve habitat for threatened or endangered species and work toward the eventual recovery and delisting of species through recovery plan implementation. Integrate wildlife habitat management activities into all resource practices through intensive coordination. Support the goals and objectives of the Arizona Wildlife and Fisheries Comprehensive Plan, as approved by the Southwestern Regional Forester and the Director of the Arizona Game and Fish Department." *(Forest Plan, p. 13)*

Impacts to wildlife habitat management from forest health projects continued to be influenced by the bark beetle outbreak that had killed extensive acreage of ponderosa pine. The lack of precipitation also killed many pinyon pines and junipers, and had curtailed growth in the grasslands and chaparral.

Wildlife populations are expected to shift accordingly to reflect these changed habitat conditions; wildlife species composition will shift toward those species that favor open forests and younger seral stages. The shifting habitat conditions are moving toward a better balanced age class distribution and structure that inherently supports a more diverse array of species. Habitats in ponderosa pine and pinyon-juniper vegetation communities will become more patchy and diverse than before, with open areas on south aspects and ridges. The open areas provide a greater diversity of understory vegetation and habitat for small mammals, birds, reptiles and insects. By improving the plant species diversity in the understory, the increased habitat diversity provides a greater abundance of prey species for larger predators from flycatchers to bats to owls to bobcats. Pockets of dense forest will remain in protected canyons and on north-facing slopes. These areas provide habitat for those species needing older or late seral stage habitats.

Wildlife habitat considerations are incorporated into the design and implementation of many projects including fuels reduction, forest health, livestock grazing, road use permits, small tracts acts, and recreation special use permits.

Progress toward improving habitat for threatened and endangered fish species is uncertain. Habitat for threatened spikedace and other native fish in the upper Verde River has been protected for several years from impacting activities, specifically livestock grazing and OHV recreation. In addition, a lack of flood disturbance events from 1995 to 2004 has resulted in aquatic habitats becoming narrower and deeper as riparian vegetation has increased and stabilized stream banks. Recent flooding in the fall of 2004 and winter of 2005 restructured the aquatic habitat and provided spawning conditions that resulted in high reproduction and recruitment of native fish species into the community. However, monitoring data indicate that the spikedace population in the upper Verde River has apparently been eliminated. The trends in the fish community structure of the upper Verde River have shown an increase in abundance

of non-native fish. The control of these species would be the most beneficial action towards the recovery and sustainability of native fish species in the river. Species management is under the jurisdiction of the Arizona Game and Fish Department.

Section 3 – Barriers to Effective Monitoring

Heritage Resources

Budget constraints and a lack of personnel have prevented comprehensive monitoring of all sites eligible for and listed as National Register sites. The overall number of sites monitored in FY2009 is slightly below FY2008. Criteria used to determine which projects will be monitored include the density of sites in or near a project area, the magnitude of the project, the likelihood of vandalism, and the National Register eligibility of the sites.

Forest Plan monitoring has been effective in showing that overall protective actions have worked well; however, some mishaps have occurred in the past, chiefly due to a lack of communication or the failure to identify a site. In earlier years site protective markers have been removed by the public, not realizing their purpose. In 2009 this problem decreased.

In a related matter, when protective site markers (or any markings, for that matter) are encountered by the public they may remove markers, including those that mark archaeological resources. This is a problem that will probably remain for some time to come, which will require heritage resource personnel to continue to inspect areas several times until a project is completed.

Funding has, and will probably continue to be, an issue with monitoring. As project work plans are developed at the beginning of each Fiscal Year, monitoring funds need to be figured into the plans. Significant time and effort have been focused on pre-project planning, coordination with the project manager, consultation with the State Historic Preservation Office and Native American tribes, communities and nations, and follow-up record keeping. Individually these items are not barriers to effective monitoring, but taken together, they have created a significant impact on the time available for monitoring activities and our proactive efforts to manage heritage resources. Monitoring is recognized on the Forest as an important, even vital, activity, though this reality is not reflected in current funding mechanisms, staffing, or priority work plan.

Noxious Weeds

Budget constraints and a lack of full-time Forest weed program manager position have prevented extensive monitoring and more effective treatment of the noxious and invasive weeds.

Range Management

Budget constraints and a lack of range management specialist personnel have prevented extensive monitoring of range conditions. The Southwest Region and the PNF has made range Rescission Act NEPA for permit reissuance a priority and consequently administration and monitoring have not been as extensive as desired.

Recreation

The establishment of the National Visitor Use Monitoring (NVUM) program as a national standard has and continues to provide consistent data for day use developed areas, overnight use developed areas, wilderness, general forest area use and view corridors. As each forest cycles through more NVUM surveys, the quality and accuracy of the data improves. The

Prescott National Forest completed its' 2nd survey in 2007 and the results are available at: http://www.fs.fed.us/recreation/programs/nvum/reports/2007/Pescott_Round2.doc

In 2009 the PNF did not have a wilderness ranger from November 2008 to March 2009. Wilderness is not monitored year round since the wilderness ranger position is a temporary employee.

Soil and Water

Budget/workload constraints, other PNF resource program priorities, and understaffing of the watershed and soils program continue to limit the full effectiveness of the soil and water resource program in the form of supporting analysis, implementation, monitoring, and maintaining a self-efficient soil and water program.

Timber

The PNF needs to evaluate what level of harvest is sustainable on the lands that are deemed to be suitable to be able to compare harvest levels to forest productivity levels.

Wildlife

As in previous years, the items identified in the Forest Plan for monitoring are not always relevant to determining progress in meeting Forest Plan goals. Monitoring non-game birds as a measure of determining health of riparian associated species is probably not useful in measuring accomplishment of Forest goals. Wildlife population monitoring is an enormous undertaking – cause and effect relationships are hard to determine because of extrinsic factors (e.g., neo-tropical migratory bird populations may be influenced by factors in other states or countries). Such an undertaking needs to be closely coordinated with State and other agencies. To be effective, monitoring needs to be simple and easily implemented while providing a true picture of progress toward an objective. There is a need to adapt monitoring so that changes can be made in on-going programs/projects as soon as potential problems are identified.

The requirements for environmental documentation have become very complex for wildlife and are changing frequently. In addition, litigation-inspired legal interpretations of MIS analysis requirements and migratory bird analysis requirements added by Executive Order in 2001 continue to add to the environmental analysis workload.

Barriers to effective monitoring include lack of clear objectives for monitoring and lack of funding for monitoring. Effective ways to accomplish monitoring include incorporating monitoring into project design as essential steps in the implementation process and planning and budgeting for personnel to accomplish monitoring as essential integral parts of implementing projects.

Section 4 – Emerging Issues

Fire Management

A combination of circumstances has made the public very aware of fire management actions and practices on lands managed by federal and state agencies across the nation. This level of awareness has been extremely prevalent in all communities within and adjacent to the PNF. These circumstances include:

- an increase in vegetation and forest fuel loadings since the disruption of wildfire in its natural role in wildfire-adapted ecosystems;
- effects of a long-term drought;
- an increase in the number of homes and human access (wildland urban interface) in and adjacent to National Forest lands;
- and recent, high-profile catastrophic wildfire events in Arizona and across the nation where lives and homes have been threatened and lost (examples: Indian Wildfire in Prescott in 2002 and Lane 2 Wildfire in Crown King in 2008).

The threat of large, high-severity wildfires has substantially increased public awareness of fire management practices and actions with an expectation that efforts will be made to protect lives and homes. This increased interest has provided many opportunities to work with individuals, groups, and other agencies to reduce these threats, but it has also created many challenges. These challenges include:

- increased treatment opportunities and needs with a limited budget;
- varying levels of expectations by the public's with some wanting aggressive treatments adjacent to their neighborhoods and others wanting little or no treatment;
- and reduced numbers and types of resources that are available for wildfire suppression and fuels management actions.

Smoke generated by prescribed fires has become one of the most challenging issues. Smoke emissions from all prescribed burns during FY2009 were permitted and monitored by the Arizona Department of Environmental Quality (ADEQ). Each prescribed burn was well within acceptable legal limitations. Prescribed burns in FY2009 were managed with objectives and techniques designed to reduce smoke intensities and the length of time that smoke was present. These techniques included size and locations of burns, and timing and days of continuous burning in any single air-shed; however, smoke issues did and will continue to persist.

The Prescott area sits in a low-lying area (Prescott Basin) that attracts and holds smoke as do the communities located within the Verde Valley. This smoke can come from various and multiple locations with smoky conditions lingering for days following completion of a prescribed fire or unplanned wildfire event. Even at low concentrations, smoke can reduce visual qualities and may cause health problems especially to those with breathing disorders or hypersensitivity to smoke. Smoke in the air or even notification through the media that burning is planned generates numerous phone calls to local Forest Service offices. Keeping the public informed is an enormous part of the preparation process for every prescribed burn and every day of implementation due to smoke issues.

FY2009 was a milestone in management of wildfires on National Forests lands in central and northern Arizona. Each of the National Forests (Kaibab, Coconino, Tonto and Prescott) have completed or initiated their wildfire management program; and cool and moist weather conditions allowed for unplanned ignitions to be successfully managed for resource benefits over large expanses of these Forest lands. Wildfire smoke columns were visible throughout

most of the summer months from some location within the greater Verde Valley and often there were multiple columns. Most of this smoke was high elevation smoke with minimal physical impacts to the population within the Verde Valley. However, they began an initiation process of introducing residents and people passing through the Verde Valley to seeing and in some cases feeling the effects of "historic" smoke conditions.

Heritage Resources

Native American tribes, communities, and nations have developed heritage resource programs that regularly review PNF projects through the Schedule of Proposed Actions and other notices. Moreover, Native Americans have not only shown interest in specific sites where their ancestors lived, but also in large areas where certain cultural practices took place. The future challenge for the PNF is to work effectively with tribes, communities, and nations so that these areas can be identified and managed in such a way as to show PNF sensitivity to tribal values that are based in the past but are expressed in the present. It behooves this Forest to begin thinking about funding and completing ethnographic studies for those tribes, communities, and nations that claim affiliation with lands contained within the PNF boundary in order to better understand where these areas exist.

Another emerging issue that was briefly mentioned earlier is the general increase in the population of Yavapai County and its effect on the archaeological resources of the PNF. As more people use the Forest, the chances become greater that sites will be impacted. There is increased use caused by technological changes, such as the rise in all-terrain vehicle (ATV) use. These allow people to access more remote locations of the PNF, thereby allowing them to visit sites that were once protected by their inaccessibility. In addition to providing greater access to sites, ATV use has spawned new, user-created trails (also called social trails) around the Forest and, in some cases, altered existing trails. When new social trails are created or when existing trails are altered, heritage resources are in danger of being affected by direct impacts. The new Travel Management Regulations may lead to improvement of enforcement efforts. As the population of Yavapai County increases and the public use of the PNF correspondingly increase, there will be a greater need to augment our interpretation of heritage resources and to spread the message about the protection of prehistoric and historic resources. Disseminating information to the public about heritage resources can be a key component in the fight against direct and indirect impacts to prehistoric and historic sites.

Noxious Weeds

Noxious weed populations continue to expand annually over the PNF. Expansion of weeds over small areas accumulates up to an estimated 3-4 percent of the Forest's land base – resulting in a significant increase over the last 25 years.

Critical Habitats, Wilderness, and Wild and Scenic designations across the PNF are threatened by the spread of invasive weeds. The PNF and Coconino National Forest have focused on the middle reaches of the Verde River from Camp Verde to Childs; to ensure the intent of the Wild and Scenic designations are sustained and protected. Again in 2009 twelve (12) miles of the upper Verde River were re-treated for invasive weed species with the focus on tamarisk. Small populations of invasive weeds have been removed from within many of the PNF's Wilderness.

Range

Effects of the extended fifteen-year drought continue to plague rangeland resource conditions on the PNF. Drought conditions worsened across the PNF in 2009. National Forest lands within the Agua Fria and Bill Williams Watershed suffered extreme drought conditions this year,

while numerous other areas of the PNF endured moderate drought conditions. Drought recovery in plant density, frequency and cover requires time and prudent management in our arid southwest environment. Adaptive range management practices, effective communication, and timely actions between the agency and livestock producers have been critical in managing drought issues, and its impacts on range conditions and annual livestock stocking capacity across the Forest.

Recreation

Population increases in Yavapai County continue to create additional pressures for diverse recreation use. There is a need in the north Williamson Valley area for more developed recreation opportunities in the Walnut Creek/Camp Wood area. Similarly, rapid population growth in the Paulden, Chino Valley and Verde Valley communities is impacting the Verde River ecosystem through increasing dispersed recreation activities in these areas, including camping, picnicking, and off-highway vehicle use. Several roads that were frequently used by motorized recreationists to or along the Verde River have been closed or barricaded.

As the population in Yavapai and adjacent counties increases, the number of visits to the eight Forest wilderness areas is expected to increase as well. Impacts to natural resources within wilderness are documented, monitored and maintained. Wilderness education has been recognized as a way to help prevent negative impacts to wilderness. A Wilderness Education plan is established to address this need. Impacts and invasive weeds in wilderness are documented.

Travel Management continues to be a major focus in recreation. The Prescott National Forest already complies with the National Travel Management direction as “closed to cross country travel”. The Forest continues to sign and map the open roads and motorized trails and provides the public with the required Motor Vehicle Use Map (MVUM) that complies with the National Travel Management program.

Noxious weeds are found in most recreation areas (i.e. campgrounds, trails, day-use areas, and dispersed recreation areas). Recreation continues to map and document these areas. Recreation efforts should take an active role in treatment and prevention of spread of noxious weeds.

Recreation needs to actively “prevent any new noxious or invasive weed species from becoming established, contain or control the spread of known weed species, and eradicate species that are the most invasive and pose the greatest threat to biological diversity and watershed condition.” (PNF LMP amendment 14)

Recreation also needs to “incorporate measures to control invasive species into project planning, implementation, and monitoring.” (PNF LMP amendment 14)

Roads and Facilities

Trends in the facilities budget indicate that the Forest may not be able to maintain facilities in a safe manner. Given the aging infrastructure the deferred maintenance may increase faster than our capability to make improvements.

Trends in the roads budget indicate that the Forest will do less and less maintenance on level 1 and 2 roads for resource protection. Most of the funding will be used to maintain level 3, 4, and 5 roads to highway safety standards, and a tendency to only address critical safety concerns on the remainder of the inventory.

With the publishing and "marking" of the MVUM, expect improved compliance and increased use of the designated road and trail system. Expect less "cross-country" (off road) travel and less resource damage.

Soil and Water

Soil /Timber BMP monitoring continues to use the PNF protocol. National BMP protocol has been developed and will need to be integrated with local protocols. New soil quality indicators have been used in soil condition assessments and are providing promising results. Soil and water long-term monitoring elements primarily for rangeland management are undergoing development.

Proper management and conservation of Groundwater Dependent Ecosystems (GWEs) such as natural springs, seeps (groundwater that flows onto the land surface through natural processes), or groundwater emerging in stream channels that supports perennial reaches of streams is quickly moving to the forefront of soil and water resource concerns. In the arid southwest, these key natural resources are of high value to the public and the PNF for the ecosystem and wildlife habitat functions that they provide. As a result, GWEs are often the source of resource or program conflicts during the planning, assessment, and implementation of management activities. Many GWEs across the PNF are currently being impacted by recreational use (e.g., picnic, camping, hunting and unauthorized OHV activities), special use actives and uses, fuels or timber projects, livestock grazing and management. GWEs could potentially be indirectly impacted by activities and uses off or adjacent to the Forest, such as groundwater withdrawals for agricultural or domestic uses. Possible management opportunities to identify or mitigate these impacts may include inventory and condition assessment of GWEs, acquiring Instream Flow water rights, and monitoring the physical and biological components of known GWEs on an individual project and Forest-wide basis.

Water quality sampling by Arizona Department of Environmental Quality (ADEQ) and partners in the Prescott Basin is showing impairments in Granite Creek and Watson Lake. Further studies are currently being conducted tor define the impairment and sources of pollution. Concurrently, a TMDL for Watson Lake is under development by (ADEQ). While Watson Lake itself is not within the PNF, the TMDL may add additional resource management considerations or recommendations as to how the Granite Creek watershed is managed.

Timber

The most critical resource issue facing the PNF is the density of overstocked ponderosa pine stands. There is an urgent need to treat these stands to prevent another extensive insect attack, improve forest health in ponderosa pine, and to reduce the potential for crown fires. An increased timber industry infrastructure has allowed industry to purchase, remove, and utilize the wood we have offered; it is critical that this trend continue.

Cultivating public awareness and acceptance of the need to use timber sales as a way to treat hazardous fuels and improve forest health in the wildland/urban interface continues to be an ongoing challenge since the complexion of the community changes constantly. The wildland/urban interface is an increasingly important venue and audience for natural resource interpretation and public information/interpretation efforts will continue a focus in this arena.

Wildlife

There is continuing debate and research on the restoration of the upper Verde River system and what constitutes "good" aquatic habitat for spikedace and other native fish in the presence of non-native fish species. The restoration to a more stable aquatic system may favor established populations of non-native, predatory fish over native species in the absence of any active management to reduce or control their presence. A better understanding of the interactions of native and nonnative fish, natural disturbance events (i.e., flooding), livestock grazing, and aquatic habitat changes would greatly aid the PNF's ability to manage for multiple use of the land. In addition, increased population and urbanization around the PNF has led to increasing pressure (e.g., recreation) on threatened and endangered species' habitats, especially in and along the Verde River.

Pronghorn are receiving increasing attention statewide as their habitats decline. Habitats on the PNF are becoming more important as threats continue to increase across their range. Optimum habitat on private land continues to be developed for housing with subsequent roads and fences; predation occurs at high levels; human disturbance is increasing; and forage conditions are affected adversely by drought.

Pronghorn are indicators for the suite of species that occupy grasslands. Grasslands are being lost at a high rate due to urbanization. Yavapai County is the fastest growing rural county in the United States. This makes conservation of the remaining grasslands very important. The Forest manages only a small proportion of the true grasslands; it is important that these areas be managed to benefit pronghorn. Restoration of fire-dependent ecosystems (including the grasslands) is a high priority for the Forest. Future plans include removal of juniper and implementation of prescribed fire to keep grasslands open and free of invasive woody species.

Other emerging wildlife issues include the following:

- Noxious weeds are expanding and could eventually impact a variety of wildlife habitats.
- Effects of drought and beetle-killed ponderosa pine forests on terrestrial wildlife species' habitat: Timing and intensity of potential wildfires as a result of increases in fuel levels could threaten Mexican spotted owl and northern goshawk habitat and populations on the Forest.
- Increased complexity of land ownership patterns in the WUI and enhanced resource objectives for fuels and vegetation and forest health make designing and implementing projects a challenge.
- The pumping of groundwater on private lands may impact flows in the Verde River on the PNF.
- Increase in illegal off-highway vehicle use on some areas of the PNF threatens wildlife and fish species and their habitats.

Section 5 – Recommendations

Of the topics listed in Section 5 (emerging issues), five were identified as Needs for Change during Plan Revision. Needs for Change in the Plan Revision are:

1. Restore vegetation structure, composition, and desired characteristics of fire to selected ecosystems while using adaptive management to respond to citizen concerns related to smoke emissions.

2. Maintain/Improve watershed Integrity to provide desired water quality, quantity and timing of delivery.

3. Provide sustainable, diverse recreation experiences that consider population demographic characteristics, reflect desires of local communities, avoid overcrowding and user conflicts and minimize resource damage.

4. Provide desired habitat for native fish species.

5. Enhance the value of PNF-provided open space by defining visual character within areas near or viewed by those in local communities

In addition to addressing the Needs for Change, the Revised Forest Plan must also address: a) Evaluation of areas as potential wilderness; b) Wild/Scenic eligibility update for the Upper Verde River, c)Species viability evaluation, d) Management indicator species review, e) Effect of climate change, f) Evaluation of eligibility for recommended Research Natural Areas, and g) determination of timber, range, and recreation opportunity suitabilities.

Budget limitation was the item listed most often as a barrier to effective monitoring. The PNF should expand it's efforts at monitoring by increasing involvement of volunteers in the monitoring program. This could be especially effective in the area of noxious weed identification and inventory if training and assistance were provided by Forest Service personnel.

Section 6 – Certification of Forest Plan Sufficiency

I have reviewed this annual Forest Plan Monitoring and Evaluation Report for Fiscal Year 2009 and determined that:

- While management activities on the Forest continue to lead toward desired conditions, Forest Plan Needs for Change should be addressed during Forest Plan Revision.
- The report is responsive to monitoring information as identified in Chapter 5 of the 1986 Forest Plan. The monitoring plan and monitoring activities conducted by the PNF are based on National Forest Management Act regulations and Forest Service Manual guidance.

Therefore, I have determined that the 1987 Forest Plan as currently amended remains sufficient (although in need of further change) to guide implementation activities over the next fiscal year.

/s/ Alan Quan June 8, 2010

Alan Quan, Forest Supervisor Date