United States Department of Agriculture

Forest Service

Southwestern Region

2005 Forest Plan Monitoring and Evaluation Report

Prescott National Forest

Cover Photo: Walnut Creek Work Center, Chino Valley Ranger District, Prescott National Forest

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Table of Contents

Introduction

Forest Plan monitoring is an ongoing process that assesses the response of the Forest environment to management activities undertaken to move the Forest from an existing condition to a desired condition as described in the 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 *1986 Prescott National Forest Land Management Plan* ("Forest Plan," as amended, and as republished in December, 2004) is to inform the decision maker of the progress toward achieving the goals and objectives, and following standards and guidelines. This report documents and evaluates the results of the monitoring that occurred during fiscal year 2005 (October 2004 through September, 2005) 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.

One of the requirements of the Forest planning process was a commitment to monitor and evaluate how well Plans are implemented (*36 CFR 219.12(k)*). The process includes opportunities for modifications to the Plan in response to this monitoring. As stated in the Code of Federal Regulations, the purposes of evaluating Forest Plans are as follows:

- To consider the effects of National Forest management on land, resources, and communities adjacent to or near the National Forest and the effects of National Forest management on nearby lands managed by other government agencies or under the jurisdiction of local governments (*36 CFR 219.7(f)*).
- To determine if budgets have significantly changed the long-term relationships between levels of multiple-use goods and services enough to create the need for a significant amendment (*36 CFR 219.10(e)*).
- To determine if conditions or demands in an area covered by a Forest Plan have changed significantly enough to require a revision to the Plan (*36 CFR 219.10(g)*).
- To determine how well the stated objectives of the Forest Plan are being met (*36 CFR 219.12(k)*).
- To determine how closely Forest Plan standards and guidelines are being followed (*36 CFR 219.12(k*)).

Forest Plan monitoring requirements are available upon request. 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 and reliability of that measurement is stated. (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.) 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 costs of implementing the Forest Plan are as predicted and are acceptable.
- If management practices on adjacent or intermingled non-Forest lands are affecting Forest Plan goals and objectives.

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 reviews are used to determine if the fire management organization is effective and safe. The Thirty-mile Fire Accident Prevention Plan has been implemented at the Forest level.

Winter/spring moisture was well above average and summer monsoons were within normal moisture levels and time periods. The winter/spring moisture produced an abundance of spring-time grass and herbaceous cover in the shrub and grasslands and helped to reduce the impacts of long-term drought in forested areas. Many of the bug-killed trees fell that died during the 2002-2003 dry periods. This increase in fuel load will make control of wildfires more difficult for years to come.

Table 1 shows moisture amounts received at various weather stations across the Prescott National Forest (PNF) during the course of fiscal year 2005.

Table 1 – Moisture Levels Recorded at Prescott NF Weather Stations During 2005

Weather Station	2004	2005			
	Oct 1-Dec 31	Jan 1–Mar 31	Apr 1-Jun 30	Jul 1-Sep 30	**TOTAL**
Iron Springs	9.83”	10.47”	2.91”	6.56”	**29.77”**
Crown King	18.91”	19.10”	0.80”	10.10”	**48.91”**
Verde	4.83”	6.78”	0.64”	3.84”	**16.09”**
Cherry	10.67”	14.11”	1.18”	5.67”	**31.63”**

Higher than normal fall and winter moistures helped reduce stress levels in vegetation caused by an on-going, long-term drought, however drought conditions still persisted. All indications pointed to an above-average fire season with an abundance of grasses to support and carry wildfires.

The Forest implemented campfire and smoking restrictions in mid-June. Early and abundant monsoon moistures permitted restrictions to be lifted by the end of July. Normal moisture and the lack of heavy lightning during the summer monsoon season was enough to restrict potential fire starts and spread. As a result, suppression efforts were successful for most fires that started on Prescott NF lands.

There were a total of 70 fires on the Prescott NF during FY05; 33 were lightning-caused and 37 were human-caused. Table 2 displays the number, size, and cause of these fires, the majority of which were less than 1 acre in size.

Table 2 – Wildfires on the Prescott NF During 2005

FIRE NAME	FIRE SIZE (Acres)	NUMBER OF FIRES	CAUSE
	< 1	35	Human
	< 1	18	Lightning
	1 - 100	1	Human
	1 - 100	12	Lightning
Tank	250	1	Lightning
Sycamore	2,000	1	Lightning
Butte	7700	1	Lightning
Cave Creek Complex	*12,165	1	Lightning
TOTAL		**70**	

*The Cave Creek Complex was a lightning-caused fire that started on the Tonto NF and spread to the Prescott NF. Acres shown here are those that burned just on the Prescott NF.

Large fire activity throughout the nation was light. Off-Forest fire assignments for Prescott Hotshots, engines and miscellaneous overhead were also light. The nation as a whole did not experience a critical shortage for "fire-fighting" resources until late summer following support efforts for Hurricane Katrina.

Annually, the Forest monitors fire 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. Data collection is up-to-date and on schedule. In FY 2005, two plots were burned and eight plots were monitored. 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.

In 2005, both mechanical and prescribed fire treatments were used to reduce fuel loadings. Mechanical treatments were conducted in the chaparral type, to improve the condition class and enhance the ecosystem; and in the ponderosa pine to thin understory trees, reducing ladder fuels and improving stand health. Approximately 274 acres of mechanical treatment in chaparral vegetation, and 75 acres of thinning in ponderosa pine stands were accomplished.

The Forest completed 6,150 acres of prescribed fire. 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 Prescott NF Land and Resource Management Plan was approved.

Table 3 - Prescribed Fire 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
2005	0	5,483	667	0
TOTAL	**38,544**	**77,884**	**8,939**	**3,008**

Heritage Resources

The Forest 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; however, 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 75 heritage resource projects completed in fiscal year (FY) 2005 on the Forest, resulting in the discovery of 27 archaeological properties. In addition to discovering new archaeological properties, 66 previously recorded sites were monitored in relation to project activities. Of the projects that were surveyed, 38 (58%) resulted in direction to manage for the presence of historic and prehistoric resources. This is slightly more than the previous year. Pre-project monitoring of implemented projects where sites are present 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.

Monitoring also consisted of checking about 91 non-project-related sites for signs for vandalism and natural deterioration. These sites are located throughout the Forest and consist of both prehistoric and historic sites. Monitoring identified two primary issues 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 2005, the Forest was involved with 14 law enforcement events concerning archaeological sites. This number is slightly elevated from the previous year.

Special monitoring attention continued for the 19th century Puntenny Limestone Kiln Site. An assessment of the kiln's condition by an engineer and the safety officer confirmed that the structure was showing signs of instability. Various protective strategies were discussed. The most effective and cost efficient method for stabilization included the construction of fence, which was accomplished in FY2004. The fence is periodically monitored and, for the most part, seems to be working effectively. Other monitoring efforts included checking on archaeological sites that fell within timber harvesting areas. This work included relocating and re-flagging archaeological sites.

Monitoring also occurred on several other smaller projects, including trails projects, road improvement projects, mining projects, historic site improvements, and others. The protection of historic Yeager Canyon Ranger Station was accomplished by collecting refuse and placing a protective barrier to limit access to the site. The site continues to be monitored. 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 have proven to be effective and helpful in our continuing efforts to protect prehistoric and historic resources.

Three Damage Assessments for archaeological properties were completed in FY 04. Damage Assessments are a form of monitoring that assesses the condition of an archaeological property, albeit after it has been affected by present-day human activities. Damage Assessments are done when an archaeological property sustains some level of impact due to human error or neglect. The three Damage Assessments showed that several sites were affected by direct impacts of mechanical equipment. In one case, artifacts were displaced but no archaeological features were impacted. The two other cases are still undergoing assessment.

Insects and Disease

The Forest annually monitors insect and disease conditions 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.

In 2005 mortality from Ips bark beetle was near the level before the epidemic in 2002 due to near average winter and summer moisture. In addition to better moisture, many of the more susceptible poor pine sites (side hills with shallow soils, ridge tops with shallow soils, and brush areas where pine had encroached) had already been affected in 2002, leaving the more resistant pine sites with deeper soils and areas that had been commercially thinned. Even though the Ips bark beetle population was still high in 2005, the increased moisture and better sites (of which many had been thinned) seemed to have kept the mortality near the 2001 endemic level.

Western pine beetle mortality remained steady, with only individual trees affected. Mistletoe continues to be a problem in some pine stands. The mortality in pinyon pine stands in 2005 was near normal due to the near average moisture.

Lands

No rights-of-way were acquired in 2006.

Noxious Weeds

The Forest continues to be involved in the Western Yavapai and Verde Valley Weed Management Areas and in the Southwest Vegetation Management Association. Participation in these organizations allows networking about invasive plant species with other governmental agencies and private parties and is the means for cooperative treatments. Invasive plants surveys continue and population locations are identified by GPS and added to the weeds atlas. The weeds atlas is a statewide mapping of identified weed populations.

Range Management

Capacity for grazing is monitored in two ways: (1) Through inspections to determine short-term needs for adjustment in stocking, and (2) when analyzing data collected for grazing project analyses under the National Environmental Policy Act (NEPA). Data included existing condition plot data from the ecological inventory and the Terrestrial Ecosystem Survey combined with inspections. Condition and trend do not change annually, so a more accurate description is measurement of indicators of change. Condition has a shorter period for change and must be monitored; if findings show a decline, then action is required before trend declines. This is tracked through short-term monitoring.

Grazing NEPA decisions were made for five allotments as part of the Bradshaw 4 Grazing Project and the Horseshoe Grazing Project, while NEPA analysis on four other allotments (Verde Rim) continued.

Thirty five (35) allotments (approximately 746,123 acres) were inspected, including all stocked allotments and a number of allotments that were not stocked. All allotments with Threatened and/or Endangered species were monitored for compliance with Endangered Species Act Section 7 consultation agreements.

Stocking remained the same as 2004 or decreased slightly due to lower than normal summer rainfall and average winter precipitation. Approximately 7,773 cattle were authorized to graze at some time during 2005. This is 54% of the 14,512 cattle currently permitted on the Forest and a 10% decrease from the 8,614 animals grazed on the Forest in 2004. Most of this reduced stocking is in response to the ongoing drought.

Numerous range improvements to improve livestock distribution and watershed health were constructed this year. They include: 3 miles of fence (Ash Creek, Copper Canyon), 2 Storage tanks 10,000 gallons (Ash creek & China Dam), 1 Cattleguard (Squaw Peak), 9,720 feet pipe replaced or installed (Horner, Copper Canyon, & China Dam), installed 4 troughs (Horner & China Dam).

Recreation

Developed recreation facilities' usage was up slightly for 2005, despite continued higher prices for nearly everything recreationists purchase. Higher prices on a national level may have contributed to people recreating closer to home. Additionally, improved and more detailed record keeping on the Forest's part may have contributed to this increase. Developed recreation sites experienced an overall increase in recreation visitation. Lynx Lake campground reopened and contributed to the increase in recreation facility use in 2005.

The removal of dead and dying trees in and around developed facilities was completed in 2005, causing fewer disruptions for visitors. Reduction of the fire hazard in and near campgrounds also eased visitors' safety concerns. Completion of thinning and other tree removal activities in 2005 has improved areas for future visitation as well.

Developed recreation usage continued to be concentrated on weekends during the spring, summer and early fall. During 2005, approximately 190,645 visits occurred. This number is based on extrapolated data compiled from paid fee envelopes and personal observations by recreation staff. There were approximately 49,856 overnight camping visits, including group sites, and 140,789 day-use visits. The overall recreation visitor day (RVD) total for 2005, based on an RVD multiplier of six for an average two-day camping stay, reached 452,000. This total exceeds the current Forest Plan estimate of 380,000 annual RVDs for the second season in a row. Despite these numbers, there still 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, as indicated by the list below.

Groom Creek Horse Camp:	23%	(2004: 19%)
Hilltop Campground:	23%	(2004: 50%)
Yavapai:	28%	(2004: 45%)
Lower Wolf Campground:	24%	(2004: 22%)

Lynx Lake Campground:	42%	Closed for 2004 season.

The drop in Hilltop and Yavapai campgrounds occupancy rate for 2005 is a direct result of Lynx Lake campground reopening.

Mingus Mountain campground was unavailable for the 2005 season.

The Prescott NF has two developed off-highway vehicle (OHV) areas: Alto Pit and Hayfield Draw. Actual use figures for both OHV areas totaled about 10,460 visits based on an analysis of fees collected.

There are 111 designated dispersed campsites within the Prescott Basin. Forest-wide dispersed site monitoring was conducted from April through October in 2005 by fire prevention and forest protection officer patrols. Prior to April and after October, there are little or no patrols of dispersed sites.

Approximately 20 of these designated sites have been closed, moved, or obliterated due to impacts from logging, firewood gathering, or changes in camping priorities. Volunteers are assigned the responsibility of inventorying, monitoring, and maintaining each site. Fire Prevention and Forest Patrol Officer patrols helped 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. In 2005, many of these sites were heavily impacted by fuels treatments (brush crush) and timber harvesting, leading to a need to re-evaluate the campsites.

In 2005, the Prescott National Forest managed 41 miles of Verde Wild and Scenic River in cooperation with the Tonto and Coconino National Forests. Nine river trips were made with other recreation managers and volunteers. On these trips, a variety of work was done including: removal and clean up of fire rings and trash, mapping and identifying needed information using GPS, and visitor contact. A total of 36 bags of trash were filled and removed. The following large items were also removed: 10 boats, 5 canoes, 2 rafts, 2 kayaks, 80 tires, and 1 ton of scrap metal. Eighteen fire pits were also removed from the river banks.

Approximately 20 dispersed shooting locations have been identified by Forest personnel and volunteers, and more are suspected. Four of these sites were adopted by a concerned shooting group (Good Gun Foundation) for annual cleanup work during National Public Lands Day. The Good Gun Foundation and other volunteers filled a 40 yard dumpster with collected trash as part of the clean up. These sites will continue to be monitored as they attract illegal trash dumping and vandalism.

Five miles of non-motorized trail (#332 extension, #400, and #93 reroute) and 1.3 miles of motorized trail (AP#16, and #9263) were reconstructed/constructed by volunteer crews and a Forest Service Enterprise Team. Trail crew volunteers, Youth Corp crews, Adopt-a-Trail volunteers, and Forest Service crews conducted maintenance on approximately 88 miles of trails (multi-use and non-motorized).

Table 1 displays the approximate number of visitors to six of the Forest's eight wilderness areas during 2005. It also shows the Recreation Opportunity Spectrum rating for each wilderness area. Only visits recorded at a trailhead register are included in these totals. This undoubtedly underestimates actual use because (1) not every visitor registers, (2) there is not a register at every trailhead, and (3) there are gaps in the data. However, the counts do indicate the relative magnitude of wilderness use on the Forest.

Table 1 – 2005 Approximate Wilderness Visitation & ROS Rating

Wilderness	Number of Visits	ROS Spectrum
Granite Mountain	**3632**	**Bordering on**

		SPNM
Pine Mountain	**395**	**P**
Sycamore Canyon	**430**	**P**
Juniper Mesa	**198**	**P**
Castle Creek	**893**	**P**
Woodchute	**3908**	**P**
Apache Creek & Cedar Bench	**801***	**P**
TOTAL	**10,257**	

* - There is little visitation to the Apache Creek and Cedar Bench Wildernesses. Estimated use for these areas is approximately 801 visits.

The 2002 NVUM survey reported 16,735 total wilderness visits for the Prescott National Forest. Using an expected 7% annual increase in wilderness visitation (PNF LMP pg. 82), visitation in 2005 to the six Wilderness areas can be estimated at about 20,501.

No trails in wilderness were constructed or reconstructed. Approximately 12 miles of trails were maintained in wilderness.

Roads and Facilities

During fiscal year 2005, 11 miles of existing Forest roads were reconstructed to improve access and improve watershed condition. 234 miles of the existing 1897 miles of system roads (12%) were maintained to the desired maintenance standard. 7 miles of roads were decommissioned.

Soil and Water

The following projects were implemented this year to improve soil and water conditions:

- Monitoring of the Arizona Water Protection Fund grant project *Lynx Creek Restoration at Sediment Trap #2* for vegetation recovery continued in partnership with Arizona State University.
- An Arizona Water Protection Fund grant was used to implement channel, floodplain and riparian area restoration at Lower Lynx Creek. This project included channel reconfiguration, floodplain construction, planting willow bundles and deergrass, and seeding with native seed. A riparian exclosure fence was constructed around the restoration area to protect site integrity. Monthly monitoring of vegetation biomass, density and species, as well as soil temperature was implemented.
- The trailhead at Lower Lynx Creek was re-located from the middle to below the restoration project site and a weir was installed to protect channel integrity against possible damage from OHV crossings.
- A riparian exclosure at Brown Springs was constructed as part of an Arizona Water Protection Fund grant to protect streamside and riparian condition.
- A program of Best Management Practices field assessment of implementation and effectiveness monitored 2479 acres of timber sale units.

In addition, Best Management Practices (BMPs) continue to be integrated into the implementation of fuels reduction treatments, harvest of bug-killed trees, livestock grazing, minerals extraction, special use permits, noxious weed control projects, and recreation activities. No water yield improvement treatments were conducted (this monitoring item has not been pursued on the Forest since the Battle Flat experimental treatments of the 1980s).

Roads or road-segments that are producing excessive sediment or impacting other resources (such as riparian areas or water quality) continue to be identified as part of project analysis. This information has been used to relocate, upgrade, or close problem roads or road segments.

No 5th code watershed analysis was completed, although a broad-scale watershed analysis procedure is in the process of being developed. This process incorporates known sensitive map units (high erosion hazard, high lime content, high gully potential, steep slopes) with riparian and wetland areas, and connected stream courses to provide management with a planning tool that will allow the placement of ground disturbing management activities in non-sensitive areas. This product can also be used to pinpoint potential areas with soil and water resource concerns by overlaying past management activities.

Watershed conditions continued to be analyzed as part of fuel treatment, grazing allotment, and mining project analysis. Watershed monitoring occurred throughout the Forest and was associated with many projects. Soil condition monitoring occurred on 10,223 acres forest-wide, and six miles of riparian stream course monitoring occurred as well. Proper Functioning Condition monitoring information is being compiled into a database and an ARC-GIS layer is being created that will allow condition of stream segments to be easily accessed for future analysis and planning.

The draft version of 6th code watershed delineation has been completed in partnership with Northern Arizona University and will provide the basis for the Natural Resource Conservation Service (NRCS) product which is scheduled for completion in FY07.

Instream flow measurements continued in 2005 and applications have been filed on five sites.

The Forest continued participation in the Verde Watershed Association, and joined the City of Prescott Mitigation Committee, and the Verde River Basin Partnership.

Reports are made to Arizona Department of Environmental Quality to document Clean Water Act compliance and the use of Best Management Practices for Forest management.

Timber

Federal regulation requires the Forest to measure and report the amount of saw timber offered annually for sale. The desired condition is that annual sale offerings will be made on a sustained yield basis. The Forest sold approximately 5303 ccf of saw timber. These sales consisted of green sales to reduce the density of the stands in order to improve forest health on 731 acres, and 4022 cords of firewood from various personal use and commercial sale areas.

Monitoring of the acres of intermediate harvest, regeneration harvest, and removal harvest is done to measure treatment prescriptions and effects. The desired condition is a more balanced age class distribution, appropriate growing stock levels, and provision for wildlife habitat needs. In 2005, the saw timber program harvested 738 acres of intermediate cut and 5 acres of regeneration cuts. Table 3 shows the number of acres of harvest treatment from 1987 through 2005.

Table 3: 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

Table 3: Harvest History in pine type (acres)		
YEAR	**Regeneration Harvest**	**Intermediate Harvest**
1995	0	0
1996	0	0
1997	92	478
1998	0	0
1999	0	0
2000	162	1082
2001	0	530
2002	0	0
2003	0	0
2004	0	613
2005	5	738
TOTAL	**597**	**6204**

Table 4: Harvest History, Pinyon-Juniper type (acres)			
YEAR	**Regeneration Harvest**	**Intermediate Harvest**	**Removal Harvest**
1987	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
2000	0	0	250
2001	0	0	255
2002	0	0	250
2003	0	0	55
2004	0	0	55
2005	0	0	40
TOTAL	**32**	**213**	**3258**

Wildlife

Bald Eagle

The Forest cooperated with the Arizona Game and Fish Department Bald Eagle Nest Watch Program to monitor nest sites on the Prescott National Forest. One young was successfully fledged at the Perkinsville, Ladders, and Lynx Lake sites. Two young were successfully fledged at the Coldwater site. Breeding attempts at the Towers site were unsuccessful this year.

Mexican Spotted Owl

During 2005, eight of the fifteen Mexican spotted owl (MSO) Protected Activity Centers (PACs) were fully monitored to protocol, while one had partial monitoring. MSOs occupied five of the PACs. Total detected MSO population was four to five single owls – one owl may have been using 2 PAC's. No reproduction was documented. This indicates a stable population trend.

Conifer mortality in 2004 has slowed down in PACs except on Mingus Mountain. Understory vegetation production appears to have increased due to the reduced overstory canopy cover. This has provided an increase in mid-story plant diversity and productivity, with more oak, walnut and cherry present. Fuel loading remains high.

Northern Goshawk

Monitoring was conducted on six of seven post-fledging areas (PFAs) on the Prescott National Forest. No goshawks were detected. This continues the downward population trend of the last few years.

Peregrine Falcon

Thumb Butte was monitored for peregrine falcon breeding activity. It appeared that one young was fledged, but it was not confirmed. The Granite Mountain eyrie was not monitored this year, nor were the three remote territories on the Chino Valley District.

Yellow-billed Cuckoo

Eleven sites were surveyed to protocol, encompassing ten miles of stream on the Prescott National Forest. Cuckoos were detected along Little Ash Creek (Verde RD) and the Verde River at White Bridge in Camp Verde. Four cuckoos each were found at these two sites.

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 the spring and five of the seven sites in fall of 2005 for occurrence of spikedace and information on habitat conditions. Spikedace continued to be absent in fish surveys at all seven sites, as has been the situation since 1996. In addition, the Prescott National Forest in cooperation with personnel of the Arizona Game and Fish Department and U.S. Fish and Wildlife Service completed surveys for spikedace in the upper Verde River in the fall of 2005. No spikedace were detected in the surveys. Monitoring of livestock river crossings at Perkinsville determined that effects to the habitat are minimal.

Gila chub

Habitat conditions in Upper Water Spring (Indian 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 populations were monitored in Indian, Sycamore, and Little Sycamore creeks on the Prescott National Forest in fall of 2005. Populations in all streams consisted of multiple ages and sizes indicating a healthy population.

Management Indicator Species

Large-scale changes to the ponderosa pine, pinyon/juniper, chaparral and grassland-desert shrub communities persisted in 2005 due to beetle-caused mortality and drought. These changes will have long-term effects to Tassel-eared squirrel population trends (Abert) (down), goshawk (down), pygmy nuthatch (down); turkey (down); and Hairy woodpecker (up).

Table 5: Management Indicator Species, Trends

TABLE 5: MANAGEMENT INDICATOR SPECIES		
SPECIES	**HABITAT**	**POPULATION TREND**
Turkey	Ponderosa pine, late seral	Decreasing
Mule deer	Pinyon/juniper/chaparral, early seral	Decreasing
Pronghorn antelope	Grassland, desert shrub	Decreasing
Macroinvertebrates	Riparian, aquatic, late seral	Stable
Goshawk	Ponderosa pine, late seral	Decreasing
Hairy woodpecker	Ponderosa pine, snags	Increasing
Lucy's warbler	Riparian, late seral	Stable
Juniper (Plain) titmouse	Pinyon/juniper snags	Increasing
Pygmy nuthatch	Ponderosa pine, late seral	Decreasing
Spotted (Rufous-sided) towhee	Chaparral, late seral	Decreasing
Tassel-eared squirrel	Ponderosa pine, early seral	Decreasing

Section 2 – Progress toward Desired Condition

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).

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)

FY05 funding for fire suppression and fuels management activities was adequate to meet Forest Plan goals. Management Direction within the Plan states, "Provide for fire management support services necessary to sustain resource yields while protecting improvements and investments, and providing for public safety." Seasonal factors contributed to a low level of fire suppression needs on the Forest and were well within Desired Conditions.

The Plan also states, "In as much as possible, return fire to its natural role in the ecosystem." During 2005, the only authorized use of wildland fires on the Prescott NF was in Wilderness areas. There were no wildland fires managed as fire-use opportunities to meet resource objectives during this time. There were strong efforts made to reduce fuel loadings, primarily in wildland urban interface areas, and to help safely manage fire-use opportunities in the future.

The Forest is becoming successful in returning fire 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 to increase, with success in vegetation and fuels management to restore fire-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 has increased dramatically over the last several years in light of new historic preservation legislation. Consequently, the Forest has elected to designate the Forest Archaeologist as the "Tribal Liaison." Due to the pressing matters concerning project implementation and consultation, plus a lack of discretionary heritage resource funding, heritage resource personnel are able to spend little time working on research, education, and enhancement activities. One exception to this is the use of the "Passport in Time" program utilized by the Prescott National Forest. This program allows volunteers and Forest Service archaeologists to work side-by-side in the field to gather information about heritage resources in the Forest. In FY 04, a location in the Camp Wood area of the Chino Valley Ranger District was selected for study. The Forest also supported archaeological inventory that was conducted under the auspices of the Walnut Creek consortium in the Walnut Creek area of the Chino Valley Ranger District.

The Forest has numerous archaeological sites that are extremely visible and readily available. 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 Prescott National Forest.

Insects and Disease

"The Forest is managed with a primary emphasis on healthy, robust environments with productive soils, clean air and water, and diverse populations of flora and fauna." (Forest Plan, p. 11)

The agency focus in dealing with the Ips beetle is to thin stands to promote healthier and more insect-resistant trees. The improved markets for timber products from the Prescott National Forest has increased the Forest's ability to accomplish commercial thinning projects designed to create a more fire- and disease-resistant forest.

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 the planning of 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). The Forest Plan is scheduled for revision beginning in fiscal year 2006 and is to be completed in fiscal year 2009. A core planning team will be formed to lead the revision effort with support from various specialists and other forest and district personnel.

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.

In November of 2005 the Northern Arizona Land Exchange (P.L. 109-110) was passed by Congress. The main thrust of this land exchange is to consolidate both federal and non-federal lands located in the "checkerboard" portion of the PNF. The forest is working diligently to negotiate an Agreement to Initiate (ATI) with the proponent in order to meet Congressional intent. To date an ATI has not been signed.

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. Page 265)

There are currently 25 known weeds found within the three national forests and four additional species on lands adjacent to them. The desired condition is to prevent any new plants from becoming established on national forest lands. The control of these plants would promote ecosystem health and prevent losses in the productive capacity of the land.

The completion of the Environmental Impact Statement for the Three Forests (Kaibab, Coconino and Prescott) will be beneficial for the forest to continue managing the ever increasing invasive weed species.

The Prescott National Forest treated 319 acres of invasive plant species in 2005. This was the first project completed in support of the desired condition adopted in January of 2005 as a result of the three forest Noxious Weed EIS.

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)

Drought once again played a large part in managing the range program for the Forest. Adjustments were made to stocking and to grazing management that corresponded with changing conditions and to reduce impacts associated with drought. Permit holders were either involved in inspections or were notified of findings. Numerous improvements previously described will improve livestock distribution and watershed health to maintain productivity of range lands.

Stocking levels in 2005 were at 54% of the capacity currently permitted. Most of this reduced stocking is in response to the lower than normal summer rainfall and average winter precipitation and the ongoing drought.

The Ecological Classification of the forest that is currently being reviewed in the RO will provide additional support for future management decisions related to range management.

200 acres of juniper cutting treatments (brush removal) to increase forage production were conducted this year.

Monitoring and necessary adjustments continue on all allotments with Threatened and/or Endangered species.

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 2002 Prescott National Visitor Use Monitoring Survey (NVUM), visitors gave the Forest high marks for visitor satisfaction in all major categories: Developed Day Use and Overnight Sites, Wilderness and general Forest areas. On a scale of 1 to 5, 5 being very good or very important, the Mean Satisfaction Rating for each of the four categories was 4+.

Since 2002 the Forest has experienced major mortality of trees in and around the recreation areas due to drought and beetle kill. The Forest's aggressive hazard tree removal program and healthy forest thinning action is complete in our developed and dispersed recreation sites.

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 to augment the Forest Service workforce.

Recreation planning efforts seek to provide diverse recreation experiences. This diversity was accomplished by providing interpretive and accessible trails. These trails are the Lynx Recreation Trail #311 and the Lions Club Sight-Impairment Trail. A mix of multiple use, motorized and non-motorized trail opportunities will be a 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 in cooperation with the Coconino and Tonto National Forests. 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.

There has been only a slight reduction of maintenance backlog on trails, designated dispersed campsites and at developed sites (campgrounds, trailheads and picnic areas) due to limited funding.

The eight wilderness areas on the Prescott NF were maintained and patrolled by a seasonal wilderness ranger.

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 concerning signs. Protection of resources is not being accomplished on most level 1 and 2 roads. Regarding administrative facilities, the Forest has managed to reduce some deferred maintenance and most of the buildings are safe for employee use.

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)

The draft document of the Ecological Classification of the Prescott National Forest is complete and has been submitted to the Regional Office for review. This document describes the range of variability within the Forest's Terrestrial Ecosystem Survey map units, and allows prediction of the degree of change in response to management, effects of Forest activities, wildfire, insect and disease infestations, as well as to the ongoing drought.

Abandoned mines, including CERCLA sites in the Bradshaw Mountains, continue to be water quality issues and are addressed through reclamation, mitigation, and management. These sites are the cause of some of the State's 303(d) listings. Priority sites for treatment have been identified by the Environmental Protection Agency (EPA). Reclamation is cooperative, with the EPA taking the lead on private lands. Mine reclamation projects and their status include the following:

- Blue John reclamation is complete.
- McCleur mine was reclaimed using biosolids, seeding, and erosion control methods including wattles and erosion matting. The reclamation included removing toxic material from the stream channel. The site is being monitored for treatment effectiveness.
- Reclamation design for Golden Turkey mine on Turkey Creek was completed.

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

As discussed in previous sections, the Forest obtained grant funding through the Arizona Water Protection Fund program to reconstruct floodplains and restore riparian areas along Lower Lynx Creek.

Project analysis, such as that for the Gold Basin mining project; include analysis of potential effects on riparian area in terms of both decreased groundwater availability and ground surface disturbance.

Best Management Practices designed to protect riparian vegetation and floodplains are implemented on projects.

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 Forest is meeting Plan expectations in terms of stand structure and productivity, although achievement of those expectations is not occurring at the rate projected. The Prescott Forest will continue to supply firewood sufficient to meet existing demand, although availability of the resource will probably shift from the Bradshaw Ranger District to the Chino Valley Ranger District. The Ips beetle epidemic had an impact on some of the ponderosa pine stands on the Prescott National Forest. Some of the poorer pine sites on the Prescott were heavily impacted by the Ips beetle epidemic, but the desired condition for this ecosystem has not changed.

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 with the only large-scale treatments being the Maverick, Schoolhouse, Dearing and Goldwater Timber Sales. Since 2000 the Forest has been selling all the Timber Sales it has offered. According to the Forest Plan, there are 130,350 acres in the Pine Management Area (Management Area 4 – "MA 4") of which 61,651 acres are tentatively suitable and 30,653 are considered commercial timberlands. There are also 2,962 acres of commercial timberland in the Woodland and Chaparral Management Areas (MA 2 & 3, respectively). Through fiscal year 2002, approximately 18% of the commercial timberland was treated. In 2005, the timber program moved toward a more normal green tree harvest program. The objectives of the 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..

Mixed conifer areas on the Forest are also included in MA 4. Since the Forest Plan was written, there have been virtually no treatments in mixed conifer or aspen stands to improve stand productivity because of steep slopes and lack of road access. As a result, conifers are replacing aspen in many locations.

One of the concerns during the Forest planning process was "Demand is expected to exceed the Forest's production capability for the sustained yield of pinyon-juniper from accessible lands." Only a small percentage (0.5%) of the 454,598 acres of juniper/pinyon-juniper in MA 2 (woodland) has been treated since 1986. A generous estimate of 15 cords/acre translates to 2,820 cords per year sold, roughly equivalent to 1,410 MBF; the projected harvest in the Forest Plan was 3,401 MBF. There are a number of factors for the lesser volume: reduced demand, due to increased availability and relatively lower cost of electricity and natural gas; and less desirable stands of smaller trees in more remote locations offered for sale. It was also originally envisioned that the Chino Valley Ranger District would be the primary provider of green firewood products. Instead, most of the green firewood volume has come from Sycamore Mesa on the Bradshaw Ranger District. In FY 04, the emphasis in firewood products continued to shift to the Chino Valley Ranger District, as most woodland stands on the Bradshaw District have now been treated.

The significant change from harvesting timber to produce a commodity to harvesting timber for the purpose of restoring or improving forest health is a factor in the protection and recruitment of old growth. This shift has resulted in timber sales consisting of non-traditionally-sized (i.e., not large) trees.

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)

In 2005, wildlife habitat management continued to be greatly influenced by drought conditions and the unprecedented bark beetle outbreak that has killed thousands of acres of ponderosa pine. The drought also killed many pinyon pines and junipers, and has curtailed growth in the grasslands and chaparral. Wildlife populations will shift accordingly to reflect these changed habitat conditions; wildlife species composition will shift toward those species that favor open forests. 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. Pockets of dense forest will remain in protected canyons and on north-facing slopes.

Wildlife personnel are closely involved with all vegetation manipulation projects, from grazing allotments to fuels reduction and more.

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 spikedace in the upper Verde River have apparently been eliminated by non-native predator fish. The USDA Forest Service Rocky Mountain Research Station continues to investigate relationships

between native fish and nonnative fish, flood disturbance events, and Forest management practices. This partnership is helping to develop crucial information about management of native fish habitat on Prescott National Forest Lands.

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 number of sites monitored in 2005 is slightly lower than has occurred annually in the past on the Prescott National Forest. Criteria used to determine which projects will be monitored include the density of sites in or near the project area, the magnitude of the project, 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, chiefly due to a lack of communication or the failure of a site to be identified. In some cases, site protective markers have been removed by the public, not realizing their purpose. The problem of site markers being removed is a challenging one. As the population increases and more homes are built along the "interface" between private land and National Forest land, more people can readily access the Forest via their own property or from nearby trails. In a related matter, when protective site markers (or any markings, for that matter) are encountered by the public in the Forest, some individuals may believe that these portend some sort of "development;" therefore, 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 check 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 plans.

Noxious Weeds

Budget constraints and a lack of personnel have prevented extensive monitoring of the noxious weeds.

Range Management

Budget constraints and a lack of personnel have prevented extensive monitoring of range conditions.

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, and general forest area use. As each forest cycles through more NVUM surveys, the quality and accuracy of the data improves.

Soil and Water

Budget constraints and a lack of personnel have limited monitoring of the soil and water resources.

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 riparian health is probably not useful in measuring accomplishment of Forest goals. Reporting acres treated and volume of wood sold does not provide a means to measure and evaluate forest health. To make monitoring useful, more needs to be done to accurately determine what is important, relevant and meaningful to measure. Other items are not practical or are difficult to measure. 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 changes can be made in on-going programs/projects as soon as potential problems are identified.

All of these needs will be addressed in future Forest Plan amendments, the upcoming Forest Plan revision, and through other changes.

The greatest impediment to achieving wildlife goals is the amount of time Wildlife staff spend addressing litigation issues and preparing environmental analyses and environmental analysis-related documentation in support of other programs' projects. 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. It is estimated that more than 50% of Wildlife staff time in 2005 was spent participating in litigation-driven issues instead of implementing field projects that directly benefit wildlife.

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 Prescott National Forest. These circumstances include:

- an increase in vegetation and forest fuel loadings since the disruption of wildfire in its natural role in fire-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 (example the Indian Fire in Prescott in 2002).

The threat of catastrophic 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 publics 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 2005 were approved and monitored by the Arizona Department of Environmental Quality (ADEQ) and were well within acceptable legal limitations. However, the Prescott area sits in a basin that attracts and holds smoke, sometimes for days following completion of a prescribed fire. Even at low concentrations, smoke can reduce visual qualities and cause breathing difficulties, particularly to people with breathing disorders such as emphysema, asthma, or allergies, and even to those just sensitive to smoke. Smoke in the air or even notification through the media that prescribed 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. Modifications were made to prescribed burns in 2005 to reduce smoke intensities and the length of time that smoke was present. These modifications included size and locations of burns, and timing and days of continuous burning in any single airshed. However, smoke issues did and will continue to persist.

Retention of the work force continues to be a challenge. Pay scales for entry-level positions in the fire management organization are lower than many job fields in the Prescott area. Trained firefighters are highly sought after by numerous employers in state, county, and local agencies, and the private sector.

Heritage Resources

Native American consultation procedures have changed under new Federal regulations implementing Section 106 of the National Historic Preservation Act. The Forest must now formally consult with tribes, communities, and nations that show an interest in the management practices of the Prescott National Forest. To that end, Native American tribes, communities, and nations have developed heritage resource

programs that regularly review Forest Service 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 Forest Service 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 Forest Service sensitivity to tribal values that are based in the past but are expressed in the present. It behooves the Forest Service to begin thinking about funding and completing ethnographic studies for those tribes, communities, and nations that claim affiliation with lands contained within the Prescott National Forest 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 Forest. 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 vehicles (ATV). These allow people to access more remote locations of the Forest, 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 trails around the Forest and, in some cases, altered existing trails. When new trails are created or when existing trails are altered, heritage resources are in danger of being affected by direct impacts.

As the population of Yavapai County increases and the public use of the Forest correspondingly increases, and there will be a greater need to augment our interpretation of heritage 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.

Insects and Disease

The most critical resource issue facing the Forest is the density of overstocked ponderosa pine stands. There is an urgent need to treat these stands to prevent another extensive insect attack, improve the health in ponderosa pine, and to reduce the potential for crown fires. The increased timber industry infrastructure has allowed industry to purchase, remove, and utilize the wood we have offered. It is critical that this trend continue. The ongoing drought situation in the Southwest will continue and increase the potential for another Ips beetle epidemic and associated pine mortality.

Noxious Weeds

Weeds have expanded to 187,500 acres or 3 percent of the land area over the three forests, representing a dramatic increase over the last 20 years. Riparian corridors, especially the Verde River have noted increases in tamarisk, Russian olive, and tree of Heaven, as well as some of the knapweeds. Containing these species would avoid a decline in riparian values.

Range

Drought continues to affect resource conditions on the forest and will into the foreseeable future. Adaptive management, effective communication, and timely actions between the agency and producers will be critical in managing this issue and its impacts on future range conditions and stocking capacity.

Recreation

Population increases in the north Williamson Valley area are continuing to create additional pressures for recreation use and a need for more developed recreation opportunities in the Walnut Creek/Camp Wood area. Similarly, rapid population growth in the Paulden and Chino Valley communities is impacting the Upper Verde River ecosystem through increasing dispersed recreation activities in this area, including camping, picnicking, and off-highway vehicle use.

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. Wilderness education has been recognized as a way to help prevent negative impacts to wilderness. An education plan will be established to address this need. Invasive weeds in wilderness will also be inventoried.

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 with the intention of providing the public with a required Travel Management map that will fully implement the National Travel Management program.

Roads and Facilities

Trends in the facilities budget indicate that the Forest will not be able to maintain facilities in a safe manner.

Trends in the roads budget indicate that the Forest will not be able to do 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 so that they meet highway safety standards.

Soil and Water

The extended ten-year drought continues to be a major issue. Some climatologists believe that the current cycle we are experiencing is not a drought, but rather a return to more normal precipitation amounts, after a wetter than normal cycle of over 100 years. Only the period between the mid-1970s and 1995 experienced above-normal precipitation.

Water availability and use is perceived as an emerging issue for the Forest. The Colorado River adjudications were made during the wetter cycle, when stream flows were 150% of normal. Current precipitation cycles are alarming and may not provide enough water to support regional lifestyles and the needs of the rapidly increasing population of Yavapai County and the State of Arizona. The proposed exchange of Yavapai Ranch lands and the City of Prescott's purchase of ranch lands within the Upper Chino aquifer for the right to pump groundwater have increased scrutiny of the potential effects of consolidation and development on the springs that feed the Verde River.

These increased concerns with groundwater and stream flow may put pressure on public lands to look for ways to increase water production and in-stream storage. Salt River Project personnel have long thought that in-stream storage within the Verde River basin was inadequate. Actions to increase storage have been tabled since the 1980s. The Forest Plan had a goal of increasing water production in chaparral, and studies were conducted in the Battle Flat research area, as well as other areas on the Forest. The results suggested that though it might be possible to obtain small increases in water yield, the costs would be high.

Timber

The most critical resource issue facing the Forest is the density of overstocked ponderosa pine stands. There is an urgent need to treat these stands to prevent another extensive insect attack, improve the health in ponderosa pine, and to reduce the potential for crown fires. The increased timber industry infrastructure has allowed industry to purchase, remove, and utilize the wood we have offered. It is critical that this trend continue. The ongoing drought situation in the Southwest will continue and increase the potential for another Ips beetle epidemic and associated pine mortality, as well as for another large fire similar to the Indian Fire.

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 Forest's ability to manage for multiple use of the land. In addition, increased population and urbanization around the Forest 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 Forest 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 wildlife habitat.
- 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.
- The pumping of groundwater on private lands may begin reducing flows in the Verde River on the Forest.
- Increase in off-highway vehicle use on some areas of the Forest threatens wildlife and fish species and their habitats.

Section 5 – Recommendations

The Prescott National Forest will begin the analysis to revise the forest plan in 2006. Therefore, there are no recommendations for changes to the Forest Plan as a result of the 2005 monitoring effort.

Section 6 – Certification of Forest Plan Sufficiency

I have reviewed this annual Forest Plan Monitoring and Evaluation Report for Fiscal Year 2005 and determined that:

- While management activities on the Forest continue to lead toward desired conditions, the ongoing drought compounded with the recent ponderosa pine Ips beetle epidemic will require new management strategies and ongoing attention.
- The report is responsive to monitoring information as identified in Chapter 5 of the 1986 Prescott National Forest Plan. The monitoring plan and monitoring activities conducted by the Forest are based on National Forest Management Act regulations and Forest Service Manual guidance.
- An amendment addressing wildland fire use and fuel wood management is currently underway on the Forest. Forest Plan revision will begin in fiscal year 2006.

Therefore, I have determined that the 1986 Forest Plan as currently amended remains sufficient (although in need of further change) to guide Prescott National Forest implementation activities over the next fiscal year.

***/s/* Alan Quan** **September 30, 2006**

Alan Quan, Forest Supervisor Date