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Prescott National Forest

Forest Plan Monitoring and Evaluation Report Fiscal Year 2015



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Section 1: Introduction

What is Forest Plan monitoring?

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 (Prescott NF) from the existing conditions to the desired conditions described in the Prescott National Forest Land and Resource Management Plan ("Forest Plan").

This report documents and evaluates the results of the monitoring that occurred during fiscal year (FY) 2015 (October 2014 through September 2015). In August 2015, the Prescott NF began implementing its revised Land and Resource Management Plan.

Due to revised Forest Plan's adoption so late in FY2015, it was necessary to follow the guidance of the 1987 Forest Plan in the development of this monitoring report.

With the implementation of the 2015 Prescott NF Forest Plan, the monitoring program will shift to a biennial, rather than annual, reporting schedule. The new monitoring program will be used for monitoring starting in Fiscal Year 2016, with the first report expected in 2018.

What is the purpose of monitoring?

The purpose of monitoring and evaluating the implementation of the Forest Plan is to inform the decision maker of the progress that has been made toward achieving the goals and objectives and following standards and guidelines.

This report meets the intent of Chapter Five of the Forest Plan to "analyze and evaluate the significance of the results of the monitoring action plan" (p.73)¹. Monitoring requirements included in the Forest Plan specify the effect(s) to be monitored, the measurement technique(s) to be used, and the expected future condition(s) to be met for each activity or project. They also establish a frequency for measuring and reporting the monitored item and the expected precision and reliability of that measurement.

Lastly, it provides an important communication link with the public and within the agency. By disclosing the effectiveness of the Forest Plan, the Prescott NF is able to better identify future research needs and to shift monitoring activities to more effectively measure overall forest health. In general, monitoring determines:

¹ References to Forest Plan page numbers are for the 2004 republished version of the 1987 Forest Plan, as amended (version 1.1), available at:

<http://www.fs.usda.gov/detail/prescott/landmanagement/?cid=stelprdb5122087>

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

How are monitoring results used?

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

- **No action is needed.**
Monitoring indicates goals and objectives are being reasonably achieved and standards are being followed.

- **Make a recommended action.**
Refer recommended action to the appropriate line officer(s) for improvement or application of management prescriptions.
- **Make a Forest Plan amendment.**
Modify the management prescription or assignment of a prescription as a Forest Plan amendment.
- **Revise the Projected Schedule of outputs.**
- **Identify research needs.**

It is important to note that this is not a monitoring report on individual projects; however, results of some individual projects have been considered in the preparation of this report.

Section 2: Monitoring Summary

Fire Management

Fire Preparedness

Periodic inspections and readiness reviews were used during FY2015 to validate that the fire management organization could function in a safe and effective manner.

Ground Conditions

Below average moisture in the fall of 2014 and into winter 2015 supported little initial growth of all types of plant life. This dry period resulted in higher than average Energy Release Components (ERC).² Growth of fine fuels began to rebound slightly in late spring/early summer as moisture levels trended higher than average for this time of year.

As loading of fine fuels and temperature began to increase over the course of the summer, wildfire indices elevated to slightly above normal conditions during August and September, however above normal monsoon moisture tempered the number of ignitions and significantly moderated fire spread.

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.

Moisture Levels

It was warmer and wetter than normal across northern Arizona in 2015. Several locations

were in the top 10 warmest years. Many locations in the northern part of the state were also among the top 10 wettest years on record. The majority of Yavapai County trended slightly higher than 100 percent of normal for precipitation. Snowfall totals departed 3" below normal in the Prescott area. Monsoonal moisture from June through September varied across the Forest from 60 percent of normal to 116 percent of normal. Table 1 depicts average moisture levels for weather stations located across the Prescott NF. Tables 2 and 3 show moisture amounts received at various weather stations across the Prescott NF during the course of FY2014 and FY2015.

Fire Activity

Statistically, the occurrence of wildfires in 2015 was below average. Also, in terms of the acres burned, the fire season was below average.

Large fire activity on the Prescott NF was limited to two lightning-caused wildfires on the Bradshaw Ranger District that were successfully managed for multiple resource objectives. The 4,336-acre SA Hill fire started on August 2nd approximately five miles south of Mayer and was declared out on September 24th. The 4,910-acre Rattlesnake fire started on August 16th approximately five miles west of the community of Bumble Bee and was declared out on October 6th. Both fires were managed by a local Type 3 incident management organization and provided an excellent opportunity both to reintroduce fire to the landscape and provide

² The Energy Release Component is an index related to how hot a fire could burn. The ERC can serve as a good characterization of fire season as it tracks seasonal fire

danger trends well. The ERC is a function of the fuel model and live and dead fuel moistures.

valuable incident command system operational training in our own backyard.

Monsoon activity resulted in 25 lightning-caused wildfires (Table 4), which is statistically well below average for the Prescott NF.

Tables 4 and 5 display the number, size, and cause of wildfires that occurred during 2014 and 2015. The majority of these fires were less than one acre in size.

Resource Objectives

Historically, during FY2009, periodic moisture and moderate fire behaviors supported decisions to manage two lightning-caused fires (Hyde and Woodchute) with objectives other than full suppression. These conditions and opportunities did not occur during FY2012 or FY2013. In FY2014 the Perkinsville Fire, a lightning-caused wildfire on the Chino Valley Ranger District was managed for resource objectives other than full suppression. These wildfires successfully accomplished resource benefit objectives and functioned in a manner similar to pre-European settlement wildfires. In FY2015, the SA Hill Fire burned 4,336 acres of primarily decadent interior chaparral fields with intermixed semi-desert grass and pinon juniper that had not experienced fire in over a hundred years. The majority of the fire was allowed to burn across the landscape in a variety of patterns and severity which ultimately moved the fire area towards desired conditions outlined in the Forest Plan.

Fire Assignments

As a result of fires across the country, fire management resources on the Prescott NF were engaged in management of wildfire with a focus on suppression, protecting values at risk, and minimizing impacts to the natural resources throughout most of the summer. Aircraft, crews, equipment and overhead were

continuously assigned in support of wildfires locally, regionally and nationally. Opportunities for training and development were realized frequently during FY2015.

Monsoon moisture and lightning-caused wildfires did begin within their historic occurrence period. This caused an increase in the numbers of wildfires but helped to lessen the fire intensities and severities. Most fire management resources within the southwest, including those on the Prescott NF, experienced below average commitment to wildfires during the SW fire season and above average commitment to incident support out of GACC during uncharacteristically severe fire occurrence in the Northwest and Northern Rockies areas.

Mechanical Treatments and Prescribed Fire

Both mechanical and prescribed fire treatments were used to reduce fuel loadings.

FY2015 began the first year of a 3-year hazardous fuels reduction project in the Prescott Basin funded through the Joint Chiefs' Landscape Restoration Initiative. The Prescott Basin Cross Boundary Project will treat 1,750 acres of Federal land annually using a combination of prescribed fire, mastication, and hand-thinning. The Fuels program also received grants from Arizona Game and Fish to implement prescribed fire on NFS lands for wildlife habitat improvement and competed successfully for additional Regional hazardous fuels funding to accomplish 730 acres of mastication and hand-thinning above and beyond the normal program of work. Work was completed in FY2015 in stands of ponderosa pine, chaparral, and the woodland vegetation type to manage brush species, improve the fire regime condition class, enhance the ecosystem,

and construct fuel breaks to support future prescribed fire activities.

Overall, prescribed fire was implemented on 15,179 acres to include broadcast and pile burning. The objectives for all prescribed fire treatments included maintenance or restoration of fire as a natural process within

fire-adapted ecosystems. Within the WUI areas, objectives also included reducing the risk of wildfire to life and property.

Tables 6 and 7 display the number of acres treated by year and vegetation type since 1990.

Table 1. Average moisture levels for the Prescott NF weather stations

Weather Station	Oct 1-Dec 31	Jan 1–Mar 31	Apr 1-Jun 30	Jul 1-Sep 30	Totals
Iron Springs	3.83"	5.59"	1.81"	6.92"	18.15"
Crown King	5.24"	8.64"	1.90"	8.30"	24.08"
Verde	2.81"	3.35"	0.83"	4.84"	11.83"
Cherry	4.06"	4.72"	1.37"	6.13"	16.28"

Table 2. Moisture levels recorded at the Prescott NF weather stations during FY2015

Weather Station	2014	2015			Totals
	Oct 1-Dec 31	Jan 1–Mar 31	Apr 1-Jun 30	Jul 1-Sep 30	
Iron Springs	2.46"	3.04"	3.40"	7.37"	16.27"
Crown King	3.76"	9.16"	2.56"	4.99"	20.47"
Verde	1.81"	3.15"	2.32"	4.18"	11.46"
Cherry	3.55"	7.42"	2.50"	6.19"	19.66"

Table 3. Moisture levels recorded at the Prescott NF weather stations during FY2014

Weather Station	2013	2014			Totals
	Oct 1-Dec 31	Jan 1-Mar 31	Apr 1-Jun 30	Jul 1-Sep 30	
Iron Springs	2.92"	1.34"	0.42"	12.42"	17.10"
Crown King	5.11"	3.19"	0.26"	16.21"	24.77"
Verde	3.35"	1.15"	0.26"	8.02"	12.78"
Cherry	4.73"	1.72"	0.24"	7.69"	14.38"

Table 4. Wildfires on the Prescott NF during 2014 and 2015

Wildfire size	2014		2015		Totals
	Human caused	Lightning caused	Human caused	Lightning caused	
< 1 acre	21	21	22	18	82
1 – 100 acres	4	5	3	5	18
> 100 acres	0	2	0	2	4
Totals	25	28	25	25	103

Table 5. Wildfires greater than 100 acres on the Prescott NF during 2014 and 2015

Year	Name	Size	Cause
2014	Twin Peaks	148 acres	Lightning
2014	Perkinsville	626 acres	Lightning
2015	SA Hill	4336 acres	Lightning
2015	Rattlesnake	4910 acres	Lightning

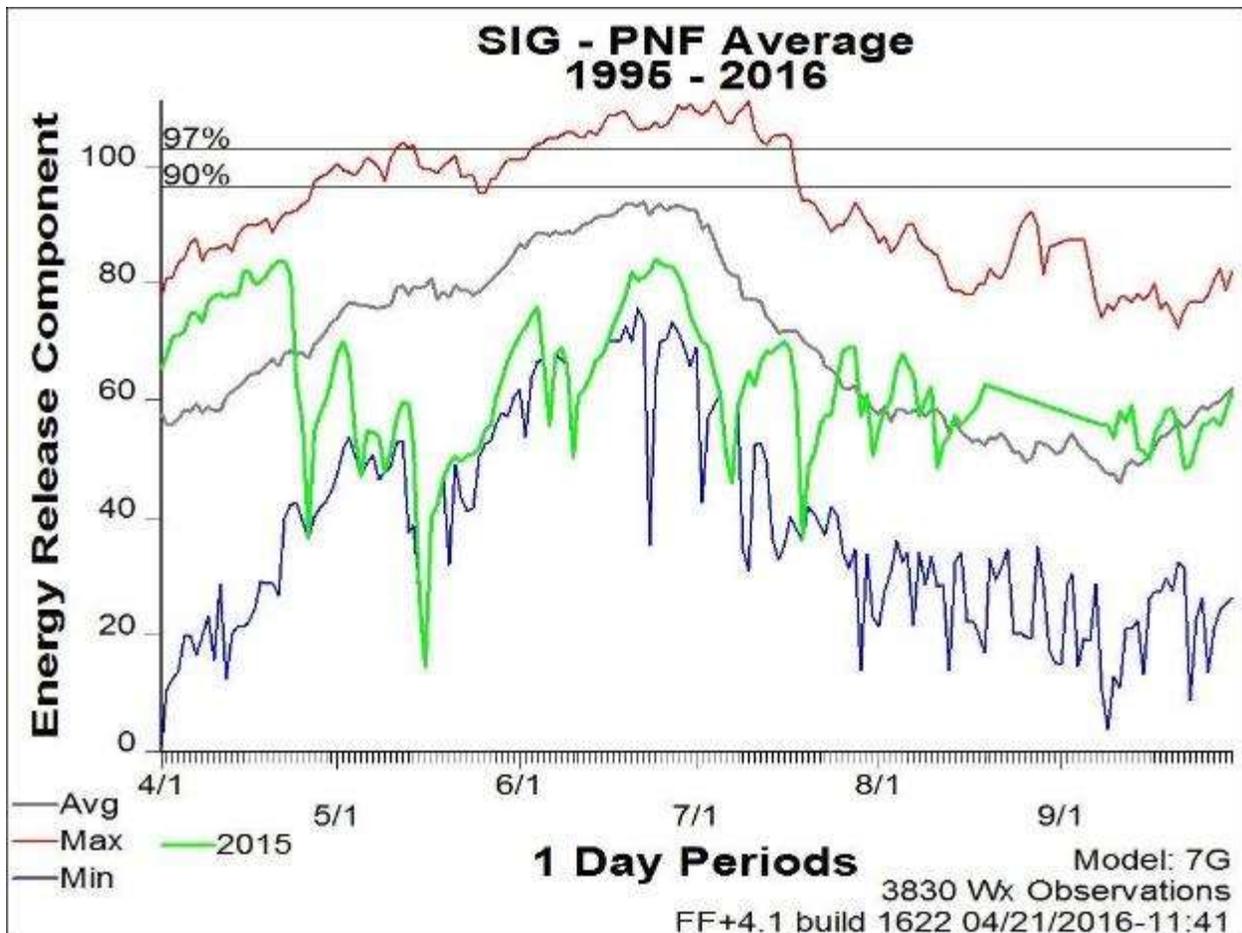


Figure 1. Fire Season 2015 Energy Release Component for the Prescott NF

Table 6. Annual acres treated by vegetation type 1990 - 2002

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Grass	3,500	2,344	2,500	2,000	1,500	3,200	0	0	0	0	3,000	6,000	0
Chaparral	0	1,800	0	1,200	4,800	2,100	1,200	3,492	6,000	7,500	2,500	8,000	200
Pine	1,150	0	75	96	150	110	241	768	0	0	1,100	100	388
Woodland	270	410	1,176	0	0	0	0	0	0	0	0	1,000	0

Table 7. Annual acres treated by vegetation type 2003 - 2015

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Grass	0	0	0	0	0	0	0	0	0	100	100	160	7047
Chaparral	7,150	4,071	5,483	4,300	3,866	5,885	6,383	9,700	9,850	1,977	1,201	1,230	3,953
Pine	500	1,800	667	5,500	4,518	7,236	3,016	3,800	2,650	1,742	2,241	2,153	6,155
Woodland	0	0	0	0	0	0	301	500	500	0	4,000	0	195

Heritage Resources

The Prescott NF manages 36 sites that are listed as National Register (NR) Properties. A number of these are Forest Service administrative sites that are actively used, and thus are visited throughout the year by heritage resource management personnel. The NR 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 for those more accessible and less frequently for sites that are remote. It appears that all 36 properties experienced little overall change. Most of these NR sites are historic properties, and present a different set of issues than prehistoric NR sites.

About 71 heritage resource projects/reports were completed in FY2015 on the Prescott NF, which is slightly more than the previous year. A few other reports that were done for to meet target responsibilities were not included in the totals. The breakdown for the projects by

Ranger District are as follows: Chino Valley RD 31 projects; Bradshaw RD 15; Verde Valley RD 18 projects; with one project crossing district boundaries.

Of the 71 projects reports, 27 did not have associated archaeological properties and 33 did. Other projects were not related to compliance efforts were also completed. Projects that had sites associated with them were assessed according to an effect determination, which included no effect, no adverse effect, or adverse effect. All no adverse effect determinations required consultation with the State Historic Preservation Officer. One adverse determination was made connected to a proposed excavation of an archaeological property. As of this writing, the work plan for this action is still in draft form.

There were 52 new archaeological properties recorded for FY2015. Many sites were monitored as part of project activities. There were about 339 previously recorded sites associated with proposed projects in FY2015.

Many of these sites were revisited and/or monitored or documented. Any pre-project monitoring that was done of these sites consisted of assuring that sites were brought to the attention of the project manager and that they were marked for avoidance. In some cases, follow-up visits were conducted to project areas during the project to ensure that sites were protected.

Large projects were monitored because of the presence of archeological and historic properties. These include projects such as five prescribed burns, five mastication projects, seven timber related projects, and grazing allotment management.

Monitoring occurred on a variety of smaller projects as well, including trails projects, road improvement projects, mining projects, historic site improvements, and others. Some monitoring efforts do not get reported because they involve quick, opportunistic "spot checks".

Monitoring also consisted of checking sites during non-project opportunities. Typically about 50 sites are visited during non-project-related fieldwork. These sites are located throughout the Forest and consist of prehistoric and historic sites that are listed as NR properties or are those that are considered outstanding historic and prehistoric resources. In addition, some sites are selected for monitoring because of new or ongoing threats to their integrity even though they may not be listed as NR properties nor are outstanding heritage sites.

Over the years monitoring has revealed two typical ways sites are impacted. The first involves environmental factors, typically related to weather events. Rains that come in "downpours" create sheet and rill erosion, displaced artifacts and damage to

archaeological features such as habitations. Although no quantitative data exist as to how serious this problem really is, it is not unusual to encounter sites that are suffering from erosion.

The second issue that affects site integrity is direct and indirect vandalism. During FY2015 several incidences of vandalism were noted, and in some cases, certain sites were affected more than once. Vandalism is typically represented by illegal digging, dumping trash on sites, mining, moving rock walls, defacing rock art, camping and building campfires on sites, riding off road vehicles through sites and various and sundry other acts. Vandalism is documented and filed with our archaeological site data and with the State of Arizona as part of the Arizona Site Steward Program.

Insects and Disease

Desired Condition

The Prescott NF 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 Prescott NF due to an appropriate mix of silvicultural activities, treatment of slash, and various other control methods.

Bark Beetle

The Prescott NF and adjacent State and private forested lands were surveyed for insect activity on August 10 and 14, 2015. Bark beetle activity increased from 161 acres in 2014 to 1,110 acres in 2015. Of the 1,110 acres impacted, 760 acres of ponderosa pine mortality were caused by a variety of bark beetle species, 300 acres of Douglas-fir mortality were caused by Douglas-fir beetle, 50 acres of mixed conifer mortality were caused by fir engraver. A total of 1,150 acres of forest land was defoliated. Of the 1,150 acres of

defoliation, 470 acres were mixed conifer and 130 acres were hardwoods. Sycamore anthracnose was detected on 20 acres as well as 50 acres of cottonwood dieback. Finally, 480 acres of pinyon needle scale were detected.

Lands

There was no right-of-way acquisition during FY2015.

Noxious Weeds

Surveys

Noxious and invasive weed species surveys are typically conducted as a part of other vegetation management efforts across the Prescott NF by trained personnel from various resource programs. Range management specialists conduct annual inventories of plant species diversity and abundance and will report any new infestations of invasive species to the Forest Invasive Species Coordinator. Once these species are located, they are plotted and identified with GPS coordinates and added to the Prescott NF's GIS noxious weed layer.

Recreational trails, trailheads, and recreation sites have been inventoried in the Prescott Basin area for the presence of invasive plant species. This survey identified an abundance of new locations for Dalmatian toadflax.

Treatments

Major invasive terrestrial plant species on the Prescott NF include: Saltcedar, Dalmatian toadflax, diffuse knapweed, and sweet resinbush. Other species potentially threatening the Prescott NF in the near future are buffleggrass and yellow starthistle. The priority invasive species that the Prescott NF has been treating are saltcedar, tree of heaven, Dalmatian toadflax, and sweet resinbush.

During FY2015, about 690 acres of invasive plant species were treated on forest land. This includes 220 acres of Dalmatian toadflax that were treated with a biological control weevil (*Mecinus janthiniformis*), and 135 acres of sweet resinbush that were hand pulled.



Photo 1. Saltcedar in bloom.

The Prescott National Forest has focused weed eradication efforts on the upper and middle reaches of the Verde River. This is being accomplished through partnerships with such non-profit groups as the Verde Watershed Restoration Coalition (VWRC). This partnership facilitates invasive plant eradication efforts on lands of all ownerships. In a riparian system, if the entire river corridor is not treated, plant seeds will easily move in the flowing water from untreated areas to treated areas and quickly recolonize. The VWRC group has been able to reach out to over 200 private land owners in the Verde Valley to get their cooperation to implement invasive plant treatments. In 2015, VWRC treated 318 acres of the Verde River to remove saltcedar, Russian olive, tree of heaven, and any other invasive plant species encountered. The method most often employed is to cut the woody plant to ground level and then spray the cut stump with herbicide.

Community Involvement

The Prescott NF is actively involved in working with Arizona Department of Transportation and their weed spraying program on highways that cross the Forest and participates in a yearly coordination meeting with them. The Forest has a partnership with the Verde Watershed Restoration Coalition (VWRC) enabling treatment of weeds along the Verde River both on private and public land. The Prescott NF also participates in Western Yavapai Weed Management Area monthly meetings. There are approximately 294 miles of utility lines that cross the Prescott NF. Several aspects of invasive weed mitigation and prevention have been incorporated into utility corridor management plans. Utility companies keep us informed regarding their vegetation maintenance associated with utility lines. In 2015 the forest developed a new partnership for the treatment of invasive species with the Prescott Creeks group. This group treated about four acres of Russian knapweed in the Aspen Creek area in coordination with the forest.

Range Management

There are 59 active grazing allotments on the Prescott National Forest encompassing 1,278,935 acres. Of the active grazing allotments, about 30 percent are used seasonally and 70 percent are used year-long. Allotments are managed using an adaptive management strategy whereby results from long and short term monitoring are used to guide managers concerning yearly stocking rates, pasture rotations, and whether other adjustments are needed in order to meet management objectives and desired conditions for rangelands. Grazing operations are managed so as to provide healthy vegetative communities, with the proper assemblage of

diverse plant species that the climate, soil, geology, and topography is capable of supporting.



Photo 2. Upper Cottonwood Canyon on the Smith Mesa Allotment that was assessed in Proper Functioning Condition for riparian vegetation structure and hydrologic function during the 2015 field season

Range Vegetation Improved

In 2015 there were several projects that contributed to improved rangeland condition. These either involved the cutting of juniper to restore open grassland habitat or prescribed fire to restore grasslands through reduction in tree and shrub canopy. Burning certain grass species like tobosa grass also serves to remove dead and decadent plant material that is not favored by livestock or wildlife and allowing for re-growth that is more nutritious and palatable. Prescribed burning in 2015 included 500 acres of burning juniper piles in the antelope corridor in the Aqua Fria grasslands (Long Gulch, Rice Peak, and Sycamore Allotments). This is burning of hand-piled juniper that was cut on-site to improve and restore grassland habitat important for pronghorn antelope. There was also 100 acres of chaparral burned in the Powell pasture of Bottle Allotment; 3068 acres burned in the Flats pasture of the Cienega Allotment; and 4,022 acres of the Creek and Hance Mesa pastures of Cienega Allotment and Antelope Basin pasture of V Bar Allotment. The SA Hill

Fire was a lightning-caused fire that was managed for resource benefits such as reducing tree and shrub cover and enhancing herbaceous plant production. The amount of acres burned that had benefits for forage production for livestock and wildlife was estimated at 3,219 acres on both the Blue Bell and Wolf Creek Allotments. Total acres burned for grassland restoration and range improvement was 10,909 acres in 2015.

The Wagontire Juniper Treatment Project accomplished thinning on 1,108 acres on the Chino Valley Ranger District, and the Cienega Juniper Treatment Project on the Verde Ranger District had 428 acres treated in 2015.

Livestock Numbers

In 2015 the authorized stocking level was about 88 percent of permitted livestock numbers on the Prescott National Forest. This represents an increase of about 14 percent from 2014 due to favorable growing conditions for forage in both 2014 and 2015. The number of cattle authorized in 2015 was 118,438 Head-Months compared to the permitted use which is 133,798 Head Months. A 'Head Month' is one month's use and occupancy of rangeland by a single animal, regardless of class of livestock, i.e. bull, cow and calf, or yearling all count as one "head"). The authorized use in 2015 was equivalent to 9,870 adult cattle yearlong, although many allotments on the forest only operate on a seasonal basis. Most grazing allotments are cow-calf operations, meaning that the cows and bulls are kept as a breeding herd and calves are raised and sold each year.

Range NEPA

There were four grazing decisions completed per the National Environmental Policy Act (NEPA) in 2015: the Hitt Wash, Old Camp,

Quartz Wash, and Yolo South Allotments that are all on the Chino Valley Ranger District.

Grazing Capacity

Grazing capacity and management success of grazing operations is monitored in numerous ways:

- **Effectiveness Monitoring**

Monitoring of the effectiveness of grazing management in meeting the desired conditions that were established through the planning process and are incorporated into Allotment Management Plans. Vegetation and watershed health attributes that may be evaluated include plant frequency, species composition, canopy cover, and surface ground cover.

- **Annual range allotment inspections**

These determine the short-term needs for adjusting the authorized livestock numbers stocked within each allotment. The amount of forage removed by livestock after the use period, or grazing intensity, is evaluated to determine if the stocking level and amount of time in a pasture is in need of adjustment. Yearly evaluations of forage production and plant vigor are used to guide future stocking determinations.

Table 8. Rangeland health assessments completed in 2015

Allotment Name:	Acres assessed
Ash Creek	4,970
Bald Hill	4,547
Bottle	15,974
Brown Springs	8,989
Cienega	8,366
Copper Canyon	1,663
Dugas	4,010
Grapevine	13,588
Horner Mountain	8,188
Long Gulch	6,216
Rice Peak	1,452
Squaw Peak	12,129
Verde	16,432
Willow	3,641
Sycamore	13,605
Todd	841
V Bar	1,616
Jerome	7,521
Brushy	2,528
Contreras	6,886
Peck Canyon	11,863
Tank Creek	15,318

- **Allotment Management Plan revisions**

Data collected via numerous monitoring methods for the assessment of existing resource conditions and the determination of desired conditions

within allotments. This data is used to determine future courses of allotment management, and is part of the NEPA analysis process.

Effectiveness monitoring to determine plant frequency, ground cover, and plant species composition was conducted on the allotments listed in Table 9 in 2015. Allotments where information was collected in 2015 to determine existing conditions for allotment management plan revision is shown in Table 10.

Range permit compliance monitoring for range allotments “administered to standard”

evaluated a total of 372,593 acres of rangeland in 2015, representing about 29 percent of the acreage on the entire forest. This monitoring included: accounting for the authorized/actual use livestock on the allotment; monitoring the livestock use on forage vegetation; ensuring pasture rotations were timely and followed; monitoring the maintenance of structural range improvements.

Table 9. Allotments monitored for effectiveness

Allotment Name	Acres evaluated
Burnt Ranch / Cold Springs	6,389
Cienega	6,754
Coyote	10,850
Jerome	6,198
V Bar	1,021
Verde	10,586
Wagoner	10,312
Walnut Grove	3,663
Yolo North	14,233

Table 10. Allotments evaluated for revision

Allotment name	Acres evaluated
Peck Canyon	6,392
Tank Creek / Tonto Mountain	18,682
Williamson Valley	21,137

Recreation

Camping

Campground use generally increased fiscal year 2015 as compared to FY2014. Lynx Lake Recreation Area Campgrounds continue to be very popular on the Prescott NF with occupancy rates reaching over 50 percent. Table 10 depicts occupancy rates in developed campgrounds across the forest. Use data was not available for Potato Patch and Mingus Mountain Campgrounds.

Overall Forest visitation figures were not available for fiscal year 2015 due to a lapse in data collection for overnight campgrounds and day use areas at some facilities.

Designated Dispersed Camping

There are 109 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 monitoring is conducted from April through October each year by Fire Prevention, Forest Protection Officer, and Recreation Technician patrols. From November to March there are little or no patrols of dispersed camping sites. When Prescott NF employees patrol and monitor these sites, they concentrate on fire prevention, camping stay limits, compliance, and education. Volunteer camp hosts clean and maintain camp sites, and report anything they feel is unusual about the condition or use of the specific area. Yavapai County Probations assists the Prescott NF in maintaining and monitoring dispersed camping sites.

Table 11. 2015 Campground Occupancy

Campgrounds	Annual Occupancy
Horse Camp	16.1 %
Hilltop	49.2 %
Yavapai	21.9 %
Lower Wolf Creek	28.0 %
Lynx	53.0 %
Mingus Mountain	Not Available
White Spar Summer (61 sites)	34.3 %
White Spar Winter (12 sites)	80.6 %
Alto Pit OHV	9.9 %
Hazlett Hollow	4.9 %
Potato Patch	Not Available
Group Campgrounds	
Upper Wolf Creek	41.2 %
Eagle Ridge	42.9 %
Turney Gulch	9.9 %

Off-Highway Vehicle Use

The Prescott NF has two developed off highway vehicle (OHV) areas: Alto Pit (in the Prescott area) and Hayfield Draw (in the Camp Verde area). Revenue for both sites totaled approximately \$5,000 for FY2015, an increase from FY2014. This is a positive observation considering the shortened operating season at Hayfield Draw OHV Area (September 1st to May 31st) to allow personnel to focus on other

recreation sites when Hayfield Draw receives its lowest use during the heat season.

Shooting Areas

Dispersed shooting areas have been observed forest-wide. 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 cleaned up and are monitored by volunteers. The Forest is working to manage this use with the help of an ad hoc working group comprised of Yavapai County Sheriff's Office, AZ Game & Fish, AZ State Rifle & Pistol Association, and Prescott National Forest. The group organized two clean up events for National Public Lands Day in 2015, one at Doce Pit on the Bradshaw Ranger District and another at West Mingus on the Verde Ranger District.

Verde Wild and Scenic River

The Prescott NF manages 41 miles of the Verde Wild and Scenic River in cooperation with the Tonto and Coconino National Forests. The Coconino, Tonto, and Prescott National Forests, and partners conducted a joint field trip in March 2015 to assess and discuss challenges and strategies to best manage the Verde River.

Trails and Wilderness

In FY2015, Forest Service personnel, volunteer groups, and individuals worked on projects and Adopt-A-Trail programs to maintain approximately 179 miles of trail to Forest Service standards on general forest lands and in wilderness areas.

Roads and Facilities

Road Improvements

Within the Prescott NF, 86 miles of National Forest System (NFS) roads were maintained to

the designated maintenance standard, eight miles were reconstructed to meet the maintenance standard, and 2.2 miles of user created routes plus 1.6 mile of system road were decommissioned. Efforts continued to implement the Travel Management Rule, by inventorying and signing NFS roads, installing signs to prohibit cross country motorized travel, and signing and constructing barricades to limit dispersed camping to the designated 600 foot corridors on system roads.

Facility Improvements

The Prescott NF maintained 40 buildings to standard. The Forest made inroads to reduce operating and fixed cost by focusing on energy efficiency improvement projects. Two energy audits on high energy use facilities, Verde Ranger Station and the Prescott Fire Center were completed.

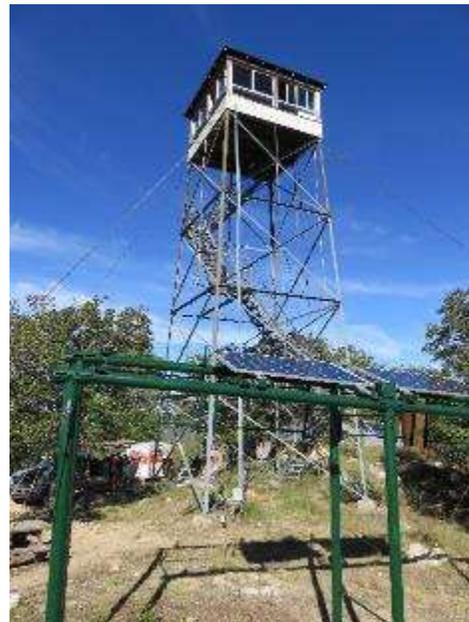


Photo 3. Horsethief Lookout solar panels

A solar energy system was installed at a mountain top lookout, Horsethief Lookout.

Employee and public safety concerns were addressed by bring public water systems up to

current code by installing backflow-preventers on six separate water systems. The Forest also upgraded security locks on District Ranger offices.



Photo 4. Prescott Airtanker Base

In a major partnership project with the City of Prescott, the Forest completed a major renovation and upgrade of the Prescott Airtanker Base. The cooperative effort reconstructed and improved an obsolete tanker base facility to meet current FAA standards and accommodate today's Next Generation of the Forest Service airtanker fleet.

Soil and Water

Monitoring related to soil, water, and riparian resources in FY2015 was primarily associated with project related work and Watershed Restoration Action Plans (WRAP). Each WRAP has identified Essential Projects that need to be completed in order for a watershed to trend toward functional status. Cherry Creek, Black Canyon, Oak Wash, and Upper Ash 6th Code Watershed have been identified as priority watershed landscapes.

Effectiveness monitoring was mostly conducted on the Cherry Creek watershed as part of the process of documenting the completion and determine if resource objectives were met to

move toward functional watershed status. Monitoring in cherry creek watershed included performing the Forest Soil Disturbance Monitoring protocol and coarse woody debris measurements associated with Ponderosa Pine treatments and prescribe fire. Monitoring elements entail reviewing soil quality standards identified in the Forest Plan and provided in Regional Direction. Spring monitoring within the Cherry Creek watershed was also conducted to ensure livestock adaptive management practices are moving conditions toward desired status. In-stream diversion monitoring was conducted in Powell drainage to determine if water quantities were in compliance with permit specifications. Initial inventory of inactive and abandoned hard rock mines in the Cherry Creek Watershed were inventoried to determine if they pose a water quality risk. Sites of concern were forwarded to the Regional Hazardous Material Coordinator to determine appropriate future reclamation efforts.

Project level monitoring included: mining monitoring to evaluate operation compliance with operating plans, evaluating right-of-way waste disposal sites associated with the Arizona Department of Transportation, and monitoring of pre-historic heritage sites to determine appropriate stabilization prescriptions.

Burned Area Emergency Response (BAER) was conducted on two wildfires: SA Hill (2,336 acres) and Rattlesnake (4,910 acres). BAER assessment are evaluated on wildfires greater than 500 acres to determine if post fire impacts may pose a risk to public safety and critical resource values. Monitoring results suggested both of these fire were advantageous to soil and watershed resources.

Timber

Timber Harvest

The acreages of intermediate harvest, regeneration harvest, and removal harvest is monitored to measure the attainment of treatment prescriptions and the effects of implementation. The desired condition is a more balanced age-class distribution, appropriate growing stock levels, and provision for wildlife habitat needs. The number of harvested acres for pine and piñon-juniper

vegetation type from FY1988 through FY2015 is depicted in Tables 12 through 15.

Sawtimber and Fuelwood

Federal regulation requires the Forest Service to annually measure and report the amount of sawtimber offered for sale. In FY2015, the Prescott NF offered and sold 3,597 CCF of sawtimber and sold 3,182 CCF of fuelwood. The Forest Plan identifies that the amount of fuelwood made available each year will be reported every five years (Table 16).

Table 12. Harvest history in pine vegetation types FY1988 - FY2001

	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Regeneration Harvest (acres)	8	256	42	0	0	12	20	0	0	92	0	0	162	0
Intermediate Harvest (acres)	604	931	570	146	304	0	92	0	0	478	0	0	1,082	0

Table 13. Harvest history in pine vegetation types FY2002 - FY2015

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Regeneration Harvest (acres)	0	0	0	5	13	0	0	0	0	0	0	19	30	40
Intermediate Harvest (acres)	0	0	613	738	451	504	1,065	328	279	485	733	170	337	332

Table 14. Harvest history in piñon-juniper vegetation types FY1988 - FY2001

	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Regeneration Harvest (acres)	0	32	0	0	0	0	0	0	0	0	0	0	0	0
Intermediate Harvest (acres)	0	47	166	0	0	0	0	0	0	0	0	0	0	0
Removal Harvest (acres)	239	211	44	70	202	240	120	212	247	256	256	256	250	255

Table 15. Harvest history in piñon-juniper vegetation types FY2002 - FY2015

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Regeneration Harvest (acres)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Intermediate Harvest (acres)	0	0	0	0	0	45	120	80	314	599	375	400	0	0
Removal Harvest (acres)	250	55	55	40	67	0	0	0	0	0	0	0	0	0

Table 16. Fuelwood sold on the Prescott NF FY2010 - FY2015

	2010	2011	2012	2013	2014	2015	Total
Fuelwood sold (cords)	7,768	5,617	5,601	5,634	4,394	3,182	32,196

Wildlife

Bald Eagle

In January 2015, Prescott NF employees and volunteers monitored bald eagle winter roosts in the Prescott area, including one site on the Forest and three sites on lakes associated with City of Prescott Parks. A pair of eagles was seen at Lynx Lake on the forest. No eagles were seen at Willow or Watson Lakes. At Goldwater Lake, one adult and three immature bald eagles were seen.

For breeding bald eagles in FY2015, five sites on or immediately adjacent the forest were monitored by the Arizona Game and Fish Department. In addition, the Prescott NF implemented the seasonal closure for the Ladders bald eagle breeding area on the Verde River. In FY2015, the Lynx Lake and Perkinsville breeding areas were successful in fledging one eaglet each. The Ladders breeding area was occupied but no nesting activity was documented. The Coldwater and Towers breeding areas were unoccupied.

Mexican Spotted Owl

In 2015, the Prescott NF monitored eleven of the Mexican spotted owl protected activity centers (PACs) on the Forest including discovering a new MSO territory in Grapevine Botanical Area. Five PACs were not occupied in 2015. Four PACs were occupied with no young. The new Grapevine pair produced one fledgling and a pair in the Silver Spruce PAC had two young.

Northern Goshawk

The Prescott NF monitored two goshawk post-fledging areas (PFAs), Mingus and Mingus Springs on the Verde District. The Mingus Springs goshawk was active in 2015 in a new nest location and fledged two young.

Peregrine Falcon

Peregrine closures were put in place at Thumb Butte and Granite Mountain on February 1st. According to the Arizona Game & Fish Department monitoring report, Granite Basin was the only successful peregrine nesting site on the Prescott NF with one young produced. Sycamore Basin, Thumb Butte and Verde Box were occupied with no successful nesting. No peregrines were detected at Henderson Flat.

Southwestern Willow Flycatcher

The U.S. Fish and Wildlife Service is the lead agency on monitoring the southwestern willow flycatcher. No monitoring reports were received for the 2015 season.

Yellow-billed Cuckoo

In 2015 the Prescott National Forest conducted yellow-billed cuckoo surveys within and adjacent to YBC proposed critical habitat at the Black Canyon/Bignotti recreation site, White Bridge recreation site, Beasley Flat recreation site, Little Ash Creek, Dry Creek and Sycamore Creek located on the Verde Ranger District. The surveys were conducted to determine presence of yellow-billed cuckoos. Of the areas surveyed in 2015, the Beasley Flat, Little Ash Creek, and White Bridge survey routes detected yellow-billed cuckoo presence.

Spikedace

The Prescott NF did not monitor any populations or habitat for the spikedace on the forest.

Gila Chub

Prescott NF personnel assisted Arizona Game and Fish Departments in surveys of Gila chub populations in portions of Little Sycamore and Sycamore Creeks in FY2014. Gila chub were present but at reduce numbers due to diminished habitat from past wildfire impacts.

Gila chub habitat conditions were monitored in portions of Sycamore Creek in FY2014. Aquatic conditions continued to be altered in all occupied Gila chub habitat affected by the Cave Creek Complex Fire of 2005. High erosion from the burned areas and sedimentation into the stream filled in pools and reduced habitat. Gila chub populations were present but at reduced numbers due to diminished habitat.

Gila Trout

A site visit was made by AZGFD to Grapevine Creek in fall of 2015 to monitor the Gila trout population introduced into the stream in 2009. Trout were observed throughout the stream

reach. A supplemental stocking of 250 Age-0 fish was made by AZGFD in fall of 2014.

Northern Mexican and Narrow-headed Gartersnakes

The Prescott NF did not monitor any populations for the Northern Mexican and narrow-headed gartersnakes on the forest. Proper Functioning Condition riparian assessments were completed along a portion of Little Ash Creek with proposed designated CH to assess habitat conditions for ongoing livestock grazing management.

Management Indicator Species

A Management Indicator Species Report was updated in FY2011. Habitat and population trends are depicted in Table 18 below.

Table 17. Management Indicator Species Trends

Species	Habitat Trends	Population Trends
Aquatic macro-invertebrate	Riparian, aquatic, late seral - Stable	Stable
Goshawk	Ponderosa pine, late seral - Decreasing	Decreasing
Hairy woodpecker	Ponderosa pine, snags - Increasing	Stable
Juniper (Plain) titmouse	Piñon/juniper snags - Stable	Decreasing
Lucy's warbler	Riparian, late seral - Increasing	Increasing
Mule deer	Piñon/juniper, early seral – Stable	Decreasing
	Chaparral, early seral - Increasing	
Pronghorn antelope	Grassland, desert shrub - Stable	Decreasing
Pygmy nuthatch	Ponderosa pine, late seral - Decreasing	Stable
Spotted (Rufous-sided) towhee	Chaparral, late seral - Decreasing	Decreasing
Tassel-eared squirrel	Ponderosa pine, early seral - Increasing	Stable
Turkey	Ponderosa pine, late seral - Decreasing	Increasing

Section 3: 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)

Resource Objectives

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

During FY2015, one lightning-caused wildfire was utilized to accomplish resource objectives outlined in the Forest Plan. The SA Hill Fire, which began in August, ultimately burned 4,227 acres on the Bradshaw Ranger District leading to the following beneficial outcomes:

- Reduction in uncharacteristic fuel conditions
- Enhanced opportunity for forage/range growth and production
- Enhanced wildlife habitat and corridors
- Improved watershed function
- Protection of cultural resources
- Improved diversity of plant communities

Natural Role of Fire

The Prescott NF 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.

Law Enforcement

"Improve the forest's law enforcement program by taking an aggressive posture that emphasizes good public education, better employee training, more employee field presence, increased line manager accountability, and increased public assistance." (Forest Plan, p. 14)

Law Enforcement employees on the Forest have extensive field presence and emphasize education through the use of the Forest Protection Officer program and with Fire Prevention Technicians. Most law enforcement activity is related to fuelwood harvest, Travel Management Rule violations, and failure to pay fees in developed recreation areas.

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. This involves direct on-the-ground fieldwork 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 (ACHP). For 2015, no consultation took place with the ACHP.

Information sharing with Native American tribes, communities, and nations occurs on a regular basis. While no reservation lands border the Prescott NF, six Native American Indian Tribes have expressed affiliation with the Forest. Information to the Tribes is disseminated through meetings, electronic means, and mailing paper copies.

Currently, the Forest Archaeologist is designated as the Tribal Liaison. The Prescott NF is moving toward Line Officers (Forest Supervisor and District Rangers) taking the lead in consultation.

The Prescott NF heritage section has a very active volunteer program. Through these dedicated individuals, we have been able to focus efforts on several research topics and monitoring a number of prehistoric and historic sites. These include rock art recording and oral histories. Volunteers contributed close to 2,000 hours to the heritage resources program.

The Prescott NF has numerous prehistoric and historic sites that are extremely visible and easily accessible. Many of sites offer information for research and education, and have intrinsic value to tribes, but most do not lend themselves to capital investment for the purposes of interpretation. On the other hand, opportunities for interpretation can be developed by focusing on broad patterns of history or prehistory. For example, driving routes that can be support by brochures or electronic media can be explored that highlights historic mining and historic railroads.

Lands

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

The Prescott NF Lands staff continues to implement efficient land management practices through the effective use of land exchanges, special-use permits, small tracts, boundary survey and posting, and when necessary, encroachment resolution with the help of law enforcement. Other accomplishments worth noting are the mark and post and maintenance of twelve miles of boundary to facilitate projects by the fire/fuels and vegetation management programs and one mile of Wilderness boundary marked

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)

Coconino, Kaibab, and Prescott National Forests

Completion of the Noxious Weed Environmental Impact Statement for the Coconino, Kaibab, and Prescott National Forests was beneficial in that it has helped the Prescott NF manage the ever-increasing invasive weed species populations.

There are 27 noxious weed species found within the three national forests and 4 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.

Treatments

The Coconino and Prescott National Forests have focused weed eradication efforts on the middle reaches of the Verde River (from Camp Verde south to Childs) to sustain and protect the Wild and Scenic River designation.

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 allotments that were monitored in 2015 showed fair to good overall conditions of the vegetation and were attaining or making progress towards desired conditions for vegetation, soils, and watershed condition (Tables 3 and 4). Due to the staffing level on the forest, effectiveness monitoring can only be performed on a portion of the active allotments each year. It is desirable to determine progress

towards desired conditions for each allotment at least once in a 10-year period.

Drought Conditions and Indicators

Authorized livestock numbers in FY 2015 were 88 percent of term permitted numbers. Monitoring of vegetation on a yearly basis is used to adapt stocking levels so supply and demand of forage remains in balance while sustaining productive capacity. Livestock numbers forest-wide increased 14 percent from 2014 due to improvements in forage production shown in areas with adequate rainfall. Grazing permittees are actively involved in range inspections and surveys.

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 activities (i.e., livestock grazing).

Range Structural Improvements

Range infrastructure includes fences, water developments, corrals, and other handling facilities necessary for the successful management of livestock on the allotment. In 2015 the following range structures were built or reconstructed (Table 19):

Table 18. Allotments with Range Structures Reconstructed in 2015

Allotment	Range Structure
Bottle	Reconstructed 3½ miles fence, redeveloped two springs
Brown Springs	Replaced ½ mile of pipeline, replaced two troughs, installed 1,000 gal storage
Grapevine	Reconstructed ½-mile fence, replaced trough at spring
Horner Mtn	Rebuilt 1½ miles of fence around three water sources
Long Gulch	Installed solar pump on Cow Canyon well
Young	Reconstructed ½-mile boundary fence
Willow	Replaced trough
V-Bar	Reconstructed ½ mile fence, replaced trough
Verde/Jerome	Replaced 1½ miles of pipeline, cleaned two cattleguards/ rebuilt ½ mile fence

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)

National Visitor Use Survey

Based on the 2012 Prescott NF National Visitor Use Monitoring Survey (NVUM), completed every five years, visitors surveyed gave the Prescott NF high marks for visitor satisfaction in all major categories: Developed Day Use and Overnight Sites, Wilderness, and General Forest Areas. The most current round of NVUM surveys was completed in 2012; results are available at:

<http://www.fs.fed.us/recreation/programs/nvum/>

Recreation Opportunities

The Prescott NF continues to actively pursue deferred maintenance of developed facilities infrastructure and has a strong construction/reconstruction program in place for trails. The recreation team continues to rely heavily on volunteer help.

Diverse camping opportunities exist throughout the Prescott NF at designated dispersed, undesignated dispersed and developed sites. The forest offers a variety of reservation opportunities ranging from family campgrounds and cabins to group sites. Specialty areas include: two designated Off Highway Vehicle (OHV) areas and an equestrian campground. Managing 41 miles of the Verde Wild and Scenic River in cooperation with the Coconino and Tonto National Forests provides additional recreation opportunities for those visitors who wish to float the Verde River.

Recreation Planning

Recreation planning efforts seek to provide diverse recreation experiences. A mix of multiple uses and motorized and non-motorized trail opportunities is the primary focus for the next few years. The Prescott NF recreation team completed a Sustainable Recreation Strategy. The team has collaborated with different agencies (e.g., Yavapai County, Bureau of Land Management, public interest groups) to include future recreational opportunities that “overlap” county, city, and forest boundaries. These multi-agency efforts will benefit Yavapai County community members and visitors by expanding the number and type of recreation opportunities.

Interpretation

Interpretation of forest recreation resources is described by a series of brochures, Recreation Opportunity Guides (ROGs), and interpretive panels at various developed facilities and along several trails.

Patrols and Volunteers

Volunteers continue to be a major factor in helping to reduce the maintenance backlog on trails, designated dispersed campsites, and at developed sites such as trailheads and picnic areas. The Over the Hill Gang and Back Country Horsemen of Central Arizona continue to be major volunteer contributors to the trail program.

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)

Road Maintenance and Improvement

The Prescott NF manages to maintain level three, four, and five roads to meet highway safety standards. In general, the base funding level only allows the Prescott NF to address safety and the most critical resource protection needs. Additional restoration funds in FY2015 allowed for implementation of best management practices (BMPs) on an additional 15 miles of road. User created routes were identified, closed, and monitored on 2.2 miles in FY2015.

Facilities Maintenance and Improvement

Budgets for facilities remain static, although the Prescott NF was able to make progress towards reducing the deferred maintenance backlog. Water systems are a priority and are safe and maintained to standard. All of the occupied buildings are safe for employee use. A contract was awarded for a Facility Masterplan, a multi-disciplinary effort to right size the Forest fire and administrative facility footprint. The Prescott Airtanker Base meets current FAA standards and will accommodate the Forest Service’s modern fleet of firefighting airtankers.

Soil and Water

“Protect and improve the soil resource. Provide for long-term water flow 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-dependent resources preference over other resources. Improve all riparian areas and maintain in satisfactory condition.” (Forest Plan, p. 14)

Best Management Practices

Administrative monitoring of BMPs affiliated with mining operations, prescribed fire and fuel management, range allotment NEPA, rangeland management, timber harvests, roads, and special use permits continue to be implemented.

In 2015, National BMP monitoring was conducted on the following management activities: Developed Recreation Sites, Prescribed Fire, Rangeland Management, Road Maintenance, and Facilities. Monitoring is conducted to comply with the non-point source section of the clean water act. Information is shared annually with the Arizona Department of Environmental Quality (ADEQ) as part of the inter-agency Memorandum of Understanding (MOU).



Photo 5. Instream flow monitoring site on perennial reach of Cherry Creek.

Instream flow monitoring continued at the following locations: Big Bug Creek, Cienega Creek, Cherry Creek, Upper Ash Creek, and Sycamore Creek. In accordance to Arizona Department of Water Resources (ADWR) § 45-152.01 – Instream flow applications; process; definition:

The applicant shall submit at least five years of streamflow measurement data to support the proposed beneficial use which shall be submitted at the time the application is filed. The director shall not

accept for filing an instream flow application that is not accompanied by at least five years of continuous streamflow measurement data. The streamflow data submitted shall consist of gauged on-site measurements of available water flow from the area in which the claimed beneficial use occurs. The instream flow application shall describe the proposed beneficial use and shall specify both of the following: The amount of streamflow required for the proposed beneficial use. And, the availability of the requested flows during claimed periods of beneficial use."

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)

Fuelwood and Timber Harvest

In general, the Prescott NF is moving towards desired conditions for age class distribution and productivity, although this is occurring at a rate that is slower than it could be. The Prescott NF continues to supply fuelwood sufficient to meet existing demand.

During the first six years of Forest Plan implementation, 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 Prescott NF has offered and sold one timber sale per year.

The 1987 Forest Plan identifies 130,350 acres within the Pine Management Area (Management Area 4 or MA 4). Approximately 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 and MA 3) is also listed. Between 1987 and 2011, approximately 40 percent of the commercial timberlands have been treated.

Forest Health Emphasis

In 2006, the timber program moved toward a green tree harvest program that is 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. Another important objective is to restore fire to its natural role in the ecosystem.

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 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)

Benefits of Wildland Fire Treatments

Changes to wildlife habitat from forest health restoration treatments have resulted in an increase in areas of early or younger seral stages with more open canopies and increases in herbaceous vegetation and forage quality. Habitats in chaparral, woodland, and pine forest vegetation communities have had the majority of restoration treatments. Local wildlife populations are expected to key into the changed habitats for the increased habitat diversity and forage quality.

Benefits of Forest Restoration Treatments

Improvements to wildlife habitat from forest restoration projects are beginning to be realized as residual stands of trees begin to respond to treatments with more open canopies, more diverse understories, and increased herbaceous vegetation.

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 with diverse age classes. As vegetation moves towards a multi-age class distribution and structure, it will inherently support a more diverse array of wildlife species.

Habitats in ponderosa pine and piñon-juniper vegetation communities will become more 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 that use early seral stage plant species.

By improving plant species diversity in the understory, the increased habitat diversity provides a greater abundance of prey species for larger predators. Pockets of dense forest will remain in steep canyons and on north facing slopes. These areas provide habitat for those wildlife species needing higher tree densities associated with later or older seral stages.

Benefits of Watershed Restoration Action Plans

Improvements to wildlife habitat from watershed restoration projects have mainly resulted from the closing of user created routes and installing spring/wetland fence enclosures. Installing barriers to effectively close routes (non-system roads or trails) improves wildlife habitat by reducing vehicle disturbance, habitat fragmentation, and also the potential to spread noxious and invasive weeds. Fence enclosures of important spring and wetland habitat is similarly improved by the exclusion of livestock and all-terrain vehicles (ATVs) from the sensitive and unique habitat.

Wildlife and Project Work

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

Wildlife and Partners

Working with partners including National Wild Turkey Federation, Arizona Game and Fish

Department, Mule Deer Foundation, and Verde Watershed Restoration Coalition has enabled the Prescott NF to improve native riparian vegetation along the Verde River, pronghorn corridors, several springs, meadows, and water developments in addition to improving the herbaceous understory component of juniper habitat for a variety of species in all the respective habitats.

Threatened and Endangered Species

The de-listing of the bald eagle continues to be successful because of management practices that are meeting the viability needs of the species.

The listing of the northern Mexican gartersnake, narrow-headed gartersnake, and Western yellow-billed cuckoo DPS (Distinct Populations Segment) and proposed designation of critical habitat for these species will add another facet to the management of those aquatic and riparian areas where they occur on the Prescott NF. Similarly, the proposed listing of the roundtail chub as Threatened will increase management for the species and their habitat. Increased attention on the management of Sonoran desert tortoise and their habitats on Prescott NF lands adds an additional layer of complexity for some projects in the desert scrub habitats. The completed Candidate Conservation Agreement for the Sonoran desert tortoise was designed to be completely aligned with the updated Forest Plan and therefore will be inherently implemented in our program of work.

Progress toward improving habitat for threatened and endangered (T&E) fish and aquatic species on the Prescott NF is being addressed through coordinated efforts with the AZGFD and FWS. The forest was a core member in the development of the Verde River

Watershed Fish Management Plan which is nearing completion and will guide management actions in the river basin. The revised 2015 Prescott National Forest Plan identified a need for change to provide desired habitat for native fish species which includes several T&E species.

Overall, the high abundance and distribution of non-native fish species and several other invasive species such as bullfrogs have been identified as a major limiting factor to the recovery of T&E species on the forest. Planning and prioritization of stream restoration projects to benefit native fish are an objective in the plan. Also, restoring departed vegetative conditions towards desired conditions will help to address the risk of severe wildland fire and improve watershed integrity which will provide for recovery and support of habitat of T&E species.

Another major concern is the increasing human population growth in the areas surrounding the Prescott NF and the expected increase in water demand. Long-term efforts to manage fish habitat should focus on maintaining a natural water flow regime and acquisition of stream water rights in key streams on the Prescott NF.

Section 4: Barriers to Effective Monitoring

Heritage Resources

Budget challenges, workload, 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 FY2015 was around the same as FY2014. 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 by showing that overall protective actions have worked. Successful site protection begins early in project planning by making sure that protection measures are woven into the planning process. Also, it is important to include personnel from heritage resources throughout the planning phases.

Funding has, and will probably continue to be, a challenge with monitoring; however, it does seem to be improving. As project work plans are developed for the upcoming Fiscal Year, funds for monitoring need to be included. Significant time and effort has been focused on pre-project planning, coordination with the project manager, consultation with the State Historic Preservation Office and Native American Indian tribes, communities and nations, and follow-up record keeping. Individually and collectively these are necessary activities, however they do require a lot of time. As such, there is less available opportunities for in-field monitoring activities and proactive efforts to manage heritage resources. Monitoring is recognized by Forest personnel as a necessary, though this reality is not always reflected in current funding levels, staffing, or planning. With that said, over

the past decade there has been a trend for more monitoring support, which has led to more time in the field protecting heritage resources.

Range Management

Administrative Barriers

Budget constraints limit the number of range management specialist personnel that are available to conduct 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. When funds are available, seasonal employees are hired to conduct monitoring in the spring and summer.

Recreation

Time Interval for Visitor Monitoring

The establishment of the National Visitor Use Monitoring (NVUM) program as a national standard has provided data for day-use developed areas, overnight use developed areas, wilderness, general forest area use, and view corridors. The Prescott NF completed its third NVUM survey in 2012. Results became available in November of 2013. Limited staffing confines most activity to day to day operations.

Wildlife

Ineffectiveness of the Forest Plan

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 the health of riparian associated species, is probably not useful in measuring the accomplishment of Prescott NF goals.

Wildlife population monitoring is a challenging task as 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 at a larger geographical scale involving other entities.

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.

Legal Requirements

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

Alternatives for Accomplishing Monitoring

Barriers to effective monitoring primarily include lack of funding. A potential tool to overcome this obstacle is partnering with groups or entities that have the skills and resources to do the monitoring. Partnering with outside entities to accomplish monitoring would provide a larger perspective and more comprehensive relevance when considered with monitoring beyond our boundaries.

Section 5: Emerging Issues

Fire Management

Widespread Issues

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 NF. These circumstances include:

- an increase in vegetation and fuel loads resulting from the lack of wildfire in its natural role in fire-adapted ecosystems
- the 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
- recent, high-profile catastrophic wildfires in Arizona and across the Nation where lives and homes have been threatened and lost (e.g., Indian Wildfire in Prescott in 2002, Lane 2 Wildfire in Crown King in 2008, Gladiator Fire in Crown King in 2012, and Doce Fire in Prescott in 2013.)

Challenges to Managing Wildfires

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 expectation by the public with some wanting aggressive treatments adjacent to their neighborhoods and others wanting little or no treatment
- reduced numbers and types of resources that are available for wildfire suppression and fuels management actions

Smoke Emissions

Smoke generated by prescribed fires has become one of the most challenging issues. Smoke emissions from all prescribed burns during FY2015 were permitted and monitored by the Arizona Department of Environmental Quality (ADEQ).

Prescribed burns in FY2015 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 airshed; however, smoke issues did and will continue to persist.

Prescott 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 and smoky conditions can linger for several days following the completion of a prescribed fire or unplanned wildfire.

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 about fire activities and potential smoke concerns is a major part of managing both prescribed burns and wildfires.

Heritage Resources

Sensitivity to Tribal Values

Native American Indian Tribes, Communities, and Nations receive notices of Prescott NF projects but this could certainly be improved. A key direction is to including Forest Service Line Officers in the consultation process. The future challenge for the Prescott NF is to work effectively with Tribes, Communities, and Nations so that areas important to them can be identified and managed in a sensitive way. To help this along, the Forest can consider completing ethnographic studies for those Tribes, Communities, and Nations that claim affiliation with the Prescott NF.

As noted previously, contact with Native American Tribes, Communities, and Nations is initiated by the Forest Archaeologist, designated as the Forest's Tribal Liaison. The Prescott NF is currently moving toward Line Officer (Forest Supervisor and District Rangers) direct involvement in the consultation process. It is expected that this will enhance the Prescott NF's relationship with Tribal communities.

Presently, the Prescott NF consults with six Native American Tribes. While none of these tribes have lands bordering or within the Prescott NF, they have expressed cultural affiliation with the Forest. In some cases these tribes are tied ethnographically to the Prescott NF, while in other ways, they are associated through oral tradition and the material remains left long ago.

Population increase

As the population of Yavapai County continues to climb, so does use of the Prescott NF. As such, chances are heightened that sites will be impacted either through direct acts of vandalism or through collateral damage. ATVs can access many parts of the Forest which

makes archaeological sites vulnerable to damage. Such damage has been observed, but we do not have adequate data to show how large the problem might be. It is doubtful that this activity is ever specifically directed at sites themselves; more likely these machines are capable of going virtually anywhere and forest users simply are not aware (or don't care) that they can damage sites. Again, the machines allow forest users to access remote locations of the Prescott NF, thereby allowing them to visit sites that were once protected by their inaccessibility.

Interpretation and Education efforts

In addition to providing greater access to heritage sites, ATV use and mountain biking has spawned new, user-created trails (also called social trails) around the Prescott NF and, in some cases, altered existing trails. When new unauthorized trails are created or when existing trails are altered, heritage resources are in danger of being affected. Travel Management Regulations and education may help improve this.

One of the ways to increase the appreciation of heritage resources is through interpretation. There is a need to augment our interpretation of heritage resources and to spread the message about the protection of prehistoric and historic resources. Disseminating information to user groups about heritage resources can be a key component for protecting against direct and indirect impacts to prehistoric and historic sites.

Noxious Weeds

Increased Spread

Noxious weed populations continue to expand annually over the Prescott NF. Additionally, critical habitats, wilderness areas, and wild and

scenic river designations across the Prescott NF are threatened by the spread of noxious weeds.

Range

Drought Conditions

Effects of past drought on PNF rangeland conditions are still present in some areas, although the summers of 2014 and 2015 brought average precipitation across most of the Forest. In the arid Southwest, however, it is only a matter of time until precipitation levels fall below normal averages and forage production is negatively impacted. Adaptive range management practices, effective communication, and timely actions to balance stocking levels with forage supplies is essential in managing during drought.

Recreation

Increased Demand and Use

Population increases within Yavapai County continue to create pressure for additional diverse recreation opportunities. There is a need in the north Williamson Valley area for more recreation opportunities in the Walnut Creek/Camp Wood area. Similarly, increased amounts of dispersed recreation activities are occurring in the upper Verde River watersheds including camping, picnicking, and off-highway vehicle use. Several roads that were frequently used by motorized recreationists near segments of the upper Verde River have been closed and patrolled. These efforts have been successful in dramatically reducing illegal motorized use in this area.

Recreation Special Uses

Demand for recreation events and Outfitting/Guiding operations on the Prescott National Forest has increased with interest in Granite Basin, the Prescott Circle Trail and roads

in the Mayer/Dewey/Humboldt and Crown King areas.

Wilderness Concerns

The number of visits to the Prescott NF's eight designated wilderness areas may increase as more people move to Yavapai County. Impacts to natural resources within wilderness areas will need to be documented, monitored, and maintained continuously. The presence of noxious weeds in wilderness areas will also need to be documented. Wilderness education has been recognized as a way to help prevent negative impacts to wilderness, and a wilderness education plan has been established to address this need.

Roads and Facilities

Decreased Funds

Trends in the roads budget indicate that the Prescott NF will do less maintenance for resource protection on level one and level two roads. Most of the funding will be used to maintain levels three, four, and five roads to highway safety standards and to only address critical safety concerns on the remainder of the inventory. The Forest is trending toward a minimum road system needed for safe and efficient travel and for administration, utilization, and protection of NFS lands. Efforts will increase to seek additional funding sources and development of partnerships to maintain the transportation system.

Trends in the facilities budget indicate that the Prescott NF will be challenged to maintain facilities in a safe manner. Given the aging infrastructure, the deferred maintenance may increase faster than the capability to make improvements. The Forest will continue to reduce inventory and emphasize energy and

water conservation improvements in existing facilities.

Motorized Travel

Efforts continue to enforce, educate, and engineer the implementation of the MVUM, it is expected that there will be increased use of the designated road and trail system and decreased cross-country travel and resource damage.

Timber

Excessive Fuels

The most critical resource issue facing the Prescott NF is the density of overstocked ponderosa pine stands. There is a continued need to treat these stands to prevent extensive insect infestation, reduce the potential for crown fires, and improve overall forest health. The existing timber industry infrastructure has allowed for the purchase, removal, and utilization of the wood that has been offered for sale, and it is critical that this infrastructure remain intact.

Public Awareness

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 a vital aspect of the timber program. As such, the wildland-urban interface is an increasingly important geographic area for natural resource interpretation and public information efforts.

Wildlife

Status changes, reviews, and proposed critical habitat for several species

Two aquatic/riparian associated gartersnakes and the yellow-billed cuckoo were recently listed as threatened and critical habitat has been proposed for all three species. In addition, the roundtail chub has been proposed to be

listed as Threatened. These legal changes in status and habitat create a ripple effect of paperwork to re-assess ongoing projects in areas where these species and habitats occur. While the listed species and habitats may have been analyzed in the original NEPA analysis, different legal process requirements under the Endangered Species Act creates unplanned work for the limited wildlife staff on the Prescott NF.

On a similar note, an effort to keep the Sonoran desert tortoise from being listed is also contributing to unscheduled work with short timeframes. Fortunately, the review process is revealing that there are several resource protection measures in place that would be expected to provide for Sonoran desert tortoise and its habitat needs.

Pronghorn

Pronghorn continue to receive increasing attention statewide as their habitats decline. Habitats on the Prescott NF are becoming more important as threats continue to increase across their range. These threats include:

- Habitat fragmentation and population isolation as a result of increased transportation infrastructure and expanded road and travel systems.
- Housing developments on private land, with subsequent roads, fences, and other associated amenities continue to reduce the quantity and quality of optimum pronghorn habitat.
- Human disturbance is increasing on both private and public lands.
- Forage conditions are affected adversely by weather patterns.

Pronghorn populations are indicators of management activities that affect grassland habitats. Adjacent grasslands on private

property are being lost due to urbanization; making conservation of the remaining grasslands on public lands very important. The Prescott NF manages only a small proportion of the grasslands; it is important that these areas be managed to maximize all opportunities that may benefit pronghorn.

Restoration of fire-dependent ecosystems (including the grasslands) is a high priority for the Prescott NF. Future plans for the grasslands include the reduction of juniper density and the use of prescribed fire to keep grasslands open and free of invasive woody species.

Native Fish and Stream Habitats

The conservation and restoration of native fishes in Arizona is beginning to gain momentum as coordinated projects are implemented throughout the state. Restoration efforts have focused on: (1) construction of fish barriers and/or (2) chemical renovation of streams with non-native fish populations and restocking with native species. The management for native fish and sport fishing opportunities requires strategic planning to meet the needs of the species as well as advocates and users.

Another continuing issue is the increasing population and urbanization on private lands surrounding the Prescott NF and inholdings within the Prescott NF and how this has led to increasing pressure on threatened and endangered species' habitats (e.g., groundwater pumping and recreation activities), especially in and along the Verde River. Collaboration with city, county, State, and other Federal agencies is ongoing and is needed to prevent impacts to stream systems on the Prescott NF. Increased public awareness and outreach is also critical for keeping the non-consumptive, historical

values that native fish and flowing streams provide to the arid West.

Other Issues

Other emerging wildlife issues include:

- The incidences of noxious weeds are expanding and could eventually impact a variety of key wildlife habitats.
- Timing and intensity of potential wildfires, as a result of increases in fuel levels, could threaten Mexican spotted owl and Northern goshawk habitats and populations on the Prescott NF.
- Designing and implementing projects is a challenge because of the complexity of land ownership patterns in the wildland-urban interface and the increased resource objectives for fuels, vegetation, and forest health.
- The pumping of groundwater on private lands may impact flows in the Verde River.
- Unmanaged recreation, including illegal off-highway vehicle use, on some areas of the Prescott NF threatens wildlife and fish species and their habitats.

Section 6: Certification of Forest Plan Sufficiency

I have reviewed this annual Forest Plan Monitoring and Evaluation Report for Fiscal Year 2015 and determined that:

- The report is responsive to monitoring information as identified in Chapter Five of the 1987 Forest Plan. The monitoring plan and monitoring activities conducted by the Prescott National Forest are based on National Forest Management Act regulations and Forest Service Manual guidance.

As noted in the introduction, the monitoring program will shift to a biennial, rather than annual, reporting schedule under the direction of the 2015 Prescott NF Forest Plan. The new monitoring program will be used for monitoring starting in Fiscal Year 2016, with the first report expected in 2018. The new monitoring program will be in compliance with the guidance contained in the 2012 Planning Rule (36 CFR §219).

/s/ *Teresa Chase*

June 9, 2016

Teresa Chase, Forest Supervisor

Date