



United States  
Department of  
Agriculture

Forest  
Service

**Southwestern  
Region**



## Monitoring Report, Fiscal Year 2006

### Tonto National Forest

#### The State of Arizona



#### TONTO National Forest



(2.9 million acres, est.)

### **Forest Supervisor's Certification**

I have evaluated and now endorse the monitoring results presented in this report. I have considered funding requirements necessary to continue active management of the natural resources on the Tonto National Forest. The revised Forest Plan is sufficient to guide forest management for fiscal year 2007 unless ongoing monitoring and evaluation identify further need for change. Any amendments or revisions to the Revised Forest Plan will be made using the appropriate National Environmental Policy Act (NEPA) procedures.

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Forest Supervisor  
Tonto National Forest

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Date

## Tonto National Forest Monitoring FY 06

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# Tonto National Forest Monitoring FY 06

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## **Executive Summary**

This report presents monitoring results accomplished in Fiscal Year (FY) 2006 on the Tonto National Forest (TNF) under the Amended Forest Plan, which was approved by the Regional Forester on October 1985. This document is not an evaluation or a multiple year assessment of past monitoring reports. The FY 2006 report emphasizes findings and conclusions, and outputs from the land, compiled from dozens of monitoring activities conducted on the Forest.

Forest Service managers, resource specialists, and scientists in cooperation with State and other Federal agency staff and scientists, provided the data collection called for in the monitoring plan. These employees and cooperators followed established protocols for collecting and reporting data to address the questions included in the monitoring plan.

The monitoring and evaluation program is designed to determine whether:

- 1) The Forest Plan goals and objectives are being achieved;
- 2) Standards and guidelines are being followed;
- 3) Environmental effects are occurring as predicted.

Annual evaluation of monitoring results allows the Forest Supervisor to take action, if needed, to improve compliance with standards and guidelines or to amend the plan to address changing conditions or emerging issues. An electronic version of the present Forest plan for the Tonto National Forest is available at <http://www.fs.fed.us/r3/tonto/projects>.

Planners on the Tonto National Forest have begun to revise the Forest's Land and Resource Management Plan. At the time of this writing, the 2005 Planning Rule has been enjoined. The Forest will proceed with gathering information necessary for plan revision that can be used for the Analysis of Management Situation (AMS) under the 1982 Planning Rule, or the Comprehensive Evaluation Report (CER) under the 2005 Planning Rule or a Comprehensive Assessment under the National Forest Management Act. The Fiscal Year (FY) 06 monitoring report is organized to present the TNF's initial items to consider in identifying the needs for change.

Highlights from the FY 2006 Monitoring Report follow:

### **Soils/Water/Air Quality**

- 676 acres in Soil & Water Resource improvements
- 1 continuing monitor project of air quality

### **Protection**

- 19,568 combined acres of both Wildland/Urban Interface (WUI) and non-WUI lands treated.

### **Wildlife and Fish**

- 415 combined miles of streams inventoried with partners for Threatened and Endangered Species (TES)
- 2 miles of stream restored with partners for TES

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- 37 miles of lake inventoried with partners for TES
- 1 acre of lake restored with partners for TES
- 8,626 combined acres of habitat inventoried with partners for TES
- 2,700 acres of habitat restored with partners for TES
- 8 categories of wildlife accomplishments without partners
- 3 categories of accomplishments without partners for TES
- 61 Biological Evaluation/Assessments
- 4 Requests for concurrence
- 3 Formal consultation reports

### Transportation and administrative facilities

- 4 categories of accomplishments

### Timber

- 8566.58 combined MBF of timber outputs
- 706 products permits

### Outdoor Recreation

- 5 categories of accomplishments

### Heritage Resources

- 5 categories of accomplishments

### Wilderness, Wild and Scenic Rivers

- 1 category of accomplishment

### Range

- 2,810,398 grazing acres administered to standards
- 2 grazing decisions
- 104,506 acres of improved range vegetation

### Lands

- 3 categories of accomplishments

### Minerals

- 7 categories of accomplishments

## Introduction

The primary objective of the FY 06 Monitoring report is to direct the Forest's initial thinking about the needs for change to be considered in the Forest plan revision effort. The Forest plan revision will begin with development of a document that evaluates the existing conditions on the Tonto National Forest (TNF). The document may identify new desired conditions and the potential needs for change to be carried forward in the 2009 or subsequent forest plan revisions. It is important to understand that this monitoring report is not the Analysis of Management Situation or the Comprehensive Evaluation Report. We intend to begin working with the public and others in FY 08 to develop one of these reports depending upon the status of the planning rule.

Another objective of this report is to demonstrate monitor outputs to keep the decision maker informed of progress in achieving the goals, objectives, standards and guidelines established in the Forest Plan. The Forest plan's goals and objectives are discussed in the document by resource area. A goal is defined as "a concise statement of the state or condition that a land and resource management plan is designed to achieve. A goal is usually not quantifiable and may not have a specific date for completion." (36 CFR 219.3).

Also included in most resource areas are the local issues and concerns that were identified for the TNF. The Forest Plan and alternatives to it were designed to respond to these issues as well as to Forest and Rangeland renewable Resource Planning Act of 1974 (RPA) program objectives that were assigned to the Forest in the Regional Guide.

Issues, concerns, and opportunities were identified from the Regional Guide and from comments solicited from the public and Forest Service employees. Comments were received at a number of public involvement workshops and in response to an information brochure mailed to the public.

**Table 1:** Summary of outputs (objectives) from the Forest Plan for the TNF

Resource output	Unit of measure	Forest Plan		Average Annual Supply	
		Period 1*	Period 5*	Period 1*	Period 5*
Sawtimber	MMBF	7.5	16.0	1.7	20.0
Wood Products (roundwood)	MMBF	0.4	0.7	1.7	3.6
Fuelwood Sold	MMBF	9.5	10.1	13.9	13.9
Grazing Capacity	MAUM	247	278	259	301
Wildlife	MRVD	688	1,030	756	1,218
Wilderness Recreation	MRVD	376	576	785	1,218

\* Periods are in ten-year increments from the implementation of the forest plan in 1985.

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Resource output	Unit of measure	Forest Plan		Average Annual Supply	
		Period 1	Period 5	Period 1	Period 5
Developed Recreation	MRVD	1,869*	2,306**	1,971*	3,200**
Dispersed Recreation (incl. Highway use)	MRVD	6,684*	10,056**	7,882*	12,118**
Water Yield	M acre feet	356	394	373	420

MMBF= Million Board Feet, MAUM= Thousand Animal Unit Month, MRVD = Thousand Recreation Visitor Days, M acre feet = Thousand acre feet of water.

\* Includes 330,000 RVD's as a result of recreational facilities constructed by the Bureau of Reclamation at Roosevelt Lake.

\*\* Includes 663,000 RVD's as a result of recreational facilities constructed by the Bureau of Reclamation at Roosevelt Lake.

### Soils, Water, and Air Quality

#### Goals:

Provide direction and support to all resource management activities to 1) meet minimum air and water quality standards, 2) emphasize improvement of soil productivity and air and water quality, 3) augment water supplies when compatible with other resources, 4) enhance riparian ecosystem by improved management (All major riparian areas under intensive management by 1995), 5) obtain water rights necessary to ensure orderly resource development, and 6) inventory and interpret soil, air, and water resources. Resource planning and management activities within the desert zone must fully recognize the limitations this unique ecosystem has to the impacts of man's uses and activities.

Standards and guidelines for air quality are found in the Regional Guide, and individual management prescriptions under decision units 2 and 3 and activities A03, P16, and P17.

#### Local Issues & Concerns:

A) Demand for water use on and off the Forest exceeds the supply. Opportunities exist in the chaparral vegetation type to increase water yield. Some impacts on other resources are anticipated if water yield is increased.

B) Forest management activities have the potential to significantly alter water quality. Physical, chemical, and biological qualities of water can limit its uses. Currently, isolated pollution problems on and off Forest produce conflicts with water uses.

C) Riparian areas on the Forest are heavily impacted by livestock grazing and recreational users. Many roads and recreation sites are located in riparian areas.

Livestock tend to concentrate in and overuse riparian vegetation. Riparian areas provide essential habitat requirements for a variety of wildlife.

D) Land uses have caused some areas on the Forest to have unacceptable soil erosion and watershed conditions. Soil productivity is being threatened in these areas.

E) Some activities on the Forest contribute to fugitive dust problems in the counties.

**Protection (fire)**

Goal:

Fire will be recognized as a resource management tool, and will be included within a management prescription where it can effectively accomplish resource management objectives. Fire prevention and control will be utilized to maintain a plant cover sufficient to stabilize the soil and to permit the orderly development and use of all other resources. Life and property will be protected.

Through integrated pest management (IPM), manage resources to prevent a build-up of insects and diseases to prevent or reduce serious, long lasting hazards. Specific standards and guidelines can be found in the prescriptions in decision units 56 and 61 and activities P08, P09, P11, P15, P34, P35, and P39.

Local Issues & Concerns

A) Recently revised appropriate management response policies, including suppression, wildland fire use, and prescribed fire, provide more flexibility in use of fire. Prescribed fire and wildland fire use are being used to benefit all resources. Use of the Wildland Fire Situation Analysis allows weighing the cost of wildfire suppression against values at risk, and design of fire management that is cost efficient.

Table 3: **Accomplishments for Protection (fire)**

Category	Accomplishment
Wildland/Urban Interface (WUI) high-priority hazardous fuels treated	<b>8,568</b> acres
Non-WUI fuels treated	<b>11,000</b> acres
Timber Stand Improvements (both WUI & non-WUI)	<b>676</b> acres

**Wildlife and Fish**

Goal:

Wildlife and fish habitat elements will be recognized in all resource planning and management activities to assure coordination that provides for species diversity and greater wildlife and fish populations through improvement of habitat. Ensure that fish and wildlife habitats are managed to maintain viable populations of existing native

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vertebrate species. Improve habitat for selected species. Cooperate with appropriate State fish and wildlife agencies. Prevent destruction or adverse modification of critical habitats for Threatened and Endangered Species and manage for a goal of increasing population levels that will remove them from the lists.

Specific standards and guidelines are found in individual management area prescriptions under decision units 11, 12, 14, 15, 61, 19, 20 and activities C01, C02, C06, C09, C12, C03, E00, and E03.

Local Issues & Concerns:

A) Existing wildlife habitats are currently inadequate to supply basic food and cover requirements.

B) Present levels of integration of wildlife habitat management prescriptions have failed to provide the basic needs, especially in riparian habitat, where conflicts with other resource needs are amplified.

**Table 4: Wildlife Accomplishments With Partners**

Category	Accomplishment
Terrestrial	<b>1,500</b> acres inventoried
Fire Dependent Ecosystems	<b>1,500</b> acres inventoried
Other Ecosystem	<b>1,280</b> acres inventoried
Deer	<b>256</b> acres inventoried
Elk	<b>739</b> acres inventoried
Wild Turkey	<b>256</b> acres inventoried
Bats	<b>1,500</b> acres inventoried
Herptofauna	<b>128</b> acres inventoried
Wild Turkey	<b>256</b> acres inventoried

**Table 5: Fisheries Accomplishments With Partners**

Category	Accomplishment
Inland Warmwater	<b>370</b> Acres of lake restored
Inland Coldwater	<b>6.6</b> miles of stream inventoried

**Table 6: Threatened, Endangered, and Sensitive Species Accomplishments With Partners**

Species name	Accomplishments
Lowland Leopard Frog <i>Rana yavapaiensis</i>	<b>460</b> acres of habitat restored
Western Yellow-Billed Cuckoo <i>Coccyzus americanus</i>	<b>410</b> acres of habitat restored
Chiricahua Leopard Frog <i>Rana chiricahuensis</i>	<b>2</b> miles of streams restored <b>1</b> acre of lake restored

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Bald Eagle <i>Haliaeetus leucocephalus</i>	<b>490</b> acres of habitat inventoried
Bell's Vireo <i>Vireo bellii</i>	<b>400</b> acres of habitat restored
Common Black Hawk <i>Buteogallus anthracinus</i>	<b>480</b> acres of habitat restored
Yuma Clapper Rail <i>Rallus longirostris yumanensis</i>	<b>170</b> acres of habitat inventoried
Southwestern Willow Flycatcher <i>Empidonax traillii</i>	<b>630</b> acres of habitat restored
Maricopa Tiger Beetle <i>Cicindela oregona maricopa</i>	<b>200</b> acres of habitat restored
Arizona Hedgehog Cactus <i>Echinocereus coccineus var. arizonicus</i>	<b>120</b> acres of habitat restored

**Table 7: Wildlife Accomplishments Without Partners**

Category	Accomplishment
Terrestrial	<b>6,400</b> acres inventoried
Fire Dependent Ecosystem	<b>6,400</b> acres inventoried
Deer	<b>1,600</b> acres inventoried
Elk	<b>1,600</b> acres inventoried
Abert's Squirrel	<b>640</b> acres inventoried
Quail	<b>640</b> acres inventoried
Wild Turkey	<b>1,280</b> acres inventoried
Black Bear	<b>640</b> acres inventoried

**Table 8: Threatened and Endangered Species Accomplishments Without Partners**

Species name	Accomplishments
Northern Goshawk <i>Accipiter gentilis</i>	<b>5,894</b> acres of habitat inventoried
Mexican Spotted Owl <i>Strix occidentalis lucida</i>	<b>15,643</b> acres of habitat inventoried
Gila Topminnow <i>Poeciliopsis occidentalis</i>	<b>1</b> mile of stream restored

**Table 10: Total BE/BA and Consultation reports**

Administrative unit	Accomplishment
Tonto National Forest, Southwestern Region	<b>61</b> Biological evaluations/assessments <b>3</b> Requests for formal consultations <b>4</b> Requests for concurrence

**Transportation and Utility Corridors**

Goal:

Provide that right-of-way grants are confined to designated corridors to the extent practicable. Specific standards and guidelines are found in the Regional Guide, and in the Forest-wide prescriptions and prescription 28 under decision units 39, 40, 41, 42, 43, 44 and activities J01 and J02. Results are in following section.

**Transportation and Administrative Facilities**

Goal:

Provide a serviceable road and trail transportation system to meet public access, land management, and resource protection needs. Provide administrative facilities to meet resource and activity needs and which meet pollution abatement standards where applicable.

Specific standards and guidelines are found in the Regional Guide, in the Forest-wide prescriptions, and in prescription 28 under decision units 48, 51, 50, 52, 53 and activities L01-L25.

Local Issues & Concerns:

- A) Many existing roads and trails are substandard. The Forest is not meeting prescribed minimum standards for road and trail maintenance.
- B) There is a continuing conflict between providing user access to Forest resources and minimizing road density.
- C) Vehicle use on the land, trails, and primitive roads directly provides or is integral to recreation needs for some users. Off highway vehicle (OHV) use in the Forest continues to increase. OHV use damages the environment in some areas or results in conflicts with other users. In some areas, under the right conditions, the use is compatible and acceptable.

**Table 11: Annual Road Construction and Maintenance**

<b>Miles of roads receiving maintenance</b>	
Maintenance level 1	1,219
Maintenance level 2	0
Maintenance level 3	0
Maintenance level 4	0
Maintenance level 5	449
<b>Total Miles</b>	<b>1,668</b>

<b>Miles of roads constructed</b>	<b>2</b>
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Table 14: **List of facilities accomplishments**

Activity	Accomplishments
Number of Facilities maintained to standard	<b>448</b>

**Timber**

Goal:

On forested lands identified as suitable for commercial timber production, manage the timber resource to provide the full potential yield of quality timber on a sustained yield basis. Design of timber management activities will integrate considerations for water quality, soils, wildlife habitat, recreation opportunities, visual, and other values. Develop and implement a fuelwood management program for the Forest.

Specific standards and guidelines for utilization, restocking, openings, and coordination of manipulation of the vegetative resource are found in the Regional Guide, and individual management area prescriptions under decision units 12, 16, 17, 18, 19, 20, 21 and activities E00, E06, E07, C01, D03, E03, E05..

Local Issues & Concerns:

- A) Demand for fuelwood exceeds accessible supply. Available fuelwood is not located in areas preferred by the public.
- B) The Forest lacks a comprehensive fuelwood inventory.
- C) Current timber harvest levels may be exceeding productive capability of the timber resource. Allocations to other resource emphases may reduce the amount of available timber.

Table 15: **List of Timber accomplishments (outputs):**

Activity	Regular (MBF)	Salvage (MBF)	Total (MBF)
No Bids	<b>386.00</b>		<b>386.00</b>
Regular Sales	<b>2599.00</b>	<b>48.00</b>	<b>2647.00</b>
Reoffered-Credit	<b>0</b>		<b>0</b>
Personal Use Permits	<b>1626.29</b>	<b>0</b>	<b>1626.29</b>
Small Commercial Sales	<b>10.00</b>		<b>10.00</b>
Fiscal Year Attainment	<b>4235.29</b>	<b>48.00</b>	<b>4283.29</b>
Fiscal Year Target	<b>5093.00</b>	<b>150.00</b>	<b>5243.00</b>

MBF = Thousand Board Feet

Table 16: **List of products permits accomplished**

Activity	Accomplishments
Special products permits administered	<b>706 permits</b>

**Outdoor Recreation**

Goals:

Maintain and enhance visual resource values by emphasizing recreation resource management, which will increase opportunities for a variety of developed and dispersed experiences. Provide for those developed sites needed to meet most of the public demand and to support dispersed visitor use.

Emphasize visual quality objectives in all resource planning and management activities.

Conduct inventory, evaluation, nomination, management protection, scientific study, public interpretation, and enhancement of cultural resources in accordance with the management prescriptions, and with objectives and priorities identified in Appendix H of the TNF Forest Plan. Coordinate planning for these activities with the State Cultural Resource Plan, and planning activities of the State Historic Preservation Office, and with other State and Federal agencies.

Specific standards and guidelines are found in individual management area prescriptions under decision units 1-3, 5, 6 and activities A01-A08, A10, A14, A16, A18, A21.

Local Issues & Concerns:

- A) Demand for developed recreation opportunity exceeds supply. Quality of dispersed recreation opportunities is declining.
- B) There is an opportunity to meet the needs of handicapped visitors during construction and reconstruction of recreation sites.
- C) With the wealth of cultural resources on the Forest, opportunities exist to provide interpretation of prehistoric and historic sites as a developed recreation experience.

**Table 17: List of recreation accomplishments**

Category	Accomplishment
Manage general forest areas	<b>3,284</b> days
Operation of developed sites to standard	<b>1,682,400</b> PAOTS
Communication/education/interpretations	<b>67</b> products
Recreation special use permits administered to standard	<b>221</b> permits
Miles of trail improved to standard	<b>32</b> miles

PAOTS = Persons At One Time

**Heritage Resources (a component of recreation)**

Goal:

No objectives are set for the heritage program in the Forest Plan.

**Table 18: List of Heritage program accomplishments**

Activity	Number accomplished
1) New Properties Inventoried	<b>49</b>
2) New Interpretive Project	<b>1</b>
3) New outreach projects	<b>20</b> projects
4) Total Heritage Volunteer Hours	<b>4,068</b> hours
5) Protected Sites	<b>242</b> sites

**Caves**

Goals:

Preserve and protect cave ecosystems as nonrenewable resources to maintain their geological, scenic, educational, cultural, biological, hydrological, paleontological, and recreational values.

Specific standards and guidelines for cave management are found in management area prescriptions under decision units 1, 11, 36, 41 and activities A01, C01, C09, D01, E00, F01, G01, G02, J01 and L04.

No new information to report for FY 2006.

**Wilderness and Wild and Scenic Rivers**

Goals:

Emphasize a wilderness management program which is interdisciplinary in approach, and which is directed towards achieving the intent of the Wilderness Act of 1964 and FSM 2320.

Specific standards and guidelines are found in prescriptions for individual wilderness areas under decision units 2 and 8 and activities A03, B01, B02.

Work cooperatively with the Coconino and Prescott National Forests to protect and enhance the specific outstandingly remarkable values within the designated Wild and Scenic segments of the Verde River. Protect its free-flowing condition and water quality.

Specific standards and guidelines are found in prescription 3, 4, and 25, and the Comprehensive River Management Plan.

Local Issues & Concerns:

A) Heavy use by people, other non-compatible resource uses, and nonconforming structures are reducing wilderness values. Use in parts of the Superstition Wilderness frequently exceeds wilderness carrying capacities and management standards.

**Table 19: Wilderness accomplishments**

Category	Accomplishment
Wilderness Areas managed to standard	<b>1</b> wilderness area

**Range**

Goals:

Emphasize a program of range administration which will bring the range resource under proper management and improve range forage conditions. Investigate, control, minimize, and eliminate unauthorized livestock use as a priority range management job. The recognizable benefit of this emphasis will be improved watershed condition, range forage improvement, wildlife habitat improvement, and visual quality enhancement.

Specific standards and guidelines are found in the prescriptions under decision units 16, 17, 18 and activities D01-D06.

Local Issues & Concerns:

A) In some areas existing forage production is inadequate to support current livestock and wildlife grazing, resulting in declining site productivity, increased soil loss, and declining wildlife populations.

B) Permitted use in excess of capacity continues to result in over-utilization of the forage resource on many grazing allotments. Balancing permitted numbers of livestock to range capacity and implementing proper management is a major task. Many people think this balance must be done through adjustments in permitted numbers and the implementation of improved management. Ranchers who graze livestock on the Forest think improvement of the range is dependent on coordination between the resource managers and themselves as well as development of structural range improvements and vegetative type conversions to grassland.

**Table 20: Range accomplishments**

Activity	Number accomplished
Improve Range Vegetation	<b>104,506</b> acres
Grazing allotment administration to standard	<b>2,810,398</b> acres
NEPA documents for grazing decisions	<b>2</b>
Acres managed for noxious weeds	<b>326</b> acres

**Lands**

Goals:

Use land ownership adjustment to accomplish resource management objectives. Post identifiable property boundaries. Allow the use of available National Forest System lands for appropriate public or private interests consistent with Forest Service policies. Resolve unauthorized occupancy and obtain needed rights-of way.

Specific standards and guidelines are found in the Regional Guide, and in prescriptions under decision units 39, 40, 41, 42, 43, 44 and activities J01- J07, J10, J11, J12, J13, J14, J15, J18, J29.

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### Local Issues & Concerns:

A) Land ownership adjustments within and adjacent to local communities need a continuing emphasis to significantly increase efficiency in resource management and to satisfy the needs of expanding communities.

B) Opportunities were identified to provide areas for scientific study and protection through establishment of research natural areas, botanical areas, or designation as natural areas under the Arizona Parks Board Natural Area Program. Proposals have been presented to provide protection to the Picket Post Mountain area adjacent to the Boyce Thompson Arboretum, to an area of Sonoran desert to be managed cooperatively with the Desert Botanical Garden, and to provide an area for development of a museum and interpretive facility near the Superstition Mountains.

Table 21: **Lands accomplishments**

Activity	Number accomplished
Lands acquired	<b>663</b> acres
Land use applications processed	<b>9</b> applications
Land use authorization administered to standard	<b>16</b> authorizations

### **Minerals**

Goals: Support environmentally sound energy and minerals development.

Specific standards and guidelines are found in the Regional Guide, and in the prescriptions under decision units 35, 36, 37, 42, and activities J04 and G01, G05, G06, G02, G07, G08, G09.

### Local Issues & Concerns:

A) Conflicts exist between proponents of mineral development and other resource considerations, which constrain both the opportunity for and method of mineral exploration and development.

Table: **Minerals accomplishments**

Activity	Number accomplished
Geological resources and hazards managed	<b>6</b> assessments
Mineral operations administered	<b>51</b> operations
Mineral operations processed	<b>10</b> operations
Existing saleable contracts, free-use permits, mineral collection sites, and community use pits managed	<b>23</b> sites
New saleable contracts, free-use permits, mineral collection sites, and community use pits opened	<b>87</b> sites
Mineral notices of intent processed	<b>7</b> notices
Mineral non-compliance actions	<b>8</b> actions

## **Law Enforcement**

### Goals:

Cooperate with State and local law enforcement agencies in the protection of visitors and their property. Emphasize a high level of Forest Service law enforcement activities in areas of high recreation use and fuelwood production.

Specific standards and guidelines are found in the prescriptions under decision units 58, and activities P24, P25, P27.

### Local Issues & Concerns:

A) The level of Forest Service law enforcement is generally perceived as inadequate to handle the problems associated with burgeoning unauthorized use on the Tonto. The level of enforcement does not meet public expectations. Officials of Gila County think the Forest Service cooperative law enforcement program is inadequate and therefore the visitors and problems on the Forest belong to the Forest Service. Protection of cultural resources, off-road vehicle (ORV) use, growing of illegal plants, occupancy trespass, fuelwood theft, and vandalism are the major problems identified.

B) There will be a high level of emphasis to control unauthorized use in areas of high recreation use and fuelwood production. Action will be initiated to resolve backlog of trespass cases and keep up annually to prevent or solve problems

Results shall be in the subsequent FY document.

**References Cited**

<http://vista.cira.colostate.edu/views/web/AnnualSummaryDev/Trends.aspx>

USDA Forest Service. 1982. Terrestrial Ecosystem Survey of the Prescott National Forest. Pp foreword *in* Analysis of the survey situation for the Tonto National Forest Plan. Tonto National Forest. Phoenix, AZ.

## APPENDIX A

On-going projects include the following:

1) Terrestrial Ecosystems Surveys of the Tonto National Forest

*What is it:*

This survey consists of mapping and interpreting ecosystems through a systematic examination, description, classification, and integration (gradient analysis) of the primary ecosystem components (soil/vegetation/climate). Terrestrial ecosystem survey places major emphasis on recognizing the relationships that exist between soils, vegetation, and climate. This emphasis requires geological, soil, vegetation, erosion, and production data be collected and recorded simultaneously in the field. Consequently, a terrestrial ecosystem survey is distinguishable from traditional soil survey, botanical survey, or most other integrated inventories.

*What can it be used for:*

The terrestrial ecosystem survey information can be used to evaluate and adjust land uses to the limitations and potentials of natural resources. It contains predictions about soil and vegetation potentials and suitability for selected land uses. It also highlights hazards or limitations inherent to the soil resource. Additional assistance in using or applying this information will be available from the Forest soil scientist.

*When will it be available?* To Be Announced.

## APPENDIX B

The National Forest Management Act of 1976 requires that Forest Land and Resource Management Plans be revised after 15 years. The Tonto National Forest Plan was approved by the Regional Forester in October 1985. Since its approval, the Plan has been amended twenty-five times as follows:

**Amendment 1:** August 1988: Allows State of Arizona to install and operate transceiver on Hutton Peak.

**Amendment 2:** August 1988: Corrects test reference to Table 3 & 4 and provides capacity for jeep tours.

**Amendment 3:** August 1988: Expands Forestwide prescriptions (S&G's) in accordance with the court settlement of litigation – Save the Jemez/State of New Mexico vs. Forest Service.

**Amendment 4:** August 1988: Corrects text reference to Table 3 & 4 and allows commercial rafting on Tonto Creek from Gisela to 76 Ranch (July 1- November 30) and 76 Ranch to Gun Creek (yearlong).

**Amendment 5:** August 1988: Moves construction of Haigler Creek Campground from 2<sup>nd</sup> period to 1<sup>st</sup> period.

**Amendment 6:** August 1988: Allows rafting on sections of the Verde River.

**Amendment 7:** May 1990: References Wilderness Opportunity Spectrum and Wilderness Management Plans.

**Amendment 8:** October 1990: Allows tour boat operations on Saguaro and Canyon lakes.

**Amendment 9:** November 1990: Increases river rafting allocations on the Upper Salt River.

**Amendment 10:** April 1991: Adds reforestation acres for rehabilitation of the Dude Fire.

**Amendment 11:** April 1991: Designates Crouch Mesa as an administrative electronic site and allows installation and operation of solar-powered microwave repeater.

**Amendment 12:** April 1991: Designates New River Mesa as an administrative electronic site and allows installation and operation of solar-powered microwave repeater.

**Amendment 13:** August 1991: Amends outfitter/guide allocations in MA 1E, including increases in rafting allocations on the lower Verde River below Horseshoe and Bartlett Reservoirs.

**Amendment 14:** August 1991: Amends outfitter guide allocations in MA 3F.

**Amendment 15:** January 1992: Classifies recreation residences at Diamond Point, Ellison Creek, Thompson Draw, and Washington Park as base for exchange.

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**Amendment 16:** July 1992: Modifies the number of commercial outfitter/guide permits available in MA 2A, 3B, 3C, 3D, 6B, 6D, and 6I (Superstition and Four Peaks Wildernesses).

**Amendment 17:** February 1993: Modifies the number of commercial outfitter/guide permits available in MA 5A, 5C, and 6H (Sierra Ancha and Salome Wildernesses).

**Amendment 18:** June 1993: Modifies the number of commercial outfitter/guide permits available in MA 1B, 1C, 1D, 3A, 4B (west ½ Mazatal Wilderness) and 4C and 5B (Hellsgate Wilderness).

**Amendment 19:** March 1994: Changes designation of Buckhorn Mountain and Hauffer Wash Research National Areas from proposed to existing.

**Amendment 20:** May 1995: Modifies outfitter/guide permit allocations for MA 1F, 2D, 2F, 3F, 4D, 4F, 5D, 5E, 5G, 6C, and 6F, and minor housekeeping correction for recreation and residence areas located in 1F, 2D, 4D, and 6F.

**Amendment 21:** May 1995: Adds Standards and Guidelines pertaining to cave resource management and housekeeping consolidation of S&G's pertaining to cultural resources.

**Amendment 22:** June 1995: Adds Standards and Guidelines pertaining to management of Mexican spotted owl, goshawk, and old growth habitats.

**Amendment 23:** June 1997: Allows installation and operation of a microwave repeater on Pinto Mesa for the telephone system serving the Rockhouse Community.

**Amendment 24:** June 2004: Incorporates the Verde Wild and Scenic River *Comprehensive River Management Plan* into the Forest Plan

**Amendment 25:** August 2006: Updates present fire language to be in compliance with the 2001 National Fire Plan and 2005 Wildland Fire implement procedures, which allows the use of wildland fire as a management tool.

### APPENDIX C

**Annual Monitoring Reports:** Four Forest Plan Monitoring Reports have been completed (1986, 1997, 1998, & 2006) since the Plan was approved. The first three reports are available on file at the Tonto National Forest Supervisor's Office (2324 E. McDowell Rd, Phoenix, Arizona 85006). Some of the key needs for change identified in those reports that have not yet been addressed include the following:

1. Our Plan is still largely a tactical document rather than strategic one, focused primarily on desired conditions and goals to make progress toward them. It is often difficult to change tactics in project planning because the Plan must also be amended when other guidance, such as regulations, policies, emerging science, monitoring results, or biological opinions, change.
2. The Plan does not contain sufficient or practical guidelines related to riparian area resources. These are critical areas with regard to many threatened and endangered species habitat (i.e. Southwestern willow flycatcher, Mexican spotted owl, and gila topminnow) and grazing management. These are often areas of high concentration for recreational activities. Goal statements and desired future conditions stated in the current Plan are not realistic for all stream types. In addition, management indicator species are not used as the monitoring index for riparian area conditions as directed in the Plan.
3. There is no specific assessment or direction for sustainability of the Sonoran Desert ecosystem in the current Plan – particularly related to fire, invasive species, and OHV management.
4. The Plan does not contain adequate direction for water quality and quantity. In addition, the water yield monitoring requirement is unrealistic and not directly comparable to the instream flow water right effort.

In addition to the legal requirement for plan revision, the Plan needs to be updated to reflect current resource conditions, new information, and new management strategies and priorities. The Southwestern Region has scheduled the revision for the Tonto National Forest Plan to begin in 2006 and be completed in 2009. Due to the enjoinder on the 2005 planning rule the termination date is to be determined.

## Requirements of Monitoring

A detailed annual monitoring action program is prepared as part of the total Forest annual program of work. Some of the key items to be included in the program are details on the amount and location of monitoring to be accomplished based on the approved program of work and funding available. The following describes the items to be monitored:

**Watershed conditions:** The monitoring method will consist of measuring percent existing cover by vegetation strata by watershed. Ten 50-pace transects per vegetative strata per watershed (a total of 1000 transects). Monitor all watersheds once per decade in the ninth year.

**Estimated Water Yield:** Every decade in the ninth year, re-compute a ten-year running average of water yield utilizing stream gauge data.

**Protection 1 – Insect & disease:** Determine levels of destructive insect & disease organisms following management activities. Periodic aerial surveys and ground checks on an opportunity basis will be used.

**Protection 2 – Visibility Condition:** Automated camera system and opportunity basis particulate sampling to determine visibility conditions in Class 1 wilderness areas, the purpose being to gather baseline condition information on visibility and determine if degradation is occurring in class 1 areas.

**Grazing Capacity and Range Condition:** Production/utilization surveys on allotments where current permitted use exceeds estimated capacity and on allotments where improved management has been initiated during the decade. Estimate three new analysis starts per year and nine production/utilization surveys per year average on allotments where use exceeds capacity and to monitor recently initiated improved management practices.

Perform grazing allotment inspections to determine if percent utilization of plants is within limits set by management plans. Inspections will provide verification of capacity estimates. Estimate 30 inspections per year.

Every five years work up Forest summary from completed analyses, production/utilization surveys, and inspection at midpoint and end of each decade.

**Wild Burro Population:** Helicopter survey in early spring on even-numbered years; site revisit method.

**Riparian Condition:** Establish 20 aquatic sample stations and do biotic conditions index survey. Sample each station three times per year every five years in conjunction with Emlen survey transects (10 with low and 10 with high elevations).

Continue 10 existing Emlen survey transects on lower Verde and Salt Rivers and establish 10 additional transects in main tributaries under 3,500' elevation. Establish 20 additional transects in riparian communities above 3,500' elevation. Transects will be read three times per year in May, June, & July every fifth year, with low elevation transects being read in years 6 and 1 (i.e., the 6<sup>th</sup> and 1<sup>st</sup> year of decade, etc.) and with high elevation transects being read in years 7 and 2.

Record occurrences of management indicator species, percent crown cover (with spherical densiometer), ocular estimates of percent browsing, and acreage of cottonwood-willow and mixed broadleaf reproduction.

**Management Indicator Species in Pinyon-Juniper, Chaparral, and**

**Grassland/Desert:** Sample once every five years (in years 8 and 3) in the pinyon-juniper and chaparral, in years 9 and 4 in the desertscrub and desert grassland. Take random samples of 25 cluster plots in pinyon-juniper, 20 cluster plots in chaparral and 30 plots per cluster will be used to record occurrences of the species listed above for each vegetative type.

**Wildlife Habitat Diversity in Analysis areas 5512, 5530, 5536, and 5542:** Monitoring will be done every five years.

Vegetation (Habitat)

On a five-year cycle a 5,000-acre management unit, selected at random, will be subjected to a modified silvicultural exam to show the existing age class diversity. The resultant change in age class diversity over time will be compared to the expected condition. This will be used as a sample to indicate age class diversity within the pine/mixed conifer type.

**Management Indicator Species:** On a five-year cycle. Population trends for elk, turkey and Abert's squirrel will be established using Arizona Game and Fish Department harvest data records and hunter questionnaires and supplemented by currently acceptable field sampling techniques as necessary. Western bluebird, violet-green swallow, hairy woodpecker, pygmy nuthatch, and goshawk population trends will be established using variable plot sampling. Sixty points will be established at random throughout the management unit or on transect lines on at least 350-foot intervals. Points will be sampled times (May, June, July) as described in GTR RM-89 by Szaro and Balda. Relative species frequencies, species composition, and relative densities will be used to infer or indicate desired condition or trend of habitat within the ponderosa pine/mixed conifer type.

**Degree of protection of Cultural Resources:** Conduct sample inspections of project areas for ten percent of all in-service projects, ten percent of all out-service projects less than 100 acres in size, and all out service projects over 100 acres in size.

Identify recreation impacts to cultural properties and establish test sites and inspection schedule to monitor size conditions.

In cooperation with Forest and Zone law enforcement, identify areas and properties with high probability for vandalism. Provide support to law enforcement as required.

**Visual Quality Level:** Annual random sample of areas having specified quality levels of retention and partial retention. One hundred points will be randomly selected from mile points on roads and trails providing viewer positions for these areas.

**Timber 1- Prescription Compliance:** Timber management information system (TMIS); staff field reviews of 5% of treatment projects.

**Timber 2 – RMARS (MAR 17.1)** reported on an annual basis.

**Timber 3 – Harvest Area Size:** Review maximum size limits for harvest areas to determine whether such size limits should be continued. A sample of stands will be checked to see if reason may exist to change the size of stands. The ID team will be the sampling team. Ten percent (10%) of stands treated per year will be sampled.

**Timber 4 – Restocking of Lands:** Each timber sale area will be considered a population. To be considered adequately stocked, 80% of the areas would have to have the prescribed number of trees. Samples will be taken randomly within each timber sale area using stand exams and reforestation handbook procedures and enter results in stand record system. Once 2 years after final harvest and once the 4<sup>th</sup> year following harvest. If problem are indicated, more frequent samples will be made.

**Timber 5 – Unsuitable lands:**

- 1) Review new or updated soil survey data
- 2) Develop better technology for regeneration establishment.
- 3) Perform stand exams
- 4) Evaluate timber inventory results

**Standards and Guidelines:** Every four years evaluate District General Management Reviews, Program reviews, activities reviews, and public comments. Reporting will be done in the 4<sup>th</sup> and 8<sup>th</sup> years of the decade period.