



File Code: 1920

Date: January 16, 2008

Dear Friends

In preparation for the Forest Plan Revision, the current Plan text has been reviewed in detail. The attached replacement pages are meant to correct typographical errors, the removal of text that was subsequently superseded by a previous Forest Plan Amendment, the movement of some text into its correct location, or the updating of acreages. There is no intent to change the management direction in the current Forest Plan. I wanted to correct the text because we will continue to use the current Forest Plan until the Revision is completed. We then have a better document to use for project work and in the next steps of Revision. The Digest (the page which lists the superseded pages and a brief synopsis of changes) explains the essence of the text adjustments and is enclosed. Actual changes and additions on the replacement pages are shown by bold type.

Because there are many Forest Plan pages affected by this update, I felt it would be helpful to offer some options to people in order to update their copy of the Forest Plan. The actual Errata #1 replacement pages are available on our planning website for you to print out. As a second option, there is an updated electronic version of the entire Forest Plan with all of the replacement pages incorporated for you to download. If you would prefer a hardcopy of the replacement pages we can mail those to you. Please contact Sarah Hankens at (928) 527-3412 to request hardcopies.

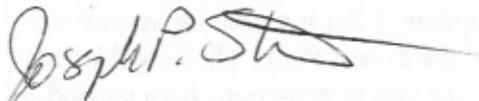
The acreage updates reflect the data in our current Geographic Information Systems (GIS) for Forest Planning. The on-the-ground location of our Management Area (MA) boundaries have not changed but our method of acreage calculation has become more consistent and improved since 1987. We have moved from the world of planimeters, dot grids, and paper ledger sheets to a computerized GIS. We have also reflected the land ownership adjustments that have occurred since the original Forest Plan was signed in 1987. Some of those ownership adjustments were reflected in a May 1991 reprint of the cartographic version of the MA map along ownership changes represented in Amendments 12 (Sedona) and 17 (FLEA). Again there is no intent to change the management direction of the Forest Plan, but to more accurately represent the original data and the subsequent changes created by Forest Plan Amendments. I feel the magnitude of the changes is not sufficient to warrant further analysis. These changes will remain in effect until the Forest Plan is amended or the Revision is completed.



My staff used the original 1980's paper map data sources as the first step in building the MA GIS layer. While processing the original data they did locate a few errors which were corrected. In addition, they were able to represent some data that had been at a scale we could not track on the 1987 cartographic representation of the MA map, such as large recreation sites. My staff then proceeded to update the 1987 GIS MA map with the changes from Forest Plan Amendments, resulting in the April 2006 MA map that has resided on the forest planning website since Fall 2006. This month, the map was reviewed and compared with other corporate data sources. Minor refinements occurred resulting in December 2007 MA map we have now on the planning website. These acreage refinements are depicted on the Forest Plan replacement pages. The acreages shifts are an accumulation of advances in mapping technologies, methods for calculating and tracking acreages, correction of mapping errors, and ownership updates. The net forest-wide difference in the acreage calculation between the original MA total (1,815,347) and the current GIS calculation (1,837,288) is 21,941 acres or 1.21 percent. Approximately 4,300 acres can be attributed to a net acreage increase resulting from land ownership adjustments, resulting in a 0.97 percent forest-wide adjustment. This is the acreage we will use during the remainder of the revision process.

If you have any questions, please contact Katherine Farr, Planning Contractor, (928) 527-3411.

Sincerely,



JOSEPH P. STRINGER
Acting Forest Supervisor

Enclosure

COCONINO NATIONAL FOREST PLAN

FOREST PLAN ERRATA #1
JANUARY 2008

Errata are numbered consecutively. Text changes are in bold.

Page Number	Superceded (Number of Sheets)	New
59 through 60	1	1
69-2 through 70	1	1
70-3 through 70-4	1	0
71 through 72	1	1
87 through 88	1	1
93 through 94	1	1
97 through 106	5	5
111 through 114	2	2
115-2 through 115-3	1	1
115-6 through 120	3	3
123 through 124	1	1
129 through 130	1	1
135 through 142	4	4
145 through 152	4	4
155 through 174	10	10
179 through 184	3	3
187-4 through 188	1	1
191 through 194	2	2
197 through 202	3	3
205 through 206-2	2	2
206-09 through 206-10	1	1
206-31 through 206-32	1	1
206-35 through 206-40	3	3
206-43 through 206-46	2	2
206-49 through 206-50	1	1
206-53 through 206-56	2	2
296-73 through 206-76	2	2
206-83 through 206-92	5	5
206-95 through 206-104	5	5
206-107 through 206-110	2	2
206-113 through 206-116	2	2
233 through 234	1	1
237 through 238	1	1

Digest:

- Page 60 The acres in the VQO table have been changed to percentage.
Page 60 Forest Highway 9 updated to State Route 260.
Page 70 Added contents from page 70-3. Added first two statements from page 71.
Page 70-3-70-4 Removed contents on page 70-3 and moved to bottom of page 70. Original section mistakenly separated by Amendment 11, 6/1996. Deleted blank pages 70-3 and 70-4.
Page 71 Removed first two statements and inserted at bottom page 70. Original section mistakenly separated by Amendment 11, 6/1996.
Page 87 Text deleted. Inserted updated text to reflect Amendment 12, 6/1998. Added (L&WCFA) to Land Acquisition heading.
Page 88 Text deleted. Superseded by Amendment 12 pages 206-20 and 206-21.
Page 93 Corrected typographical error from "source" to "resource" in 3rd paragraph under Fire Suppression.
Pages 98-104 Pages 98 through 104-Acreage updated.
Page 105 Removed Timber Land Use Classes table, current information can be found in Appendix D.
Page 106 The acres in the WOS Class table have been changed to percentage.
Page 111 Water Rights heading inserted.
Page 113 MA acreage updated.
Page 115-2 Timber Land Use Classes – Scenic and Wild Tables were removed. Current information can be found in Appendix D. Footnote was removed because the acreage it was referred to (in the Timber tables) was removed.
Page 116 MA acreage updated.
Page 118 Text deleted. Superseded by the old-growth information on pages 70-1 and 70-2 from Amendment 11, 6/1996.
Page 119 Removed Timber Land Use Classes table, current information can be found in Appendix D.
Page 120 Corrected formatting error. Inserted blank line prior to livestock statement.
Page 123 Text deleted. Superseded by the old-growth information on pages 70-1 and 70-2 from Amendment 11, 6/1996. Deleted text related to levels set with original plan management direction no Amendment 11, 6/1996.
Page 129 Text deleted, superseded by Amendment 11, 6/1996.
Page 130 Text deleted, superseded by Amendment 11, 6/1996.
Page 135 Text deleted, superseded by Amendment 11, 6/1996.
Page 138 MA acreage updated.
Page 139 Removed Timber Land Use Classes table, current information can be found in Appendix D. Removed footnote as it referred to table.
Page 139 Text deleted that is superseded by the old-growth information on pages 70-1 and 70-2 from Amendment 11, 6/1996.
Page 141 MA acreage updated.
Page 142 Removed Timber Land Use Classes table, current information can be found in Appendix D.
Page 145 MA acreage updated. Removed Timber Land Use Classes table, current information can be found in Appendix D.
Page 148 MA acreage updated.
Page 149 Removed Timber Land Use Classes table, current information can be found in Appendix D.
Page 152 Text deleted. Superseded by the old-growth, snag, and downed log information on pages 70-1 and 70-2 from Amendment 11, 6/1996.

Page 156	MA acreage updated. Removed Timber Land Use Classes table, current information can be found in Appendix D.
Page 157	Text deleted. Superseded by the old-growth, snag, and downed log information on pages 70-1 and 70-2 from Amendment 11, 6/1996.
Page 158	MA acreage updated.
Page 159	Removed Timber Land Use Classes table, current information can be found in Appendix D.
Page 162	MA acreage updated.
Page 163	Removed Timber Land Use Classes table, current information can be found in Appendix D.
Page 166	MA acreage updated.
Page 167	Removed Timber Land Use Classes table, current information can be found in Appendix D.
Page 169	Text deleted. Superseded by Amendment 12, 6/1998, pages 206-20 & 206-21.
Page 171	MA acreage updated.
Page 173	Removed Timber Land Use Classes table, current information can be found in Appendix D.
Page 179	Removed Timber Land Use Classes table, current information can be found in Appendix D.
Page 181	Correct typographical error, from Sunset Volcano-Wuaptki Scenic Loop Drive to Sunset Crater Volcano-Wupatki Scenic Loop Drive.
Page 182	Text deleted. Superseded Amendment 20, 11/2004, pages 69 & 69-1.
Page 184	MA acreage updated. Removed Timber Land Use Classes table, current information can be found in Appendix D.
Page 188	MA acreage updated. Removed Timber Land Use Classes table, current information can be found in Appendix D.
Page 191	MA acreage updated. Removed Timber Land Use Classes table, current information can be found in Appendix D.
Page 193	MA acreage updated.
Page 194	Removed Timber Land Use Classes table, current information can be found in Appendix D.
Page 197	MA acreage updated.
Page 198	Removed Timber Land Use Classes table, current information can be found in Appendix D.
Page 200	MA acreage updated. Text deleted. Superseded by the old-growth information on pages 70-1 and 70-2 from Amendment 11, 6/1996.
Page 201	Removed Timber Land Use Classes table, current information can be found in Appendix D.
Page 206	MA acreage updated.
Page 206-2	Removed Timber Land Use Classes table, current information can be found in Appendix D.
Page 206-09	Text deleted. Superseded by Amendment 20, 11/2004, page 23.
Page 206-32	MA acreage updated.
Page 206-35	MA acreage updated.
Page 206-38	MA acreage updated.
Page 206-40	MA acreage updated.
Page 206-43	MA acreage updated.
Page 206-46	MA acreage updated.
Page 206-50	MA acreage updated.
Page 206-54	MA acreage updated.
Page 206-56	MA acreage updated.

Page 206-74 Corrected typographical error, removed comma and inserted colon after limited to: in the first paragraph.

Page 206-76 Text deleted. Superseded by Amendment 20, 11/2004, pages 69 & 69-1.

Page 206-84 MA acreage updated.

Page 206-85 Removed Timber Land Use Classes table, current information can be found in Appendix D. Text deleted. Superseded by Amendment 20, 11/2004, pages 69 & 69-1.

Page 206-87 MA acreage updated.

Page 206-88 Removed Timber Land Use Classes table, current information can be found in Appendix D.

Page 206-89 Text deleted. Superseded by Amendment 20, 11/2004, pages 69 & 69-1.

Page 206-91 MA acreage updated.

Page 206-92 Removed Timber Land Use Classes table, current information can be found in Appendix D.

Page 206-95 MA acreage updated. Text deleted. Superseded by Amendment 20, 11/2004, page 23.

Page 206-96 Removed Timber Land Use Classes table, current information can be found in Appendix D. Removed footnote as it referred to table.

Page 206-97 MA acreage updated.

Page 206-99 Removed Timber Land Use Classes table, current information can be found in Appendix D. Removed footnote as it referred to table.

Page 206-101 Text deleted. Superseded by Amendment 20, 11/2004, pages 69 & 69-1.

Page 206-103 MA acreage updated.

Page 206-104 Removed Timber Land Use Classes table, current information can be found in Appendix D.

Page 206-107 MA acreage updated.

Page 206-109 Removed Timber Land Use Classes table, current information can be found in Appendix D.

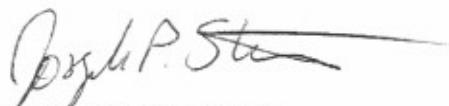
Page 206-113 MA acreage updated.

Page 206-115 Removed Timber Land Use Classes table, current information can be found in Appendix D.

Page 206-116 Text deleted. Superseded by Amendment 20, 11/2004, pages 69 & 69-1. Text inserted to point to pages 69 & 69-1.

Page 233-234 Updated acreage in Appendix B and added an explanatory footnote.

Page 237-238 Updated acreage in Appendix D.


JOSEPH P. STRINGER
Acting Forest Supervisor

Program

Components Activities Standards and Guidelines

- Slopes exceeding 40 percent where high probability for damage exists.
- Riparian areas being threatened or damaged.
- Meadows likely to be or being damaged.
- Areas adjacent to stream courses where potential for sedimentation is high.
- Areas within water courses or wetlands (permanently or intermittently wet).
- Where the Visual Quality Objectives (VQO) of Preservation, Retention, or Partial Retention are jeopardized.
- Areas of important cultural resource sites vulnerable to damage that are being threatened or damaged.
- Tree plantations less than 10 years old that are likely to be damaged.
- Habitat for threatened, endangered, or sensitive species that is threatened.
- Key wildlife areas being threatened or damaged.
- Areas important to wildlife reproduction, such as, fawning or nesting areas, where disturbance is causing, or likely to cause, significant stress and reduction of reproductive success.
- Restrictions or closures needed to meet road management objectives.
- Areas within municipal watersheds.
- Areas where user conflict must be resolved to ensure public safety.
- Areas considered to be dangerous for winter off-road driving activities.
- Dispersed recreation areas where conflicts exist.

Manageability will be an important criteria in establishing boundaries of areas with restrictions.

Other areas may be seasonally closed to provide opportunities for recreation in a setting without vehicular disturbance such as temporarily changing the ROS class social and managerial settings toward the primitive end of the spectrum. Initially, the Pine Grove and Rattlesnake areas, of approximately 12,600 and 11,100 acres, respectively, are closed annually from August 15 through December 31. These areas are monitored and, based on evaluation of monitoring results, maintained, added to, or cancelled.

Motor vehicle use will be seasonally restricted in designated cross-country ski areas and in big game winter range where there is a conflict.

Bicycle Use

Coordinate with local organized user groups to prepare a ROG for bicycles as use increases in the future.

Bicycle use on Forest roads/trails will be regulated if significant conflicts arise.

Law enforcement is planned and implemented to minimize resource damage and user conflicts. Signing is appropriate to inform the publics and help minimize the need for direct law enforcement activities.

Program
Components Activities Standards and Guidelines

Implement off-road driving restrictions in areas where roads are closed or obliterated and restrictions are necessary to prevent reopening of the roads by motor vehicle users.

Focus media attention on off-road driving management at least annually to enlist public cooperation. Feature volunteer organizations working to improve management.

Visual Resource Planning and Inventory

Revise and update the visual resource inventory during the first decade. Inventory the visual absorption capacity and the existing visual quality level of the Forest in the first decade. Projects are planned to meet or exceed visual quality objectives (VQO).

Review the VQO inventory as a part of project planning and make necessary corrections/refinements following field checking. Use VQO inventory to analyze impacts to VQO classes due to management activities such as timber sales, range projects, and firewood sales. Use the current Forest Visual Resource Management Inventory that lists VQO Forest-wide in conjunction with Forest Plan MA Map and descriptions to plan projects. Acceptable Forest-wide variation is ± 15 percent in each VQO class and relates to the changes from the updated inventory, except no change is allowed in Preservation.

VQO	Percent of Net Forest Acres
Preservation	8%
Retention	13%
Partial Retention	11%
Modification and Maximum Modification	68%

Allow only one classification movement downward unless a larger movement is justified after doing an environmental analysis for emergency situations such as removal of fire damaged timber or I&DC control needs.

Prepare a viewshed corridor implementation schedule during the first decade for the Interstate highways, U.S. Highways 89, 89A, and 180; Arizona State Highway 87; **State Route 260**; Forest Highway 3, and designated vista areas.

Signing is used for information, management, and safety purposes.

*Chapter 4 – Management Direction - Standards/Guidelines
Forest-wide*

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Silvicultural Examination and Prescription

Complete compartment examination and prescriptions each decade. Certify projects that meet the treatment prescription objectives (FSM 2400 and FSH 2409.26d).

Insect and Disease Management

Monitor insect and disease activities on all lands annually, including both suitable and unsuitable. Evaluate the extent to which insect and disease control measures are needed to protect either the suitable or unsuitable areas.

Habitat requirements for threatened, endangered, and sensitive species take precedence over insect and disease control.

Cuts are designed to eliminate or reduce dwarf mistletoe infections to manageable levels.

Use pesticides when they are legally available, environmentally acceptable, and are the most cost-efficient means of preventing or suppressing damaging pest outbreaks.

Assist individuals in analyzing trees with insects and disease problems and refer them to the appropriate agency (State Land Department and/or State and County Extension Services) for technical assistance.

Integrated Stand Management (ISM)

Establish and maintain stand diversity through ISM to provide suitable habitat for wildlife in lands suitable for timber production, while maintaining or enhancing timber resource production and timber age class distribution (regulation). See specific management areas for Standards and Guidelines.

10,000-Acre Blocks (10K Blocks)

Combine compartments to form an identifiable block approximately 10,000 acres in size. A range of 8,000 to 12,000 acres is acceptable. Individual blocks may be larger or smaller if approved by the Forest Supervisor.

Standards and Guidelines are applied on a 10K Block basis rather than on an individual timber sale or project basis.

Minimum Management Requirements are exceeded where it is good multiple-use management to do so, such as greater density of snags adjacent to meadows, riparian areas, and key water sources.

Wildlife habitat objectives for each 10K Block are evaluated on an individual stand basis as well as for the entire block.

Evaluate the need for wildlife forage in the 10K Blocks using the Habitat Capability Index, other available data and professional judgement and, where needed, adjust prescriptions to obtain it. These areas are stands of up to 10 acres with reduced GSL

Program
Components Activities Standards and Guidelines

Water Resource Planning

Watershed/Soil/Air Participate in nonpoint assessments with the State of Arizona as required by sec. 319 (a)(1) of the Clean Water Act (amended 1987).

Evaluate requests for weather modification through the environmental analysis process.

Ensure compliance with PL 92-500 "Federal Water Pollution Control Act" and Arizona Water Quality Standards through the implementation of Best Management Practices (BMP) to prevent water quality degradation.

Best Management Practices:

Use project monitoring information to evaluate BMP'S currently used to reduce nonpoint pollution from activities on the Forest. BMP'S include project planning as well as on the ground measures. By 1995, develop guidelines for implementation of BMP'S on the Forest. In the interim period, a general list of BMP'S has been included below. Apply these practices, depending on individual project and site requirements, to reduce nonpoint source pollution and protect riparian areas.

Filter Strips

Plan for appropriate filter strips adjacent to streamcourses and/or riparian areas, as determined through the IRM process. A filter strip is an area of vegetation and forest litter located adjacent to streamcourse and/or riparian areas for the purpose of filtering sediment, providing bank stability, and in tree/shrub ecosystems providing shade for fisheries habitat. The ability of the strip to trap and filter sediments is a function of the amount and type of material on the ground, and width and slope of the strip. The ability of the strip to provide shade over perennial streams is dependent on the height of the vegetation and orientation of the stream with respect to the sun. Filter strip widths provided below are for average ground cover conditions. Significant topographic changes, such as abrupt canyon edges may be used as boundaries for filter strips, as long as ground disturbing activities beyond the canyon walls do not influence water quality. The table below should be used as a guide for determining filter strip width. Erosion hazard is defined as the risk of erosion and sedimentation that is based on slope, soil type, and the amount and type of material on the ground that is able to trap eroded material.

Program
Components Activities Standards and Guidelines

FILTER STRIP TABLE - NONRIPARIAN STREAMCOURSES

Erosion Hazard	Filter Strip Slope Distance
Severe	1.5 chains on each side of streamcourse
Moderate	1.0 chains on each side of streamcourse
Slight	0.5 chains on each side of streamcourse

- Limited skidding may occur within the filter strip of nonriparian streamcourses as long as the ability to function as a filter strip is maintained.
- Landings, decking areas, machine piling, skid trails, and roads (except at designated crossings) are planned outside of the filter strip of nonriparian streamcourses.

FILTER STRIP TABLE - RIPARIAN STREAMCOURSES

Erosion Hazard	Filter Strip Slope Distance
Severe	2.0 chains on each side of streamcourse
Moderate	1.5 chains on each side of streamcourse
Slight	1.0 chains on each side of streamcourse

- Directional falling and end-lining of logs out of the filter strip without crossing the streamcourse may occur.
- Landings, decking areas, machine piling, limited skidding, skid trails, and roads (except at designated crossings) are planned outside of the filter strip of riparian streamcourses.

Streamcourses

- Designate stream courses and riparian areas to receive protection during projects such as timber sales and road work. As a minimum, those streams shown on 7-1/2 minute quads as stream courses are evaluated for the need to be designated stream courses.
- Existing wood debris in stream channels is not disturbed unless designated for removal as a special project to improve stream channel conditions.
- Logging and other debris that gets into stream channels is removed to above the high water mark before winter rains and snows begin except when an environmental analysis shows that the debris can be effectively used to improve fisheries habitat.
- Locate new roads out of stream courses and water-collecting features such as swales. Relocate roads out of bottom positions and obliterate poorly located segments as they are identified.
- Provide adequate road drainage to prevent concentrated flow and sedimentation.
- Maintain at least 80 percent of the potential crown cover in the riparian area.
- Plan projects, parts of projects, and/or management practices for soil and water resources improvement where watershed condition is unsatisfactory. Incorporate plans for soil and water improvements into project planning for other resources.

Program
Components Activities Standards and Guidelines

Reclassification must include appropriate public involvement through the NEPA process. The lands classified should be in accordance with local jurisdiction plans and needs.

A parcel of land originally designated as base-for-exchange in the Forest Plan may be deleted from base when:

- The character of the designated parcel or land adjacent to it has changed from its original character.
- Local or State zoning affecting the parcel has changed, altering potential uses in such a way that they conflict with Forest management objectives and practices.

Land Exchange

Accept land exchange proposals on an opportunity basis. Process by priorities agreed to by Forest Supervisor and Regional Forester.

Prohibit encumbrances, such as special-uses, or activities on base-in-exchange lands that will reduce the fair market value or reduce the disposal opportunities. No major investments such as TSI or range betterment projects will be planned on base-in-exchange lands.

Land exchange proposals for the base-for-exchange lands between Cosnino and Velvet Valley Subdivisions will not be accepted for three years following approval of the Forest Plan, unless they are from a local government or other entity that proposes to manage the area as a community area, greenbelt, or for other recreation use according to the wishes of the local residents. If an agreement has not been entered into for such an exchange after three years, other exchange proposals will be considered.

Specific direction on base-for-exchange land in the Sedona area is contained under Sedona Area wide direction as a result of Amendment 12.

Land Acquisition (L&WCFA)

The land purchase program is authorized by the Land and Water Conservation Fund Act (L&WCFA). The following lands are eligible for acquisition with L&WCFA funds:

- Congressionally designated areas;
- Threatened and endangered species habitat;
- Recreation acquisition composites and inholdings.

Program
Components Activities Standards and Guidelines

The goals of the composite program are to acquire:

- Lands needed for construction of public recreation facilities;
- Lands needed for dispersed recreation and open space;
- Protection of public recreation resources;
- Prevention of private usurpation of public resources and facilities on nearby public land.

The following properties are also classified as eligible for acquisition with L&WCFA funds:

- Bull Pen Ranch properties on West Clear Creek -- 90 acres;
- Upper Beaver Creek properties on Wet Beaver Creek -- 300 acres;
- San Francisco Mountain properties including Hart Prairie, Viet Springs, and Dry Lake Hills--1,700 acres;
- Secret Mountain properties including those at the base of the Red Rock-Secret Mountain Wilderness in T.18N., R.4E.,--618 acres, and T.18N., R.5E.,--225 acres.

Lands eligible for acquisition with L&WCFA funds can also be acquired by exchange or donation. They will be acquired by these if the opportunity occurs and it is appropriate.

Rights-of-Way Acquisition

Acquire rights-of-way to support other resource management activities with emphasis on the timber program.

Road Maintenance and Management

Transport/Facilities

Operate and maintain roads in accordance with objectives as specified in road prescriptions. Roads not needed for industry, public, and/or administrative use are closed and put to bed or returned to resource production through obliteration. Obliteration includes restoring the original land contour to the degree practical, scarifying, providing proper drainage, and revegetating with appropriate species.

Maintain access roads to the lowest standard necessary for two-wheel drive pickups for removal of green firewood.

Temporary closures using gates or barriers are implemented on roads unsafe for traffic until the hazard is corrected.

Seasonally close roads using gates or barriers where the road structural support is inadequate when the ground is wet, and for resource protection or management.

Program
Components Activities Standards and Guidelines

Work with homeowners associations and homeowners in the Urban Interface to plan and implement measures to reduce wildfire threats to life and property such as:

- Treating vegetation and fuels near homes.
- Providing road ingress and egress for emergency evacuation of personnel.
- Providing road access suitable for use by fire engines including places to turn engines around.
- Providing information to homeowners on measures they can take to reduce the threat of wildfire to their property.
- Providing adequate sources of water for use by fire engines for hose lays, to refill engines, and/or watertenders.

Fire Detection

Use lookouts (fixed detection points) as the primary method to detect fires. Aerial patrols or detection flights supplement fire lookouts when conditions warrant.

Fire Suppression

Fire suppression objectives guide the actions of the fire dispatcher and the initial attack Incident Commander in selecting appropriate methods to suppress a fire.

Fire suppression objectives are established for five suppression zones.

Small acreage objectives are specified where resource values are high and/or a fire in that location is a threat to life or property. In these situations, high intensity suppression methods are used, such as, air tankers, dozers, and large commitments of ground forces. Large acreage objective means that resource values at risk are lower, and suppression methods that are less costly and less damaging to the resource are used.

Suppression objectives are used to guide the selection of suppression methods. In all cases, when a fire is declared a wildfire, it will be suppressed. Suppression action will be fast, energetic, and thorough, regardless of the size of the fire.

The objectives by suppression zone are as follows:

- Urban Interface - The suppression objective is to hold fires to 10 acres or less per fire start. This zone is the urban interface and an area up to 10 miles long in a southwesterly direction from urban areas. Fires pose a threat to life and property. The zone has high priority for fuel treatment dollars. Prescribed fire, using planned ignitions, is used to accomplish fuel treatment and resource management objectives. Suppression tactics are selected that have the least impact on the land and meet the suppression objective.

Program
Components Activities Standards and Guidelines

- Commercial Timber Lands - The suppression objective is to hold fires to 100 acres or less per fire start. This zone consists of the remainder of the commercial timber land. Prescribed fire using both planned and unplanned ignitions is used to accomplish fuel treatment and resource management objectives. Suppression action gives top priority to protecting life and property, resource protection, and protection to private in-holdings and other landownership.
- PJ and Desert Grasslands - The suppression objective is to hold fires to less than 1,000 acres per fire start, to minimize suppression costs, and to provide for maximum personnel safety. In ponderosa pine stringers or other identified important wildlife habitat the suppression objective is 300 acres per fire or less. This zone consists of grassland, desert shrub, pinyon/juniper, some unsuitable and noncommercial timber land other than designated wildernesses. Prescribed fire using planned and unplanned ignitions is used to accomplish fuel treatment and other resource management objectives. Suppression action gives top priority to protecting life and property, and protection to private in-holdings and other landownership. Suppression methods are chosen that minimize impact on soils, water, and other resources.
- Wilderness - Fires that are not a threat to areas outside the wilderness are allowed to burn naturally provided that prescribed conditions are met. Prescribed conditions to be met are found in Standards and Guidelines specific to wildernesses (MA 1).
- Oak Creek Canyon - The suppression objective is to hold fires to 10 acres or less and minimize threat to life and property when fires are a threat. When fires are not a threat to people or improvements, the suppression objective may be increased to 300 acres. Fires that are not a threat to people and/or improvements are managed to minimize cost and provide for maximum personnel safety. The threat to people and/or improvements is determined by the District Ranger, District FMO, or initial attack Incident Commander.

When fires are reported a determination is made whether the fire is a prescribed fire or a wildfire. Prescribed fires are monitored to assure that they remain in prescription. Wildfires are suppressed using methods that are appropriate to each individual situation.

Strategies and tactics for suppressing a wildfire include the adoption of one or more of the following suppression strategies:

- Confine - Natural barriers or environmental factors limit the spread of the fire. Control lines are not constructed.
- Contain - Control lines are established around the perimeter of a fire and the fire is allowed to burn itself out without additional expenditures for mop up.
- Control - Fire is surrounded by control lines and then mopped up to totally extinguish fire. Control will normally be used during critical fire season.

Program
Components Activities Standards and Guidelines

Use public education and cooperation as the primary prevention method. Advertise and maintain a 24-hour contact point for the public to report suspected violations. Make an appropriate response to each public report including feedback to the person making the report.

Use cooperative law enforcement agreements to get assistance from local law enforcement agencies to protect people and property while on the Forest.

Enforce laws firmly, reasonably, and uniformly. Emphasize courteous personal contact. Take action according to FSM 5355 instruction.

Help prevent occupancy trespass and other law violations by patrols, especially in the urban interface.

Work cooperatively with Coconino, Yavapai and Gila Counties and DPS Law Officers to enforce drug laws.

Search and rescue operations are conducted in support of the County Sheriff, or when necessary, initiated and conducted independently.

Forest law enforcement activities are coordinated with other law enforcement agencies.

General Administration

Maintain a low ratio of overhead support to on-the-ground costs. Wherever possible, identify general administration support costs directly to the administration benefiting programs. Any Special Emphasis Program overhead is paid by the benefiting functional program dollars.

Maintain an aggressive and pro-active public affairs program, Forest-wide, to establish and maintain informed consent for resource management objectives.

Respond positively and promptly to media requests for information. Provide guides, photo opportunities, and timely information including video to requesting media. Stories and information developed by the Forest Service are shared equally with all media. Stories developed independently by the media are theirs alone and are not to be randomly shared with other media. Respond positively and promptly to internal requests for information. Provide pictures, articles, fact sheets, news letters, and video to employees to keep them informed and involved in the decision making process.

Be a Super Host to each member of the public.

MANAGEMENT AREA 1

Wilderness

There are 10 wildernesses in this Management Area, each of which is handled separately in some portions of the management prescriptions.

Wet Beaver Wilderness

Analysis Area: 35

Acres: 6,173

Forty miles south of Flagstaff, the Wet Beaver Wilderness commences at its eastern border at the confluence of Brady and Jacks Canyons. Moving west, the boundary follows the canyon rim. In the lower reaches of the canyon, the boundary moves back slightly from the rim to include some of the adjacent plateau. The area ends where Wet Beaver Creek canyon opens towards the Verde Valley. Wet Beaver is a steep walled canyon cutting into the rim of the Colorado Plateau. Supai sandstone and shale form striking red cliffs along the lower canyon.

Wet Beaver Creek is a benchmark of pristine riparian habitats and excellent water quality. The Wilderness is an excellent example of one of Arizona's finest but most rare resources, a perennially flowing stream. It is also a place of solitude and primitive recreation for residents of nearby Flagstaff, Sedona, Cottonwood, Camp Verde, and more distant Phoenix. Opportunities for primitive recreation are further enhanced by the narrow twisting character of the canyon which offers seclusion, even with relatively high use. Portions of the canyon can only be traversed by swimming through deep pools. Two major trails, Apache Maid and Bell Trail, offer easy access to the rim country portions of this Wilderness.

Riparian areas are habitat for a diverse community of plant and animal life. The streambed cottonwoods, sycamore, and ash are unlikely neighbors to the nearby canotia. Maidenhair fern and prickly pear cling to the same canyon wall within a few feet of each other.

The black hawk, a State-listed species, nests here and the area is potential habitat for Arizona bugbane (*Cimicifuga arizonica*), a candidate species.

Fossil Springs Wilderness

Analysis Area: 36

Acres: 10,436

Sixty miles south of Flagstaff, the Fossil Springs Wilderness encompasses a steep, wide canyon approximately 1,600 feet down at the edge of the Colorado Plateau. The creek is situated in a region dominated by Quaternary basalt laid down over Supai formation. The springs are located on the southern side of the Wilderness, but are not within the Wilderness. See MA 17 for more discussion of the springs, a Botanical Area.

The area contains one of the most diverse riparian areas in the State. Over 30 species of trees and shrubs provide striking contrast to the surrounding Desert Scrub Zone. Trees include mesquite, catclaw acacia, canotia, cacti, ash, walnut, alder, cottonwood, willow, boxelder, with ponderosa pine dominating the higher plateaus. There also is a wide variety of nonwoody plant life. The vegetative diversity creates many wildlife niches for deer, javelina, and 100 species of birds.

Fossil Creek is an important isolated refuge for the Gila roundtailed chub (*Gila robusta grahami*). The black hawk, a Group II State listed species, is found in this area. The creek is the habitat of the narrow-headed garter snake, known in a small number of localities. Endemic snails have been discovered and as yet are unnamed.

The stream itself is of hydrologic and geologic interest. It will turn blue at times. Geologically there is good exposure above the springs of a scarp of the Colorado Plateau, eroded on Late Paleozoic sedimentary rocks and now buried under extensive Tertiary basalt lava flows.

The area has retained its integrity as an outstandingly clean, pristine site. It has primitive hiking trails and is a good place to find solitude. It is used by big and small game hunters, hikers, and backpackers.

West Clear Creek Wilderness

Analysis Area: 37

Acres: 15,502

Located 10 miles east of Camp Verde, West Clear Creek is one of the most rugged, remote canyons in northern Arizona. The canyon forms where Willow Valley and Clover Creek join near two access trails; the Maxwell Trail and the Tramway Trail. The canyon continues westward for approximately 27 miles, measured along the creek, ending near Bull Pen Ranch. The creek continues westward to join the Verde River south of Camp Verde. The canyon is very narrow for most of its length, with many side canyons.

West Clear Creek Canyon is the longest of the canyons cutting through the Mogollon Rim, the edge of the Colorado Plateau. The formations visible in the canyon area are, from bottom to top, Late Paleozoic sedimentary rocks (Supai, Coconino, Kaibab), Tertiary sediments, and Tertiary basalt lava flows.

Vegetation in the canyon is typical of the Southwest: ponderosa pine at the higher altitudes to the east, replaced by juniper as one moves westward.

The canyon does contain some evidence of human use but the apparent naturalness of the area is unaffected. In spite of the short distance from the northern to the southern boundary, the area offers outstanding opportunities for solitude and primitive recreation by virtue of the very steep canyon walls. A trail starts at the west end of Bull Pen Ranch and follows the north side of the private land and then drops down to the creek eastward for a few miles to climb up the northern slope to the rim. This access is fairly easy, even for inexperienced hikers or for fishermen. There are short steep access trails

that are unmaintained from the rim to the canyon bottom. In the main, narrow part of the canyon, there are no trails. It is necessary to wade or swim in many places when hiking from one end of the canyon to the other so that even the most seasoned hiker will find lots of challenge. The canyon is wild and primitive. Users must plan trips carefully.

The proposed West Clear Creek Research Natural Area (RNA) lies in the western portion of the Wilderness approximately 2 miles above Bull Pen Ranch and covering 1,180 acres. See MA 17 for management Standards and Guidelines for RNA's. Primitive hiking and overnight camping are allowed, based on carrying capacity.

Strawberry Crater Wilderness

Analysis Area: 38

Acres: 10,404

Located 30 minutes north and east of Flagstaff, the Wilderness is gently rolling pinyon-juniper, cinder terrain, about 5,500 to 6,000 feet elevation. The Wilderness contains two areas, separated by a primitive non-system road.

Strawberry Crater is part of the San Francisco Mountain volcanic field, which contains some 600 craters and cones. Strawberry Crater itself is about 50,000 to 100,000 years old. In appearance it is quite different from the younger, rounded cinder cone nearby. The Crater was formed by slow moving basaltic andesite. The ridges of the central Crater show the distinct layering that occurred during eruption. The ridges are broken at right angles to the ground and to one another. The jagged features and deep rust color of Strawberry Crater make it unique among local cinder cones.

The Strawberry Crater area offers the visitor an opportunity to experience the sense of time and endless horizon presented by pinyon-juniper zones. From the low cinder cones, there is a good view of the Painted Desert, the Hopi mesas, and the buttes of the Little Colorado River valley. The area offers opportunities for day hiking, backpacking, and camping. There are a few game animals and small mammals throughout. Opportunities for solitude and for exploring interesting geological and archaeological features exist.

Because of roads along the south and west boundaries and the gentle terrain, ORV tracks and trails are present throughout a major part of the south area. Illegal firewood cutting has also occurred throughout the south portion.

The area contains two sensitive plant species: Penstemon clutei and Phacelia welshii.

Kachina Peaks Wilderness

Analysis Area: 39

Acres: 18,705

Located just north of Flagstaff, the Kachina Peaks Wilderness is part of a large, heavily vegetated composite volcano 7,400 to 12,633 feet high including Humphreys Peak, the highest point in Arizona. The San Francisco Mountains exhibit a rich diversity of past geologic events such as lava flows, volcanic eruptions, glaciation, and erosion. The Mountain is an outstanding example of past volcanic activity and preserve the best example of Ice Age glaciation in Arizona in lateral and medial moraines and former streambeds.

Pioneer ecologist C. Hart Merriam used the Mountain in developing his life zone concept. Of the life zones studied, five exist on the Mountain, Alpine Tundra, Timberline, Hudsonian (spruce-fir), Canadian (Douglas-fir), and Transition (ponderosa pine). The only Alpine tundra vegetation in the State is found on the Mountain in a fragile 2-square-mile zone and contains a threatened plant: *Senecio franciscanus*. The Mountain contains large tracts of virgin spruce-fir forests and have the only area of bristlecone pine in Arizona.

There is great diversity of resident wildlife species, including mule deer, elk, turkey, black bear, coyote, mountain lion, red squirrel, and Clark's nutcracker.

Several roads, jeep trails and hiking/equestrian trails provide access to, and within, this unit. Recreational opportunities include day hiking, backpacking, cross-country skiing, snowshoeing, winter camping, snow and ice climbing, small and big game hunting, bird watching, and leaf watching (fall). Hundreds of people hike to the top peaks each year to sample the outstanding views of the Painted Desert, the North Rim of Grand Canyon, and Sunset Crater.

The Mountain is sacred to several western Indian tribes including the Hopi and Navajo. A number of religious shrines have been documented. These shrines have historic and religious value and are currently used by the Hopi and Navajo.

The San Francisco Peaks RNA, a bristlecone pine/tundra/old-growth spruce-fir community, is in the Wilderness. The RNA was established in 1931 and contains 1010 acres. There is a proposed addition in a large stand of bristlecone pine of 282 acres. See MA 17 for management Standards and Guidelines for RNA's. Primitive hiking and camping are allowed based on determined carrying capacity.

The C. Hart Merriam Scenic Area of 275 acres was designated in 1966. Designation of the Kachina Peaks Wilderness superseded the need for this classification, as protection of the visual quality objectives and management for primitive recreation are provided by law.

Kendrick Mountain Wilderness

Analysis Area: 40

Acres: 2,450

The Kaibab National Forest led the planning effort for the Kendrick Mountain Wilderness. Specific prescriptions for management are included within the Kaibab Forest Plan.

Located 19 miles northwest of Flagstaff, Kendrick Mountain is a heavily vegetated volcanic dome. Outstanding examples of volcanic structures are the largest volcanic dome in the San Francisco volcanic field and rock glaciers.

Kendrick contains a great diversity of ecosystems and their associated wildlife. The area is an important elk summer range, and is an important site for the study of Arizona ecosystems.

Kendrick's steep topography and dense vegetation offers outstanding opportunities for primitive and unconfined activities. These include hiking, backpacking, small and big game hunting, horseback riding, photography, and nature watching. Several hiking trails exist, including one that climbs to the summit. There are outstanding views of the San Francisco Mountain and the North Rim of Grand Canyon National Park.

Red Rock-Secret Mountain Wilderness

Analysis Area: 41

Acres: 47,581

Located twenty miles south of Flagstaff, the Red Rock-Secret Mountain Wilderness includes spectacular red, tan, and buff cliffs that mark the edge of the Colorado Plateau. The country plunges as much as 2,500 feet into canyons that drain into Oak Creek and the Verde River. Secret Mountain and Wilson Mountain are high mesas jutting out into the lower country. Several lava flows cap the high rims of Tertiary, Triassic, Permian, Pennsylvanian, and Mississippian exposures. The area includes the dramatic backdrops and scenic cliffs that make Sedona a popular tourist spot.

This is an area of great climatic variation. The high rims are cool and moist most of the year, except for May and June. The south end of the wilderness, near Sedona, has a much warmer climate. Mid-winter temperatures average above freezing. Annual precipitation is above normal for the State. There are eight major plant communities: ponderosa pine; fir; chaparral; pinyon-juniper woodland; evergreen oak woodland; Arizona cypress woodland; upper and lower riparian; and desert grassland. The wide variety of vegetative types provide habitat for equally diverse wildlife populations. There are at least 250 species of vertebrates in the area including elk, mule, and white tail deer,

javelina, coyote, rabbit, mountain lion, and bear. Of these, 60 percent depend on the riparian habitat during at least part of their life cycles. Bugbane (*Cimicifuga arizonica*) occurs here and has been nominated for classification as a threatened species. The area has a very high rating as potential peregrine falcon habitat.

Aside from the few species that are officially recognized as being rare or threatened, the area is very interesting to biologists as it represents the northern and southern limits of many species. For example, some 32 species of ferns occur in the canyons and on the slopes. At least three species reach their northern limits here and at least three others reach their southern limits here. There are also a number of habitat types representing unique combinations of plants, animals, and environments.

There are archaeological sites scattered throughout. One or two are particularly striking. This area has been relatively little studied but is particularly interesting to archaeologists because the normally agricultural Sinagua apparently were forced to go to a hunting and gathering economy in the area because of a lack of agricultural land. The Wilderness offers outstanding solitude because of topography and vegetation. Opportunities for primitive recreation are many.

The West Fork of Oak Creek RNA, a willow/boxelder community is in the Wilderness and includes a riparian area and the adjacent canyon walls. The RNA was established in 1931 and includes **1,853** acres. See MA 17 for management Standards and Guidelines for RNA's. Primitive hiking is allowed, but overnight camping is prohibited.

Munds Mountain Wilderness

Analysis Area: 42

Acres: 18,100

Elevations in the Wilderness range from 3,600 to 6,800 feet. Located east of Sedona, the area is characterized by the moderate to steep slopes of the Mogollon Rim. Rattlesnake, Woods, and Upper Jacks Canyon are the major drainages. Munds Mountain, Lee Mountain, and Horse Mesa are the areas of highest elevation.

Munds and Lee Mountains are unique geologic areas of the Mogollon Rim. There are extensive outcroppings of Coconino and Supai sandstone on the cliff faces of Munds and Lee Mountains, and ramp basalt flows.

A great diversity of vegetation and wildlife species and outstanding riparian habitat characterize the upper Woods Canyon. Depending upon slope and aspect, several vegetation communities are found, including desert sagebrush, desert grass and short grass plains, oak brush, chaparral, oak woodland, pinyon-juniper, and woodland types of the lower and upper Sonoran Zones. There is a small portion of ponderosa pine. Riparian vegetation is found in the major drainages.

The deep drainages and rugged nature of the terrain offer many opportunities for primitive and unconfined activities including hiking, backpacking, horseback riding, swimming, rock climbing, bird watching, and hunting. Due to the striking beauty of the red cliffs and riparian habitat, the Wilderness also offers outstanding opportunities for photography and painting.

This unit contains many prehistoric Indian sites.

Mazatzal Wilderness

Analysis Area: 43

Acres: 2,589 - Coconino National Forest

The ponderosa pine vegetative type is the Forest's largest commercial timber zone. The ponderosa pine stand blanketing the Mogollon Rim is part of the largest contiguous ponderosa pine stand in the world. There are three major vegetation associations that occur in this Management Area:

Forming part of the northern boundary of the 251,900 acre Mazatzal Wilderness, the area provides unique contrasts between the streamside environments and surrounding high desert as well as desert grassland and chaparral vegetation. There are culturally significant archaeological sites. The area has carved out a deep rugged canyon with attendant riparian habitat and supporting a wealth of wildlife and vegetation. The Verde Wild and Scenic River bisects the bulk of the area and is extremely valuable as riparian habitat for a number of species.

The general remoteness and rugged terrain offer a wealth of opportunities for hiking, fishing, river running, archaeological site viewing, bird watching, and photography. The area presently receives very little visitation other than hunting and hiking. There are a number of continuing activities in the area including reintroducing of river otters, enhancing nesting eagle habitat, viewing prehistoric sites, and river running opportunities. The area abounds in wildlife, supporting southern bald eagles, golden eagles, river otters, beaver, javelina, deer, bear, waterfowl, kit fox, and many other native Sonoran species. The relatively proximity to the populous Phoenix metropolitan area ensures that the area will receive increased use.

Management prescriptions for the Mazatzal Wilderness are contained within the Tonto National Forest Plan.

Sycamore Canyon Wilderness

Analysis Areas: 44, 45, 46

Acres: 44 - 23,970 - Coconino 45, 46 - 28,884 – Prescott, Kaibab 52,854-Total

The Coconino portion of this Wilderness covers the eastern side of Sycamore Creek up to the rim. The southern portion of the area is a series of broad mesas with gently sloping drainages tributary to the Verde River. Along the Verde there is extensive riparian habitat. The northern section is a series of foothills and canyons that rise to a 300-foot rim of rugged sandstone outcrops along Sycamore Canyon. Elevation ranges from 3,700 to 6,500 feet. These differences in elevation and aspect throughout the canyon result in a variety of contrasting ecological associations, set in spectacular "red rock" geologic formations. Vegetation in the canyon varies from mixed conifer and ponderosa pine in the upper reaches,

to chaparral and woodland in the lower portions. The stream course is a hardwood complex, riparian vegetative type.

Wildlife species include quail and javelina in the lower canyon and elk in the upper reaches.

Management Emphasis

Emphasize wilderness recreation and watershed condition while maintaining wilderness resource values. In order to accomplish this, some additional trail and trailhead development will be done, particularly in the Kachina Peaks, Red Rock-Secret Mountain, West Clear Creek, and Munds Mountain Wildernesses.

Highlights include:

- ◆ Manage Visual Quality Objective (VQO) in wilderness as Preservation. No variation in this acreage is acceptable.
- ◆ Manage for a mix of Wilderness Opportunity Spectrum (WOS) classes with some areas, for example Fossil Springs and portions of Red Rock-Secret Mountain managed toward the primitive end of the WOS spectrum. Wildernesses are managed to maintain wilderness quality and to maintain use within capacity, with first priority for management efforts to the Kachina Peaks Wilderness. Where overuse problems are apparent or imminent, such as some WOS classes in Kachina Peaks, Red Rock/Secret Mountain, Wet Beaver, West Clear Creek, and Sycamore Canyon, use studies are undertaken and remedial action implemented to protect the resource. The study currently underway in the Kachina Peaks is continued and similar studies are undertaken in other areas. Possible corrective measures include the initiation of permit systems or seasonal closure of sensitive areas.
- ◆ Manage to provide a quality experience for people while protecting wilderness resources. It may be necessary to limit numbers of people and/or horses and packstock in some instances. The majority of use in all areas is day use.
- ◆ Manage grazing under Congressional guidelines for grazing in wilderness. Livestock grazing presently occurs in portions of all the wildernesses except Strawberry Crater.

Recreation Planning and Inventory

Recreation Prepare establishment reports for West Clear Creek Research Natural Area and expansion of San Francisco Peaks Research Natural Areas during the first half of the decade. See MA 17 for Standards and Guidelines for RNA's. Declassify the C. Hart Merriam Scenic Area within the Kachina Peaks Wilderness. Wilderness Management direction provides stronger protection for the scenic values than the original classification.

Wilderness Planning and Inventory

Wilderness Prepare and publish brochures for each wilderness in the first decade to be reviewed annually and updated as needed.

Prepare wilderness implementation schedules for each wilderness during the first decade.

Enforce provisions of 36 CFR, part 261 and Title 18 U.S.C. regarding prohibitions in wilderness.

Implement "NO TRACE" program, providing educational information to users.

Manage wildernesses so that the current net balance of WOS classes is changed no more than ± 15 percent in the first decade.

WOS Class	Percent of Net Forest Acres
Pristine	17%
Primitive	49%
Semi-primitive	20%
Transition	14%

Use the Limits of Acceptable Change (LAC) concept for establishing objectives, standards, and monitoring levels for wildernesses, as outlined in FSM 2320.

Locate the wilderness boundaries and post them as needed in the first decade to prevent unauthorized intrusions. Close existing roads in the first decade to prevent intrusions.

Develop Wilderness Information Specialist (WIS) program Forest-wide. The WIS volunteers meet the public at wilderness trailheads or in wildernesses to provide information about each area, and patrol each area to pick up garbage and to help visitors.

Determine outfitter-guide needs for each wilderness during the first decade. Coordinate with AGFD for those providing wildlife recreation opportunities.

Program

Components Activities Standards and Guidelines

New structural range improvements deemed necessary for proper management and/or protection of the wilderness resource must be approved by the Forest Supervisor.

Motorized equipment to transport, install, or maintain range improvements, or for use in conducting the necessary management practices associated with the grazing operation must be approved by the Regional Forester.

Integrated Stand Management

Timber Consider wilderness acres in meeting some wildlife habitat objectives in 10K Blocks. See MA 3 Standards and Guidelines for applicable management direction.

Air Quality

Air Review Prevention of Significant Deterioration (PSD) permit applications to determine the potential effect increased emissions from major stationary sources will have on air quality related values (AQRV's) in National Forest Class I areas. Protect the current status of AQRV's in the Sycamore Canyon Wilderness Class I Airshed. Treat other wildernesses in the same manner as Class I Airsheds. Predict the impacts of air pollution generating activities with current and cost effective modeling techniques.

Monitor specific air pollutant and meteorological parameters necessary for determining air quality in Class I areas.

In the Class I Airsheds, maintain high quality visual conditions. The form, line, texture, and color of characteristic landscapes is clearly distinguishable when viewed as middleground. Cultural resources and ecosystems remain unmodified by air pollutants. Determine baseline information and the background condition of the above AQRV's, and specify limits of acceptable change that will affirmatively protect these values in Class I Airsheds.

Water Rights

Evaluate the need in the first decade to file for reserved water rights under the Wilderness Act.

Fire Management Planning and Analysis

Protection Fire under prescribed conditions is allowed to play a natural role in wilderness.

Implementation schedules are prepared and implemented for all wildernesses by December 1990.

Fires that are not a threat to areas outside the wilderness are allowed to run their natural course provided that the following prescribed conditions and situations are met:

- Fuel levels permit a sound natural fire program to be implemented.
- Fire forces are available in sufficient numbers to contain the fire(s) during the period between the afternoon fire weather forecast and 10 a.m. the next day.

Program
Components Activities Standards and Guidelines

Fires that are not a threat to areas outside the wilderness are allowed to run their natural course provided that the following prescribed conditions and situations are met:

- Fuel levels permit a sound natural fire program to be implemented.
- Fire forces are available in sufficient numbers to contain the fire(s) during the period between the afternoon fire weather forecast and 10 a.m. the next day.
- Fire behavior, both existing and predicted is such that fire forces are expected to be able to stop the spread of the fire(s) in any direction.
- Fuels in the path of the fire(s) are of an amount, size, and arrangement that expected fire intensity will not cause unacceptable damage to the wilderness resource.
- The fire creates a mosaic vegetation pattern. Fires outside of these limits are unacceptable. The following ratio of burned to unburned acres are achieved:

<u>% Burned</u>	<u>% Unburned</u>
25 to 75	75 to 25

- Fires that do not meet prescribed conditions are declared wildfires and suppressed in accordance with the following general suppression objectives. More specific suppression objectives for portions of the wildernesses may be developed as a part of the implementation schedules.
- Kachina Peaks--10 acres; Kendrick Mountain--10 acres; Strawberry Crater--300 acres; Red Rock-Secret Mountain--300 acres; Munds Mountain--300 acres; West Clear Creek--300 acres; Wet Beaver Creek--300 acres; Fossil Springs--300 acres; Sycamore Canyon--1,000 acres;
- In areas where unnatural fuel buildups have occurred because of the suppression of natural fires, prescribed fire using planned ignitions is used to restore a natural fuel condition so that fire can be allowed to play a natural role.

Fires that exceed prescription are suppressed using tactics that minimize impact on wildernesses.

Fires or portions of fires that threaten to or do cross out of the wilderness are managed under fire management direction for the area outside the wilderness.

Fires in the RNA's are allowed to burn undisturbed unless they threaten the uniqueness of the area.

Verde Wild and Scenic River - Management Area 2

Analysis Area: 34

Acres: **2,888**

The Verde Wild and Scenic River was designated by the Arizona Wilderness Act of 1984, Public Law 98-406, on August 28, 1984. Beginning at the most southern point of the Forest, the confluence of the Verde River and Fossil Creek, the Wild and Scenic River stretches northward approximately 22 miles to a parcel of private land south of Camp Verde. The Wild and Scenic River designation applies to both sides of the river and generally totals one-half mile wide, one quarter mile on each side of the river. The area overlaps with a portion of the Mazatzal Wilderness.

Increased use of the Verde Wild and Scenic River is expected to occur as it is the only such designated river in Arizona. The Arizona Wilderness Act, 1984, specified that the designation would not prevent water users receiving Central Arizona Project water allocations from diverting the water through an exchange agreement with downstream water users in accordance with Arizona water law. Streamflows could be reduced in the future.

A Comprehensive River Management Plan (CRMP) has been completed for the Verde Wild and Scenic River. The CRMP establishes a comprehensive approach to managing the free-flowing natural character of the river and its outstandingly remarkable values. The CRMP also provides detailed direction, management standards, implementation actions, and monitoring that will be applied to protect and enhance river values. The CRMP is the result of a coordinated effort of three National Forests, Tonto, Prescott, and Coconino, along with many other Federal, State, and local agencies, as well as concerned citizens, to identify a plan for protection and use of the river.

Each of the Forest Plans for the three National Forests has been amended to reflect the CRMP direction. Due to the low levels of development present along the Verde River at the time of its designation, the Arizona Wilderness Act (P.L. 98-406) divided the river into a Wild segment and a Scenic segment. There is no Recreational designation along the Verde River. The Scenic River Area begins near Beasley Flat, continues downstream about 18.8 miles to the boundary of the Mazatzal Wilderness. The Wild River Area lies within the Mazatzal Wilderness, beginning at the Wilderness boundary and continuing downstream about 22.2 miles to the confluence of Red Creek on the Tonto National Forest.

Management Emphasis

Maintain the Wild & Scenic River outstandingly remarkable values (ORV's) for scenic, fish, wildlife, and historic and cultural values, while also protecting the river's free-flowing character. The CRMP describes in further detail the Wild and Scenic Rivers legislation and the details of the ORV's for this River. The Act also requires that the

Wild & Scenic River must first be administered in such a manner as to protect and enhance the river's values, and second to allow other uses that do not interfere with public use and enjoyment of those river values. Protection and enhancement of the specific outstandingly remarkable values and water quality within the VWSR provides the foundation upon which all management actions and authorizations of uses are based. The following is an excerpt from the CRMP summarizing those values.

- ◆ Scenery - The Verde River has outstandingly remarkable scenic values. The scenic qualities of landform, vegetation, and water within the Verde Wild and Scenic River are distinctive. Landform varies from steep, rocky canyons framing the river, to plateaus dropping to wide flood plains, with the river as a central feature. Vegetation varies according to terrain, from broad mesquite bosques and cottonwood gallery forests to narrow bands of riparian willows, in contrast to the surrounding dry grassland and desert vegetation. Scenic qualities of the perennial Verde River change dramatically with the seasons and with changes in river flow. Dramatic fall color contrasts with summer greenery. Water flow changes from shallow, still pools and slow water, to high flow, seasonal rapids, and waterfalls. Recreationists view the river corridor from the high edges of plateaus and canyons, from within the floodplain, from the riverbank, and from the surface of the river itself. The VWSR area is visually sensitive due to the combination of high viewer expectations, generally long duration of view, and high amount of detail visible by the viewer. The river corridor is characterized in many locations by open, expansive vistas viewed from numerous locations.
- ◆ Fish - Outstandingly remarkable fish values along the Verde Wild & Scenic River (VWSR) results from the high quality habitat that the river provides for native fish species, including several federally endangered and threatened listed species and their critical habitats. Periodic natural flooding, a diversity of aquatic habitats, and a native fish assemblage make the VWSR a unique and valuable resource in the Southwest. Historically, the native fish assemblage in the Verde River was comprised of razorback sucker, Colorado pikeminnow, spokedace, loach minnow, Sonora sucker, desert sucker, roundtail chub, speckled dace, and longfin dace. Three of these fish species, the razorback sucker, Colorado pikeminnow, and the loach minnow were extirpated from the Verde River basin. The current native fish assemblage found within the VWSR is comprised of the Sonora sucker, desert sucker, the reintroduced razorback sucker and Colorado pikeminnow, and the occasional roundtail chub. The longfin dace and speckled dace are common in tributaries to the VWSR, and only briefly occupy the mainstem after downstream displacement from the tributaries due to flooding. Generally, native species comprise less than twenty percent of the fish community in the VWSR reach of the Verde River. The only notable exception was in 1995 when high reproduction and recruitment of desert and Sonora suckers into the fish community was documented due to spring flooding providing suitable spawning conditions.

Currently, federally listed fish species in the VWSR include the razorback sucker (endangered), Colorado pikeminnow (experimental nonessential), and the roundtail chub (Forest Service sensitive). There is also designated critical habitat for the razorback sucker throughout the reach of the VWSR, and for the spokedace and loach minnow from Beasley Flat to the Fossil Creek confluence. The AGFD began reintroductions of razorback sucker and Colorado pikeminnow into the Verde River in 1981 and 1985, respectively. Since 1994, the VWSR has been the focal area of the recovery program in Arizona with annual goals to stock 2,000 large individuals of each species.

The following Desired Conditions (Goals) apply to Coconino, Prescott, and Tonto National Forest lands within the Wild and Scenic River corridor for the Verde River. This management direction is located in the CRMP. For the Coconino National Forest summarized management direction for the VWSR is located in Management Area-2 (MA2), for the Prescott refer to the MA-9, and for the Tonto refer to MA-1C, MA-1D, and MA-4B.

Desired Conditions (Goals) for Wild and Scenic Sections

Scenery

Within the VWSR corridor the public experiences a landscape that is dominated by a free-flowing river and is predominantly natural appearing. Deviations from the natural landscape are limited and may include valued cultural landscape features and essential and minimal management elements that blend with the natural landscape. The Childs area is considered a valued cultural feature and managed to retain its scenic integrity.

Scenic integrity is Very High throughout the VWSR corridor except at Beasley Flat and Childs, where the scenic integrity is High. Important and desired cultural features are identified and the public has an opportunity to view them.

Fish

The VWSR contains high quality habitat for self-sustaining populations of razorback sucker, Colorado pikeminnow, roundtail chub, and other native fish species. The public is aware of the importance of native fish and releases listed species when caught. The public is aware of sport fishing resources and opportunities. Aquatic habitat is maintained in a condition with low substrate embeddedness, abundant aquatic food supply, and stable streambanks.

Wildlife

Wildlife management within the VWSR focuses on a variety of riparian dependent species including migratory birds, management indicator species, game species, and threatened, endangered, and sensitive species such as southwest willow flycatcher, yellow-billed cuckoo, and bald eagle. Habitat condition for these species is at optimum levels as determined by vertical and horizontal cover, plant density, and species composition of naturally occurring riparian vegetation. Population trends are identified and adjustments made in permitted activities when needed to protect habitat. In the Wild Section, natural habitat processes occur, while habitat improvements are implemented as needed to meet wildlife habitat management objectives in the Scenic Section.

The river corridor provides important consumptive and non-consumptive wildlife use opportunities for visitors. The public is aware of these opportunities as well as species protection requirements.

Cultural/Historic

Visitors to the VWSR corridor are aware of the cultural and historic values present, the role of human activity in shaping the landscape of the area, and the importance of protecting these resources. Cultural and historic sites are accessible for public visitation and interpretive facilities are available at primary river access points.

Historic and cultural properties are preserved in place wherever feasible. These sites are protected from vandalism, looting, pothunting, and other forms of unnatural deterioration by inspection and monitoring. Excessive forms of natural deterioration such as gully erosion and animal burrowing that threaten the integrity of features or cultural deposits are minimized. Adverse effects from management activities, visitor impacts, and damaging levels of natural deterioration are mitigated.

An inventory of historic and cultural sites, traditional tribal use areas, and places of traditional or religious significance provides data on all types of sites and cultural values present in the valley. The significance of the historic and cultural resources of the VWSR corridor is recognized in a nomination to the National Register of Historic Places.

Vegetation

Plant communities within the River corridor are dominated by native species. Woody, herbaceous, and emergent native vegetation is present and consistent with its potential

*Chapter 4 – Management Direction – Standards/Guidelines
Verde Wild and Scenic River – Management Area 2*

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Ponderosa Pine and Mixed Conifer, Less Than 40 Percent Slopes - Management Area 3

Analysis Areas: 1-9, 11, 12, 57, and 59

Acres: 511,015

Ponderosa Pine

The ponderosa pine vegetative type is the Forest's largest commercial timber zone. The ponderosa pine stand blanketing the Mogollon Rim is part of the largest contiguous ponderosa pine stand in the world. There are three major vegetation associations that occur in this Management Area:

- ◆ Ponderosa pine with a Gambel oak understory occurs on a wide variety of elevational and climatic ranges. It is most commonly found on warm dry slopes. The oak usually comes in after a site disturbance, such as fire or logging. New Mexican locust is often associated as another understory species.
- ◆ Ponderosa pine with intermingled groups of aspen is found mostly on the west and north sides of the San Francisco Peaks. These stands are an important tourist attraction and a source of preferred firewood.
- ◆ Ponderosa pine with a ponderosa pine understory is characterized by relatively pure stands of ponderosa pine regeneration with inclusions of Douglas-fir, white fir, and Gambel oak. The ponderosa pine regeneration is dominant and occupies more than 75 percent of the site.

Logging, grazing, firewood gathering, hunting, and recreation are historic uses. There are many roads. The area provides crucial and key habitat for many species of wildlife because of diversity of cover and food production. Deer, elk, turkey, and songbird nesting habitat are found in the area.

Ponderosa pine is often called a fire dependent species because fire is required for successful regeneration. The thick bark of the ponderosa pine provides more protection from fire than bark of some other species. Ponderosa pine productivity can be maintained through harvesting and use of fire. Intermediate harvesting improves the growth rates on the remaining trees by concentrating the site's growth potential onto fewer trees. Stocking level control early in the life of the stand, precommercial and commercial thinning, is important to the long-term stand growth rates.

Natural fuel accumulations are moderate, 15+ tons per acre, and fire occurrence is the highest in the nation (see EIS Chapter 3). Logging and precommercial thinning residues can add 10 to 30 tons per acre. These accumulations can produce sufficient heat (B.T.U.'s) and flame length to kill residual trees during wildfires. Dispersed recreation use is heavy and risk of person-caused fires is high.

The incidence of dwarf mistletoe is moderate Forest-wide. However, areas of heavy infestations are a continuing problem and significantly reduce growth.

Mixed Conifer

The woody vegetative composition of the mixed conifer is variable and consists of overstories and understories of ponderosa pine, Douglas-fir, white fir, and aspen in a wide variety of mixtures.

Recreation, timber harvest, and wildlife are the major uses of the mixed conifer. Dry and wet meadows are interspersed throughout the area and provide an important source of food for wildlife and domestic livestock. Douglas-fir mistletoe and spruce budworm are prevalent.

Wildfires have played an important role historically. Wildfire has been controlled for approximately 70 years and natural mortality has resulted in fuel loadings of 10 to 50 tons per acre. Logging and precommercial thinning have created concentrations of fuel that vary between 20 and 60 tons per acre. Lightning or person-caused fires in fuels of 20 or more tons per acre during periods of high fire danger usually result in a total kill of all vegetation. Grasses and forbs are quick to take over a burned area and vegetative succession begins again. The size and distribution of aspen patches provide a living map of fire history or insect outbreaks.

Management Emphasis

Emphasize a combination of multiple-uses including a sustained-yield of timber and firewood production, wildlife habitat, livestock grazing, high quality water, and dispersed recreation.

Highlights include:

- ◆ Manage for timber production using Integrated Stand Management (ISM) to achieve diverse and healthy stands. Manage to reduce or eliminate dwarf mistletoe. Protect stands from unacceptable losses due to insects or diseases.
- ◆ Visual quality objectives are generally Modification and Partial Retention. Maximum Modification is allowed to manage insect or disease outbreaks or to harvest fire-killed timber. Acceptable variations in VQO classification acres are outlined in the Forest-wide Standards and Guidelines.
- ◆ Manage habitat for the following indicator species through ISM:
 - ◆ Turkey
 - ◆ Goshawk
 - ◆ Pygmy nuthatch
 - ◆ Elk
 - ◆ Abert squirrel
 - ◆ Red squirrel
 - ◆ Hairy woodpecker
 - ◆ Spotted owl

Chapter 4 – Management Direction
Ponderosa Pine and Mixed Conifer, Less Than 40 Percent Slope – Management Area 3

- ◆ Manage to make firewood available from major species within this MA.
- ◆ Manage to make miscellaneous forest products available in a cost-effective manner, including Christmas trees, poles, posts, and wildings.
- ◆ Manage the approximately 12,100 acres identified as the pine-aspen capability area for aspen, on a regulated, sustained-yield basis to maintain aspen as a component of the Forest. Feature a rotation to enhance firewood production and wildlife habitat. Use firewood sales to achieve regeneration by sprouting.
- ◆ Manage livestock grazing generally at Level C and D. Closely coordinate range management with wildlife habitat management to achieve compliance with the State Comprehensive Plan. Coordinate with timber management to take advantage of transitional range created behind intermediate timber harvests.

Program

Components Activities Standards and Guidelines

Recreation

Recreation Management

Manage dispersed recreation at the Standard Service Level.

Prohibit camping between Lockett Meadow Trailhead and the Inner Basin. The access road is managed as a trail and closed to vehicles, except that the City of Flagstaff may periodically be authorized to use it for special vehicles such as drill rigs if determined appropriate through environmental analysis.

Manage the Mount Elden/Dry Lake Hills to maintain a semi-primitive nonmotorized ROS class. Build a trail system to make a loop trail from Buffalo Park over the Dry Lake Hills to the Mount Elden Trail, then through the Elden Environmental Study Area on the El Paso natural gas pipeline and back to Buffalo Park. The trails are for nonmotorized traffic only, except the Schultz Creek Trail which is open to motorized vehicles. The Mount Elden Lookout Trail and the portion of the Oldham trail between Buffalo Park and the El Paso natural gas pipeline are closed to horse and packstock. Trails in the system have standard level maintenance.

Schultz Tank and immediate vicinity will be day use only.

A primitive horse camp may be developed at either the Schultz Pass trailhead or the proposed Schultz Creek trailhead. Dispersed use will be monitored in these two locations to determine the most desirable site.

Program

Components Activities Standards and Guidelines

Schultz Creek trail will remain open to all types of use. Monitoring will be done to provide future information on development of any user conflicts. If conflicts develop, restrictions will be determined at that time.

Loading and unloading horses is not permitted at the Schultz Tank parking area.

Livestock and pets are not permitted to water or otherwise use Schultz Tank because it is part of the water supply for the Doney Park Community.

Range Resource Planning and Inventory

Range

Grazing allotments will generally be managed to Level C and D.

This MA is open to grazing. There are 623,222 acres of full capacity lands. Of these total acres, 46,740 acres are in less than satisfactory condition. Less than satisfactory range conditions are improved through completion of the development program contained in AMP's.

Range Forage Improvement Maintenance

Evaluate forage improvements and maintain forage improvement acres in satisfactory or better condition. Attain a balanced composition of cool and warm season forage species.

Broadcast seed immediately following natural or prescribed burns, with high production, shade tolerant, multi-growing season species unless the area is planned for timber regeneration.

Seed behind intermediate timber harvests with mixes tailored to fit the site where additional forage is needed. Emphasize high production, shade tolerant, multi-growing season species that will not inhibit tree regeneration. Do not seed after the last intermediate harvest if tree regeneration will be inhibited. Do not seed after seed cuts.

Where open meadows in the pine/mixed conifer type are to be maintained, eliminate invading overstory vegetation, stabilize gullies to raise the water table, scarify the soil, and seed with appropriate grass and forage species. Control livestock grazing through management and/or fencing to establish the revegetation.

Identify each terrestrial ecosystem and assess soil properties to determine:

- Soil limitations for soil scarification purposes.
- The method of soil scarification best suited for the soils of the project area.
- Soil potential for revegetation - Identify soils that are suitable or unsuitable for successful revegetation.

Program

Components Activities Standards and Guidelines

Integrated Stand Management (ISM)

If there are reductions in the treatment of specific age classes, for example reduced pulpwood harvesting, increased time frames may be necessary to meet stand management objectives or stands will have smaller average diameter at rotation.

Establish and maintain stand diversity through ISM to provide suitable habitat for wildlife in lands suitable for timber production, while maintaining or enhancing timber resource production and timber age class distribution (regulation).

10,000-Acre Blocks (10K Blocks)

Within each 10K Block treated, uneven-aged management will be emphasized. Where even-aged management is used not less than 8 percent nor more than 40 percent of the suitable lands is scheduled for regeneration during any 20-year period, provided there are adequate stands available for regeneration. Stands can be regenerated if they have, generally, reached CMAI, have unacceptable dwarf mistletoe ratings, or have multiple-use objectives that require the stand to be regenerated before CMAI. Regenerated stands may be harvested at 95 percent of CMAI. Page 123

The following standards and guidelines will apply in areas where threatened, endangered, or sensitive habitat requirements do not conflict. Habitat requirements for threatened, endangered, or sensitive species take precedence over requirements for other species. The headings included are: Raptors, Wildlife Cover, Squirrel Habitat, Spotted Owl and Bear Habitat, Turkey Nesting and Roosting, and Snag Management.

Raptors:

Maintain a current inventory of nest locations. A nest group consists of nest tree and adjacent trees and is maintained at least as follows unless environmental analysis indicates either more or less is needed:

- Goshawk -- Please refer to the Standards and Guidelines in the Forest-wide management direction on page 65-7 through 65-11.
- Cooper's hawk -- 15 acres of uncut area around active nests.
- Sharp-shinned hawk -- 10 acres of uncut area around active nests.
- Other raptors -- An area extending to 50 feet from active nests is left uncut.
- Bald eagle winter roosts -- Protect with a 300-foot radius uncut zone around the roost. Road development should avoid the roost and uncut zone.

Program

Components Activities Standards and Guidelines

- Ospreys -- At the start of Forest Plan implementation, the only known osprey nesting area is at Lake Mary. The following Standards and Guidelines apply to this nesting area. As additional nesting territories are discovered, environmental analysis is done to determine if, and to what extent, these Standards and Guidelines apply:
 - Restrict all logging activities within one-fourth of a mile of active nests from March 1 through August 15.
 - Provide a 20-acre nest site of uncut area around each existing (occupied or unoccupied) nest.
 - Provide at least 3 potential nest sites in preferred nesting habitat within Designated Bald Eagle/Osprey Emphasis Area(s). This potential nest site should be at least 5 acres of mature and overmature trees with at least 2 snags per acre greater than or equal to 20 inches. Use of uneven-age stands is optimal.
 - Construct artificial nesting platforms as needed for habitat maintenance and improvement.
 - Forest-wide, during 10K Block planning, give high priority to managing for snags within potential osprey habitat. Snags and old-growth managed for osprey habitat contribute to the 10K Block requirements.
 - Manage for at least 2 snags per acre of 20" or greater. Snags should be the height of the canopy or taller, on at least percent of the acres along the shorelines. Where necessary to provide sufficient perches and nest sites, take actions to create snags.
 - Road construction or reconstruction should avoid osprey nest sites. New roads should not be constructed within 660 feet of nests.
 - Where human disturbance is causing reproductive failure, evaluate the need to close the area from March 1 to at least August 15.
 - In cooperation with the Arizona Game and Fish Department, develop an implement an osprey and wintering bald eagle public education program.

Wildlife Cover:

Manage for at least 30 percent cover in 10K Blocks. Of this total at least one third is in thermal cover, one third is in hiding cover, and the remaining one third is in either thermal or hiding cover. Thermal cover for elk is a stand of coniferous trees tall enough to allow animal movement and bedding with a high degree of crown closure. Hiding cover is vegetation capable of hiding 90 percent of a standing deer or elk from human view at a distance of 200 feet or less. Emphasize maintaining some thermal cover in known travelways and bedding areas. Emphasize maintaining some hiding cover adjacent to dependable water and key openings, along known travelways, and in pine stringers. Cover areas should be at least 200 feet wide; however, pine stringers less than this width may still be managed for hiding and thermal cover

Program
Components Activities Standards and Guidelines

Stand Size

The following minimum factors are considered in obtaining stand diversity. The presence of one or more of these factors constitutes a difference between stands.

- Stand age - ± 20 years difference in measurable age.
- Density - \pm BA 30 ft.²
- Average Stand Diameter - ± 4 inches. If average stand diameter is larger than 16 inches, then this parameter will not be used.
- Species composition differences are determined by the ID Team, depending on the project or sale objectives. Overstory and/or understory species are evaluated.

Stands managed for old-growth are 100 to 300 acres in size.

Program
Components Activities Standards and Guidelines

Silvicultural Prescriptions

Management will generally use uneven-aged systems. When stands are managed under even-aged systems, the shelterwood method is the preferred method in accordance with the following guidelines (FSM 2471, FSH 2409.26d, Regional Guide).

Ponderosa Pine/Mixed Conifer Standard Silvicultural Prescription:

Shelterwood --

- Prepare site during seed cut. Cut pine to approximately 30 GSL and mixed conifer to approximately 60 GSL.
- Remove overstory that does not blend in with 0-40 year age class.
- Precommercial thin as needed.
- Use one to four commercial (intermediate) cuts. Make a cut when the available average cut volume/acre is at least 160 cubic feet/acre for the sale area. GSL's will vary from 60 to 120 depending on site, species, stand conditions, and multiple-use management objectives.
- Make preparatory cuts, where needed, for windfirmness, crown development, and/or to enhance seed bed.

In accordance with 36 CFR 219.16(2)(iii), stands may be regenerated at 95 percent or more of CMAI as determined by individual stand examination or less than 95 percent if multiple-use objectives would be better obtained.

Harvest recent dead and poor risk trees in excess of planned snag densities. Snags without red needles are retained for wildlife purposes, except wildfire-killed trees.

Aspen/Conifer Silvicultural Prescription:

Aspen/conifer lands to be managed for aspen include all stands having a minimum of 25 percent of the total stems (greater than 5 inches d.b.h.) or 25 percent of the GSL in aspen, and which are suitable for aspen regeneration.

Stands having less than 25 percent of total stems (greater than 5 inches d.b.h.) and GSL in aspen will be evaluated through the environmental analysis process to determine management objectives and direction.

On aspen/conifer lands determined to be managed as ponderosa pine or mixed conifer through environmental analysis, existing aspen stems may be cut.

- Approximately 254 acres per decade are converted to aspen over seven decades.

Program

Components Activities Standards and Guidelines

Growing stock levels (GSL) are maintained approximately as follows:

Ponderosa pine -	Site 75 - 90 GSL
	Site 56-74 - 80 GSL
	Sites less than 56 - 70 GSL
Mixed conifer -	Sites > 65 - 90 GSL
	Sites < 65 - 70 GSL.

Miscellaneous Forest Products

Underneath transmission lines there may be a potential for Christmas tree production, firewood, wildings, pulpwood, and/or other miscellaneous forest products. The land is managed to attain products whenever possible. The choice of silvicultural objectives depends on the profile of the powerline and the multiple-use objectives.

Firewood

Law enforcement emphasizes minimizing resource theft, damage, and user conflicts. Sign to inform and educate the public. Aggressively pursue violators.

Emphasize using slash for firewood. Unless there are documented resource or protection needs, leave slash for at least 2 years before disposal. Clearly identify free-use firewood areas to assist the public in removing wood residues and thereby reducing future slash disposal costs. Provide easy to follow maps and signing for designated firewood areas.

Timber Sale Preparation

Complete sale planning, design, and layout. Appraise, advertise, open bids, and make sale awards on sales scheduled for the planning period.

Minimum cut volumes per acre are usually between 300 and 500 (average 400) board feet of sawtimber and/or 160 cubic feet (2 cords) per acre for pulpwood except on Colorado Plateau Pulpwood Sale (CPPS) where pulpwood must average 40 cords on 20 acres. CPPS terminates March 1989.

Utilization Standards:

Sawtimber:	9+ inch d.b.h. to 6 inch d.i.b. top.
Pulpwood:	5+ inch d.b.h. to 4 inch d.i.b. top.
Firewood:	Sizes vary by objectives.

Program

Components Activities Standards and Guidelines

Evaluate K-V soil and water and wildlife resource improvement opportunities on sale areas. Plan projects to improve areas in unsatisfactory condition and to maintain those in satisfactory or better condition.

Priorities for use of K-V funds will be:

1. Regenerate stands.
2. Correct serious problems that have been identified such as erosion that needs to be stopped to preserve soils, needed T&E habitat improvement, and treatment of dwarf mistletoe infected stands.
3. TSI where needed to manage stocking levels and where the site justifies the costs.
4. Restoring riparian areas and closing roads by revegetation, channel restoration, blocking, providing drainage, obliteration, or combination of these types of activities.
5. Seeding to improve forage in areas where additional forage is needed.
6. All other work.

Exceptions below priority 2 may be made by the Forest Supervisor based on documented results of an environmental analysis.

Construct landings and decking areas outside of riparian areas.

Locate or relocate roads out of riparian areas, except at designated crossings. Obliterate unnecessary roads in riparian areas.

Avoid or designate stream course crossings for skid trails. Limit to the minimum needed. Choose crossings with stable conditions or stable bed and bank material such as cobble or rock.

Restrict skidding and hauling to soil moisture conditions that do not cause excessive soil compaction, displacement, or puddling. Restrict timber sale activities to slopes of 25 percent or less on cinder cones under conventional skidding.

For each timber sale area, identify each terrestrial ecosystem and assess soil properties to determine:

- Soils with severe potential for sheet and gully erosion, such as steep slopes, cinder cones, alluvial bottoms, and swales, that require specific resource management activities in order to avoid severe impairment of soil productivity.
- Soil limitations for site preparation - Identify soils that present severe limitations for successful site preparation such as soils with severe erosion hazard and shallow soils. Require specific resource management activities where successful site preparation is limited by environmental factors in the terrestrial ecosystem.

Program

Components Activities Standards and Guidelines

- Soil potential for reforestation - Identify soils that are suitable or unsuitable for successful reforestation. Adjust stocking levels and require specific resource management activities where successful reforestation is limited by environmental factors in the terrestrial ecosystem.
- Whether soils are suitable, unsuitable, or unproductive for timber management.
- Soil limitations for timber harvest activities.
- Soils with high potential to convert to another vegetative type such as oak, locust, or juniper as a result of timber management activities - Modify timber management activities in these terrestrial ecosystems to halt the type conversion by approved chemical or mechanical means or by prescribed fire.

Timber Harvest Administration

Timber

Administer timber sales, pulpwood sales, permits for forest products, firewood, and miscellaneous forest products sales. This activity includes the following: accountability, financial management, field inspections, and contract interpretation and enforcement. Aggressively protect non-designated trees, including firewood, through the enforcement of the timber sale contract.

Plan, prepare, administer, and sell or issue free-use permits for commercial and personal use, miscellaneous convertible and nonconvertible products (FSM 2462).

Generally, local roads are closed until the next entry by signing and physical obstruction such as gates or barriers. Temporary roads are obliterated and returned to production. If necessary to ensure protection, off-road driving restrictions are imposed until roads are fully revegetated.

Fire Management Planning and Analysis

Protection

Suppression objective is 100 acres or less.

Prescribed fire using planned and unplanned ignitions is used to meet resource objectives.

Unplanned ignitions are not used as a management tool in the urban interface.

Annual average wildfire acreage burned should not exceed 750 acres per year on the average over a 10-year period.

Emphasize using slash for firewood. Unless there are documented resource or protection needs, leave slash for at least 2 years before disposal. Clearly identify free-use firewood areas to assist the public in removing wood residues and thereby reducing future slash disposal costs. Provide easy to follow maps and signing for designated firewood areas.

Ponderosa Pine and Mixed Conifer, Greater Than 40 Percent Slopes Management Area 4

Analysis Areas: 10, 10a, 13, 13a

Acres: 46,382

Ponderosa Pine

A small part of this Management Area (MA) has been logged in the past, generally for short distances immediately above more gentle slopes. Steep canyons having no roads in them and a number of cinder cones have not been logged.

Many of the remaining overmature trees and large snags in the pine type are in this MA. The snags are important to snag dependent species of wildlife.

The area contributes very little to the range resource because of steepness. However, the south facing slopes do provide a significant amount of big game winter habitat.

Recreation use is concentrated on trails passing through the area because of the steepness and the amount of debris on the ground. In addition, some steep slopes are scenic backdrops for sensitive recreation viewpoints.

Refer to the description of MA 3 for a discussion of vegetation, fire, and fuels.

Mixed Conifer

The vegetative composition, fire history, and natural fuels are similar to MA 3. Little to no logging activity and road building has taken place.

The area's value to wildlife is much greater than to domestic livestock because of the inaccessibility to most livestock.

Recreation use is largely limited to hiking and hunting.

Management Emphasis

Emphasize wildlife habitat, watershed condition, and dispersed recreation. Management intensity is low.

Highlights include:

- ◆ Manage with emphasis on wildlife habitat and dispersed recreation. Total acres of any Recreation Opportunity Spectrum (ROS) class may change no more than +15 percent in Decade 1 due to road or trail building and other activities.
- ◆ VQO's in this area vary and are managed in accordance with the Forest-wide standards and guidelines.
- ◆ Manage for the following indicator species:
 - ◆ Turkey
 - ◆ Goshawk
 - ◆ Pygmy nuthatch
 - ◆ Elk
 - ◆ Abert squirrel
 - ◆ Red squirrel
 - ◆ Hairy woodpecker
 - ◆ Spotted owl
- ◆ Manage the Dry Lake Hills-Mount Elden area for dispersed recreation and wildlife habitat and a semi-primitive nonmotorized ROS class.

Recreation Planning and Inventory

Recreation Manage the Mount Elden/Dry Lake Hills to maintain a semi-primitive nonmotorized ROS class. Build a loop trail system tying into trailheads at Schultz Pass, Schultz Creek, Flagstaff-Elden Ranger Station, and Buffalo Park. Trails are for non-motorized use, except in Schultz Creek adjacent to Forest Road 420 up to Road 789. Horses and packstock are allowed except on the Mount Elden Lookout Trail and the portion of the Oldham Trail between Buffalo Park and the El Paso natural gas pipeline. The trail system is maintained at standard service level.

Manage Mount Elden/Dry Lake Hills for visual quality objective of Retention.

Range Resource Planning and Inventory

Range The area is generally classified as no capacity range and is usually not fenced, but occasional livestock use does occur. No capacity is assigned.

Silvicultural Examination and Prescription

Timber Conduct silvicultural examination and re-evaluate potential for suitability during first decade.

Spotted Owl and Bear Habitat:

Whenever possible, areas managed for old-growth, bear, and spotted owls are the same. Evaluate owl and bear habitat needs during project planning.

MEXICAN SPOTTED OWL

Please refer to the Mexican Spotted Owl Standards and guidelines in the Forest-wide direction on pages 65 through 65-6.

NORTHERN GOSHAWK

Please refer to the northern goshawk Standards and Guidelines in the Forest-wide direction on pages 65-7 through 65-11.

Fire Management Planning and Analysis

Protection Standards and Guidelines for fire management planning and analysis are the same as for MA 3.

Aspen - Management Area 5

Analysis Area: 14

Acres: 3,450

Aspen is the dominant tree species, comprising 50 percent or more of stand stocking. Most of the aspen is on the west and north side of the San Francisco Peaks. Other stands of aspen are found on cool moist sites on the rest of the Forest.

There is an overstory of aspen with an understory ranging from forbs and grass to ponderosa pine and sparse conifer reproduction, usually white fir or spruce. Without silvicultural treatment, aspen stands with mixed conifer or ponderosa pine understories will convert to conifer type as the aspen overstories die. Aspen on the Forest is mostly seral.

The aspen type, especially those stands with forb-grass understories, is an important producer of forage for wildlife and livestock. Aspen sprouts are favored browse for elk, livestock, and deer.

Aspen stands are important aesthetically because of contrasting colors and changing leaves. Their leaves are a light green in summer and turn yellow in the fall. Their white trunks provide further accents.

Regionally, the commercial market for aspen wood products varies from firewood, excelsior, and pallet material to high grade paneling. Until recent demands for firewood, the demand had been relatively low compared to conifer species. The low demand resulted in little management. Aspen usually requires fire or harvesting, by clearcutting, for regeneration. Most of the existing aspen stands are a direct result of past wildfires. Successful fire control over many years has reduced the establishment of new stands and the total acreage of aspen dominated stands has decreased.

Aspen stands provide natural firebreaks that aid in stopping wildfires that originate in adjacent vegetative types.

Management Emphasis

Emphasize a combination of wildlife habitat, visual quality, firewood production, watershed condition, and dispersed recreation with other resources and uses managed to be compatible.

Highlights include:

- ◆ Manage for the following indicator species:
 - ◆ Yellow bellied sapsucker
 - ◆ Mule deer
- ◆ Manage for VQO of Retention and Partial Retention in designated foreground areas, as specified in MA 3, and all VQO's in middleground and background.
- ◆ Manage firewood on a sustained-yield basis.

Program

Components Activities Standards and Guidelines

Visual Quality

Recreation

Review the VQO inventory as a part of project planning and make necessary refinements following the field checking.

Clearcutting to enhance or maintain aspen in Retention and Partial Retention areas is permissible with limitations on size and distribution of openings. Clearcuts should be distributed over larger areas rather than confined to small areas. In Retention areas, openings may be up to 2.5 acres in foreground areas, 5 acres in middleground areas, and 20 acres in background areas. In Partial Retention areas, openings may be up to 15 acres in foreground areas, and 40 acres in middleground and background areas.

Structural Wildlife Habitat Improvements

Wildlife

Fence to protect aspen regeneration from grazing or wildlife where necessary.

Range Resource Planning and Inventory

Range

Grazing allotments are generally managed at Level C or D. There are 3,864 acres of full capacity lands, all in satisfactory condition.

Unproductive Timber Land - Management Area 6

Analysis Areas: 15, 16

Acres: 67,146

Unproductive timber lands are within the ponderosa pine vegetation types. They are unsuitable for timber harvest because they fall in at least one of the following two categories.

- ◆ They do not meet the minimum standards for productivity which is Site Index 40 and/or 20 cubic feet per acre per year.
- ◆ There is not reasonable assurance that such lands can be adequately restocked as required by section 219.27(c)(13) of the planning regulations.

Management Emphasis

Emphasize a combination of wildlife habitat, watershed condition, and livestock grazing. Other resources are managed in harmony with the emphasized resources.

Highlights include:

- ◆ Manage for the following indicator species:
 - ◆ Elk
 - ◆ Abert Squirrel
 - ◆ Mule Deer
 - ◆ Hairy Woodpecker
- ◆ Use prescribed fire as a tool to help meet desired resource objectives.
- ◆ Visual Quality Objectives (VQO) are managed in accordance with the Forest-wide Standards and Guidelines

Program

Components Activities Standards and Guidelines

Range Resource Planning and Inventory

Range

Grazing allotments are generally managed at the C or D level. Full capacity lands are assigned a grazing capacity. There are 74,651 acres of full capacity lands. Of this total acreage, 4,628 acres are in less than satisfactory condition. Less than satisfactory range conditions are improved through completing the development program contained in the AMP.

Range Forage Improvement

Conduct an analysis immediately following natural and/or prescribed burns to determine the potential and need for broadcast seeding. Based on positive analysis results, increase forage production by attaining a balanced composition of cool and warm season forage species by broadcast seeding immediately following natural and/or prescribed burns.

Where an open meadow is maintained, as determined in an environmental analysis, eliminate invading overstory vegetation, stabilize gullies to raise the water table, and seed with appropriate grass and forage species. Control livestock grazing through management and/or fencing to allow for adequate revegetation.

Identify each terrestrial ecosystem and assess soil properties to determine:

- Soil limitations for soil scarification purposes.
- The method of soil scarification best suited for the soils of the project area.
- Soil potential for revegetation - Identify soils that are suitable or unsuitable for successful revegetation,
- Erosion hazard, and on-site soil loss - Soils with a potential erosion hazard rating of severe will require specific resource management activities in order to avoid severe impairment of soil productivity.

Reforestation

Timber

Reforestation is limited to administrative study areas for the purpose of finding successful methods and will be conducted according to an administrative study plan.

Lands not suited for timber production are examined at least every 10 years to determine if they have become suited.

During the first decade, identify each terrestrial ecosystem and assess soil properties to determine:

- Whether soils are suitable, unsuitable, or unproductive for timber management. Provide detailed soils input to administrative study plans for reforestation.

Program
Components Activities Standards and Guidelines

Silvicultural Examination and Prescription

Implement Integrated Stand Management (ISM) to benefit other resources and to aid in Forest-wide monitoring.

Evaluate stand conditions, including insect and disease, and the health and vigor of stands.

Maintain diversity of tree species so that ponderosa pine, Gambel oak, and alligator juniper are maintained as a component of the vegetation where they are now present.

Snag Management:

Where necessary to meet multiple-use objectives, harvest recent dead and poor risk ponderosa pine in areas having excess snag densities and adequate recruitment for future snags. This may also be done where habitat evaluation indicates a surplus of snags and there is a determination that harvest will not cause future snag densities to fall below desired densities or cause other adverse effects on habitat.

Alligator Juniper:

Manage alligator juniper to maintain and enhance wildlife habitat by the following criteria:

- In areas where alligator juniper trees comprise less than 50 percent of the total basal area, retain live alligator juniper trees \geq 12 inches d.b.h.
- In areas where alligator juniper trees comprise more than 50 percent of the total basal area, live trees \geq 12 inches d.b.h. may be removed if $<$ 25 percent of the crown is living.

In both of the above cases, some live trees \leq 12 inches d.b.h. may be removed. Retain at least 40 percent of the trees \leq 12 inches.

Turkey Habitat:

Manage to retain and/or develop an average of at least four turkey roost tree groups per section in identified turkey winter range.

Fire Management Planning and Analysis

Protection

01 Suppression objective is to minimize cost and provide for personal safety.

Areas mapped as the urban interface have a suppression objective of 10 acres or less. In areas outside of the urban interface, the suppression objective is to hold fires to 100 acres or less. Prescribed fire using planned and unplanned ignitions is used to accomplish resource objectives except no provision for unplanned ignitions in areas included in urban interface.

Piñon-Juniper Woodland, Less Than 40 Percent Slopes - Management Area 7

Analysis Areas: 17, 18, 19

Acres: 273,815

The pinyon-juniper woodland is comprised of an overstory of pinyon pine, Utah juniper, and one-seed juniper with a small portion of alligator juniper and Rocky Mountain juniper. There is a wide variety of grass, forbs, and shrubs in the understory.

Traditional uses have included hunting, firewood cutting, pinyon nut gathering, Christmas tree and juniper post cutting, big game winter range, and grazing. There are many two-track roads through the area.

Fire occurrence is low and potential for large fires is low. Ground fuels are less than 5 tons per acre except in stands that have been harvested for firewood.

The local public prefers juniper over pinyon for firewood.

The area contains a large number of archaeological sites.

Management Emphasis

Emphasize firewood production, watershed condition, wildlife habitat, and livestock grazing. Other resources are managed in harmony with the emphasized resources.

Highlights include:

- ◆ Manage the pinyon-juniper on a sustained-yield basis for firewood and miscellaneous convertible products, on 0-15 percent slopes.
- ◆ Wildlife habitat management emphasizes forage production on 0 to 15 percent slopes, in conjunction with firewood harvest using Integrated Stand Management (ISM). Old-growth, cover, and snags are generally provided on slopes greater than 15 percent. However, exceptions will occur if dispersion requirements for habitat components are not met on these steep slopes. Where necessary to meet 10K Block requirements or specific habitat needs, one or more of these components can be obtained through management emphasis on the gentler slopes.
- ◆ Manage for the following indicator species:
 - ◆ Plain titmouse
 - ◆ Mule deer
 - ◆ Elk
- ◆ Use prescribed fire to help achieve resource objectives.

- ◆ Manage for the visual quality objectives outlined in the Forest Visual Resource Management inventory and in the Forest-wide Standards and Guidelines, including a configuration and design of opening which is consistent with the characteristic landscape.
- ◆ Palatable grass and forb species may be seeded.

Program

Components Activities Standards and Guidelines

	<u>Wildlife Structural Improvements</u>
Wildlife and Fish	Provide water where needed on key wildlife winter ranges. Use bubblers or other means to prevent freezing, where needed.
	<u>Wildlife Nonstructural Improvements</u>
	Areas needing additional forage for elk and mule deer are given first priority in scheduling firewood/wildlife habitat treatments. Treatments are usually done in areas remote from intensive development and high road densities.

Program

Components Activities Standards and Guidelines

Range Resource Planning and Inventory

Range

Grazing allotments will generally be managed at Level C or D. Full capacity lands are assigned a grazing capacity. There are 227,601 acres of full capacity lands, of which 29,702 acres are in less than satisfactory condition. Less than satisfactory range conditions will be improved through completion of the range development program outlined in the AMP.

Range Forage Improvement Maintenance

Conduct an analysis immediately following natural or prescribed burns to determine the potential and need for broadcast seeding. Based on a positive analysis, broadcast seed immediately following natural or prescribed burns with a warm and cool season seed mix to increase production for the site. This is done where necessary based upon the Burned Area Rehabilitation Handbook.

Evaluate and determine the need to maintain forage improvement acres in satisfactory or better condition.

Some acres have been mechanically treated by using heavy equipment to remove individual trees, or "pushing," "chaining," or "cabling" as the practice is called. A portion of these lands have very low potential for revegetation and are allowed to proceed towards climax stage. In some areas other low density canopy lands with a higher potential for revegetation are rotated into management as seral grasslands if an environmental analysis indicates.

Pinyon-juniper woodlands that have not been previously treated, but are in the 0-10 percent canopy cover class as a result of past fire and subsequent successional development, are evaluated through the environmental analysis process to determine if they are included among lands maintained as seral grasslands. The criteria used for physical/biological suitability are the rating of soil potential for revegetation and the erosion potential as outlined in the Terrestrial Ecosystems Survey Handbook (TESH, January 7, 1985).

Lands showing a low potential for revegetation are not retreated to maintain a seral state. Lands suitable for revegetation to grasslands and determined to be desirable through the environmental analysis are put on the 25-year average retreatment schedule.

Where seral grasslands are maintained in the pinyon-juniper woodland, eliminate invading vegetation through mechanical, chemical, or planned fire treatments on a maintenance schedule averaging once every 25 years. Consider firewood harvesting and Christmas tree harvesting as tree removal methods. Stabilize gullies, scarify the soil, and seed disturbed soils with a mix tailored for the site, emphasizing high production, shade

Program

Components Activities Standards and Guidelines

tolerant, and multi-growing season species. Seed suitable areas in all range condition classes if needed. Control livestock grazing through management and/or fencing to allow for adequate revegetation.

Terrestrial ecosystems are identified and soil properties are assessed to determine:

- Soil limitations for soil scarification purposes.
- The method of soil scarification best suited for the soils of the project area.
- Soil potential for revegetation - Identify soils that are suitable or unsuitable for successful revegetation.
- Erosion hazard and on-site soil loss - Soils with a potential erosion hazard rating of severe will require specific resource management activities in order to avoid severe impairment of soil productivity.

Range Forage Improvement

On pinyon-juniper lands managed for firewood production where firewood harvesting has taken place, **lopping and scattering of slash may be used** to create a more moist microclimate. Seed harvested areas with selected forage and browse species. Allow slash to become dry and brittle. Slash may be crushed where it adversely affects livestock and/or wildlife movement. Areas may be reseeded prior to crushing. This series of events takes place over a 1-2 year time span. Approximately 1,490 acres are cut for firewood per year. Grazing takes place following cutting to use the transitional range. A second entry to these sites is made approximately 15 years later to remove excess stocking of woodland regeneration and selected seed trees. No range nonstructural improvement practices will be implemented until the next firewood harvest.

Integrated Stand Management (ISM)

Timber

Establish and maintain stand diversity through ISM to provide suitable habitat for wildlife while maintaining or enhancing firewood production and age class distribution (regulation).

Bear Habitat:

Evaluate bear habitat needs during project planning in dense pinyon-juniper, areas adjacent to steep pinyon-juniper, or pinyon-juniper associated with chaparral species.

Old-Growth:

Stand size is between 100 and 300 acres and ≥ 5 chains wide, or closely grouped stands that provide contiguous habitat for interior-dwelling species.

Program
Components Activities Standards and Guidelines

Stand Size

Same as ponderosa pine/mixed conifer criteria, see MA 3.

Silvicultural Prescription

Develop projects using the following criteria, that ensure perpetuation of the woodland vegetation type and to maintain wildlife habitat:

- Created openings in areas that have been identified as historic big game winter range are designed so that an animal will be no more than 10 chains (660 feet) from hiding cover at any location within the opening.
- Harvested areas are separated from adjacent areas by at least an 8 chain wide untreated strip.
- Cover corridors are laid out to connect treated areas or breaks in terrain to provide interconnecting cover corridors. Known or suspected routes of game travel are used to lay out cover corridors. Corridors are managed to create at least 60 percent crown cover, and are at least 8 chains wide.
- Use steep, rocky, or otherwise unmanaged areas useable by game to satisfy wildlife cover requirements to the extent possible (MA 8). Cover requirements are considered on a 10K Block basis.
- At least 20 percent of the area within a 20 chain zone adjacent to pine stringers is managed for dense mature or overmature stands of pinyon/juniper. Gambel oak in these zones is managed to increase mast production.
- If operable ground extends to the edge of a sharp break in terrain, such as a deep, steep canyon or bluff, leave an untreated strip along the break, a minimum of 3 to 8 chains wide on at least 20 percent of the break, varied to fit the country, character, and density of the stand. The same treatment is given to toes of slope breaks in terrain.
- Lay out projects to appear as natural configurations of the woodland.
- There are usually 30 years difference between regeneration of any two adjoining stands. Manage to achieve where possible not more than one-quarter of a stand's perimeter in common with an adjacent stand whose ages vary by less than 30 years.
- Harvesting firewood for sustained production is done only on sites meeting minimum regeneration criteria or as a method to prepare sites for subsequent regeneration.

Program

Components Activities Standards and Guidelines

Restrict firewood harvest and hauling to soil moisture conditions that do not cause excessive soil compaction, displacement, or puddling.

For each project area, identify each terrestrial ecosystem and assess soil properties to determine:

- Soil potential for reforestation - Identify soils that are suitable or unsuitable for successful reforestation.
- Soils that contain undesirable soil properties that determine regeneration or revegetation in an area as being difficult.

Timber Harvest Administration

Administer contracts and permits for forest products, firewood, and miscellaneous forest products sales. This activity includes accountability, financial management, inspections, contract interpretation, and enforcement.

Fire Management Planning and Analysis

Protection

Suppression objective is to minimize cost and provide for personnel safety. Areas mapped as urban interface have a suppression objective of 10 acres or less. In areas outside the urban interface, the suppression objective is to hold fires to 1,000 acres or less.

Prescribed fire using planned and unplanned ignitions is used to accomplish resource objectives except no provision for unplanned ignitions in areas included in urban interface.

Emphasize using slash for firewood. Unless there are documented resource or protection needs, leave slash for at least 2 years before disposal. Clearly identify free-use firewood areas to assist the public in removing wood residues and thereby reducing future slash disposal costs. Provide easy to follow maps and signing for designated firewood areas.

Pinyon-Juniper Woodland, Greater Than 40 Percent Slopes - Management Area 8

Analysis Area: 20

Acres: 19,077

This area includes the pinyon-juniper woodlands on slopes over 40 percent. The description is the same as MA 7. Steep canyons and volcanic slopes make the area unsuitable for many uses such as firewood cutting and some kinds of recreation.

Most of the area is old-growth because it has not been cut and fire has been excluded.

Management Emphasis

Emphasize wildlife habitat, watershed condition, and dispersed recreation.

Management intensity is low.

Highlights include:

- ◆ Manage for the following indicator species:
 - ◆ Plain titmouse
 - ◆ Mule deer
 - ◆ Elk
- ◆ Manage Visual Quality Objectives (VQO) in accordance with the Forest-wide Standards and Guidelines. VQO's vary significantly in this MA

Program

Components Activities Standards and Guidelines

Wildlife Structural Improvements

Wildlife and Fish During winter months in key wildlife winter ranges provide water where needed using bubblers to prevent freezing.

Range Planning and Inventory

Range The area is classified as no capacity range. The area generally is not fenced, so occasional livestock use does occur.

Integrated Stand Management

Timber The area is not managed for forest products. Timber activities take place only where needed to achieve management of other resources.

Bear Habitat:

Evaluate bear habitat needs during project planning

Fire Management Planning and Analysis

Protection Suppression objective 250 acres or less except where included in urban interface.
Prescribed fire using planned and unplanned ignitions is used to accomplish resource objectives except no provision for unplanned ignitions in areas included in urban interface.

Program

Components Activities Standards and Guidelines

Mountain Grassland - Management Area 9

Analysis Area: 25

Acres: 9,049

Laying in a patchwork across the Colorado Plateau, the mountain grasslands are meadows varying in size from just a few acres to well over 1,000 acres. Natural meadows are located in frost pockets or have soil or moisture conditions not conducive to conifer growth. A wide variety of species of grasses and forbs characterize the vegetation which varies according to soil moisture and temperature. The grasslands contain some riparian areas too small to be mapped. Riparian areas are managed by the Standards and Guidelines for MA 12.

The area is important to elk, turkey, and small mammals. Meadows provide vegetation diversity needed by wildlife.

The meadows provide opportunities for breathtaking views and are themselves a highly attractive visual resource.

In some areas, the meadows are dwindling through channel erosion and subsequent dropping of the water table. This results in encroachment by conifers and other species. As the grasslands shrink, forage for wildlife and livestock is reduced and visual quality declines.

Management Emphasis

Emphasize livestock grazing, visual quality, and wildlife habitat. Other resources are managed in harmony with emphasized resources. The smaller mountain meadows in remote areas are managed mostly for wildlife habitat, especially for elk summer range.

Highlights include:

- ◆ Manage for the following indicator species:
 - ◆ Antelope
 - ◆ Elk
- ◆ Manage Visual Quality Objectives (VQO) in accordance with the Forest-wide Standards and Guidelines. VQO's vary significantly in this MA.

Program

Components Activities Standards and Guidelines

Recreation Planning and Inventory

Recreation Manage for VQO's of Partial Retention and Modification, with portions adjacent to major travel routes managed as foreground Retention.

Closely monitor off-road driving. If damage is occurring or becomes imminent, apply and enforce appropriate restrictions, (see Forest-wide Standards and Guidelines - Recreation program component, for criteria).

Focus media attention on off-road driving damage in these sensitive areas at least annually.

Nonstructural Wildlife Habitat Improvements

Wildlife and Fish Evaluate in the first decade the need to maintain and improve meadows by eliminating competing conifers, stabilizing gullies to restore water tables, and reseeding with species desirable to wildlife.

Structural Wildlife Habitat Improvements

Evaluate need and, where necessary, construct fences to protect key meadows from grazing.

When springs are developed in meadow communities, riparian areas, or other sensitive areas, protect these areas by piping the water to water developments in adjacent, less sensitive areas.

Program

Components Activities Standards and Guidelines

Range Resource Planning and Inventory

Range

Grazing allotments are generally managed at the D level. Full capacity are lands assigned a grazing capacity. There are 8,824 acres of full capacity land; of this total, 947 acres are in less than satisfactory condition. Less than satisfactory range conditions will be improved through completion of the development program in the respective AMP's.

Range Forage Improvement

Maintain existing mountain meadows by removing invading overstory by cutting or other methods, gully stabilization to raise the water table, soil scarification, and seeding with appropriate grass and forage species.

Control livestock grazing by management and/or fencing to allow adequate regeneration of grasses and forbs.

Increase forage production by attaining a balanced composition of cool and warm season forage species.

Water Resources Planning

Watershed/Soils/air

Manage mountain grasslands to achieve 90 percent of potential ground cover to prevent accelerated surface erosion and gully formation. Areas that presently do not meet these standards are scarified and seeded to bring ground cover to the desired level by the second decade. Restricting livestock may be necessary until revegetation.

Identify each terrestrial ecosystem and assess soil properties to determine:

- Soil limitations for soil scarification purposes. The method of soil scarification best suited for the soils of the project area.
- Soil potential for revegetation - Identify soils that are suitable or unsuitable for successful revegetation, erosion hazard, and on-site soil loss. Soils with a potential erosion hazard rating of severe will require specific resource management activities in order to avoid severe impairment of soil productivity.

In areas capable of supporting woody riparian species, maintain and/or improve these species to standards in the Regional Guide, August 1983.

Plan and implement cost effective stream channel restoration projects to raise the water table in meadow areas where channel erosion has resulted in a lowering of the water table.

Road Maintenance and Management

Transportation

Generally, avoid construction of new roads. Relocate and reconstruct around this roads around this MA whenever possible.

Program

Components Activities Standards and Guidelines

Fire Management Planning and Analysis

Protection

Suppression objective is to minimize suppression costs and provide for personnel safety. Suppression objective of 10 acres or less in areas mapped as urban interface. In areas outside the urban interface the suppression objective is to hold fires to 100 acres or less. Suppression methods are chosen to minimize damage to the resource.

Prescribed fire using planned and unplanned ignitions is used to accomplish resource objectives except no provision for unplanned ignitions in areas included in urban interface.

Grassland and Sparse Piñon-Juniper Above the Rim - Management Area 10

Analysis Areas 26, 27

Acres: 160,494

This area is made up of the grasslands and pinyon-juniper with less than 10 percent cover above the Mogollon Rim and a small portion of the transition zone (ecotone) between ponderosa pine and pinyon-juniper, primarily on Anderson Mesa. The area includes a few stringers of ponderosa pine and ecotones between grass and pinyon-juniper lands. The majority of the area is pinyon-juniper that has been treated and is in the seral grassland stage.

Fuel loading and fire danger are low. The area is important wildlife winter range, as well as year long antelope range, and is used primarily as grazing land for both livestock and wildlife.

Management Emphasis

Emphasize range management, watershed condition, and wildlife habitat. Other resources are managed to improve outputs and quality. Emphasis is on prescribed burning to achieve management objectives. Walnut Canyon National Monument entrance road is within this MA. The management and use of the 1000 foot right-of-way along the entrance road is directed toward the protection and maintenance of the cultural and natural resources of the area.

Highlights include:

- ◆ Manage for the following indicator species:
 - ◆ Antelope
- ◆ Manage Visual Quality Objectives (VQO) in accordance with the Forest-wide Standards and Guidelines. VQO's vary significantly in this MA.
- ◆ Enforcement of the management restrictions and the day to day administration of the Monument entrance is the responsibility of the Park Service, as is the maintenance of the facilities. Major changes in the development, construction, or initiation of resource management projects are coordinated between the Park Service and the Forest.

Program

Components Activities Standards and Guidelines

Program

Components Activities Standards and Guidelines

Recreation Planning and Inventory

Recreation

Walnut Canyon National Monument Entrance Road - (displayed on the MA map as MA 10, although as seen from road more closely resembles characteristics of MA 7).

- The VQO is foreground Retention.
- Roadside signing is a part of the visitor experience, and is of high quality. Signing, interpretive, informative, or regulatory is done in a positive manner.
- Speed limits are posted and maintained by the Park Service.
- The fenced boundary is signed as "National Forest Land Administered by the Park Service."
- The primary purpose of the roadway is access to the National Monument. Secondary uses are for public access to and from Forest Road 303 and adjacent Forest Lands.
- Picnicking, walking, hiking, and similar non-impacting uses are encouraged.
- Permit the gathering and collecting of edible plants, nuts, and berries for personal consumption.
- Vehicle traffic permitted only on designated roadways, with the exception of access to fences (for repair), for maintenance of utilities, traversing the right-of-way, and for stock management by permittees of the National Forest.
- The Park Service has the option to allow controlled firewood harvest by members of the public who have obtained personal-use permits from the Forest.
- The Forest and the Park Service cooperate together in fire suppression activities. A joint agreement is annually prepared to describe in detail the nature of the cooperation.
- Prescribed burning to reduce hazardous fuels is approved jointly by the Forest and the Park Service. Activities may be proposed by either agency.

Program

Components Activities Standards and Guidelines

- The sliver of land on the north side of the Monument separated by the FR 303 is difficult for the Park Service to manage, and the triangle west of the entrance road and east of the Monument is difficult for the Forest to manage. These lands are designated for transfer between the agencies.

Nonstructural Wildlife Habitat Improvement

Wildlife and Fish

Control invasion of undesirable plant species when necessary to improve and protect wildlife habitat values. Prescribed burning will be one specific practice used, especially where needed to improve wildlife habitat.

Structural Wildlife Habitat Improvements

During winter months in key wildlife winter ranges, provide water where possible, using bubblers or other methods to prevent freezing where needed.

Range Resource Planning and Inventory

Range

Manage grazing allotments generally at Levels D and E. Full capacity lands are assigned a grazing capacity. There are 123,435 acres of full capacity land; of these, 24,278 acres are in unsatisfactory range condition. Unsatisfactory range conditions will be improved through completion of the range development program in AMP's.

Range Forage Improvement Maintenance

Maintain a seral grassland state on pinyon-juniper lands where type conversions have occurred in the past, with the exception that corridors of cover for wildlife habitat, determined through environmental analysis, may be allowed to develop through regrowth of pinyon-juniper. Initiate a retreatment schedule of approximately 25 years. Retreatments are accomplished through one or all of the following methods (see Table 12):

- Individual tree pushing or cutting;
- Prescribed burning;
- Chemical treatments.

Depending upon plant composition and diversity, seed treated sites with a mix tailored to the site, emphasizing high production, multi-growing season species to achieve a balance between warm and cool season plants. The goal of retreatment is to maintain the seral grasslands in a savannah-like state that emphasizes a diversity of habitats to enhance forage for livestock and wildlife.

Program

Components Activities Standards and Guidelines

Some acres have been mechanically treated by using heavy equipment to remove individual trees, or "pushing," "chaining," or "cabling" as the practice is called. A portion of these lands have very low potential for range revegetation and are allowed to proceed towards climax stage. Other low density canopy lands with a higher potential for revegetation are rotated into management as seral grasslands in some areas if an environmental analysis indicates.

Pinyon-juniper woodlands that have not been previously treated, but are in the 0 to 10 percent canopy cover class as a result of past fire and subsequent successional development, are evaluated through the environmental analysis process to determine if they are included among lands maintained as seral grasslands. The criteria used for physical/biological suitability are the rating of soil potential for revegetation and the erosion potential as outlined in the Terrestrial Ecosystems Survey Handbook (TESH, January 7, 1985).

Identify terrestrial ecosystems and assess soil properties to determine:

- Soil limitations for soil scarification purposes.
- The method of soil scarification best suited for the soils of the project area.
- Soil potential for revegetation - Identify soils that are suitable or unsuitable for successful revegetation.
- Erosion hazard and on-site soil loss - Soils with a potential erosion hazard rating of severe will require specific resource management activities in order to avoid severe impairment of soil productivity.

Fire Management Planning and Analysis

Protection

Suppression objective is to minimize cost and provide for personnel safety. Suppression objective is 10 acres or less in areas mapped as the urban interface. In areas outside urban interface, the suppression objective is to hold fire to 1,000 acres or less.

Prescribed fire using planned and unplanned ignitions is used to accomplish resource objectives except no provision for unplanned ignitions in areas included in urban interface.

Program

Components Activities Standards and Guidelines

Verde Valley - Management Area 11

Analysis Areas: 28, 29

Acres: 169,529

The Verde River is an important feature of the Verde Valley and is covered by Standards and Guidelines in MA's 2 and 12. It is because of the Verde River that the Verde Valley is an unusual kind of ecosystem in Arizona. The Valley shares other characteristics with similar country at the same elevations and with a similar climate, but it has been the Verde River and the lower portion of Oak Creek, Beaver Creek, and West Clear Creek that have attracted people and wildlife to the Valley since prehistoric times. The prehistory of the area is one of the richest in the United States. That the Valley has been inhabited for centuries is clearly evidenced by the abundance of ruins of prehistoric dwellings. Good forage for wildlife also attracted people and their domestic livestock. The Valley was chosen as an early cavalry post because of the abundance of forage.

In more recent times, people have migrated to the area because of the mild climate with winter temperatures ranging from low teens to mid 50's and summertime temperatures from the low 50's to 110oF. Precipitation ranges between 12 to 16 inches per year. Vegetation includes pinyon-juniper woodland, Arizona Cypress groves, grass, and desert vegetation types including black grama-tobosa grasslands, creosotebush, and mesquite. There are chaparral species, seral grasslands, and Canotia.

Management Emphasis

Emphasize watershed condition, range management, wildlife habitat for upland game birds, and dispersed recreation.

Highlights include:

- ◆ Manage for the following indicator species:
 - ◆ Antelope
- ◆ Manage visual Quality Objectives (VQO) in accordance with the Forest-wide Standards and Guidelines. VQO's vary significantly within this MA.

Program

Components Activities Standards and Guidelines

Recreation Planning and Inventory

Recreation

Verde Valley is managed for dispersed recreation along the upper Verde River outside the Wild and Scenic section and along lower Oak Creek. Coordinate management of areas adjacent to, and clearly visible from, the portion of the Verde River classified as Wild and Scenic with the Verde River Implementation Plan. Place special emphasis on maintaining ROS class compatible with management and use of the Wild and Scenic River.

Coordinate with Dead Horse State Park for connecting trails and access roads adjacent to the Park. These trails/roads are consistent with more complete service to the public and other resource management support.

Manage the segment of West Clear Creek downstream from the wilderness to Clear Creek Campground and the segment of Wet Beaver Creek downstream from the wilderness to the private land boundary at the section line between sections 22 and 23, T. 15N., R. 6E. to maintain their free flowing status and their scenic and recreational values. Manage to avoid impacts that would disqualify them from future study and possible designation as scenic, recreational, or other equivalent classification. Evaluate activities and proposed developments that are visible from or that could affect the physical character or ROS class through the environmental analysis process. Proposed developments evaluated in this manner include, but are not limited to, impoundments and new water diversions (unless directed otherwise by legislation), developed recreation sites, and road building. Manage livestock grazing and vehicular access to maintain ROS class and recreation/scenic values.

Habitat Access Controlled by Closures

Wildlife

Access likely to cause disturbance is prohibited in the vicinity of nesting bald eagles between December 1 and June 15 (Closure Order 16-52, October 23, 1984). If eagles occupy a nest territory earlier or later, the closure period may be lengthened or shortened.

Program

Components Activities Standards and Guidelines

Nonstructural Wildlife Habitat Improvement

Determine the need to control invasion of undesirable plant species in antelope range to improve and protect wildlife habitat values. Where necessary, implement the control measures, such as prescribed burning to improve antelope habitat. Range Resource Planning and Inventory

Range Resource Planning and Inventory

Range

Grazing allotments are generally managed at Levels C, D, and E. Full capacity lands are assigned a grazing capacity. There are 159,396 acres of full capacity range. Within the full capacity acreage, there are 41,602 acres of less than satisfactory lands. Less than satisfactory range conditions will be improved through range management or development program contained in the AMP's.

Range Forage Improvement Maintenance

Broadcast seed immediately following natural or planned burns when an adequate seed source is not available with a warm and cool season seed mix to increase production for the site. This is done where necessary based upon the Burned Area Emergency Rehabilitation Handbook, FSH 2509.13.

Evaluate and determine the need to maintain forage improvement acres in satisfactory or better condition.

Some acres have been mechanically treated by using heavy equipment to remove individual trees, or "pushing," "chaining," or "cabling" as the practice is called. A portion of these lands have very low potential for revegetation and are allowed to proceed towards climax stage. Other low density canopy lands with a higher potential for revegetation are rotated into management as seral grasslands in some areas if an environmental analysis indicates.

Where seral grasslands are maintained as pinyon-juniper woodland, eliminate invading vegetation through mechanical, chemical, and prescribed fire treatments on a maintenance schedule averaging once every 25 years.

Stabilize gullies, scarify the soil, and seed disturbed soils species mix tailored for the site, emphasizing high production, shade tolerant, and multi-growing season species. Control livestock grazing through management and/or fencing to allow for adequate revegetation.

Range Forage Improvement

On desert scrub lands with overstories of mesquite, catclaw, Canotia, manzanita, and turbinella oak, vegetative treatments may be planned to take place. Sites are reviewed for soil potential for revegetation and erosion potential as outlined in the Terrestrial Ecosystems Surveys Handbook (TESH January 7, 1985).

Program

Components Activities Standards and Guidelines

Identify terrestrial ecosystems and assess soil properties to determine:

- Soil limitations for soil scarification purposes.
- The method of soil scarification best suited for the soils of the project area.
- Soil potential for revegetation - Identify soils that are suitable or unsuitable for successful revegetation.
- Erosion hazard and on-site soil loss - Soils with a potential erosion hazard rating of severe will require specific resource management activities in order to avoid severe impairment of soil productivity.

Treatments suitable for each species are used to convert sites to a lower successional and more productive state. Seed treated sites emphasizing a balance between warm and cool season growers.

Water Resources Planning

Watershed/Soil/Air

Where watershed condition is unsatisfactory plan, design, and implement projects by the end of the second decade following watershed condition inventory and subsequent prioritization. Evaluate soils to determine suitable species that would provide maximum soil stabilizing benefits on each of the various soil parent materials. Establish a cost effective monitoring program to determine trends in watershed condition.

Silvicultural Examination and Prescription

Timber

Evaluate lands to identify those areas that may meet suitability standards for miscellaneous forest products by the end of the second decade. Complete a minimum of 30 percent of identification in Decade 1.

Plan, prepare, administer, and sell or issue permits for commercial and personal-use miscellaneous convertible and nonconvertible products as requested by other resources (FSM 2462).

Land Exchange

Special Uses/Lands

Text was superceded by Amendment 12, see pages 206-20 and 206-21.

Program

Components Activities Standards and Guidelines

Fire Management Planning and Analysis

Protection

Suppression objective is to minimize cost and provide for personnel safety except suppression objective is 10 acres or less in areas mapped as the urban interface. In areas outside the urban interface, the suppression objective is to hold fires to 1,000 acres or less.

Prescribed fire using planned and unplanned ignitions is used to accomplish resource objectives except no provision for unplanned ignitions in areas included in urban interface.

Riparian and Open Water - Management Area 12

Analysis Areas: 32, 33

Acres: 20,490

Riparian areas are wetland ecosystems that have a high water table because they are close to surface or subsurface water. Riparian areas usually occur in the transition between aquatic and terrestrial ecosystems, but have distinct vegetation and soil characteristics.

There are eight types of riparian areas on the Forest:

- ◆ Intermittent streams
- ◆ Perennial streams
- ◆ Wet meadows
- ◆ Marshes
- ◆ Rivers
- ◆ Ponds
- ◆ Lakes
- ◆ Seeps and Springs

This management area includes both mapped riparian areas and riparian areas which were too small to be mapped as discrete units during the analysis process.

Riparian areas provide very important wildlife and fish habitat and recreation opportunity because of the water.

There are over sixty named lakes and wetlands in the area, including Mormon Lake and Stoneman Lake, the two largest natural lakes in Arizona.

Riparian areas are extremely variable due to different types of water bodies such as lakes, streams, and ponds. The characteristics of the area in which riparian areas occur such as gradient, topography, soil type, elevation, and plant communities also affect the area type. Each different type has associated vegetation that is characteristic.

Definition: Riparian ecosystems are distinguished by the presence of free water within the common rooting depth of native perennial plants during at least a portion of the growing season. Riparian ecosystems are normally associated with seeps, springs, streams, marshes, ponds, or lakes. The potential vegetation of these areas commonly includes a mixture of water (aquatic) and land (phreatic) ecosystems.

Riparian areas are critical for multiple-use management because:

- ◆ Riparian areas are generally more productive per acre of biomass (plants and animal) than other areas.
- ◆ They provide large amounts of edge between life zones which adds significantly to the diversity of an ecosystem.
- ◆ Different species and age classes provide vertical edge for wildlife species.

- ◆ The three basic requirements of wildlife habitat (food, cover, and water) are met.
- ◆ The fisheries resource is associated with this area.
- ◆ Topography, high productivity, easy availability, and the presence of water attract livestock and they tend to concentrate here. Riparian areas are highly sensitive to overgrazing.
- ◆ Scenic values are very high.
- ◆ Stream channels and associated riparian vegetation are fragile components of good watershed condition.
- ◆ Most of the developed campgrounds and picnic areas are in or directly adjacent to the riparian area. Dispersed recreationists concentrate in the area because of the water, visual quality, and shade trees.
- ◆ The topography generally provides for less expensive road construction and serves as convenient wildlife travel corridors. These uses are often in direct conflict.

Management Emphasis

Emphasize wildlife habitat, visual quality, fish habitat, and watershed condition on the wetlands, riparian forest, and riparian scrub. Emphasize dispersed recreation, including wildlife and fish recreation, on the open water portion.

An interdisciplinary team approach will be used on management activities such as timber sales, allotment management plans, and other management activities to prescribe specific management practices to meet the goal of riparian area recovery by 2030. Manage riparian areas based on the potential to support riparian vegetation. Potential is determined through a consensus of an interdisciplinary review. In order to achieve certain aspects of recovery, such as establishing three age classes of woody riparian vegetation, implementing riparian Standards and Guidelines occurs in the first decade. Riparian areas provide a filter strip of vegetation, important for filtering sediments generated from upslope soil erosion. Eighty percent of the riparian recovery is expected by 2030. The remaining 20 percent will be significantly improved, but will not have all of the characteristics of a fully recovered riparian area. The goals and objectives for elk populations and for livestock grazing affect achievement of the full recovery.

Highlights include:

- ◆ Improve riparian areas through a combination of improvement projects and management activities.
- ◆ Manage for the following indicator species:
 - ◆ Cinnamon teal
 - ◆ Lincoln's sparrow
 - ◆ Yellow breasted chat
 - ◆ Lucy's Warbler
 - ◆ Macroinvertebrates
 - ◆ Manage for visual quality objectives of Retention, Partial Retention, and Modification.

Program

Components Activities Standards and Guidelines

Recreation Planning and Inventory

Recreation

In the first decade develop specific management direction for open water areas on lakes and reservoirs having significant amount of over water recreation use, e.g., sailboating, motorboating, canoeing, fishing, and windsurfing. Consider, as a minimum, ROS class demand and distribution, wildlife and fisheries habitat needs, user safety and enjoyment, and cost-effectiveness of management practices. Coordinate with Arizona Game and Fish Department (AGFD) in this analysis. Where determined through environmental analysis, identify and implement specific management practices such as wakeless zones, traffic circulation patterns, presence and/or size of gasoline motors, and regulations on use of jet skis. Coordinate with AGFD in implementation.

Do not issue outfitter/guide permits or permit use which causes significant change for the ROS social or managerial setting, e.g., airboats or seaplanes.

Manage Stoneman Lake basin for dispersed day-use. Overnight camping in the basin is prohibited.

M11 Contains additional management direction for a portion of West Clear Creek and Wet Beaver Creek.

Wildlife Planning and Inventory

Wildlife and Fish

Complete inventory, survey, and evaluate riparian areas by end of first decade.

Cooperate with AGFD to develop implementation schedules for Arizona Cold Water Fisheries Strategic Plan.

The following applies to riparian areas, whether they are large enough to be mapped out or not. Wetlands and open water containing emergent vegetation which provide nesting habitat are protected from disturbing uses that will harass nesting birds, such as activities that are noisy or would damage nests or nesting habitat from May 1 to July 15.

Meet the following Riparian Standards in the Regional Guide for 80 percent of riparian areas above the Rim and 90 percent below the Rim by the year 2030:

- Maintain at least 80 percent of the potential overstory crown coverage.
- Maintain at least three age classes of woody riparian species, with at least 10 percent of the woody plant cover in sprouts, seedlings, and saplings.
- Maintain at least 80 percent of the potential stream shading from June to September along perennial cold and cool water streams.
- Maintain at least 80 percent of the potential shrub cover in high elevation areas.
- Maintain at least 80 percent of the potential emergent vegetation cover from May 1 to July 15 in key wetlands.
- Maintain at least 80 percent of the spawning gravel surface free of inorganic sediment.
- Maintain at least 80 percent of streambank total linear distance in stable condition.
- Retain snags in riparian areas that are not a safety hazard.

Measures such as fencing to exclude livestock, vegetation projects, and special management prescriptions will be undertaken until the affected areas are brought into satisfactory riparian condition.

In addition, the remainder of the Forest's riparian areas will have some of these characteristics, but not all of them by 2030.

Coordinate with other resource functions to pursue instream flow rights to protect aquatic ecosystems, fish, and wildlife.

Nonstructural Wildlife Habitat Improvements

Determine the need to rehabilitate riparian areas through seeding and planting woody species in areas that are in unsatisfactory condition, including those areas not mapped as discrete riparian areas, and then proceed to rehabilitate areas as determined. Attempt using unpalatable species where necessary to avoid wildlife browsing.

Maintain or improve nesting cover and waterfowl forage on existing waterfowl islands and shorelines. In conjunction with construction of waterfowl islands seed herbaceous species unpalatable to large herbivores.

Cooperate with Arizona Game and Fish Department on fish population control of aquatic plants and fish stocking to meet State fisheries management goals.

Highlights include:

- ◆ Per the Objectives for Recreation Opportunity Spectrum map, this MA is mostly Semi-primitive Motorized with Roded Natural corridors along improved roads. On busy summer weekends there are more people than would usually be the case in a Semi-primitive setting, but other aspects of Semi-primitive settings occur and this is acceptable.
- ◆ Actively manage for OHV use by increasing facilities to match use, better signing and trail designation, more on-site presence, and road improvement. Coordinate administration/enforcement with the National Park Service.
- ◆ Management Indicator Species for this MA are mule deer, pygmy nuthatch, and hairy woodpecker.
- ◆ Manage for Visual Quality Objectives (VQO's) of Partial Retention, and Modification. The VQO's should be Partial Retention as seen from Doney Park, Highway 89, Sunset Crater Volcano National Monument vistas, and FR 545; and Modification from roads crossing the area.

All of the following items are Guidelines

OHV Use

This MA is designated for off-road driving and is managed for two and four wheeled vehicles.

Manage off-road driving to provide recreational opportunities and coordinate with needs of other recreation users and other resources.

Make slight adjustments to the boundary of the OHV area where needed to ease administration of the site. These changes will improve enforcement of the boundaries, help users identify the area, and in combination with other access management activities will lessen encroachment into the Monument. Consider fencing or other physical barriers a means of boundary identification.

The boundary has been slightly revised on the southwest corner of the area for administrative identification. There is no significant change in the size of the area, but it is adjusted to roads

or features that are identifiable on the ground. The map in Appendix M has been revised to reflect what is currently posted on the ground.

See the *Objectives for Recreation Opportunity Spectrum* map (Appendix M) and manage uses to meet these objectives. On busy summer weekends, the number of encounters with other recreationists will likely be outside parameters set for Semi-primitive settings and this is acceptable.

Reference the *Cinder Hills Off-Road Driving Area Report* (Peaks Ranger District). This report is a detailed desired condition that will be validated or changed via subsequent site-specific NEPA analysis. This report includes a map of the desired improved roads, camping areas, specific slope designations, rehabilitation needs, sanitation facilities, signing, boundary management, information, and interpretation actions. The report will be updated as needed with involvement from off-road vehicle users, Native American tribes, and others concerned with Cinder Hills use. Requiring a permit and/or charging a fee may be considered in the future. Operation of the area by a concessionaire may be considered.

Portions of this MA will be open to unrestricted cross-country travel, portions will have use restricted to designated routes, and portions will be closed (some slopes).

Reasons for closing areas may include:

- Protection of geologic features tied to Sunset Crater
- Scenic integrity of steep slopes facing the Sunset Crater Overlook, the Doney Park communities, and Highway 89
- Presence of archaeological sites that could be damaged (usually located under a cinder layer) or other places of traditional cultural importance
- Maintenance of ground vegetation necessary for ecosystem function
- Sensitive plant locations, such as *Penstemon cluteii*
- Needs of off-road users
- User safety
- Manageability
- Excessive erosion resulting in cinder removal down to mineral soil and subsequent erosion or resulting bare tree roots exposed at mineral soil

Reasons for keeping areas open may include:

- Low visibility from communities or from the Monument (interior of this MA)
- Quality of the ATV/sandrail experience
- To provide for a variety of OHV experiences
- Proximity to camping areas
- Low or absent vegetative cover

Organized off-road driving events are considered on a case-by-case basis through the environmental analysis process.

Glass containers may be prohibited if the containers create a health, safety, and/or litter problem.

Pursue on-site patrols and more full time stewardship.

Partner with OHV community to benefit from volunteer contributions.

Pursue State⁶ grants and other funding opportunities for improvements, rehabilitation, interpretation, and on-site presence. Other funding may include Fee Demo.⁷

Vehicle sound emissions will be required to meet State standards, or in the absence of State standards, industry or other standards.

Vehicles will meet Forest Service Region 3 fire equipment standards.

Recreation Signing

Improve and maintain boundary and interior signing. Cooperate with NPS to construct a physical barrier delineating the OHV area from the National Monument boundary if motorized incursions continue.

Camping and Roads

Improve or re-locate improved roads and locate camping in order to disperse riders, provide additional areas for enjoyment, and lessen use in sensitive areas. This includes limiting through traffic to the Sunset Crater Volcano-Wupatki Scenic Loop Drive (FR545), and improvement of roads in the interior of the area. Criteria for access and camping design include: location of riding areas, presence of *Penstemon cluteii* habitat, dispersing riders, improving visual quality, and protection and rehabilitation needs of impaired vegetation and soils.

Provide different camping levels and experiences. Provide more developed camping hubs along improved roads. Design and develop transportation routes at camping hubs for pulling off the road. These hubs will include sanitation facilities. Provide quiet area camping sites. Quiet area restrictions are posted, and as funding becomes available, monitored by host and OHV users. Sanitation facilities are included at these sites as needed. All other areas of the OHV are open to primitive camping, unless specifically closed.

⁶ *Coordination with the State: We will continue to work with the State, to determine what grants are available and appropriate to apply for in relation to the proposed management, improvements, and rehabilitation needs of the area. In addition to exploring funding avenues, we will work with the State to determine other management partnerships that might be desirable to achieve the management objectives and enhance the OHV experience.*

⁷ *Fee Demo: The District will be studying the concept of Fee Demo for the OHV Area. A District team will determine if fee demo is a desirable funding avenue, and if so, how a fee demo area would be implemented. We will visit other fee demo sites, talk to other managers, and work with the OHV community to determine if this is an appropriate and/or desirable action to take.*

Scenery

In closed areas, attempt actions to remove tracks and re-create natural cinder landscapes. Research techniques that may help the situation, but without causing large areas of additional ground disturbance. Examples of actions may include raking, dragging cinders up slope, mimicking needlecast or seeding.

Cultural/Historical

Provide signing informing the public about closure of astronaut training ground.

Close the astronaut training ground by adding a fence to exclude OHV's.

Continue active monitoring of cultural and historical sites to assess impacts from recreation. Changes in management can occur in response to demonstrated (through monitoring) negative impacts to archaeological resources. Cooperate with Park Service personnel to accomplish monitoring.

Rare Plants

Continue to monitor *Penstemon cluteii*. There is an ongoing status report⁸ being developed for this plant. As this information is attained we will make any necessary adjustments to ensure continued existence of this endemic plant.

Forestry

Many acres within the Cinder Hills OHV area have low regeneration potential due to cinder soils and are currently classified as unsuitable for timber production.

Evaluate stand conditions, including insect and disease, and the health and vigor of stands. Where and when necessary to meet safety objectives, harvest recent dead and poor risk ponderosa pine.

Livestock Grazing

This area is currently closed to livestock grazing.

Prescribed Burning

Prescribed fire using planned and unplanned ignitions is used to accomplish resource objectives except there is no provision for unplanned ignitions in areas included in the urban interface.

⁸ *Penstemon cluteii* grows in cinder soils at various locations on the Peaks Ranger District. The status report covers the entire range for this plant, which includes the OHV area.

Coordination with National Park Service

Protect areas that are directly tied to the Sunset Crater eruption for future research, and visitor interpretation of the geologic story. Coordinate with the NPS to inventory, map, and assess conditions of the geologic features.

For Gyp Crater: establish safety barriers, and/or warning signs around the exterior of the crater, establish and coordinate interpretive signing and programs with the National Park Service, close Gyp Crater to OHV access and camping, and rehabilitate tracks in Gyp Crater.

For the Kana-a lava flow, prevent off road vehicle use in the lava flow. Use proposed boundary adjustments in combination with access management. Roads leading north off of FR 244 should be closed and rehabilitated. These roads lead out of the OHV area and impact the Kana-a lava flow.

Work with and establish interpretive messages and programs with the National Park Service and volunteers from OHV users. Including improved signing, information kiosks, and interpretive message at the Cinder Hills Overlook. Provide signing and information aimed at the following objectives: to prevent lost riders, to show opportunities of where to ride, to clearly depict boundaries and eliminate encroachment into Sunset Crater Volcano National Monument, and to identify dangerous and/or closed areas.

Coordinate with Sunset Crater Volcano and Wupatki National Monuments in managing dispersed recreation use adjacent to the Monuments.

Oak Creek Canyon (MA 14)

Acres: 5,388

This MA begins just north of Uptown Sedona and rises to Oak Creek Vista amid steep walls, a rich streamside environment and deep, clear pools. Oak Creek Canyon, which contains private lands interspersed with National Forest lands, is internationally known for its unique beauty and recreation opportunities. Nearly five million people pass through the Canyon annually. Residents and visitors alike are concerned about how to meet their recreation desires while protecting wildlife, water quality and the beauty they came to experience.

MANAGEMENT EMPHASIS

Emphasize day-use activities that are pedestrian-oriented with access to Oak Creek and scenery. Provide a range of high-quality recreation benefits and interpretation.

Highway 89A offers an outstanding scenic driving experience.

Wildlife habitat, healthy stream conditions and clean air and water are protected.

Cultural history is interpreted.

Fire hazards and risk are carefully managed within this streamside corridor.

PLANTS, WILDLIFE, SOIL, AIR AND WATER

Objectives

1. Consider recreation management methods that are consistent with wildlife habitat direction.
2. Complete the assessment of road densities, conditions and locations within the Oak Creek watershed in order to identify actions needed to reduce impacts on the floodplain, peak flows and sediment routing.
3. Participate with the Oak Creek Water Quality Task Force and assist with implementation of its recommendations. Collaborate with County and State governments to protect public health and safety by defining water quality monitoring and public health and safety risk management.
4. Explore the need for and feasibility of reducing campfire smoke in Oak Creek Canyon from April to November to improve habitat conditions for bats, birds and other wildlife species.
5. Use prescribed fire and mechanical methods to achieve fire management goals.
6. Ensure adequate instream flow to maintain aquatic communities and water sources for wildlife.

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Developed Recreation Sites - Management Area 15

Analysis Areas 22, 23, 24, 58

Acres: 874

Developed recreation sites not included in the Oak Creek or Mogollon Rim Management Areas are included in this Management Area. Developed recreation facilities under special-use authorization include the Snow Bowl ski area, summer home areas near Mormon Lake and in 44 Canyon, organization camps, and resorts.

People have been and will continue to be attracted to these areas because:

- ◆ There is a scarcity of water in the Southwest and people are attracted to water environments. Most of the developed sites are near water.
- ◆ The areas provide climatic relief and a high degree of scenic quality.
- ◆ Campgrounds attract people and roads provide access.

These areas are not conducive to either intensive timber or forage production. Vegetative types include the broadest cross section of Forest vegetation. Climate is highly variable.

Management Emphasis

Emphasize developed recreation.

Highlights include:

- ◆ Manage for VQO's of Retention or Partial Retention with the exception of the Snow Bowl.
- ◆ Construct, reconstruct, or expand sites according to approved site plans and as funding permits.
- ◆ Facility development at the Snow Bowl ski area is guided by the Ski Area Master Development Plan based on approved NEPA analysis.

Inner Basin - Management Area 16

Analysis Area: 21

Acres: 972

The Inner Basin is a collapsed caldera which was subsequently glaciated. Located on the eastern slopes of the San Francisco Peaks, it provides a variety of recreational, scenic, and water resources.

The Inner Basin contributes to the water supply for Flagstaff through an extensive water collection and distribution system. Originally developed by the railroad around the turn of the century, the water system includes spring developments, infiltration galleries, and wells, along with associated access roads and buried pipelines. It is the heart of the Flagstaff Municipal Watershed, an area designated by the Chief of the Forest Service.

The area is open to day-use foot traffic, but closed to domestic livestock and public travel by vehicle. Protecting water quality is the main thrust of management direction.

The Inner Basin is a popular dispersed recreation area. It is also highly visible from the Weatherford Trail in the Kachina Peaks Wilderness.

Management Emphasis

Emphasize and protect watershed condition because of the area's importance for water collection for the City of Flagstaff and visual quality.

Highlights include:

- ◆ The existing roads may be used as a corridor for a buried powerline to provide electric power for the wells, in lieu of the current diesel operated pumps.
- ◆ The VQO is Partial Retention as viewed from the Kachina Peaks Wilderness.

Program

Components Activities Standards and Guidelines

Recreation Planning and Inventory

Recreation Dispersed use is limited to day use, foot or bicycle traffic only. Signing needed to control use is provided, installed, and maintained by the City of Flagstaff.

Range Resource Planning and Inventory

Range The area is closed to grazing and is not part of a grazing allotment. Unfenced areas are fenced as needed.

Timber Resource Management Planning and Inventory

Timber Conduct stand examination and evaluation as requested by other resources. No timber activities are planned, except as needed by other resources, or to control significant insect or disease outbreaks.

Plan, prepare, administer, and sell or issue permits for commercial and personal use, miscellaneous convertible and nonconvertible products as requested by other resources (FSM 2462).

Special-Use Management

Special Uses/Lands Continue to work with City of Flagstaff to minimize environmental impacts in the Inner Basin and to improve rehabilitation of areas disturbed through past development and maintenance such as Abineau Road. Encourage the City of Flagstaff to convert existing diesel pumps to electric pumps by establishing an underground electrical line into the Inner Basin using existing roads within the Basin. Evaluate the City of Flagstaff proposed water development projects using the NEPA process and monitor the projects. Identify rehabilitation needs caused by City activities and accomplish in conjunction with each project as needs occur.

Transportation Management and Planning

Transportation Limit vehicle access to City and Federal vehicles necessary to administer the area. The area is closed to livestock use and recreational livestock use such as horses, mules, or llamas. The area is closed to off-road driving use.

Existing roads are jointly reviewed by the City and the Forest in the first decade and those determined unnecessary to administer the area are obliterated. The Forest is responsible for obliterating roads it creates and no longer needs and the City is responsible for obliterating theirs.

Fire Management Planning and Analysis

Protection The suppression objective is to hold fires to 10 acres or less. Choose suppression tactics that minimize damage to the soil and water resources. Prescribed fire using planned ignitions is used to accomplish fuel treatment and other resource objectives.

Special Areas - Management Area 17

Analysis Areas: 48-51

Acres: 4,459

The Special Areas include one geological area, four botanical areas, one research natural area (RNA), Casner Canyon, and one proposed RNA, Rocky Gulch. There are two other RNA's, the San Francisco Peaks and West Fork of Oak Creek, included in the wildernesses that surround them, and G. A. Pearson RNA is included in the Fort Valley Experimental Forest. The management direction for Oak Creek RNA has been expanded with Amendment 12 in addition to the following the management direction for the Special Areas originally identified in the Forest Plan. However, the acres for Oak Creek and San Francisco Peaks RNAs and the G.A. Pearson RNA are all accounted for in the other MAs that they have dual designations with, such as wilderness or experimental forest, so that the only source of change for acreage is Casner Canyon RNA. West Clear Creek proposed RNA is within the West Clear Creek Wilderness. By approval of this Forest Plan, the Red Mountain Geological Area, the Mogollon Rim Botanical Area, the Verde Valley Botanical Area, the Fern Mountain Botanical Area, and the Fossil Springs Botanical Area are officially designated (FSM 2372.2). The proposed Rocky Gulch and West Clear Creek RNA's require establishment reports and designation by the Chief.

- ◆ Casner Canyon RNA is located near Sedona and within Oak Creek Canyon. The area contains a pure stand of Arizona cypress along with some chaparral. This area was established in 1973 and contains 609 acres.
- ◆ The 1,201-acre Red Mountain Geological Area was first proposed in 1977 by the Forest but only had a withdrawal from mineral entry without formal designation. It contains a unique cinder cone within the San Francisco Peaks volcanic field.
- ◆ Mogollon Rim Botanical Area, a 339-acre white fir/bigtooth maple community, represents a unique vegetation type found in Arizona only at a few locations along the Mogollon Rim.
- ◆ Verde Valley Botanical Area, a 1,209-acre desert scrub community, represents a unique desert community which has been greatly reduced by human activities. *Cowania subintegra*, a T&E species, is located here.
- ◆ Fern Mountain Botanical Area, a 186-acre high elevation riparian scrub community dominated by Bebb's willow, represents a unique riparian community .
- ◆ Fossil Springs Botanical Area is a riparian deciduous forest associated with a large perennial spring and covers approximately 12 acres. It is immediately adjacent to the Fossil Springs Wilderness.
- ◆ Rocky Gulch proposed RNA is located in the Beaver Creek Watershed. The area contains 950 acres of old-growth ponderosa pine and was one of the control watersheds for research in the Beaver Creek Watershed (acres are in MA 3).

Special designations not in Forest Plan decision authority:

- ◆ The 150-acre G. A. Pearson RNA was established in 1950 and is located just north of Flagstaff in a portion of Rocky Mountain Research Station Experimental Forest. The area represents a pure stand of old-growth ponderosa pine. Management decisions for the experimental forests are not made in this Forest Plan.

Management Emphasis

Emphasize and protect watershed condition and maintain natural ecological

conditions on the Research Natural Areas (RNA's) so that they are available for research and education that does not disturb the areas' natural condition. Use restrictions are imposed as necessary to keep areas in their natural or unmodified condition. There is no harvest of timber products, including firewood. RNA's are closed to off-road driving.

The botanical areas and the geological area are managed to maintain, as nearly as possible, existing conditions and natural processes for public enjoyment, demonstration, and study. Interpretative and educational demonstration opportunities are emphasized and enhanced through selective facility development. Natural events are not rehabilitated. Off-road driving is prohibited.

Highlights include:

- ◆ Prepare establishment reports for the Rocky Gulch and West Clear Creek proposed Research Natural Areas.
- ◆ Prepare implementation schedules for the botanical areas and the geological area.
- ◆ Include management that provides for later interpretation.
- ◆ Manage for VQO's of Preservation in the research natural areas and Retention or Partial Retention in the geological and botanical areas.

Environmental Study Areas – MA 18

Acres: 1,577

Mt. Elden ESA - Located at the base of Mt. Elden adjacent to the subdivisions of Shadow Mountain, Paradise Hills, Skyline Estates, and Swiss Manor, and adjacent to Buffalo Park. Originally a bird sanctuary, the Elden Environmental Study Area (ESA) serves a unique purpose. Trails provide for popular hikes that are convenient and easy to use. The area is available for study and recreation and has become an integral part of the Flagstaff Public School curriculum. In addition, the Elden ESA is popular daytime destination for hiking, dog-walking, mountain-biking, and horse riding. There are many formal access points developed along the edge of subdivisions providing public access. There are many informal access points and social trails as well. This ESA strengthens the opportunities for partnerships between the school, the Forest Service, and Arizona Game and Fish Department. A wintering deer herd provides an opportunity for wildlife viewing and monitoring by the students. The El Paso natural gas pipeline crosses the area.

Old Caves Crater ESA - Old Caves Crater is located north of Silver Saddle Road, east of Highway 89, and adjacent to Doney Park communities. This large volcanic cinder cone has diverse vegetation, provides scenic backdrops to surrounding residents, and contains archaeological sites and cultural values. Teachers at Cromer School have developed a curriculum for the area and students walk from the school to the site. There are trails in the area and high levels of non-motorized daytime dispersed recreation use.

Griffith's Spring ESA - Griffith's Spring is located south of Flagstaff on Highway 89A, adjacent to the Forest Highlands community and just south of Pine Dell. Among a variety of uses, local teachers have used the spring and its stream channel as an outdoor classroom. Visitors traveling Highway 89A stop here for picnics and daytime walks. Nearby residents also enjoy the area. There is a stream channel with riparian vegetation and aquatic species. A nearby wet meadow adds additional diversity.

Management Emphasis

Elden ESA now includes an area behind Christensen Elementary School. The area directly behind Christensen and the Peaks Ranger Station is adjacent to the current Elden ESA.

Emphasize environmental education opportunities for the Flagstaff Public Schools and the general public by maintaining the ecosystem and developing interpretive facilities. Since these areas fall within the Urban/Rural Influence Zone, emphasize fuels reduction and other techniques to reduce the risk of catastrophic wildfire. Non-motorized dispersed recreation is encouraged. Visual resource management and watershed condition are emphasized. Cultural resources are protected and where appropriate interpretation of cultural resources is provided. Low fire potential exists with fire's role re-established in the ecosystem. Meadows and drainages function properly and aquatic species are maintained.

Highlights include:

- ◆ In the Elden ESA implement tree thinning, prescribed fire or other activities that lessen risk of catastrophic wildfire and maintain shrubs, such as Arizona cliffrose, that provide winter food source for deer.
- ◆ Implement improvements in the Old Caves Crater that improve watershed health, protect fragile archaeological sites, restore vegetation to bare soil areas, close the area to motorized vehicles, and provide trails for non-motorized daytime recreation uses. Examples of improvements are; marking the boundary of the area with fenceline along private landlines, locate and adopt some trails and obliterate others, provide signing, change roads to trails or obliterate them, and locate a trail to the top of the Crater.
- ◆ Continue improvements to the Griffith’s Spring area to provide for recreation and outdoor education and protects stream banks, riparian vegetation, aquatic wildlife species, and scenery. Examples of improvements are: parking areas, pole fences, interpretive and environmental education information, directional signing, and a vault toilet. The relocation and construction of trail and the closure and rehabilitation of two-track road are needed to prevent loss of vegetation, erosion and damage to streambanks, soil compaction, and excessive water turbidity. The construction of aspen/willow fences around a small area is needed to prevent browsing damage by elk and deer.

All of the following items are Guidelines.

Recreation

Develop the Elden ESA in accordance with the concept plan map prepared by the Recreation Resource Center for Environmental Education and Flagstaff Public Schools.

Plan and support uses and trails in conjunction with the curriculum needs of the Flagstaff Public Schools. Develop environmental education programs cooperatively with public schools.

Dispersed Recreation

Maintain fencing as needed for management.

The Elden ESA is open to the public for foot traffic and day use only. Use the El Paso Natural gas line as a trail in conjunction with the Mt. Elden/Dry Lake Hills trail system. Horses are allowed on the pipeline trail.

Enforce off-road driving closures. Make a special effort through the schools and the media to focus public attention on the importance of complying with the closure for all areas.

Special-Uses

New special-use authorizations or amendments to existing special-use authorizations that would or could adversely affect or change the character of the ESA are not allowed.

Forestry

Manage vegetation to meet management direction for this MA.

Livestock Grazing

The areas are not currently open to livestock grazing.

Prescribed Burning

Prescribed fires from planned ignitions are used to accomplish fuel treatment and other resource management objectives.

Mogollon Rim - Management Area 19

Analysis Areas: 1-9, 11, 12, 13

Acres: 12,044

The Mogollon Rim MA covers the area from the Rim north to the Rim road (Forest Road 300), the General Crook Trail, and the foreground VQO area adjacent to the boundary roads and trails. The MA extends from Arizona Highway 87 to the boundary with the Sitgreaves National Forest and includes Milk Ranch Point on the west and Knoll Lake on the east.

The Mogollon Rim forms the Forest's southern boundary. Dispersed recreation use is heavy and developed use is heavy at Knoll Lake and Kehl Springs Campgrounds.

Vegetation includes ponderosa pine, mixed conifer, and patches of aspen and bigtooth maple. There is a severe infestation of dwarf mistletoe in much of the ponderosa pine and mixed conifer.

While fire history has not been severe on the Coconino side, a number of large wildfires have started below the Mogollon Rim and made their way over the top and into the prime timber on the Sitgreaves National Forest to the east. For that reason, fire and fuels management are a constant concern.

The Mogollon Rim, both physically and historically, is the major division between the desert country in the south and the high timber of the Colorado Plateau. Its abrupt features make it an important scenic, historic, and recreational attraction.

Management Emphasis

Emphasize dispersed and developed recreation, visual quality, and wildlife travel corridors across the Rim, generally the heads of major canyons running to the northeast. Dwarf mistletoe is aggressively treated through ISM.

Highlights include:

- ◆ Manage for VQO of Retention in the foreground viewing area from the proposed General George Crook Trail, the Rim Road (300), Roads 218, 218A, 295, 295E, and 673A.
- ◆ The Rim Road is upgraded to double lane, aggregate surface with minimal realignment. It is scheduled to be completed in the second decade. Management of the resource and public safety, not speed, governs road standards.

*Chapter 4 – Management Direction
Mogollon Rim – Management Area 19*

- ◆ Develop hiking/horseback trails along the Rim road in coordination with the comprehensive plan for the proposed General George Crook National Historic Trail. Coordinate with the Apache-Sitgreaves National Forests.
- ◆ Restrict off-road driving use along and south of the Rim Road and the Crook Trail to enhance solitude and reduce distractions to other recreational users.
- ◆ Protect and maintain the General George Crook Trail. Reconstruction of the Rim road protects the major undisturbed portions of the trail.
- ◆ Natural and created fuels are treated to manage large fire potential and to protect visual resource and wildlife habitat.
- ◆ Wildlife corridors are provided for animals to move across the Rim.
- ◆ Develop informational trail guides jointly with the Tonto National Forest.
- ◆ Construct trails/trailheads for access from Crook Trail to Highline Trail on the Tonto.
- ◆ Construct a new developed campground.
- ◆ Expand existing developed campgrounds.
- ◆ Manage riparian inclusions according to MA 12 Standards and Guidelines.

Recreation Planning and Inventory

Recreation

Manage for VQO of foreground Retention on Roads 300, 218, 218A, 295E, and 673A.

Manage for VQO of Partial Retention on other roads within MA 19. Close MA 19 to off-road driving, except for vehicles traveling over-the-snow such as snowmobiles or in the vicinity of Knoll Lake, please refer to Off-road Driving Map.

Protect original mile posts, blazes, V monuments on trees and rocks, and other historical features on the General George Crook Trail.

Plan activities that cross the General George Crook Trail at approved locations only.

Develop Rim recreation trails to complement the potential General George Crook National Historical Trail. The trail is located generally south of the Road 300 along the Rim.

Plan and construct the Milk Ranch Point Loop Trail during the first decade.

Develop key trails and trailheads to accommodate hiking the Rim and the Highline Trail below the Rim. Coordinate with the Tonto National Forest.

Close trails that connect to the Highline Trail on the Tonto National Forest to motor vehicles.

Expand Knoll Lake Campground and construct Mogollon Rim Campground in the first decade. By the end of FY 1991 complete the environmental analysis and design narrative for the Mogollon Rim Campground.

Sites are closed to off-road driving, unless specific management needs are identified for such things as administration, construction, or maintenance. Sites are closed to vehicles and operators not licensed for highway use in the State of Arizona.

Nonstructural Wildlife Habitat Improvement

Wildlife and Fish

Improve forage conditions by seeding forage and browse species desirable to wildlife.

Use prescribed fire to improve wildlife forage.

Nonstructural Fish Habitat Improvements

See MA 12 for specific Standards and Guidelines.

Program
Components Activities Standards and Guidelines

In developed recreation sites the suppression objective is to minimize damage to improvements and/or resources.

Prescribed fire using planned ignitions is used as a management tool where such use is compatible with other resources.

Fuel treatment projects in natural fuels are aimed at creating and maintaining a natural fuel condition that is maintained through the periodic use of prescribed fire.

Emphasize using slash for firewood. Unless there are documented resource or protection needs, leave slash for at least 2 years before disposal. Clearly identify free-use firewood areas to assist the public in removing wood residues and thereby reducing future slash disposal costs. Provide easy to follow maps and signing for designated firewood areas.

Highway 180 Travel Corridor Milepost 220-250

Management Area 20

Acres: 7,608

The Highway 180 Travel Corridor goes from the northwest side of Flagstaff to the most northwestern corner of the Coconino National Forest. It is one of the three main routes leading to the Grand Canyon National Park. The entire existing road is two 12 foot travel lanes with 1 foot paved shoulders. Currently the trees are as close as 5 feet to the roadway. The current situation does not allow for a recovery area that is a traversable and unobstructed roadside area allowing drivers leaving the roadway out of control to regain control or come to a safe stop.

Vegetation includes ponderosa pine and patches of aspen, which then give way to pinyon/juniper as the elevation drops on the northern edge of the Forest.

Fire history has been sporadic, with a number of large wildfires adjacent to or crossing the Highway.

The diverse vegetation and spectacular views of the San Francisco Peaks make it an important scenic, historic, and recreational attraction.

Highway (Hwy) 180 began as a dirt road in 1943 and was completely paved by 1959. Early uses were local forest use and tourism. More recent use is 2,000 average number of vehicles over entire length of road and a predicted 2,800 average number by the year 2002.

Today, Hwy 180 is a destination in itself for local residents and tourists for scenic beauty and outdoor recreation. Hwy 180 is used as a tour bus, commerce route, local and tourist drive between National Forest land, Flagstaff and the Grand Canyon, with over half of the drivers from out of State.

There have been 10 fatal accidents with 13 people killed in the last 6 years (1987-1992). There have been 433 non-fatal accidents with 314 people injured. Drivers run off the pavement and hit something, usually a tree. Some people drive too fast, causing them to lose control. Vehicles hit animals. Intersections are not as safe as they could be. Plowed snow piles up on the highway, thaws and melts and runs across the highway then freezes again causing icy spots and damaging pavement. People park along the highway and on soft shoulders, affecting the flow of through traffic. Bicyclists use the highway with virtually no shoulder and cars must drive around them. Tourists are often not aware that highway 180 is a mountain road with curves, steep hills and few places to pass safely. Hwy 180 climbs approximately 1,000 feet in elevation and weather conditions are often more extreme than in Flagstaff. Tourists may misjudge the time it will take them to reach their destination or may be unaware of the potential hazards of inclement weather.

Management Emphasis

Hwy 180 will be maintained and managed now and in the future as a two lane scenic highway. With strong value in its own right as a scenic attraction, the road provides important access to year round outdoor recreation and the South Rim of the Grand Canyon. Hwy 180 is one of three roads to the Grand Canyon and will be managed and emphasized as the scenic, slower route. Hwy 180 will offer a reasonably safe and scenic travel experience through a healthy, diverse forest.

The key factors necessary for reaching this vision are:

- ◆ A reasonably safe roadway and recovery area;
- ◆ Driver compliance with posted speed limits;
- ◆ Public understanding of road conditions;
- ◆ Forest Management.

Highlights include:

- ◆ Manage Hwy 180 and its foreground as a sustainable and resilient ecosystem with an emphasis on large trees and stand diversity. There will be sustainable, healthy communities of aspen, ponderosa pine and pinyon juniper with a large percentage of the corridor containing large old trees. Hwy 180 will have a retention visual quality objective.
- ◆ Introduce a level of visual diversity in the driving experience. Viewing the the forest is a sequential linear event.
- ◆ Improve the shoulders and recovery area so as to increase the percentage of errant vehicles that are able to recover safely. A recovery area is a traverseable, unobstructed roadside area that allows drivers leaving the roadway out of control to regain control or come to a stop.
- ◆ Provide opportunities for parking to rest, take pictures, and access forest roads and trails.
- ◆ Provide information and interpretive signs for improving driver awareness and safe driving as well as improve visitor experience through understanding of the environment, history, and cultures.
- ◆ Aggressively pursue partnerships with city organizations to inform the touring public about scenic road status, road conditions, and other route options.

Standards and Guidelines

Right of Way Grants for Roads and Trails

Lands

All ADOT projects for management of the two lane scenic highway will occur with Federal Highway Administration (FHWA) assuming the role of lead Federal agency. ADOT will follow FHWA NEPA guidelines with Forest Service providing input. Forest Service input on ADOT highway improvement projects will include stipulations derived from the Final Vision and Guiding Description Document and the Forest Plan.

On-the-ground implementation of all projects within the corridor should occur with an inter-agency interdisciplinary team approach. This team should work out site

The world we have created today, as a result of our thinking thus far, has problems which cannot be solved thinking the way we thought when we created them.

~ Albert Einstein

GOALS, OBJECTIVES, STANDARDS AND GUIDELINES FOR THE ENTIRE SEDONA/OAK CREEK PLANNING AREA

Plants, Wildlife, Soil, Air, and Water

Goals

1. The biological, physical and human elements of the landscape sustain ecological processes, functions and structures within a natural range of variability and conditions appropriate to the Sedona/Oak Creek ecosystem. Natural ecosystem disturbance patterns are conserved or restored consistent with human health and safety.
2. Habitats support diverse, healthy populations of native plants and animals. A natural variety of plant species, age classes and structure is present.
3. Natural elements of the landscape are restored and protected. Threatened, endangered and sensitive species are recovering. Appropriate actions are taken to minimize impacts to these species.
4. Riparian communities have adequate in-stream flows and adequate plant cover to protect stream banks and dissipate energy during high flows. Channel characteristics and water support natural biodiversity.
5. Soil function and long-term productivity are sustained so that the soil can resist erosion, recycle nutrients and absorb water.
6. Fire should continue to play a natural ecological role within the constraints of human health and safety. The mosaic of vegetative patterns and conditions reduces the occurrence of catastrophic fires.
7. **Refer to Forest-wide direction in Amendment 20, 11/2004, page 23.**

Objectives

1. Improve and protect water quality and long-term soil productivity and restore critical soil functions through such methods as:
 - ◆ improving the rate of water infiltration, thereby reducing on-site soil loss and minimizing surface runoff and sedimentation;
 - ◆ enhancing soil organic matter content to improve physical condition and increase nutrient cycling;
 - ◆ reducing flood potential and securing favorable conditions of water flow;
 - ◆ increasing and improving the distribution of vegetative ground cover and coarse woody debris;
 - ◆ setting livestock capacities to levels that maintain and/or improve soil stability, soil productivity and water quality;
 - ◆ locating new trails away from riparian communities, steep grades and sensitive soils;
 - ◆ hardening trail and road surfaces and providing sanitation facilities at key places; and
 - ◆ improving road and trail maintenance.
2. Seek out, use and share information from researchers, agencies and other individuals with knowledge about the southwestern willow flycatcher, brown-headed cowbird parasitism, predation and other related issues. Keep current on new information and make changes in the management of southwestern willow flycatcher habitat and populations accordingly.
3. Engage in activities that will maintain or enhance south western willow flycatcher habitat.
4. Eliminate unneeded roads and redesign or relocate poorly located roads and trails to lessen impacts on such resources as cultural sites, soil, water and wildlife and to reduce user conflicts. Restore areas heavily damaged by vehicle or foot traffic using such methods as obliteration, barriers, closures and visitor information.
5. Manage *Hedeoma diffusum* by the direction presented in the "*Hedeoma diffusum* Management Plan (1984)" adopted by the Forest Plan.
6. Protect occupied *Cimicifuga Arizona* habitat. Restrict ground-disturbing activities within the habitat and provide shade needed for perpetuation of the species. Relocate trails where necessary to protect occupied habitat. Implement conservation actions recommended by the "*Cimicifuga Arizona* Conservation Plan (1995)."

It is hard to be pessimistic about the West. This is the native home of hope...cooperation not rugged individualism is the pattern that preserves it.

~ Wallace Stegner

ADDITIONAL MANAGEMENT DIRECTION BY MANAGEMENT AREA

This chapter contains the more specific direction that applies to each unique management area. Information in this chapter augments the information found in previous chapters and in the Coconino National Forest Land and Resource Management Plan. This chapter includes a description of each management area and the management emphasis. This is followed by the goals, objectives, standards and guidelines that apply.

Dry Creek Basin (MA 21) – 5,508 acres

Premier hiking trails crisscross this expanse of rolling hills, piñon-juniper forest and astonishing redrock vistas around Dry Creek. This MA is celebrated for Long Canyon and Vultee Arch - from which one can enter the Red Rock-Secret Mountain Wilderness - and for the area west of Dry Creek to Doe Mountain and Boynton Pass Road.

Management Emphasis

Opportunities abound for outstanding trail-oriented day use within a Non-motorized, Semi-primitive ROS setting.

High-profile visitor orientation and interpretation tells people about the recreation opportunities in Dry Creek Basin, the adjacent Red Rock-Secret Mountain Wilderness and points west.

Plants, Wildlife, Soil, Air and Water

Guidelines

1. Eliminate vehicle crossings of Dry Creek unless appropriate water quality protection measures can be used.
2. Protect sensitive plant populations by placing trails and trailheads out of sight of sensitive plants, such as Verde Valley sage and Delmaters agave.

Scenery

Objectives

1. People experience a predominantly natural appearing and sounding environment away from the main travel-ways.

Prehistoric and Historic Archaeology

Objectives

1. Focus archaeological surveys on Long Canyon, Boynton Pass, the Cockscomb and Doe Mountain.
2. Renovate Van Deren Cabin to its historic condition. Protect and operate it as a "living museum" to reflect ranching history and to function as a cultural interpretive site. Provide sanitation facilities, interpretation and access consistent with Semi-primitive ROS objectives.

Community

Objectives

1. Acquire properties whose development could detract from scenic and Wilderness values or impact historical/cultural values, such as Tucker property, Tree Farm and Cockscomb.

Gateway – Management Area 22 – 2,347 acres

The Gateways - on State Highways 179 and 89 - are where millions of visitors experience their first exhilarating views of the redrock country and start to wonder where they can find accurate information to guide them. These highways are the gateways to the Sedona/Oak Creek Ecosystem.

Management Emphasis

Visitors are welcomed and oriented to the area.

A sense of arrival at a special place that encourages stewardship is conveyed.

People entering or leaving the redrock landscape enjoy an outstanding scenic corridor.

Scenery

Objectives

1. Provide a high-quality experience for visitors enhanced by unaltered vistas of the distant redrock cliffs.

Standards

1. Coordinate with the Arizona Department of Transportation, local governments and private land owners to encourage protection of the scenic quality along entry highways.

Guidelines

1. Maintain scenic parkway characteristics. Consider scale and alignment in the design of roadway improvements. Also consider roadway features such as signs, guardrails and landscaping, that contribute to the desired scenic character.
2. Roadside facilities are designed and placed to provide safe scenic viewing and photo opportunities. They blend with and complement the surrounding landscape. Strategically locate and consolidate parking and access areas to minimize disturbance and visual clutter associated with signing, parking areas and trailheads.

Community

Standards

1. Base-for-exchange at The Dells (up to 800 acres) is intended to allow for acquisition of high-priority private parcels only.

Guidelines

1. Exchange proposals will consider methods such as development agreements, joint planning authority and master planning to mitigate impacts on the National Forest and the community.

Recreation

Objectives

1. Manage generally for a Roded Natural ROS setting. Recognize the inconsistencies of the future development of State highways 179 and 89A south of Sedona to make them both four-lane highways within five years and manage for a Rural ROS setting classification immediately adjacent to the roadway.
2. Facilitate alternative forms of transportation, such as shuttle buses and bicycle paths.

3. At Woods Canyon Trailhead:

- ◆ improve signing and parking for Wilderness access;
- ◆ discourage casual Wilderness use resulting from roadside parking along the highway;
- ◆ eliminate vehicle access across Jacks Creek; and
- ◆ restore damaged sites using erosion control and revegetation.

Chapter 4 – Management Direction
Sedona/Oak Creek Ecosystem – Gateway – Management Area 22

4. Work with the Arizona Department of Transportation to determine safe pullout/facility locations along State highways. Combine these pullouts with opportunities for scenic viewing, trail access, interpretation, transit stops and other National Forest access.
5. Locate and design welcome centers to enhance community values and provide National Forest visitor parking and orientation. Work toward private/public partnerships to accomplish this objective, possibly on National Forest lands under appropriate authorization.

Standards

1. Prohibit camping and recreation fires.

Commercial Uses

Objective

1. Management of the suitable timber lands is guided by the direction for the Sedona/Oak Creek area, with additional detail from MA 3 as appropriate.

Standards

1. Prohibit commercial tours, except on State Highways 179 and 89A.

Interpretation and Communication

Objectives

1. Provide general area information, especially about roads, trails, camping, community services, points of interest and sensitive features of the Sedona/Oak Creek Ecosystem. Visitor information developments should offer a "self-service" format with little on-site assistance needed. However, on-site hosts are encouraged. Do not limit the information to the National Forest only, but consider and provide the broad range of information visitors require. Seek partnerships to provide this information.
2. Visitors are welcomed and oriented to the Sedona/Oak Creek Ecosystem and are directed to locations that are best suited to the type of activity they are seeking.
3. Interpret Lime Kiln and Chavez Wagon roads and Stage Stop.

Lower Oak Creek (MA 23) – 754 acres

This portion of Oak Creek is a five-mile stream corridor that extends from Lower Red Rock Loop Road to Hidden Valley southwest of Sedona. This MA is characterized by steep canyon slopes, clear water and an uncrowded, quiet environment. Along the north side of the Creek are private developments and homes, while the south side has no developments or roads. Here, one can escape crowds and enjoy a quiet natural setting.

Management Emphasis

Opportunities for non-motorized, uncrowded, dispersed recreation are common. Wildlife habitat, water quality and a healthy stream environment are protected. Opportunities are provided for solitude and isolation from sights and sounds of human activity across a range of settings from streamside to canyon to mesa top.

Plants, Wildlife, Soil, Air and Water

Objectives

1. Collaborate with the AG&FD and the USFWS to reintroduce the round-tailed chub into Lower Oak Creek if, after a review of the potential habitats, methods and economics, it is a viable project.
2. A native fish community exists and functions naturally within the lower reaches of Oak Creek. There is an appropriate range of spawning, rearing and overwintering habitat to support native fish. Increase angler awareness of and demand for native fish.
3. Research is conducted to further define the habitat requirements of the native fish community and to identify actions to protect and/or restore habitat conditions and increase native fish populations.

Scenery

Objectives

1. Retain elements of prehistoric agricultural landscapes and historic ranching.

Prehistoric and Historic Archaeology

Objectives

1. Survey and record the Lime Kiln Road and the old county highway that linked Clarkdale to Sedona during settlement days. Evaluate these routes as non-motorized additions to the National Forest trail system.

Recreation

Objectives

1. Though close to the City of Sedona and Page Springs, this MA is still relatively undeveloped and should be managed for a Semi-primitive Motorized ROS setting on the northside of Oak Creek. Manage the south side of the creek for a Semi-primitive Non-motorized ROS setting. The expected number of encounters on the north side reflects the level of private development and the road use from visitors accessing Oak Creek. The south side is non-roaded and the expected encounter level is measured in encounters per day rather than per hour.
2. Provide a network of trails linked to other trail systems and designed for non-motorized use such as biking, equestrian activity and hiking.
3. Add commercial use trails in the Kachina area to the Redrock Trail System where appropriate. Close and rehabilitate unneeded trails and roads in the Kachina area. Continue partnerships with equestrian commercial tours and volunteer groups to maintain these trails.
4. Provide angling opportunities at remote sites and in a natural landscape.
5. Expand opportunities for wildlife viewing.
6. Implement such measures as vehicle barriers to restrict vehicles from driving in Oak Creek. Maintain National Forest road access to Elmersville.
7. Provide for dispersed camping that is consistent with protection of riparian values.

Interpretation and Communication

Guidelines

1. Interpret the Molina Homestead.

Neighborwoods (MA 24) – 15,151 acres

This management area is ``Sedona's Backyard." It is next to many residential areas, urbanized sections of Sedona and the Village of Oak Creek, sections of State Highways 170 and 89A and a several-mile stretch of Oak Creek south of Sedona. The boundaries of Red Rock-Secret Mountain Wilderness from Capitol Butte to Steamboat Rock are the area's northern perimeter. This area is heavily used by visitors and residents, who cherish the natural landscape so close to Sedona and frequently use the honeycomb of trails.

Management Emphasis

Strong community partnerships for stewardship of ``Sedona's backyard" support resident health, safety and quality of life.

Relatively quiet, easily accessed National Forest supports wildlife, scenic viewing and experiencing nature.

Community

Objectives

1. Collaborate with the AG&FD to educate residents about urban wildlife, such as deer, snakes, raccoon, skunk, coyotes and javelina.
2. Provide information about introduced noxious plants and the problems they can create for the native Ecosystem.
3. Fire management activities are intense and focus on protection of life and property. These activities include:
 - ◆ identifying places of high fuel buildup and potential wildfire problems in the wildland/urban nterface;
 - ◆ providing interpretation and information to residents and National Forest users regarding wildfire;
 - ◆ educating homeowners and builders on risk-reducing practices; and
 - ◆ updating the Fire Prevention Strategy to address the risk and hazard in the urban interface.

Guidelines

1. Base-for-exchange at Chapel of the Holy Cross is intended for church acquisition only; base-for-exchange at VOC Golf Course is intended for golf course acquisition; base-for-exchange at Brewer Road Ranger Station is intended to facilitate a new ranger station and/or welcome center location.

Red Cliff (MA 25) – 3,979 acres

This narrow MA follows the stately red cliffs between Boynton Canyon and Nichol's Well near Casner Mountain and includes such canyons as Boynton, Red, Hartwell and Fay. The Red Rock-Secret Mountain Wilderness forms the MA's northern border, while its southern border generally follows Boynton Pass Road. The Red Cliff MA is becoming increasingly popular for trail hiking, scenic drives, archaeological site exploration and accessing Wilderness beyond.

Management Emphasis

American Indian Tribes and the Forest Service are partners in management of cultural sites. Cultural resources are preserved and interpreted for the enjoyment of all visitors.

Day-use activities emphasize discovery, learning and scenic viewing.

Wilderness access and information are provided.

Scenery

Guidelines

1. Facilities that provide access to the cliffs or occur near the cliffs should remain visually subordinate to cliffs and to the surrounding landscape.
2. Maintain or enhance views of the cliffs from the travel corridors through various means such as:
 - ◆ acquisition of intervening private properties with emphasis on undeveloped parcels;
 - ◆ limiting the use of intervening areas for parking, camping and/or utilities; and
 - ◆ limiting motor vehicle traffic between access corridors and the cliffs.

Prehistoric and Historic Archaeology

Objectives

1. Develop management strategies for Honanki and Palatki, addressing all facets of visitor use. Management strategies should identify the amount and type of visitation that is consistent with maintaining a high-quality experience and site integrity.
2. Participate in partnerships with American Indians, including but not limited to development strategies for management, stabilization, interpretation, collection of ethnographic information and involvement with resorts and Wilderness programs.

3. Provide cultural interpretation at Palatki, Honanki and Boynton Canyon.
4. Collaborate with the Nature Conservancy and Archaeological Conservancy to protect cultural and biological resources in the vicinity of Hartwell Canyon.
5. Document cliff dwellings and rock art sites.
6. Inventory cultural areas of distinctive prehistoric and historic features (e.g., orchards) and recognize their natural and interpretive potential.

Standards

1. Prohibit dogs at developed interpretive sites in Honanki and Palatki and in Boynton Canyon.

Community

Objectives

1. Acquire primarily undeveloped private parcels, particularly the Hancock Ranch, Woo Ranch and Lincoln Canyon properties.
2. If acquisition cannot occur, collaborate with private land owners and county governments in the land development process to protect unique resources such as scenery, adjacent Wilderness, archaeological values and threatened and endangered species habitat.

Recreation

Objectives

1. Management should be consistent with a Semi-primitive Motorized ROS setting in the part of the Management Area west of Red Canyon, allowing for specific ROS setting inconsistencies, such as cultural interpretive sites like Palatki, the influence of the main road (FR152c) and access to private lands. Although the ROS objectives at Palatki and Honanki are the same as those of the surrounding MA, the maximum desired number of encounters is three to four groups per hour because of the lower capacity of these sites to handle visitation without damage to cultural values.
2. Provide adequate trailhead facilities for hikers and equestrians to serve Loy Canyon and Mooney Trails and to serve hikers at Boynton Canyon and Bear Mountain trails. Expand loop trails, such as Mooney and Loy Canyon. Work to provide more parking, avoid impacts on archaeological sites and reduce private land conflicts at the Loy Canyon trailhead and trail.

3. Restore damaged sites, with priority given to Boynton Canyon, Honanki, Fay Canyon Trailhead, Loy Canyon and Palatki.

Standards

1. Prohibit camping and recreation fires.

Guidelines

1. Maintain roads in the lowest standard possible consistent with safety and the desired primitive recreation experience.
2. Discourage the construction of additional trails to limit access to unprotected cultural sites.

Commercial Uses

Objectives

1. Expand partnerships with commercial tours to protect, enhance, restore and monitor Honanki in compliance with Section 106 of the Historic Preservation Act and to provide accurate interpretation and site etiquette for visitors.

Standards

1. Limit commercial tours at Honanki consistent with site protection and visitor experience objectives.

Interpretation and Communication

Objectives

1. Expand the level of personal contact between interpreters and visitors at cultural interpretive sites. Provide a high level of interpretation and one-on-one contact to accomplish the following:
 - ◆ opportunities for interactive learning through protection, documentation and restoration projects at archaeological sites;
 - ◆ appropriate access to site etiquette information;
 - ◆ appreciation of archaeological conservation, native cultures and history; and
 - ◆ visitor education about archaeology and historic resources that fully protects those resources.
2. Provide full-time hosts at Honanki, Palatki, Boynton Canyon and other significant cultural interpretive sites.

Redrock Frontcountry (MA 26) - 5,346 acres

This MA features many of the memorable vistas that draw millions of visitors annually: dramatic red rock cliffs that startle the eye, such as Cathedral Rock, and such popular destinations as Bell Rock Pathway, Broken Arrow, Schnebly Hill and Back O'Beyond. This MA is conveniently accessed from main paved roads.

Management Emphasis-

There is a strong emphasis on visitor orientation and information.

Nature-based day-use recreation activities occur, including easily accessed trail opportunities and scenic viewing.

The area meets initial needs of visitors for up-close views and orientation while managing crowds to protect the environment.

Plants, Wildlife, Soil, Air and Water

Objectives

1. Close to motor vehicles and rehabilitate locations that have been damaged by off-road driving and camping with priority given to Broken Arrow, Schnebly Hill, Cathedral Rock and Carrol Canyon.

Scenery

Objectives

1. Facilities that provide access to or occur near the cliffs remain visually subordinate to the cliffs and to the surrounding landscape. Maintain or enhance views of the cliffs from the travel corridors through various means such as:
 - ◆ limiting the use of intervening areas for parking, camping and/or utilities; and
 - ◆ limiting motor vehicle traffic between access corridors and the cliffs.

Community

Objectives

1. Develop transportation improvements such as scenic turnouts to provide orientation and information for visitors and to provide first impressions from the highways of the redrock landscape. Encourage use of alternative transportation such as shuttles and other high-occupancy vehicles.

2. In many locations, site management should be intensive to accommodate very high levels of visitation, protect plants and soil and minimize user conflicts.

Commercial Uses

Objectives

1. Develop partnerships with commercial tours for maintaining the Schnebly Hill Road and other roads and adjacent facilities used for commercial tour activities.

Guidelines

1. Focus commercial tour activities on the main roadway and vista areas and recreation facilities.

Interpretation and Communication

Objectives

1. Encourage the development of roving and guided interpretive activities in areas of high visitor use. Provide interpretation to enhance short-duration day-use experience with emphasis on natural history.
2. Manage the area as a gateway into the Sedona/Oak Creek Ecosystem, providing key visitor information.
3. Provide outstanding interpretive opportunities to increase understanding of and appreciation for the Sedona/Oak Creek Ecosystem with emphasis on geology and natural history.

Savannah (MA 27) – 39,203 acres

This MA, with its open grassland punctuated by groves of trees and shrubs, is prime habitat for antelope. Views are of the redrock cliffs to the east and the Verde Valley to the south and west. The northern boundary swings around the base of Casner Mountain and the red cliffs to the north, to south of Boynton Pass Road and over to House Mountain

Management Emphasis

Ecosystem processes such as fire and flood play a natural role.

High-quality grassland supports a diversity of wildlife.

Low-density human uses occur, including scenic viewing, OHV touring, hunting, wildlife viewing and firewood cutting.

A wide variety of Semi-primitive motorized and non-motorized trail uses are provided.

Plants, Wildlife, Soil, Air and Water

Objectives

1. Acquire certain private parcels to reduce habitat fragmentation and otherwise improve antelope and grassland species habitat.
2. This MA is characterized by an open vegetation structure. Use prescribed fire and other mechanical treatments to improve forage conditions for wildlife, particularly birds and antelope. Increase the area occupied by grasses and forbs while decreasing the area occupied by shrubs and trees in comparison to recent historic levels.
3. Where piñon/juniper woodland is maintained in a grassland condition, eliminate invading vegetation through mechanical and prescribed fire treatments as needed. Consult with AG&FD on the design of these treatments. (Refer to Map 7 - Prescribed Fire Project Areas)
4. Develop conditions that:
 - ◆ provide high-quality habitat for upland game birds and deer;
 - ◆ improve and expand antelope and grassland bird habitat through such means as fence, road, fire and human access management;
 - ◆ provide adequate cover/security for animal shelter and foraging; and
 - ◆ improve forage conditions for wildlife, particularly quail.

7. Provide recreation opportunities associated with personal firewood gathering and mineral collection consistent with management area goals.
8. Provide opportunities for dispersed camping and hunting.
9. Record and map the Lime Kiln Trail and evaluate the entire portion from Dead Horse State Park to Sedona as an addition to the Forest Service Trail System, State Trail System and the National Historic Trail System. Map and record the Chavez Stage Road and evaluate the possibility of adding it to the Forest Trail System and the National Historic Trail System. Coordinate this effort with adjacent trail sections from Chavez Pass to Jerome.
10. Provide a system of OHV recreation routes through the area that offer scenic and wildlife viewing, moderately rugged road conditions and dispersed camping. Provide route markers, road signs and maps as needed to guide people along the routes.

Guidelines

1. Road and trail locations must consider antelope protection goals. Recreation goals are subordinate to antelope protection.
2. Use only native surfacing and do not use road prism development for lateral roads (off of main access roads) unless increased use and development of private property require improvement for resource protection.

Commercial Uses

Objectives

1. If the demand can be demonstrated, allow commercial tours to provide opportunities for scenic viewing, natural history education, wildlife viewing and other activities that are compatible with antelope protection and Savannah MA goals.

Guidelines

1. Livestock grazing and collection of minerals, firewood and native plants are consistent with other Sedona area-wide goals.

Interpretation and Communication

Objectives

1. Provide a minimum of orientation and interpretation consistent with the ROS setting. Information should emphasize visitor orientation, natural history and etiquette pertinent to visitor activities in the Savannah MA.
2. Provide information boards (kiosks) at main road junctions with pertinent OHV recreation information.

Schnebly Rim (MA 28) – 5,090 acres

This management area provides seasonal access to the redrocks from Schnebly Hill Road and critical winter habitat for elk and deer. This MA lies above the Mogollon Rim on Schnebly Hill and follows the Rim south to Committee Stock Pond, then on to Jacks Point, east along the rim of Woods Canyon, north to Fox Tank and then west back to Schnebly Hill Vista. This Semi-primitive ROS setting is rich in ponderosa pine and alligator juniper interspersed with Gambel oak and grasses. This mixture of woodland and grassland offers awesome vistas over the redrocks and superb opportunities for solitude, wildlife viewing and hunting.

Management Emphasis

Opportunities abound for solitude and contemplation with outstanding vistas.

Schnebly Hill Road serves as a seasonal gateway for visitors entering the redrock landscape from Interstate 17.

Seasonal, low to moderate levels of Semi-primitive recreation are offered, including camping, hunting, scenic viewing and opportunities for discovery and solitude.

Conserve wildlife habitat, especially winter range for deer, elk and turkey.

Plants, Wildlife, Soil, Air, and Water

Objectives

1. Protect key elk, peregrine falcon, turkey and deer winter habitat. Protect turkey roosts from recreational activities, especially dispersed camping and motor vehicle traffic.
2. Use prescribed fire to rejuvenate wildlife browse/forage areas.
3. Close access to Schnebly Hill Road during wet periods when heavy tread rutting could occur.

Scenery

Objectives

1. Restore the rock pit located west of Schnebly Hill Road so that the pit site blends in visually with the surrounding natural landscape.
2. Discourage use of lateral roads. While visitors are likely to see other visitors on the primary access road, they are unlikely to see other visitors on lateral roads.

Community

Objectives

1. Discourage improvements to Schnebly Hill Road as an alternate commuter route between Flagstaff and Sedona/

Village of Oak Creek in order to maintain a more primitive roadway and recreational experience.

Recreation

Objectives

1. Manage, in general, for a Semi-primitive Motorized ROS setting, with seasonal closure of the southern portion to motor vehicles, and a Semi-primitive Non-motorized ROS setting above the Rim and west of the road corridor, between the Wilderness and the road. Recognize the relatively high level of use and encounter levels along Schnebly Hill Road, but maintain the road character as appropriate for the Semi-primitive motorized ROS setting.
2. Visitor activities should be consistent with and benefit from a Semi-primitive ROS character that provides opportunities to experience quiet, solitude and a sense of exploration, hunting, hiking, equestrian use, camping, mountain biking and off-highway vehicle touring.
3. Develop an integrated road and trail system that provides non-motorized and motorized access to scenic Rim view points; allows for scenic and wildlife viewing opportunities, hunting and camping access; and expands mountain biking and equestrian opportunities. Use existing low standard roads to the extent possible for this system.

Guidelines

1. Limit recreation activities to locations and times that do not conflict with wildlife goals.
2. Restrict camping along Schnebly Hill Road if needed to protect wildlife or watershed values. Consider the use of designated camping areas accessed from the road and provided with sanitation.

Commercial Uses

Objective

1. Management of the suitable timber lands is guided by the direction for the Sedona/Oak Creek area, with additional detail from MA 3 as appropriate.

Interpretation and Communication

Objectives

1. Provide a minimum of interpretation, education and orientation. Generally limit this information to visitor orientation, natural history and etiquette.
2. Provide visitor information on FR153 near I-17.

Transition (MA 29) – 2,897 acres

This MA includes parts of Woods Canyon, Jacks Canyon and the rugged ridge between the Red Rock-Secret Mountain Wilderness and Sycamore Wilderness. These places are adjacent to Wilderness where there are few or no developments and access is difficult. Although they are outside the Wilderness, they are recognized as locales of little human presence and minimal impact to the land. As such, these areas function as a transition into Wilderness beyond.

Management Emphasis

Ecosystem processes such as fire and flood play a natural role.

Recreation is Semi-primitive and low density with an emphasis on non-motorized trail use.

Plants, Wildlife, Soil, Air, and Water

Objectives

1. Fire has a natural role. Prescribed fire is used to improve wildlife habitat; decrease fuel to natural levels; promote grass, forbs and shrub growth in a natural mosaic; and rejuvenate wildlife browse/forage.
2. Provide winter wildlife and resident habitat primarily for elk but also for white-tailed deer, mule deer and turkey.

Scenery

Objectives

1. An unaltered, natural-appearing landscape predominates.

Recreation

Objectives

1. Manage for a Semi-primitive ROS setting. This should generally be non-motorized except along the Casner Powerline Road where motor vehicles are allowed and where trailhead access provides parking and orientation to the area.
2. Discourage heavy recreational use. Protect quiet, uncrowded characteristics.
3. Except for motor vehicle use along the Casner Powerline Road, management and public use is consistent with goals for Wilderness and provides a transitional experience. Provide opportunities for Primitive Non-motorized trail-oriented activities, including opportunities to enjoy the natural environment, quiet and to access Wilderness.

Maintain wildlife travelways to help animals travel between summer and winter ranges, feeding and nesting areas, maternity areas, and dispersal areas. Travelways help ensure genetic mixing necessary for healthy populations.

Mexican Spotted Owl

Guidelines

Do not identify target threshold stands within the Urban/Rural Influence Zone. The allocation of target threshold habitat within the Lake Mary Watershed and Shultz Management Areas would better provide for long-term management of roost/nest habitat for the Mexican spotted owl. Approximately 26 percent of the Shultz Management Area and 11 percent of the Lake Mary Watershed should be managed for target-threshold conditions in the future, due to not allocating target threshold conditions in the URIZ.

Within the FLEA area, survey habitat that potentially could be used for nesting, roosting, or breeding, and is within ½ mile of a proposed site-specific project boundary.

Northern Goshawk

Guidelines

In the Urban/Rural Influence Zone, where possible, limit human activities within the 30-acre goshawk nest stand during the breeding season. In general however, do not curtail human activity such as informal dispersed recreation activities within the Post Fledging Family Areas (PFA). Social trails are likely to occur within portions of PFA's in the urban and rural influenced areas. Locate Forest Service system trails to avoid nest sites within PFA's, within the Urban/Rural Influence Zone. Emphasize the need to control pets on Forest Service system trails through education and enforcement.

Bald Eagles

Guidelines

Bald eagle winter roosts and perch habitat will be evaluated for long-term viability. Silvicultural methods that encourage regeneration and growth of desirable trees may be used near roost sites. Groves of trees may be maintained to provide screening for roost and perch areas. Silvicultural practices will result in the growth of large diameter trees with open crowns in multi-layered stands. Prescribed fires to improve and protect roost areas may be used with effective protection of large trees and snags.

Human activities will be managed so that disturbance does not interfere with the eagles' ability to use the site.

Threatened and Endangered Species

Guidelines

Seek opportunities to add to our base of knowledge about human disturbance to T&E species. This could be a variety of methods that could include but are not limited to, monitoring, survey of habitat, survey of recreation uses, or trail counters. Consider options to gather information when planning, or implementing, or monitoring site-specific projects, or

approving special uses or outfitter guides. Consider partnership opportunities with organizations or agencies to gather information outside of site-specific project planning. A variety of methods could be used to gather information including, but not limited to: monitoring, survey of habitat, survey of recreation uses, or trail counters. Share results and data among resource personnel and line officers for consideration in future projects with wildlife biologists and recreation staff to incorporate lessons learned into the next project. If analysis shows a need, management changes that could include, but are not limited to, relocating roads or trails, limiting season of use, designating types of activities, or reducing numbers of users could result if analysis shows a need.

Land Ownership Planning/Land Classification

Goals and Objectives

In the FLEA area there are a few parcels desirable for the Forest Service to acquire. If a willing property owner comes forward entertain a land exchange or land acquisition. Desirable parcels are a ¼ section of private land in the Dry Lake Hills and there are some isolated, undeveloped parcels in the Lake Mary Watershed.

In addition, there are Arizona State Trust Lands that are desirable to retain as natural landscape. Coordinate the identification of these parcels with the city and the county planning processes. Look for avenues to purchase if the State is a willing seller. Should land exchange authority be granted to the State, consider land exchanges as well.

Guidelines

Lands offered by the United States in a land exchange are tentatively classified as base-in-exchange. Currently, the Forest has 21,133 acres classified as base-in-exchange. Because local and physical conditions may change during the life of this plan, other lands may be considered for exchange. They will generally meet one or more of the following criteria:*

- Lands needed to meet the needs of expanding communities;
- Isolated tracts or scattered parcels that cannot be efficiently managed;
- Lands that provide consolidation of the public lands;
- Lands that will improve management, benefit specific resources, or increase management efficiency;
- Lands that are necessary to meet overriding local, regional, and national public needs;
- Lands within the boundaries of incorporated communities or annexed thereto or land within locally approved growth management boundaries;
- Review base-in-exchange plans when private land uses change from wildland and undeveloped uses towards more intensive uses.

If lands do not meet one or more the above criteria they should not be used as base-for-exchange lands. Because change occurs over time, re-visit the base-for-exchange criteria and map periodically and make adjustments based on new information such as updated City and

* The following guidelines are repeated from page 86 of the Forest Plan. The only unique direction for FLEA is highlighted in bold. The additional text is provided for context and clarity. There is additional direction on or near page 86 that applies to the land adjustment program.

County plans (examples are the *Regional Land Use and Transportation Plan*, and the *Flagstaff Area Open Spaces and Greenways Plan*). Consult with the Coconino County and City of Flagstaff about land adjustment proposals we plan to take forward into NEPA. Public input on land exchange occurs at the time a site-specific land exchange is proposed.

Forestry

Goals and Objectives

Grass, forbs, and shrubs on the forest floor contribute to biological diversity of the ponderosa pine forest.

Fire should continue to play a natural ecological role within the constraints of human health and safety.

The risk of and potential for destructive crown wildfire is reduced, especially in the Urban/Rural Influence Zone (U/RIZ) and the Wildland Urban Interface (IU) as depicted on the Fire Management Analysis Zones map.

Forest product removal (of any kind) is designed to maintain or restore ecosystem health and desired conditions. The use of National Forest land products, are primarily a means for achieving ecosystem management objectives.

Guidelines

Reduce crown canopy and ladder fuels where needed to reduce risk of stand replacing crown fires.

Reduce competition between closely spaced trees in some areas, to promote future large trees faster and to achieve desired tree sizes and canopy closures outlined in the *Forest Plan* (Mexican spotted owl and northern goshawk habitat guidelines). The parameters within which treatments should be designed are to be relatively assured that the future forest structure outlined in the goshawk guides is not precluded. No single treatment prescription is proposed. Examples of possible prescriptions include but are not limited to restoration models, uneven age models, even-age shelterwood, understory thinning, and prescribed fire.

Reduce competition between closely spaced trees in some areas to promote health and resistance to insects and disease.

Incorporate measures to control non-native and invasive plants into project design.

Maintain connected patches of denser vegetation that, along with topography, provide travel corridors for wildlife to move through the FLEA area. Maintain the two corridors that occur in the Urban/Rural Influence Zone. They are in the vicinity of A1 Mountain/Fort Valley, Naval Observatory, and along the Rio de Flag.

When designing treatment consider landowner wishes within the 150-foot area immediately adjacent to private land. Within the 150-foot area, more trees may be left based on landowner input.

For all the Management Areas in FLEA, Management Indicator species will be the same as they currently are for each original MA, which is based on vegetation type and slope. For example, lands that are covered with ponderosa pine on less than 40% slope will have the Management Indicator Species described for Management Area 3 in the *Forest Plan*.

Where appropriate, design projects to accomplish fuels reduction and maintenance on cultural resource sites.

Within the Urban/Rural Influence Zone, and in the Wildland Urban Interface (1U) as depicted on the Fire Management Analysis Zones map, do not apply the hiding and thermal cover guideline that requires 30 percent cover within a 10K Block.

Distribute wildlife cover where needed within the FMAZ 1U without accruing unacceptable wildfire threat to nearby neighborhoods. Wherever possible, projects should retain cover conditions within wildlife travelways, MSO protected activity centers (PAC's), along canyon rims, and on steeper slopes. Projects within the FMAZ 1U, should attempt to retain 15 percent cover within a given section.*

Dense stand conditions on steep slopes and within MSO PAC's contribute to the targeted 15 percent cover condition. Cover conditions might exceed 15 percent per section due to the presence of steeper slopes or MSO PAC's. In the absence of steep slopes or MSO PAC'S site-specific projects could retain a maximum of 15 percent cover condition to maintain a wildlife travelway through a section. Projects do not have to retain cover conditions of 15 percent, if a given section poses a high fire hazard to nearby neighborhoods

Providing firewood is not an emphasis for oak management.

Non-Native and Invasive Plants

Objectives

The impacts of non-native plant and animal species are controlled and introduction of new non-natives is discouraged.

Guidelines

Text was superceded by Amendment 20: see pages 69 and 69-1.

* The word "section" as used here, means a square mile in a legal description of township, range, and section. A section has 640 acres usually.

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Craters Management Area - MA 31

Acres: 29,940

Description

The western boundary of this MA is the Cinder Hills OHV area and Doney MA (marked by a large KV electrical line). The northern boundary is the Strawberry Wilderness, the southern and eastern boundaries are the Forest boundary. A portion of the San Francisco volcanic field occurs here with a field of large cinder cones sparsely covered by ponderosa pine trees and shrubs and covered with a deep layer of loose cinders. The landscape of impressive cinder cones in this MA provides remote, dispersed recreation opportunities and there is a stay on designated roads policy. The southeast 1/3 of this MA is pinyon/juniper woodland and grasslands with sparse pinyon and juniper trees and the occasional large cinder cone. The pinyon/juniper areas provide remote dispersed recreation opportunities and supports uses such as livestock grazing and firewood. Maroon Crater is the largest cinder cone and is used for hang gliding. This entire MA is distant from the sites and sounds of urban areas. Two paved roads (FR 545 and Luepp Road) pass through the MA. There are no communities adjacent to this MA. Some of the landforms in the Cinder Hills hold religious and cultural significance to Native Americans. This MA supports plant and animal species adapted to cinder landscapes, pinyon/juniper woodland, and grasslands.

Management Emphasis

Maintain cinder ecosystems, un-tracked appearance of cinder cones, and remote recreation opportunities with a high sense of self-exploration. Continue opportunities for firewood cutting and livestock grazing in the pinyon/juniper woodland. Restore natural grasslands. Re-establish or maintain fire and other ecosystem processes in the pinyon/juniper woodland.

Highlights Include:

- ◆ Management Indicator Species (MIS) should be referenced by vegetation and landform type. For example, in pinyon/juniper woodland areas MIS are those listed for MA7.
- ◆ Maintain Semi-primitive Motorized ROS settings throughout the MA, with Roded Natural corridors in between. Provide Semi-primitive Non-motorized settings on the large cinder cones.
- ◆ Retain an un-tracked appearance on the large cinder cones and maintain plants and animals adapted to the cinder ecosystem.
- ◆ Provide day and overnight-dispersed recreation opportunities with few developed trails or facilities.
- ◆ As stated in Management Area 10, of the *Forest Plan*, maintain and improve grasslands, including removing encroaching pinyon/juniper and re-introducing fire. Maintain or improve watershed conditions throughout the MA.
- ◆ Protect cultural resources.
- ◆ Continue motorized travel restrictions similar to the current Forest orders where motorized use occurs on designated open roads and trails only.

All of the following items are Guidelines.

Non-motorized and Motorized Trails

Provide low mileage of designated non-motorized trails in the MA and encourage self-exploration.

Consider motorized trail corridors in this MA. Consider routes along the secondary road system for multiple-use opportunities.

Discourage off-trail use of any kind on large cinder cones.

Recreation Signing

Clear signing and information should be provided to off highway vehicle drivers to make clear distinction between driving rules in the Cinder Hills OHV area the cinder cones outside of the OHV area.

Cultural/Historical

Continue active monitoring of cultural and historical sites to impacts from recreation, cattle grazing, firewood cutting, and other human uses. Changes in management can occur in response to demonstrated (through monitoring) negative impacts to archaeological resources. Cooperate with available Park Service personnel to accomplish monitoring.

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Craters Management Area – MA 31*

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Deadman Wash Management Area – MA 32

Acres: 58,133

Description

The southern boundary of this MA is Sunset Crater Volcano National Monument, the Cinder Hills OHV area and Doney MA. The western boundary is Highway 89, the northern boundary is Wupatki National Monument, and the eastern boundary is the Forest boundary and Strawberry Wilderness. The southern portion contains portions of the San Francisco volcanic field with a field of large cinder cones sparsely covered by ponderosa pine trees and shrubs and covered with a deep layer of loose cinders. O’Leary Peak is the highest most prominent feature and is topped with a fire lookout tower. Bonito and O’Leary campgrounds are located adjacent to Sunset Crater Volcano National Monument.

The landscape of impressive cinder cones in this MA provides remote, dispersed recreation opportunities and there is a stay on designated roads policy. The center of the MA is pinyon/juniper woodland that provides remote dispersed recreation opportunities and supports uses such as livestock grazing and firewood. The northern 1/3 of the MA is grassland with sparse pinyon/juniper trees. Deadman Wash is a prominent drainage. In the grassland areas, large patches are unroaded and remote recreation experiences are found. Access to Strawberry Crater Wilderness is located in this MA. Most of this MA is distant from the sites and sounds of urban areas. Highway 89 is located on the west boundary and FR545 passes through the southernmost part of the MA. There are private land inholdings along the Highway 89 corridor. A large KV electric line passes through the center of the MA. Some of the landforms hold religious and cultural significance to Native Americans. This MA supports plant and animal species adapted to cinder landscapes, pinyon-juniper woodland and grasslands.

Management Emphasis

Restore and maintain grasslands and grassland adapted wildlife species, especially antelope. Provide large tracts of un-roaded landscape for disturbance sensitive species and remote recreation experiences. Protect cultural resources. Continue opportunities for livestock grazing, hunting, and firewood gathering. Balance recreation use demands on O’Leary Peak with sensitive wildlife species needs and Native American cultural values.

Focus on maintenance and/or improvement of soil condition and watershed function. System roads and trails should receive adequate maintenance so that accelerated soil erosion is minimal. Non-system roads will be rehabilitated and some poorly located roads will be re-located. Rate of implementation will be dependent on funding and Forest priorities for road maintenance.

Highlights include:

- ◆ Management Indicator Species (MIS) should be referenced by vegetation and landform type. For example, in pinyon/juniper woodland areas MIS are those listed for MA7.
- ◆ Progress towards the settings displayed on the *Objectives for Recreation Opportunity Spectrum* map. This includes expanding the current Semi-primitive Motorized areas, and adding Semi-primitive Non-motorized settings on O’Leary Peak and other large cinder cones. Maintain the Roaded Natural settings along passenger car road corridors and the large KV electric line.
- ◆ Roads that access the national monuments other than through NPS control points will be removed from the system. Other secondary roads that are not needed for administrative access will be removed from the system.
- ◆ Enforce the stay on designated roads policy.
- ◆ Retain an un-tracked appearance on the large cinder cones and maintain plants and animals adapted to the cinder ecosystem.
- ◆ Provide day and overnight dispersed recreation opportunities with few system trails or facilities, except for Bonito and O’Leary Campgrounds.
- ◆ As stated in Management Area 10, maintain and improve grasslands, including removing encroaching pinyon/juniper and re-introducing fire. Maintain or improve watershed conditions throughout the MA.

All of the following items are Guidelines.

Recreation

Discourage off-trail/road use of any kind on large cinder cones.

Outfitter/Guides

Before permitting outfitter/guides adjacent to National Monuments, contact the National Park Service for coordination. Outfitter guiding might also help meet the mission of the National Park Service in the National Monuments or on adjacent National Forest lands.

Follow FLEA area-wide direction including generally, do not place additional outfitter/guide activities or group activities in Deadman Wash, any spring or perennial stream site, except in support of approved research and/or to improve safety or provide site rehabilitation.

Non-motorized Trails

Determine whether or not the O’Leary Peak road (currently gated) should be designated as part of a non-motorized trail system. Consider methods to discourage off-trail use into sensitive areas, such as wildlife and cultural resources. Continue administrative road use for the lookout.

Provide short loop trail opportunities at the base of O’Leary Peak adjacent to O’Leary campground to encourage recreation use at the base of the Peak and west of O’Leary Road.

Cultural/Historical

Continue active monitoring of cultural and historical sites to assess impacts from recreation, cattle grazing, firewood cutting, and other human uses. Changes in management can occur in response to demonstrated (through monitoring) negative impacts to archaeological resources. Cooperate with available Park Service personnel to accomplish monitoring.

Scenery

Consider impacts to viewsheds of the National Monuments and consider input from Park Service personnel when designing or approving projects in these viewsheds.

Forestry

Green firewood cutting is a tool for grassland restoration. Continue efforts to limit illegal firewood gathering and enforce firewood harvest regulations. However, if firewood cutting for personal home use causes impacts to sensitive areas, adjust firewood policy as needed. This policy is adjusted annually for the Forest.

Livestock Grazing

Take steps to ensure cattle do not concentrate on sensitive cultural sites. Techniques to meet this objective include: placing new improvements such as water sources and fences away from sites; no salting at these sites; change pasture graze period at these sites; and closing parts of pastures to grazing.

Coordination with National Park Service

See FLEA area-wide direction related to Memorandum of Understanding's (MOU's).

Specific coordination items related to this MA include FR 545, Bonito, and O'Leary campgrounds, O'Leary Peak, NPS administrative site, and the location of a potential future new visitor center.

Coordinate with Sunset Crater Volcano and Wupatki National Monuments in managing dispersed recreation use adjacent to the Monuments.

Additional topics include fencing placement/removal needs and proposed minor administrative boundary adjustments. Coordinate future changes in fencing as required by administrative boundary adjustments or to reduce the encroachment of users on to NPS national monuments.

Doney Management Area – MA 33

Acres: 40,530

Description

This MA surrounds the communities of Timberline, Fernwood, Doney Park, Cosnino, Winona, Rain Valley, Black Bill, and extends to the City of Flagstaff's eastern developed areas. The western boundary is Shultz Pass Road and the base of Mt. Elden, the southern boundary is I-40 and Walnut Canyon National Monument, the eastern boundary is the large KV electric line (Craters MA) and the northern boundary is the Cinder Hills OHV area. The City of Flagstaff Landfill is located in this MA.

Large tracts of private land occur with some inholdings of National Forest and Arizona State Trust Lands. These communities are rural residential and many residents raise animals such as horses, sled dogs, and llamas. ATV's are a popular mode of travel. The entire MA provides dispersed recreation opportunities and receives heavy use adjacent to private land. Activities include hiking, horse riding, mountain biking, ATV riding, and driving. Private land has developed quickly and public access to National Forest land is becoming scarce. Forest lands provide a scenic backdrop to residential areas. Many people have listed the forest as one of the quality-of-life items that drew them to Flagstaff. Nearby outdoor recreation opportunities and forest scenery are highly appreciated by residents and tourists. Some cinder cones and drainages in this MA hold traditional cultural values for Native Americans. Highway 89 passes through the center of the MA along with the Townsend Winona Road and I-40.

West of Highway 89 vegetation is ponderosa pine (most less than 40 percent slope). The remainder of the MA is pinyon/juniper woodland with patches of grassland near subdivisions. Cinder soils occur in the northern portion along with some large cinder cones, the most prominent being Old Caves Crater, and O'Neal Crater. The Rio De Flag winds through the MA, located on a mix of private and National Forest land. South of I-40 there are tracts of grasslands. There is deer winter range at the base of Mt. Elden. The Old Caves Crater Environmental Study Area (ESA) is located within this MA (see MA17 for more information). The Arizona Trail passes through the southern portion of this MA.

Management Emphasis

Most of this MA is within the Urban/Rural Influence Zone. Reduce the risk of catastrophic wildfire, especially within the Urban/Rural Influence Zone. Reintroduce fire's natural role as much as possible. Emphasize daytime recreation activities, both motorized and non-motorized. Balance recreation demands with protection of soils, water, and vegetation. Maintain public access to public lands. Restore natural grasslands, and promote healthy pinyon/juniper woodland. Ponderosa pine lands progress towards desired forest structure (goshawk habitat). Reduce instances of illegal activities and trash dumping. Maintain scenic quality. Opportunities for firewood or other forest products are rare, however, firewood sales may be used as a tool for management.

Highlights include:

- ◆ Per the *Objectives for Recreation Opportunity Spectrum* map, expand Semi-primitive Non-motorized settings on a few of the large cinder cones in this MA. Expand Semi-primitive Motorized settings in other areas and continue Roded Natural corridors along major roads. In this MA, the Semi-primitive settings have higher numbers of people than occur in outlying MA's.
- ◆ This MA is a high priority for efforts to reduce the risk of catastrophic fire especially in the ponderosa pine lands. Reference FLEA area-wide direction and the *Forest Plan* related to vegetation and fire management.
- ◆ Per the area-wide FLEA direction: meet with specific communities and County officials and consider input for Forest road and trail management, discourage proliferation of unneeded trails, create a primary trail system that serves as a collector for trails that originate in neighborhoods, convert some roads that are not needed for the road system into motorized trails, and provide pass through corridors for vehicles and ATV/motorcycles that leads to a separate motorized trails or to the secondary Forest road system.
- ◆ MIS should be referenced by vegetation and landform type. For example, in pinyon/juniper woodland areas MIS are those listed for MA7.

All of the following items are Guidelines.

Outfitter/Guides

Before permitting outfitter/guides adjacent to National Monuments, contact the National Park Service for coordination. Outfitter guiding might also help meet the mission of the National Park Service in the National Monuments or on adjacent National Forest lands.

Non-motorized and Motorized Trails

When conducting trail planning as described in the FLEA area-wide direction, include discussions and input from the Coconino County trails coordinator and local groups, as well as community citizens. Complicated access issues and a multitude of recreation demands occur here.

Flagstaff Management Area – MA 34

Acres: 1,781

Description

There are approximately 1,295 acres of National Forest land within the proposed Urban Growth Boundary in the Flagstaff Regional Land Use and Transportation Plan (RLUTP). On the south side of Flagstaff there is an area north of the airport identified as a potential regional park. There are lands that surround the airport, which the City has an interest in obtaining for airport use, or office/business park development and there is a parcel near Weitzel School the City is interested in as a neighborhood park.

Management Emphasis

All of the lands not directly needed by the Forest Service for its facilities become low priority for retention in Forest Service ownership. In addition, we also are not planning new developments in these areas. As long as these lands remain in National Forest ownership, within the Urban/Rural Influence Zone (entire MA), reduce the risk of catastrophic wildfire, emphasize daytime non-motorized recreation opportunities and balance recreation demands with protection of the soils, water, wildlife and vegetation, and maintain public access to public lands. Reduce instances of illegal activities and trash dumping. Maintain scenic quality. Opportunities for firewood or other forest products are rare, however, firewood sales may be used as a tool for management.

Highlights include:

- ◆ Emphasize Roded Natural ROS settings with few roads and trails or facilities.
- ◆ Continue efforts in partnership with the City of Flagstaff to treat forested stands to reduce risk of catastrophic wildfire.
- ◆ **Text was superceded by Amendment 20: see page 23.**

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Flagstaff/Lake Mary Ecosystem Analysis (FLEA)
Flagstaff Management Area – MA 34*

Guidelines are the same as the West MA in the Urban/Rural Influence Zone

Lake Mary Watershed Management Area – MA 35

Acres: 62,536

Description

The northern boundary is the Walnut Canyon MA (including a section of FH3 - Lake Mary Road), the eastern boundary is the FLEA boundary generally located on the Lake Mary Watershed break, the southern boundary is also the edge of the FLEA area, including the north facing slopes of Mormon Mountain (watershed break), the western boundary borders the West MA near the community of Mountaineer. There are scattered parcels of private land mostly concentrated in the northwestern 1/3 of the MA. Communities include Elk Park Meadows, Lake Mary Meadows, Lake Mary store and trailer park, and the east side of Mountaineer.

The majority of this MA is a rolling landscape of ponderosa pine with Gambel oak intermixed. Steep slopes with mixed conifer and shrubs occur on portions of Mormon Mountain and in a few large drainages. Oak and pine provide habitat for Mexican spotted owls and other rare species. Elk are numerous. This MA covers the lake basins of Upper and Lower Lake Mary, including Marshall Lake. Unique and diverse sets of wildlife species use the lakes and shorelines. The eagle/osprey emphasis area is located here.

Along the Lake Mary Road (FH3) corridor there are numerous developed recreation sites including day-use picnic areas, boat ramps, campgrounds, and parking areas. Upper and Lower Lake Mary provide water based recreation such as motorized and non-motorized boating and fishing. Marshall Lake is located off of paved roads and provides non-motorized boating, waterfowl hunting, and fishing. Lowell observatory has facilities located on Anderson Mesa. The Arizona Trail passes by Marshall Lake. Beyond the Lakes, people appreciate dispersed camping, wildlife viewing, hunting, driving for pleasure, and many other kinds of forest recreation. Many campers come from the Phoenix metro-area in the summer months. Other uses include livestock grazing and firewood cutting.

Lake Mary provides water to the City of Flagstaff water system.

This MA includes areas that support high densities of suitable roost and perch trees adjacent to Lower Lake Mary, a heavily used eagle and osprey area given favorable prey conditions. Many existing roost and perch trees are threatened by possible mortality due to insect infestation and loss of vigor due to high stand densities, drought and by potential loss due to catastrophic fire. Current conditions for recruitment of future perch and roost trees (tall, large trees with open crowns) are not favorable due to higher stand densities. Other logical and important locations for future eagle perches and/or roosts adjacent to and south of Lower Lake Mary are omitted from the current emphasis area boundaries.

Management Emphasis

Focus on maintenance and/or improvement of soil condition and watershed function. Degraded meadows and stream channels will be improved through a variety of management activities designed to increase herbaceous ground cover and litter and

reduce soil erosion. System roads and trails will receive adequate maintenance so that accelerated soil erosion is minimal. Non-system roads will be rehabilitated and some poorly located roads will be re-located.

The northwestern portion of this MA is within the Urban/Rural Influence Zone. Reduce the risk of catastrophic wildfire, especially within the Urban/Rural Influence Zone. Reduce instances of illegal activities and trash dumping. Maintain scenic quality. Opportunities for firewood or other forest products are rare in the northwest portion; however, firewood sales may be used as a tool for management.

In the entire MA, re-introduce fire's natural role as much as possible, and ponderosa pine lands progress towards desired forest structure, including northern goshawk and Mexican spotted owl habitats.

In the lakes, maintain the variety of waterfowl, raptors, amphibians, and many different kinds of plants adapted to lake shore environments. Emphasize healthy shorelines adjacent to the water with ample ground cover, and less erosion or compaction. Turbidity is natural to these lakes. Minimize human disturbance to wildlife, where needed, during the critical times. Continue to provide general dispersed and water-based recreation opportunities. Improve wildlife viewing opportunities where wildlife viewing is compatible with wildlife habitat.

Highlights include:

- ◆ MIS should be referenced by vegetation and landform type. For example, in ponderosa pine lands less than 40 percent slope MIS are those listed for MA3.
- ◆ In the Urban/Rural Influence Zone, per the area-wide FLEA direction: meet with specific communities, interested people, City and County officials and consider input for Forest road and trail management, discourage proliferation of unneeded trails, create a primary trail system that serves as a collector for trails that originate in neighborhoods, convert some roads that are not needed for the road system into motorized trails.
- ◆ Maintain existing recreation facilities and improve signing, parking, and sanitation. Balance recreation demands with sensitive resources such as species habitats, fragile riparian vegetation, and erosive soils where they occur. Continue to focus high levels of use on the Lake Mary Road side of the lakes.
- ◆ Riparian communities should have adequate native plant cover to protect stream banks and dissipate energy during high flows.
- ◆ In the Lake Mary Watershed, high priority is given to minimizing soil erosion and sedimentation from Forest system roads and trails. Proper maintenance and drainage will be emphasized as well as relocation of roads from meadows and obliteration of unnecessary roads.
- ◆ Per the *Objectives for Recreation Opportunity Spectrum* map, expand Semi-primitive Motorized areas and maintain Roaded Natural corridors along major roads. New Semi-primitive Non-motorized patches should be created on Mormon Mountain in sensitive species habitat.

Maintain or enhance rare plant populations where they occur. Examples are Flagstaff pennyroyal, Flagstaff penstemon, and Arizona leatherflower.

All of the following items are Guidelines.

Recreation

Provide designated parking spots along Lake Mary Road where it borders Lower and Upper Lakes Mary. Limit parking to certain spots along the highway and/or in current paved parking areas. Techniques may include installing physical barriers and implementing enforcement policies that manage parking.

Provide additional sanitation facilities along the Upper and Lower Lakes Mary corridor, especially where large numbers of people tend to congregate.

Continue current seasonal motorized restrictions in the Pinegrove Seasonal Closure Area.

Recreation Signing

Informational signs and patrols will be similar to what they are today. The Forest Recreation Map is the primary information tool. These areas may be somewhat "advertised."

Near the lakes continue to provide brochures, signs, and other information about the site. In addition, endeavor to improve wildlife viewing and education opportunities.

Camping

Per the *Objectives for Camping* map, camping is designated dispersed camping sites in the Lake Mary and Marshall Lake areas. Continue the current developed campground opportunities and continue general dispersed camping in the rest of the MA.

Designated dispersed camping opportunities will be identified along the south shore of Upper Lake Mary for boat-in camping. Camping should occur in designated sites only on the south shore. Locate designated camping an appropriate distance from raptor nests. Sites will be closed, re-opened or rotated as needed for area rehabilitation. Foster good sanitation.

practices and encourage boaters to pack-it-out, or if needed design sanitation facilities so as not to create sources of human waste pollution.

Outfitter/Guides

Do not issue outfitter/guide permits or permit use that causes significant change for the ROS social or managerial setting, such as allowing airboats or seaplanes on the lakes.

Non-motorized and Motorized Trails

Continue the current non-motorized Arizona Trail corridor through the MA.

Outside of the Urban/Rural Influence Zone, adoption of user-created trails is unlikely. Provide low mileage of designated non-motorized trails in the remainder of the MA and encourage self-exploration.

Consider motorized trail corridors in this MA. The secondary road system should provide for multiple-use opportunities.

Wildlife

Take actions at Marshall Lake to continue use and enjoyment of Marshall Lake and to maintain important waterfowl nesting habitat. Continue maintenance of the Marshall Lake wetland in cooperation with the Arizona Game and Fish Department through such actions as matting, mowing or other actions that create waterholes in the reeds. Maintain the current boat ramp and enhance wildlife viewing opportunities. Consider making a portion of the lake and adjacent forested areas, an enclosure that prohibits dogs, people, and hunting during the waterfowl-nesting season of May 1 to July 15 to increase nesting success of upland game birds.

Refer to more recent management guidelines and conservation assessments that exist for bald eagle winter habitat management.

The designated bald eagle/osprey emphasis area should be expanded to include future perch and roost trees in key areas.

Watershed

This area is a high priority for fixing drainage culverts, relocating roads from meadows, and obliterating unnecessary roads so that erosion does not degrade water quality in Lake Mary.

Roads, trails, camping, and grazing will be managed to improve watershed condition particularly within mountain meadows, springs, and drainages.

Improve watershed conditions in Priest Draw.

Cooperate with the City of Flagstaff and National Park Service to develop study proposals and projects designed to evaluate best management practices, reservoir modifications, and/or operational criteria to address the objectives of maintaining the quality of the municipal water supply and increasing the likelihood of flood flows and improvement of the inner-canyon environment in Walnut Canyon National Monument (per the Stipulation Between The City of

Flagstaff and the United States on Behalf of the National Park Service and the Forest Service).

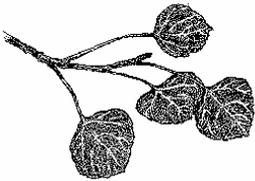
Fire Management

Per the FLEA Area-wide direction, reduce potential for catastrophic wildfire within the Urban/Rural Influence Zone. Because of prevailing winds, lands south and west of the Urban/Rural Influence Zone should be evaluated for wildfire risks and appropriate measures taken to reduce potential for catastrophic fire. Continue partnerships with city, county, and State fire departments to coordinate fire hazard reduction treatments, prevention, and suppression. Take steps to minimize wildfire losses to key wildlife habitat components such as eagle roosts, osprey nests, snags, yellow pines, oaks and rare plant habitat.

Rare Species

Follow approved management plans or other conservation documents.

*Chapter 4 – Management Direction
Flagstaff/Lake Mary Ecosystem Analysis (FLEA)
Lake Mary Watershed Management Area – MA 35*



Schultz Management Area – MA 36

Acres: 21,289

Description

The west boundary is the West MA, the north boundary is the Kachina Peaks Wilderness boundary and a small portion of FR 418. The east boundary is the Doney MA, the northern boundary is FR 418, the west boundary is Kachina Peaks Wilderness, and the southern boundary is the Mt. Elden Environmental Study Area. Prominent landscape features include the Dry Lake Hills, Mount Elden, and the eastern slopes of the San Francisco Mountain.

Meadows and riparian sites are few and therefore are key parts of the landscape. Dense forests of ponderosa pine and mixed conifer, along with geologic features and stands of aspen, provide habitats for a diversity of wildlife, including raptors, bear, and turkey.

There are a very few small private land inholdings in the MA. A communication site and fire lookout are located on Mt. Elden and accessed via the Elden Lookout Road. A natural gas underground pipeline skirts the southern edge of the MA. The Mount Elden/Dry Lake Hills Trail system provides 47 miles of non-motorized trail opportunities. People enjoy extraordinary outdoor recreation and appreciate the developed trail system with easy access from the City of Flagstaff. Social values include scenic beauty; appreciation of wildlife such as bear, turkey, and raptors, and remote forest recreation opportunities. This entire MA holds important religious and traditional values to American Indians.

Management Emphasis

A small portion of this MA is within the Urban/Rural Influence Zone. Reduce the risk of catastrophic wildfire, especially within the Urban/Rural Influence Zone. Reintroduce fire's natural role as much as possible. Emphasize daytime recreation activities, primarily non-motorized in the Urban/Rural Influence Zone and provide designated camping sites in the Dry Lake Hills. Balance recreation demands with protection of the soils, water, vegetation, and sensitive species. This includes defining limits on recreation individual, group or outfitter/guide use if analysis shows a need.

Maintain drainages and meadows for watershed health and water quality. Ponderosa pine lands progress towards desired forest structure (goshawk habitat). Reduce instances of illegal activities and trash dumping. Maintain scenic quality. Opportunities for firewood or other forest products are rare; however, firewood sales may be used as a tool for management.

Highlights include:

- ◆ In the Mt. Elden/Dry Lake Hills area, people should be mostly on the trail system, leaving undisturbed patches of habitat in between. Wildlife habitat will be somewhat fragmented because of the extent of the trail system, but topography and dense mixed conifer vegetation reduce some of the effects.
- ◆ Per the *Objectives for Recreation Opportunity Spectrum* map, maintain the Semi-primitive Non-motorized setting in the Dry Lake Hills and expand the Semi-primitive Non-motorized setting below the Waterline Road. Expand Semi-

- ◆ Primitive Motorized settings in the remainder of the MA with Roded Natural corridors along major roads.
- ◆ Maintain the Dry Lake Hills Trail system for non-motorized recreation trail opportunities. Few if any additions are needed to this system.
- ◆ Maintain the two Mexican spotted owl PACs.
- ◆ Management Indicator Species (MIS) should be referenced by vegetation and landform type. For example, in ponderosa pine/mixed conifer on slopes over 15 percent areas MIS are those listed for MA4.

All of the following items are Guidelines.

Recreation

Identify designated parking spots along the roads of this MA where recreational uses are heavy.

Maintain the non-motorized status of the base of Mt. Elden to protect deer winter habitat and cultural sites and to provide for high levels of non-motorized recreation.

Recreation Signing

In the Mount Elden/Dry Lake Hills area there will be extensive signing, brochures, and patrols so that visitors can easily find trails and facilities.

In the area east of the Waterline Road informational signs and patrols will be similar to what they are today. Brochures or other information would be minimal. Recreation opportunities here will not be "advertised."

Camping

Per the *Objectives for Camping* map, designate dispersed camping sites in the Mount Elden/Dry Lake Hills area.

Monitor backcountry camping for impacts.

Walnut Canyon Management Area – MA 37

Acres: 20,566

Description

Adjacent communities include: Fairfield neighborhood, Herold Ranch, and communities along Lake Mary Road.

The northern boundary is private land on the southeast side of Flagstaff (Flagstaff MA) and a portion of I-40. The communities of Fairfield Continental, Herold Ranch, and the new Fairway Peaks are nearby. The eastern boundary is the Walnut Canyon National Monument entrance road, a portion of the Monument boundary, and the FLEA boundary. The southern boundary is the Lake Mary MA and the western boundary is Lake Mary Road. Large tracts of private land border this MA. There are small inholdings of private land along Lake Mary Road, but little private land in the interior of the MA. Walnut Canyon National Monument and Arizona State Trust Land sections are located in the northern ½ of the MA. No paved roads or utility corridors occur except on the boundaries.

Walnut Canyon dominates this MA, running from the end of Lower Lake Mary to Fisher Point and turning east towards Winona. The scenery is spectacular. Cultural sites are numerous and the canyon holds Native Americans religious values. The steepest section of the canyon with the most archaeological sites is located within Walnut Canyon National Monument. The canyon itself supports a multitude of vegetation types and habitats from steep north facing mixed conifer, to riparian vegetation at the canyon bottom. Disturbance sensitive wildlife species occur in secluded portions of the canyon and along the rim. Lands outside of the canyon are ponderosa pine with Gambel oak understory, and some pinyon and juniper.

There are Forest system trails, including the Arizona Trail in the canyon itself and along the rim. Fisher Point is a popular destination for hikers, mountain bikers, and outfitter/guided horse trips. Canyon Vista is popular for climbing. North and west of Walnut Canyon the area provides dispersed recreation opportunities and receives heavy use adjacent to private land and Lake Mary Road. Activities include hiking, horse riding, and mountain biking. Major roads provide access and other areas are closed to vehicles. Walnut Canyon and its major side drainages are closed to motorized vehicles. The areas south and east of Walnut Canyon provide more remote dispersed recreation opportunities including motorized travelways.

Social values include scenic beauty, appreciation of wildlife such as bear, turkey, and raptors, and remote forest recreation opportunities. Despite increasing numbers of people in the greater Flagstaff area, this MA maintains large tracts of unfragmented habitat for disturbance-sensitive species such as owls, turkey, and bear primarily south of Walnut Canyon.

Management Emphasis

Provide Recreational Opportunities. Maintain the quality of the recreational experience throughout this MA. North and west of Walnut Canyon emphasize daytime recreation activities, primarily non-motorized. South and east of Walnut Canyon emphasize remote dispersed recreation (day and overnight) with motorized and non-motorized opportunities. Balance recreation demands with protection of the soils, water, vegetation, and sensitive species.

Manage to protect the values of Walnut Canyon National Monument and complement National Park Service goals for the Monument as described in the National Park Service's General Management Plan.

Maintain scenic quality.

Protect the community - A small portion of this MA is within the Urban/Rural Influence Zone. Reduce the risk of catastrophic wildfire, especially within the Urban/Rural Influence Zone. Reintroduce fire's natural role as much as possible. Opportunities for firewood or other forest products are rare north and west of the Canyon, however, firewood sales may be used as a tool for management.

Protect Walnut Canyon environs. Focus on maintenance and/or improvement of soil condition and watershed function. Degraded meadows and stream channels will be improved through a variety of management activities designed to increase herbaceous ground cover and litter and reduce soil erosion. System roads and trails should receive adequate maintenance so that accelerated soil erosion is minimal. Non-system roads will be rehabilitated and some poorly located roads will be re-located.

Maintain sensitive species habitat. Ponderosa pine lands progress towards desired forest structure, including Mexican spotted owl and northern goshawk habitats.

Reduce instances of illegal activities and trash dumping.

Emphasize the social values compatible with an urban interface that includes recognition of the area's opportunity for wildlife, recreational, and scenic values. Provide forage and security for a variety of game and non-game species of wildlife, provide conservation and environmental education opportunities, provide an area for recreational uses for the Flagstaff public, and manage a portion of the area to give a quiet, almost primitive recreation experience.

Highlights include:

- ◆ Per the *Objectives for Recreation Opportunity Spectrum* map, expand Primitive (Non-motorized) settings in and around the steepest portions of Walnut Canyon. Expand Semi-primitive Non-motorized settings on Campbell Mesa, around Walnut Canyon, in the Skunk/Fay Canyon area and northwest of Fisher Point. The Skunk/Fay Canyon areas and lands north of Fisher Point are classified as SPNM ROS settings with one or two SPM road corridors located to protect important habitat characteristics and soil and water needs of the canyon rim. Roaded Natural settings continue in some portions of the MA along the Lake Mary Road corridor.

*Chapter 4 – Management Direction
Flagstaff/Lake Mary Ecosystem Analysis (FLEA)
Walnut Canyon Management Area – MA 37*

- ◆ Balance recreation demands with sensitive resources such as sensitive species habitats, fragile riparian vegetation, and erosive soils on steep slopes.
- ◆ MIS should be referenced by vegetation and landform type. For example, in ponderosa pine lands less than 40 percent slope, MIS are those listed for MA3.
- ◆ Reduce the risk of catastrophic fire especially in the Urban/Rural Influence Zone. There is concern for wildfire losses to the National Monument from fires starting southwest of the park. Balance the need to reduce wildfire risk in these areas with desired conditions for Primitive and Semi-primitive ROS settings and disturbance sensitive species habitat. Reference FLEA area-wide direction and other the *Forest Plan* management direction related to vegetation and fire management.
- ◆ Per the area-wide FLEA direction: meet with specific communities, City and County officials and consider input for Forest road and trail management, discourage proliferation of unneeded trails, create a primary trail system that serves as a collector for trails that originate in neighborhoods, convert some roads that are not needed for the road system south and east of Walnut Canyon to motorized trails outside of SPNM areas.
- ◆ Formalize and recognize commitments by the various federal, State, and local government entities to manage the lands between the urban growth boundaries (UGB) and the national monument to retain its recreational and scenic values. Governmental commitments for the management of recreational and scenic lands between the Walnut Canyon NM and the UGB shall reflect the following objectives and intents:
 - ◆ Protect the natural and cultural resources in the urban/wildland interface and the lands surrounding the national monument.
 - ◆ Encourage the City and County to designate and require access points from developed or to be developed areas onto public lands.
 - ◆ Encourage the City and County to provide a transition zone of open space or low density from higher density development where adjacent to public lands.
 - ◆ Cooperate with NPS in its efforts to monitor the use of and impacts on the natural and cultural resources of the Monument.

All of the following items are Guidelines, with the exception of Land Ownership.

Recreation

High-quality daytime recreation will be available with few developed recreation facilities.

As signs need to be replaced, use the Walnut Management Area name to replace the Walnut Recreation Area name.

Outfitter/Guides

Before permitting outfitter/guides adjacent to National Monuments, contact the National Park Service for coordination. Outfitter guiding might also help meet the mission of the National Park Service in the National Monuments or on adjacent National Forest lands.

Follow FLEA area-wide direction including generally, do not place additional outfitter/guide activities or group activities in Walnut Canyon from Fisher Point east, any spring or perennial stream site, except in support of approved research and/or to improve safety or provide site rehabilitation.

Camping

Portions of this MA will be closed to camping as noted on the Camping Objectives Map.

Manage the Canyon Vista area to provide parking, day-use trails, and overnight camping for individuals and groups. Facilities at the site should be designed to limit resource impacts and provide a camping experience at the less developed end of the spectrum for developed campgrounds.

Non-motorized and Motorized Trails

Recreation use should be concentrated along main corridors with few roads, trails, and people in between.

Continue the current non-motorized status in the areas of Skunk and Fay Canyons, Canyon Vista, Fisher Point, and Campbell Mesa.

Within Walnut Canyon itself, discourage off trail use.

Scenery

Consider impacts to viewsheds of the National Monument and consider input from Park Service personnel when designing or approving projects in this viewshed.

Developments such as roads, trails, camping, day-use sites, and trailheads mimic local materials and landscape characteristics to blend with the adjacent natural-appearing landscape.

Provide fast clean-up from management activities and limit short-term visual impacts (1 to 3 years), while meeting fire potential reduction needs, design thinning for long-term scenic quality adjacent to homes and along major highways or near developed recreation sites.

West Management Area – MA 38

Acres: 36,298

Description

The northern boundary is the FLEA boundary (portion of the Kachina Peaks Wilderness boundary), the west boundary is the FLEA boundary just west of Fort Valley, and bordering Camp Navajo and portions of Woody Ridge. The southern boundary is the rim near the switchbacks on Highway 89A, and the eastern boundary is the Lake Mary MA near Mountainaire, private land on the west side of Flagstaff, and the Schultz MA.

Much of the land in this MA is either private land or Arizona State Trust land with interspersed National Forest land. Adjacent communities include or are nearby: Lowell Observatory, Museum of Northern Arizona, Fort Valley, Hidden Hollow, Cheshire, Fort Tuthill, WL Gore facility, Equestrian Estates, Pine Dell, Mountain Dell, University Heights, University Highlands, Forest Highlands, Kachina Village, Mountainaire, lands south of the Flagstaff Airport, Flagstaff Ranch Road, Old Route 66, Naval Observatory, Dry Lake, and The Arboretum at Flagstaff.

At the top of the switchbacks on Highway 89A, Oak Creek Vista currently receives over 300,000 visitors annually and is the busiest recreation site on the Coconino Forest. No other National Forest developed recreation facilities exist in this MA. Fort Tuthill is a Coconino County regional park and the Flagstaff Urban Trail system has segments that cross National Forest land. The Highway 89A corridor is popular for dispersed camping, that is frequently overflow from Oak Creek Canyon. Other highways in this MA include I-17, I-40, a small segment of Highway 180 and the lower 2 miles of the Snowbowl Road. Areas near urban/residential areas receive high levels of daytime use by nearby residents. Activities include horse riding, mountain biking, ATV riding, jogging, and hiking. There are equestrian centers nearby.

Prominent features include the southern slopes of the San Francisco Mountain, A-1 Mountain, Observatory Mesa, Dry Lake, Rodgers Lake, Woody Mountain, Woody Ridge, and the Oak Creek rim. Vegetation is mostly ponderosa pine with Gambel oak understory and mixed conifer on steep slopes and within drainages. There is a mix of disturbance sensitive and other wildlife species in the MA, and a wildlife travelway near A-1 Mountain provides wildlife access to the San Francisco Mountain and areas south. Areas support Mexican spotted owls and other sensitive species.

The Pumphouse Wash canyon supports a variety of vegetation types and habitats from steep north facing mixed conifer, to abundant riparian vegetation in the canyon bottom. The scenery is spectacular. Disturbance sensitive wildlife species such as peregrine falcon, Mexican spotted owls, turkey, bear, and mountain lion occur in the canyon and along the rim. Pumphouse Wash drains into Oak Creek and high quality water is emphasized.

Many people have listed the presence of the forest as one of the quality-of-life items that drew them to Flagstaff. Nearby outdoor recreation opportunities and forest scenery are highly appreciated by residents and tourists. People enjoy the scenery,

and nearby residents value outdoor recreation and scenic backdrops. The San Francisco Mountain holds significant religious and cultural values to Native Americans, along with some cinder cones and drainages.

Management Emphasis

More than half of this MA is within the Urban/Rural Influence Zone. Within the Urban/Rural Influence Zone, and along the Highway 89A corridor, reduce the risk of catastrophic wildfire, emphasize daytime recreation activities, both motorized and non-motorized, balance recreation demands with protection of the soils, water, wildlife and vegetation, and maintain public access to public lands. Reduce instances of illegal activities and trash dumping. Maintain scenic quality. Opportunities for firewood or other forest products are rare, however, firewood sales may be used as a tool for management. Maintain wildlife travelways.

In the remainder of the MA, re-introduce fire's natural role as much as possible, progress towards desired conditions described (MSO and goshawk guidelines), restore meadows, and promote healthy pine/oak forests. Minimize recreation impacts to disturbance sensitive species. Maintain wildlife travelways.

Take actions to help protect and maintain high quality water in Oak Creek.

Highlights include:

- ◆ Along Woody Ridge there are large tracts of unfragmented habitat and remote recreation opportunities including Semi-primitive Motorized and Semi-primitive Non-motorized ROS settings with Roded Natural corridors. The challenge here will be to maintain remote characteristics as new residential development occurs on the west side of Flagstaff. Maintain Woody Ridge as a Semi-primitive Non-motorized ROS setting with walk-in hunting opportunities.
- ◆ Reference the *Fort Valley Ecosystem Management Environmental Assessment* and the "A-1" *10K Ecosystem Management Environmental Assessment* for site-specific desired conditions and actions.
- ◆ Per the *Objectives for Recreation Opportunity Spectrum* map, maintain Semi-primitive Non-motorized settings on portions of Woody Ridge, A-1 Mountain and west of A-1 Mountain. In the remainder of National Forest lands, maintain patches of Semi-primitive Motorized habitat with Roded Natural corridors along major roads or in smaller National Forest inholdings. In this MA, the Semi-primitive settings have higher numbers of people than occur in outlying MA's.
- ◆ The portions of this MA that lie southwest of developed lands are high priority for fire risk reduction efforts. This includes the Urban/Rural Influence Zone and the Wildland Urban Interface as depicted on the Fire Management Analysis Zones map. Reference FLEA area-wide direction.
- ◆ Per the area-wide FLEA direction: meet with specific communities and County officials and consider input for Forest road and trail management, discourage proliferation of unneeded trails, create a primary trail system that serves as a collector for trails that originate in neighborhoods, convert some roads that are not needed for the road system into motorized trails.

- ◆ MIS should be referenced by vegetation and landform type. For example, in ponderosa pine less than 40 percent slope, MIS are those listed for MA3.
- ◆ Maintain the major wildlife corridor that crosses Highway 180 and another corridor between Pumphouse Wash and Woody Ridge, south of Kachina Village.

All of the following items are Guidelines.

Recreation

Areas near to residential private lands may have large numbers of people on some occasions. Daytime activities are emphasized with some designated overnight camping opportunities. Encounters with other people are frequent here, but there will still be places to "get away" and enjoy solitude.

Recreation Signing

Adjacent to residential areas improve trailhead signing, brochures and directional signing. Recreation opportunities will be somewhat "advertised," but each residential area will need to provide input on the level of information provided.

In the Semi-primitive ROS settings, informational signs and patrols will be similar to what they are today. Brochures or other information would be minimal. Recreation opportunities Semi-primitive areas will not be "advertised."

Camping

Per the *Objectives for Camping* map (Appendix M) there should be designated dispersed camping along the Highway 89A corridor and the Freidlein Prairie Road. Expand the area where camping and campfires are prohibited. General dispersed camping should continue in the remainder of the MA.

Non-motorized and Motorized Trails

When conducting trail planning as described in the FLEA area-wide direction, include discussions and input from the County trails coordinator and local groups, as well as

community citizens. Complicated access issues and a multitude of recreation demands occur here.

Balance demands for non-motorized and motorized trails and provide opportunities for both.

Focus road and trail rehabilitation work in the steep drainages, such as Pumphouse Wash, that flow into Oak Creek Canyon and contain fragile plants and rare species. Locate trails and manage recreation use to reduce impacts of woody riparian vegetation and riparian habitat in Pumphouse Wash.

Coordinate trailhead parking with future development on adjacent private lands, in order to take advantage of the opportunity to be proactive in designing trails and trailheads to maintain access to public lands.

Special-Uses

Per the FLEA Area-wide direction, focus special use permits away from urban/residential areas. Generally, do not place additional outfitter/guide activities or group activities in Pumphouse Wash, any spring or perennial stream site, except in support of approved research and/or to improve safety or provide site rehabilitation.

Wildlife

In the Fort Valley and A-1 Mountain areas, maintain the wildlife travelway that connects A-1 Mountain, Observatory Mesa, and the slopes of the San Francisco Mountain.

Lands west of A-1 Mountain in Semi-primitive Non-motorized ROS setting maintain large tracts of unfragmented habitat for turkey and bear.

Watershed

In the Oak Creek watershed, high priority is given to minimizing soil erosion and sedimentation from Forest system roads and trails. Proper maintenance and drainage will be emphasized as well as relocating roads from meadows and obliterating unnecessary roads.

Where perennial stream flow is present, riparian communities should have adequate in-stream flows and adequate plant cover to protect stream banks and dissipate energy during high flows. Channel characteristics and water support natural biodiversity. Ensure adequate instream flow water rights to maintain aquatic communities and water sources for wildlife.

Rare Species

Avoid or limit human disturbance to rare species such as peregrine falcon and Arizona bugbane.

APPENDIX B

MANAGEMENT AREAS¹

No.	Description	Analysis Areas	Acres
1	Wilderness	35-46	155,910 ²
2	Verde Wild & Scenic River	34	2,888
3	Ponderosa pine & mixed conifer < 40% slopes	1-9, 11, 12, 57, 59	511,015 ³
4	Ponderosa pine & mixed conifer > 40% slopes	10, 10a, 13, 13a	46,382 ⁴
5	Aspen	14	3,450
6	Unsuitable timber land	15, 16	67,146
7	Pinyon-juniper woodland < 40% slopes	17-19	273,815 ⁵
8	Pinyon-juniper woodland > 40% slopes	20	19,077 ⁶
9	Mountain grassland	25	9,049
10	Transition, grassland & sparse PJ above Rim	26, 27	160,494 ⁷
11	Verde Valley -- desert grass, sparse PJ, cypress, and chaparral	28, 29	169,529
12	Riparian and open water	32, 33	20,490
13	Cinder Hills	31	13,711
14	Oak Creek Canyon	30	5,388
15	Developed recreation sites (public & private) and Fairfield Snow Bowl	22-24, 58	874 ⁸
16	Inner Basin	21	972
17	Special Areas -- RNA's (outside wilderness), Geologic, and Botanic Areas	48-51	4,459

¹ Acres updated to match current geodatabase acres (1,837,288) 12/2007. The following footnotes explain differences in original plan acres, no changes were made with 12/2007 Errata to this historic information. Areas with dual designation (such as RNA's in Wilderness, W&SR in Wilderness) are all accounted for in Wilderness in this table (no double counting). Dual designations are displayed in the Wilderness MA.

² Wilderness acres in plan were 150,180 originally, adjusted to match Wilderness Bill.

³ Acres do not match AA list because 12,233 acres removed from the AA's to make a portion of MA19

⁴ Acres do not match AA list because 321 acres removed from AA's to make a portion of MA19 and 375 acres left over from AA 53 added in here.

⁵ Acres do not match AA list because 44,952 acres removed to make a portion of MA11.

⁶ Acres do not match AA list because 66,699 acres removed to make a portion of MA11

⁷ Acres do not match AA list because 27,279 acres were added from AA's 28/29 to adjust the acres for MA11

⁸ Includes existing and potential developed sites, both public and private (summer homes, organization sites, and concessionaire -- ski area and lodges). Only the acreage of selected potential sites will be included

APPENDIX B (Continued)

MANAGEMENT AREAS

No.	Description	Analysis Areas	Acres
18	Environmental Study Areas	52, part of 53	1,577
19	Mogollon Rim		12,044
20	Highway 180 Corridor	⁹	7,608
21	Dry Creek Basin	NA	5,570
22	Gateway	NA	2,347
23	Lower Oak Creek	NA	754
24	Neighborwoods	NA	15,151
25	Red Cliff	NA	3,979
26	Redrock Frontcountry	NA	5,346
27	Savannah	NA	39,203
28	Schneibly Rim	NA	5,090
29	Transition	NA	2,897
30	NONE	NA	0
31	Craters	NA	29,940
32	Deadman Wash	NA	58,133
33	Doney	NA	40,530
34	Flagstaff	NA	1,781
35	Lake Mary Watershed	NA	62,536
36	Schultz	NA	21,289
37	Walnut Canyon	NA	20,566
38	West	NA	36,298

The following will not be delineated as management areas but will be displayed on the map with an appropriate symbol:

- Administrative sites and electronic sites (58 ACRES)
- Non Forest Service lands and Experimental Forests (**5417 ACRES excludes G.A. Pearson Natural Area**)
The changes made on 8/86 reflect changes in boundaries of the Cinder Hills MA and the discovery of an error in the classification of 2,187 acres of suitable timber land in MA13 which should have been in unsuitable. The suitability change only shows in the individual MA listing of acres by land use classification.

⁹ Acres are from MA's 3, 5, 6, 7, 9 – as updated in Amendment 10

APPENDIX D**LAND SUITABILITY CLASSIFICATION - ACRE DISTRIBUTION BY
MANAGEMENT AREA**

	Nonforest	Withdrawn PP	Withdrawn PJ	Physically Unsuitable (PJ)	Physically Unsuitable/ Not Capable	Not Approp	Suitable	Total
MA1	59,724	26,056	70,130					155,910
MA2	1,242		1,646					2,888
MA3					228	7,145	503,642	511,015
MA4					32,634	12,249	1,499	46,382
MA5					3,450			3,450
MA6					67,146			67,146
MA7				273,815				273,815
MA8				19,077				19,077
MA9	9,049							9,049
MA10	160,494							160,494
MA11	19,104			150,425				169,529
MA12	9,726				10,764			20,490
MA13	2,865			2,576	3,816		4,454	13,711
MA14	557			3,200	1,274	357		5,388
MA15	874							874
MA16		972						972
MA17	1,331	1,514	1,614					4,459
MA18	1,577							1,577
MA19							12,044	12,044
MA20	340			1,163	289		5,816	7,608
MA21	978			4,592				5,570
MA22	1,172			682			493	2,347
MA23				754				754
MA24	4,031			11,120				15,151
MA25	1,790			2,189				3,979
MA26	2,569			2,777				5,346
MA27	20,232			18,971				39,203
MA28				2,291	1,018		1,781	5,090
MA29	978			1,919				2,897
MA30								0
MA31	7,505			16,656	4,368	12	1,400	29,940
MA32	4,832			44,412	5,438	344	3,106	58,133

APPENDIX D (continued)
LAND SUITABILITY CLASSIFICATION - ACRE DISTRIBUTION BY
MANAGEMENT AREA

	Nonforest	Withdrawn PP	Withdrawn PJ	Physically Unsuitable (PJ)	Physically Unsuitable/ Not Capable	Not Approp	Suitable	Total
MA33	8,322			14,313	4,136	85	13,673	40,530
MA34	332	20 ¹⁰			1	55	1,373	1,781
MA35	6,958	309 ¹¹	94 ¹²	2,108	8,280	40	44,746	62,536
MA36	223			1,066	8,132	72	11,796	21,289
MA37	946			4,277	6,553		8,790	20,566
MA38	1,920			171	4,296	58	29,853	36,298
TOTAL	325,359	29,203	74,477	611,299	142,507	13,577	640,865	1,837,288

¹⁰ Dorms

¹¹ Coulter Plots

¹² Coulter Plots