

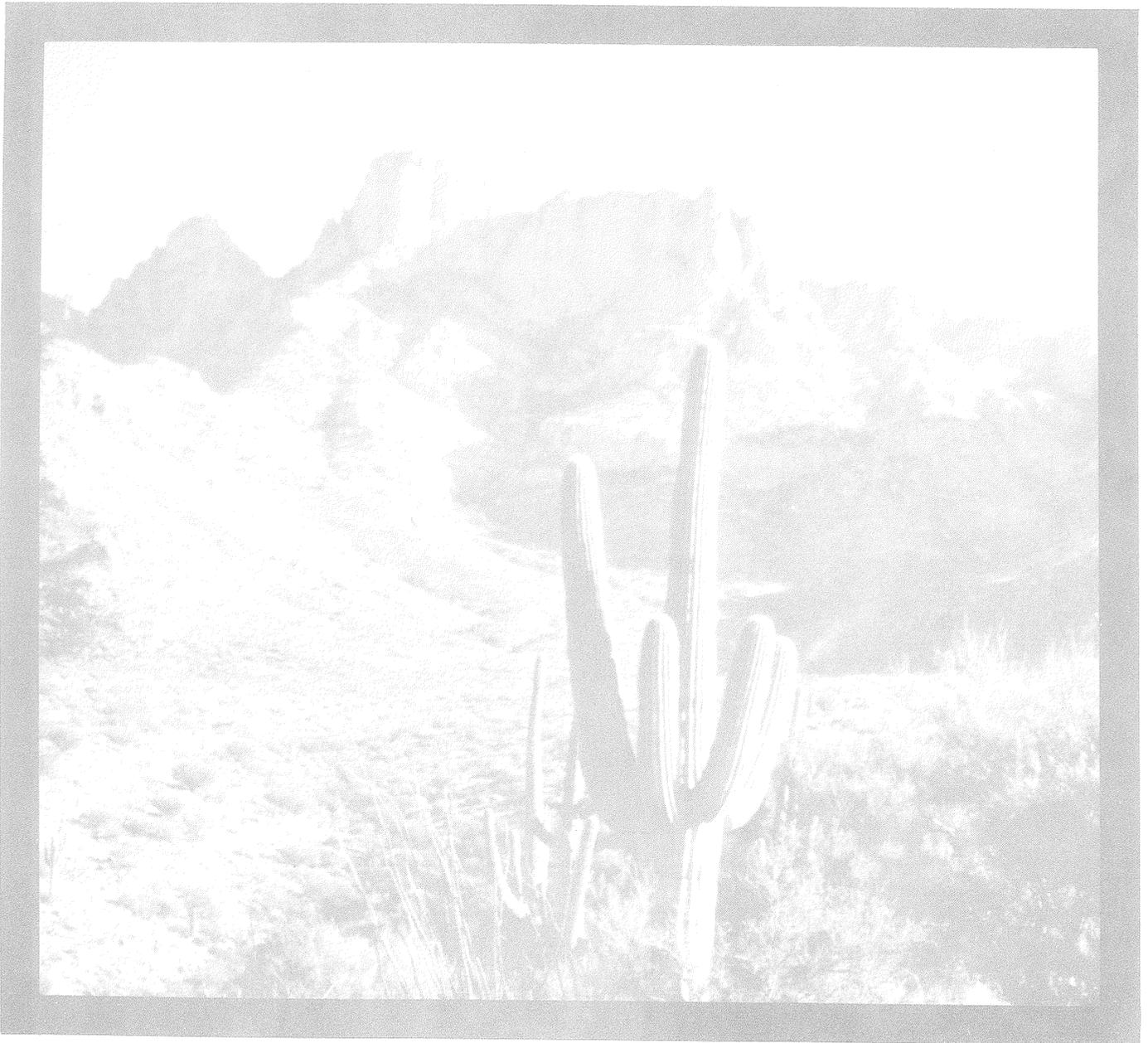


United States
Department of
Agriculture

Forest
Service

Southwestern
Region

Coronado National Forest Plan



Vicinity Map



**CORONADO NATIONAL FOREST
LAND AND RESOURCE MANAGEMENT PLAN
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INTRODUCTION

PURPOSE OF THE PLAN

This Plan defines the direction for managing the Coronado National Forest for the next 10-15 years.

The Plan provides for integrated multiple use and sustained yield of goods and services from the Forest in a way that maximizes long-term net public benefits in an environmentally sound manner.

Preparation of the Forest Plan is required by the Renewable Resources Planning Act (RPA), as amended by the National Forest Management Act (NFMA).

The Forest Plan replaces all previous resource management plans prepared for the Forest. Upon approval of the Forest Plan, all subsequent activities affecting these lands, including budget proposals, will be based on the Forest Plan (36 CFR 219.10 (e)). In addition, all permits, contracts, and other instruments for the use and occupancy of these National Forest System Lands must be consistent with the Forest Plan (36 CFR 219.10 (e)).

The planning principles in the NFMA regulations (36 CFR 219.1 (b)) were integrated throughout the process. These principles are:

- (1) Establishment of goals and objectives for multiple-use and sustained yield management of renewable resources without impairment of the productivity of the Land;
- (2) Consideration of the relative values of all renewable resources, including the relationship of nonrenewable resources, such as minerals, to renewable resources;
- (3) Recognition that the National Forests are ecosystems and their management for goods and services requires an awareness and consideration of the interrelationships among plants, animals, soil, water, air, and other environmental factors within such ecosystems;
- (4) Protection and, where appropriate, improvement of the quality of renewable resources;
- (5) Preservation of important historic, cultural, and natural aspects of our national heritage;
- (6) Protection and preservation of the inherent right of freedom of American Indians to believe, express, and exercise their traditional religions;
- (7) Provisions for the safe use and enjoyment of the forest resources by the public;
- (8) Protection, through ecologically compatible means, of all forest and rangeland resources from depredations by forest and rangeland pests;
- (9) Coordination with the land and resource planning efforts of other Federal agencies, State and local governments, and Indian Tribes;
- (10) Use of a systematic, interdisciplinary approach to ensure coordination and integration of planning activities for multiple-use management;
- (11) Early and frequent public participation;
- (12) Establishment of quantitative and qualitative standards and guidelines for land and resource planning and management;
- (13) Management of National Forest System Lands in a manner that is sensitive to economic efficiency; and
- (14) Responsiveness to changing conditions of land and other resources and to changing social and economic demands of the American people.

Land management prescriptions, standards, and guidelines are a statement of the Plan's management direction. Projected output, services, and rates of implementation are, however, dependent on the annual budget process. Implementation schedules can be changed to reflect annual budget and amended accordingly after appropriate public notification.

ORGANIZATION OF THE PROPOSED FOREST PLAN DOCUMENT

Chapter 2 of the Forest Plan describes the major issues and concerns. Chapter 3 summarizes the AMS. It depicts the current levels of goods and services produced, and projects supply and expected future use on the Forest. Chapter 4 details the mission, goals, objectives, proposed vicinity, and timing of management practices; projects the conditions of the Forest by the end of the fifth period from implementation of the Plan; and describes management direction and prescription and associated resource management standards and guidelines. A management area map, keyed to the prescriptions in Chapter 4 is included with the EIS/PLAN package. Chapter 5 is a summary of fire management activities. Chapter 6 is the monitoring plan.

CHANGES TO
THE PLAN
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The forest plans are periodically updated to keep management direction consistent with current capabilities of the land and resources and to meet changing needs and values of the public. The following are changes made since the Coronado National Forest

Plan was approved on August 4, 1986:

<u>Change Name</u>	<u>Date</u>	<u>Nature of Change</u>
Amendment No. 1	12/86	Modification of standards and guidelines for identifying roads and trails to be part of the transportation system and which will be open or closed to motor vehicles. Decision dated 12/29/86.
Amendment No. 2	2/87	Development of a multi-purpose facility by the Smithsonian Institution which will help meet public recreation opportunities on the forest. An area of 14 acres will be managed under direction of Management Area 3A/3B. Decision Notice and FONSI dated 2/2/87.
Amendment No. 3	10/87	Minor expansion of the Goodding Research Natural area to include a population of <u>Phaseolus supinus</u> . Decision dated 10/13/87.
Amendment No. 4	1/89	Revised management direction for the Pinaleno Mountains resulting from the study and decisions for the Mt. Graham Astrophysical Area. Record of Decision dated 1/5/89.
Amendment No. 5	1/90	Minor expansion of the Mt. Lemmon Ski Area permit boundary to allow for construction of a maintenance facility. Decision Notice and FONSI dated 1/18/90. Amendment was later voided when the decision was withdrawn in response to an appeal.
Change Notice No. 1	4/91	Changes to several activity schedules contained in the Forest Plan. Also changes to fire management standards and guidelines to insure consistency with National policy. Change Notice dated 4/3/91.
Amendment No. 6	1/92	Added and modified management direction for cave and cultural resources found on the Forest. Decision Memo dated 12/6/91.
Amendment No. 7	5/92	Modified permit boundary of the Mt. Lemmon ski area to provide for a maintenance facility and to change the VQO for the Ski Area to Modification to be consistent with FSM direction. Record of Decision dated 4/14/92. Also added a section (page 2) to the Forest Plan to list changes that have been made.
Amendment No. 8	6/96	Added standards and guidelines for Mexican spotted owl, northern goshawk, old growth management and range forage utilization per Regional Forester amendment decision.
Change Notice No. 2	6/96	Removes project implementation and vegetation treatment schedules from management direction portion of the Forest Plan (chapter 4). The Forest Plan only allows or disallows activities, but makes no site specific project decisions. The implementation schedules were moved because they were being misinterpreted as management direction. Also adds standard Regional Vegetation Treatment Table.
Amendment No. 9	7/98	Adds Management Area 2B that comprises the Wet Canyon Watershed that lies up watershed from the intersection of Wet Canyon Creek and Twilight Creek. The management area is being added to increase protection for the Wet Canyon talussnail. The approximate 1220 acres for new Management Area 2B is also being subtracted from original Management Areas 2 and 4.
Change Notice No. 3	6/99	<i>Adds Management Area 15 that depicts the administrative designation of the Chili Botanical Area, but does not change Forest Plan management direction nor alter accomplishment of Forest Plan Goals and Objectives.</i>

2. ISSUES, CONCERNS AND MANAGEMENT OPPORTUNITIES

OVERVIEW

Issues, concerns, and opportunities have been identified for the Coronado National Forest. The Forest Plan and alternatives are designed to respond to these issues as well as the RPA Program objectives assigned to the Forest in the Regional Guide.

Issues, concerns, and opportunities were identified from comments solicited from the public and Forest Service employees. Comments were received at a number of public involvement workshops and in response to an information brochure mailed to the public in 1978.

Comments received were analyzed in a scoping process to determine issues and concerns most relevant to the planning process (40 CFR 1501.7). Content analysis was used to extract substantive comment from both written and workshop responses. A list of final issues and concerns was compiled.

An initial draft EIS was released in December of 1982. The public was asked to comment on the alternatives and proposed action. Over 2,500 responses were received which substantiated many of the original ICO's and caused some to be modified.

Direction from the Secretary of Agriculture prompted another public involvement phase relative to the wilderness issue and the reevaluation of roadless areas. During August, 1983, statewide and local meetings were held on various Arizona National Forests. By conclusion of the comment period on September 30, 1983, many responses had been received relative to the roadless area reevaluation.

Refer to Appendix A of the E.I.S. for a detailed discussion of public involvement.

The following describes the major issues and concerns which were selected to be addressed in the planning process. The way in which the Forest Plan responds to them is displayed in the E.I.S.

ISSUES, CONCERNS AND OPPORTUNITIES ADDRESSED

Management concerns and issues are termed "issues" and described below. The thirty-six issues were grouped into fourteen subject matter areas. The issue of potential wilderness designation for contiguous BLM administered lands is not pertinent to implementation of this plan and is not displayed here.

Recreation and Visual Quality

As local and tourist populations increase in the Coronado's zone of influence, the demand for outdoor recreation on the National Forest can be expected to continue to exceed the ability of the Forest Service to provide needed services. Several issues are generated by this situation as follows:

1. Identification of potential overuse areas and establishment of carrying capacities (number of people who can use an area without damage to natural resources).
2. Regulation of Off-Road Vehicle use to protect other Forest resources and uses, while continuing to provide this much demanded recreational opportunity.
3. Use of land for recreational development and dispersed uses, and establishment of equitable fees for recreational use.
4. The role of the private sector in providing recreation services on and adjacent to the National Forest must be reassessed.
5. Inventory and management planning for the Coronado's many caves, and location of this resource to recreational, scientific, and wilderness uses.
6. Visual resource integrity in all land management decisions.

Wilderness

Potential designation of portions of the Coronado for wilderness has long been studied and debated. Recent wilderness bills for both New Mexico and Arizona have made this allocation for most areas under consideration for the duration of this plan. The two bills directed further study on three of the Forest's areas. Two wilderness related issues are:

1. Formulation of a recommendation to Congress concerning wilderness status for the Bunk Robinson, Whitmire Canyon, and Mt. Graham Wilderness Study areas.
2. Within the constraints of the Wilderness Act, decisions are needed concerning intensity of management and investment for recreation, range, wildlife habitat, and fire management (including planned ignitions) within wilderness areas.

Cultural Resources

Arizona and New Mexico have a wealth of historic and prehistoric cultural resources. Although all such resources are currently protected from disturbance by law, many people advocate a more aggressive approach to management of cultural values. The issue is:

1. The amount of time and investment to interpretation of cultural sites.

Wildlife and Fish

The diversity of plants and animals found on the Coronado is unique in the National Forest System. This uniqueness, coupled with a great deal of local and national interest in this resource, generates a complex management opportunity. Five issues involving wildlife management follow:

1. The amount of time and resources to be given between threatened, endangered, or unique species; and other flora and fauna.
2. Critical wildlife habitat must be identified, along with needed controls on other uses (mineral extraction, recreation, etc.).
3. Appropriateness of predator and rodent control, when and where.
4. Fishing lakes which will be maintained, and consideration of any new construction.
5. Maintenance and improvement of the wildlife habitat for future generations in conjunction with other Forest activities.

Range

Grazing by domestic livestock is a major use of the Coronado. As demand for other uses increases, potential for conflicts between uses grows. This generates two planning issues:

1. Managing Forest lands for grazing in relation to other uses.
2. Where permitted use exceeds capacity, an appropriate combination of management changes and numbers adjustments must be determined. Scheduling of needed changes is also important.

Timber and Forest Products

Sawtimber production on the Coronado is low compared to most other National Forests, but products such as fuelwood, posts, poles, Christmas trees, and bear-grass are significant to local users. Silvicultural techniques are a valuable tool for accomplishment of range, wildlife, watershed, recreation, and visual quality objectives. Timber related issues are:

1. Distribution of forest products between commercial users and personal use and availability of permits to non-citizens.
2. Timber harvest amount and objectives.
3. Silvicultural systems and harvest techniques; including clear cutting, snag management, timber stand improvement, reforestation, and harvest of green or dead fuelwood.

Plant and Animal Diversity

Because of its unique geographical location, the Coronado includes an unusually wide diversity of vegetation. Wild animals are habitat dependent, and therefore animal diversity tends to be proportional to plant diversity. In the past, vegetation has been manipulated through fire management, grazing, direct plant control, etc. Issues involve further manipulations and uses of the diverse ecosystems as follows:

1. Location and extent of vegetative manipulation.
2. Selection of species for revegetation.
3. Management of uses and management practices in riparian areas.

Soil and Water Much of the water used in Southern Arizona and New Mexico originates on the mountain watersheds of the Coronado. Competition for available water is rapidly increasing, and concern is growing about quantity, and quality. The issue can be stated as follows:

1. Management of forest resources to protect or enhance watershed condition from both a hydrologic function and soil productivity standpoint.

Minerals The Southwestern United States continues to produce a significant portion of the nation's mineral supply.

Extraction of minerals has a potential to disrupt other Forest values, if not carefully regulated. In a few sensitive areas it is necessary to exclude mineral activity. The issue can be stated as follows:

1. Identification of sensitive areas and formulation of recommendations for needed withdrawals from mineral entry.

Lands and Special Uses While the Coronado is substantially solid blocks of federal land, there are areas where lands would be better suited for private uses or where administration is made more costly because of the ownership pattern. Conversely, some included private lands are of a National Forest character. Demand for a wide variety of special uses of the Forest continues to grow. Three issues are listed:

1. Revision of land ownership adjustment plans to update lands desirable for acquisition and available for disposal.
2. Allocation of National Forest land for special uses such as; commercial development, summer homes, utility corridors, scientific study sites, roads, apiary sites, ski areas, etc.
3. Management of National Forest land for astrophysical research purposes on Mt. Graham. This issue and the specific concerns and opportunities related to it are being analyzed in a separate Environmental Impact Statement.

Special Area Designations The biological uniqueness of the Forest generates a great deal of interest in the area for scientific study and for designation of special management areas to protect biological communities and habitats. Two types of special areas are under consideration:

1. Management of land as Zoological-Botanical Areas to protect biological uniqueness through modified management practices.
2. Management of land as Research Natural Areas to provide opportunities for study of natural ecological processes in undisturbed areas.

Protection Many years of intensive fire control has resulted in significant changes in vegetative composition of the Coronado. In some cases this shift has been towards a less desirable plant community with attendant increase in fire hazard, decrease in forage production, and declining wildlife habitat. As management philosophies have evolved toward fire management, as opposed to control; there is increasing support for a more natural role of fire in the ecosystem. Use of fire as a tool for changing and maintaining vegetative diversity continues to enjoy strong local support. Proposed fire management policies address the following issues:

1. Use of fire as a management tool, including planned ignitions, prescribed natural fire, and management of wildfires.
2. Appropriateness of suppression actions under varying conditions and locations.

Facilities
(Roads and
Trails)

Access to Forest lands is becoming increasingly restricted as development occurs on adjacent lands and as users cause increasing damage on neighboring private land. The Forest transportation system has deteriorated over the past ten years while use has drastically increased. Several access-related issues are apparent:

1. Need for adequate legal rights-of-way to allow public access to the National Forest for all legal uses.
2. Commitment of resources to construction and maintenance of an adequate system of roads and trails (including signing) for Forest users.
3. Resolution of conflicts between trail users (hikers, horses, motorized vehicles).
4. Degree of public access to special use areas. Involves a legitimate need to protect valuable improvements versus the public's right to access to public land.

Law Enforcement

National Forests are perceived as places to escape the pressures of urban living and relax in a peaceful atmosphere. Most forest visitors prefer a great deal of freedom from burdensome regulations, but at the same time expect a climate of "law and order". This creates a challenge in development of an agency law enforcement posture. Proposed Law Enforcement policies address:

1. Degree of regulation of forest users, and identification of areas needing more intensive enforcement efforts.

3. SUMMARY OF THE ANALYSIS OF THE MANAGEMENT SITUATION

OVERVIEW

An Analysis of the Management Situation (AMS) was prepared and documented in 1982 as a means of determining the productive capacity of the Forest to supply various goods and services. The supply potentials are based primarily upon benchmark analysis. Copies of the AMS are filed at Ranger District offices, the Forest Supervisor's Office, and the Regional Office.

This chapter summarizes the AMS. Supply and projected future use for various Forest goods and services have been analyzed to identify necessary improvements, resolve current public issues, and prevent future conflict. The goal of the Plan is to identify the level and type of Forest uses that would help meet projected future use while enhancing or maintaining resources in a cost effective and integrated resource manner.

Table 1 displays the estimated average annual outputs resulting from implementation of the Forest Plan in the first and fifth decades. For purpose of comparison, the total available supply for each output and the demand for each output are estimated for both the first and fifth decades. The supply potential is estimated from benchmark alternatives that maximize each resource use while meeting at least the minimum management requirements for other resources. Demand estimates are based on identified National, Regional, and local needs.

Table 1. Comparison of the Forest Plan Outputs with Supply and Projected Future Demand

Resource Output	Average Annual Unit of Measure	Forest Plan		Supply		Projected Future Demand			
		Period 1	Period 5	Period 1	Period 5	Period 1	Period 5		
Sawtimber Sales	MCF	576	<u>210</u>	576	<u>210</u> ^{1/}	798	798	75	91 ^{3/}
	MBF	2880	<u>1049</u>	2880	<u>1049</u>	3990	3990	375	455
Firewood (Sold and Free Use)	MCF		212		230	252	250	1360	1360 ^{4/}
	MBF		1060		1150	1260	1250	6800	6800
Grazing Capacity	MAUM		333		360	348	406	NA	NA
Permitted Livestock Use	MAUM		350		360	357	406	401	449 ^{5/}
Wilderness Recreation	MRVD	343	<u>355</u>	758	<u>784</u>	368	813	254	1005
Developed Recreation	MRVD		1317	1565	<u>1574</u>	1547	2715 ^{2/}	1440	3179
Dispersed Recreation	MRVD	815	<u>780</u>	1798	<u>1720</u>	856	1888	1013	2237
Wildlife Recreation	MRVD	330	<u>329</u>	646	<u>645</u>	356	715	386	853
Water	MAcFt.		108		108	108	110	88	105 ^{5/}

^{1/} Includes total available volume. Actual sales may be less depending on market conditions.

^{2/} Supply was limited to previously inventoried potential sites.

^{3/} Projections based on local sawmill capacity.

^{4/} Projections based on 1980 actual sales before limits were established.

^{5/} Projections based on 1980 RPA targets as assigned by Regional Guide.



4. MANAGEMENT DIRECTION

MISSION The broad base for management of the Coronado National Forest is provided through a general Mission Statement:

MANAGE THE RESOURCES OF THE CORONADO NATIONAL FOREST UNDER MULTIPLE USE AND SUSTAINED YIELD PRINCIPLES TO PROVIDE FOR BALANCED CONTRIBUTIONS TO THE NATIONAL WELFARE AND TO THE ECONOMIC AND SOCIAL NEEDS OF THE PEOPLE OF SOUTHEAST ARIZONA AND SOUTHWEST NEW MEXICO. MANAGEMENT PROGRAMS ARE TO BE ORIENTED TO MAINTAIN CULTURAL VALUES AND A VIABLE RURAL ECONOMY.

GOALS A goal is defined as "a concise statement of the state or condition that a land and resource management plan is designed to achieve. A goal is usually not quantifiable and may not have a specific date for completion." (36 CFR 219.3). Forest Service activities are grouped into 12 program elements identified by an alphabetic code. Goals have been developed in each of these elements. There are 8 resource elements: (A) Recreation, (B) Wilderness, (C) Wildlife and Fish, (D) Range, (E) Timber, (F) Water, (G) Minerals, and (H) Human and Community Development; and 4 support elements: (J) Lands, (K) Soils, (L) Facilities, and (P) Protection.

The Forest has set the following goals for each resource and support element:

Recreation (A)

Maintain the current spectrum of developed, dispersed, and primitive recreation opportunities and increase those opportunities within the capability of the resources and the framework of this plan as needs and funds develop.

Establish a dialogue with the public to gain their understanding of our goals and objectives and insure their informed participation in our management decisions.

Increase the public's awareness of their obligation to the resource and their responsibility in caring for it.

Work with other government agencies and private sector to secure public access to recreation resources.

Work with Regional Office and research in development of process to establish recreation capacities.

Nurture partnership with other recreation agencies, the private sector, and professional organizations, to develop a full spectrum of recreation opportunities in southern Arizona and southwest New Mexico.

Maintain or enhance the visual resource through sound landscape management principles.

Inventory, protect, manage, and interpret cultural resources.

Identify, evaluate, and nominate cultural resource sites to the National Register.

Provide for the active management of cultural resources to serve as a source of knowledge about the nation's cultural heritage, to provide recreational opportunities for the public, and to facilitate the management of other forest resources.

Protect significant cultural resources from damage by project activities or vandalism.

Encourage protection of non-federally owned cultural properties located within or adjacent to National Forest boundaries.

Develop Information Service Programs that will educate, inform, and involve populations of southern Arizona and southwest New Mexico in management and enjoyment of the forest.

Preserve and protect caves for their unique environmental, biological, geological, hydrological, archaeological, paleontological, cultural and recreational values.

Manage caves in partnership with caving organizations, scientists and outdoor recreationists.

Interpret cave resources and provide public education for increased public understanding and awareness of the need to protect and preserve these unique ecosystems.

Coordinate the management of cave and surface resources as a recreational opportunity. Primary emphasis is on dispersed recreation activities compatible with responsible cave management.

Provide for public health and safety, while recognizing that no cave is completely safe and that risk-taking is part of the caving experience.

Wilderness (B)

Manage existing wildernesses to preserve and protect the wilderness character in accordance with the various Wilderness Acts.

The Bunk Robinson and Whitmire Canyon Wilderness Study Areas will be recommended for nonwilderness management. The Mt. Graham Wilderness Study Area will be recommended for wilderness designation.

These recommendations are preliminary administrative recommendations that will receive further review and possible modification by the Chief of the Forest Service, the Secretary of Agriculture, and the President of the United States. Final decisions on wilderness or nonwilderness designations have been reserved by the Congress to itself.

Until Congress makes a decision, the three WSAs will be managed under the direction prescribed for Management Area 9 to maintain the existing wilderness character and potential for inclusion in the National Wilderness System.

Wildlife and Fish (C)

Provide habitat for wildlife populations consistent with the goals outlined in the Arizona and New Mexico Department of Game and Fish Comprehensive Plans and consistent with other resource values.

Provide for ecosystem diversity by at least maintaining viable populations of all native and desirable nonnative wildlife, fish and plant species through improved habitat management.

Improve the habitat of and the protection for local populations of Threatened and Endangered species to meet the goals of the Endangered Species Act of 1973.

Range (D)

To restore rangeland to at least a moderately high ecological condition (70% to 75% of potential production, fair range condition) with stable soil and a static or upward trend.

Produce livestock products consistent with other resources and uses.

Eliminate grazing from areas not capable of supporting livestock without significant detriment to range or other resources.

Balance permitted grazing use with grazing capacity.

Timber (E)

Continue a program that enhances other resource values, and that effectively utilizes the wood fiber produced. Carry out silvicultural practices to improve stand health when such practices are consistent with other resource objectives.

Soil (K) and Water (F)

Secure and provide an adequate supply of water for the protection and management of the National Forest.

Provide a favorable water flow in quantity and quality for off-Forest users by improving or maintaining all watersheds to a satisfactory or higher level.

Minerals (G)

Support environmentally sound energy and minerals development and reclamation.

Human and Community Development (H)

Use human resource programs to meet the goals and objectives for resources and activities.

Lands (J)

Use land ownership adjustment to accomplish resource management objectives.

Allow the use of available National Forest lands for appropriate public or private interests consistent with National Forest policies.

Resolve unauthorized occupancy as cases arise.

Obtain rights-of-way needed for resource management objectives.

Protect representative areas identified for the Research Natural Area System.

Facilities (L)

Maintain all facilities to maintain health and safety standards. Provide administrative improvements to meet resource and activity needs.

Identify property lines.

Provide transportation systems to meet land management and resource needs.

Insure that improvements will meet pollution abatement standards.

Protection (P)

Protect life, property and resources from wildfire while using prescribed fire as a tool to meet management objectives.

Through integrated pest management, manage resources to prevent a buildup of insects and diseases.

Cooperate with state and local law enforcement agencies in the protection of visitors, their property and National Forest lands and facilities.

Cooperate with other Federal, state and local regulatory agencies to protect air quality as required by the Clean Air Act.

[Old Forest Plan pages (11-1 to 24-4) that depicted implementation schedules have been moved to Appendix I starting on page 131 of the Forest Plan. This replacement page specifically replaces pages 11-1 through 14-2 in the old Forest plan. New pages (15 through 26) have been amended to reflect the Regional Forester's Region-wide Amendment decision]

**REGION-WIDE
STANDARDS AND
GUIDELINES**

The following standards and guidelines were added to the Coronado National Forest Plan by a Region-wide amendment process documented in a Record of Decision issued by the Regional Forester on June 5, 1996. The standards and guidelines guide the management of Mexican spotted owl, northern goshawk, old growth and grazing utilization.

The following standards and guidelines are packaged in parallel format. Parallel format means that a set of standards is described first which gives the primary constraint. Following the standards are guidelines which provide additional details on how each standard will be implemented. For example, one of the Mexican spotted owl standards is to "Establish a protected activity center at all Mexican spotted owl sites located during surveys and all management territories established since 1989".

The corresponding guidelines read "Delineate an area of not less than 600 acres around the activity center using boundaries of known habitat polygons and/or topographic features. Written justification for boundary delineation should be provided".

"The Protected Activity Center boundary should enclose the best possible owl habitat configured in as compact a unit as possible, with the nest or activity center located near the center."

"The activity center is defined as the nest site. In the absence of a known nest, the activity center should be defined as a roost grove commonly used during breeding. In the absence of a known nest or roost, the activity center should be defined as the best nest/roost habitat."

"Protected Activity Center boundaries should not overlap."

"Submit protected activity center maps and descriptions to the recovery unit working group for comment as soon as possible after completion of surveys."

As the foregoing example shows, the guidelines are the detailed information about implementation of the standards. While standards and guidelines both specify the management bounds and constraints, the standards contain no discretionary elements and the guidelines may contain discretionary elements. For example one of the Mexican spotted owl guidelines is "The Protected Activity Center should enclose the best possible owl habitat". The terms "should" and "best" imply some discretion on the part of the person implementing the guideline.

The new region-wide standards and guidelines that apply to the Coronado National Forest start in the text that follows.

MEXICAN SPOTTED OWL (These S&Gs are superceded by red squirrel S&Gs when necessary only in red squirrel habitat on Mt. Graham in Management Areas 2 or 2A.)

Standards: Provide three levels of habitat management - protected, restricted, and other forest and woodland types to achieve a diversity of habitat conditions across the landscape.

Protected areas include delineated protected activity centers; mixed conifer and pine-oak forests with slopes greater than 40% where timber harvest has not occurred in the last 20 years; and reserved lands which include wilderness, research natural areas, wild and scenic rivers, and congressionally recognized wilderness study areas.

Restricted areas include all mixed-conifer, pine-oak, and riparian forests outside of protected areas.

Other forest and woodland types include all ponderosa pine, spruce-fir, woodland, and aspen forests outside protected and restricted areas.

Survey all potential spotted owl areas including protected, restricted, and other forest and woodland types within an analysis area plus the area 1/2 mile beyond the perimeter of the proposed treatment area.

Establish a protected activity center at all Mexican spotted owl sites located during surveys and all management territories established since 1989.

Allow no timber harvest except for fuelwood and fire risk abatement in established protected activity centers. For protected activity centers destroyed by fire, windstorm, or other natural disaster, salvage timber harvest or declassification may be allowed after evaluation on a case-by-case basis in consultation with US Fish and Wildlife Service.

Allow no timber harvest except for fire risk abatement in mixed conifer and pine-oak forests on slopes greater than 40% where timber harvest has not occurred in the last 20 years.

Limit human activity in protected activity centers during the breeding season.

In protected and restricted areas, when activities conducted in conformance with these standards and guidelines may adversely affect other threatened, endangered, or sensitive species or may conflict with other established recovery plans or conservation agreements; consult with US Fish and Wildlife Service to resolve the conflict.

Monitor changes in owl populations and habitat needed for delisting.

Guidelines:

A. GENERAL

Conduct surveys following Region 3 survey protocol.
Breeding season is March 1 to August 31.

B. PROTECTED AREAS

Protected Activity Centers

Delineate an area of not less than 600 acres around the activity center using boundaries of known habitat polygons and/or topographic features. Written justification for boundary delineation should be provided.

The Protected Activity Center boundary should enclose the best possible owl habitat configured in as compact a unit as possible, with the nest or activity center located near the center.

The activity center is defined as the nest site. In the absence of a known nest, the activity center should be defined as a roost grove commonly used during breeding. In the absence of a known nest or roost, the activity center should be defined as the best nest/roost habitat.

Protected Activity Center boundaries should not overlap.

Submit protected activity center maps and descriptions to the recovery unit working group for comment as soon as possible after completion of surveys.

Road or trail building in protected activity centers should be avoided but may be permitted on a case-by-case basis for pressing management reasons.

Generally allow continuation of the level of recreation activities that was occurring prior to listing.

Require bird guides to apply for and obtain a special use permit. A condition of the permit shall be that they obtain a sub-permit under the U.S. Fish and Wildlife Service Master endangered species permit. The permit should stipulate the sites, dates, number of visits and maximum group size permissible.

Harvest fuelwood when it can be done in such a way that effects on the owl are minimized. Manage within the following limitations to minimize effects on the owl.

--Retain key forest species such as oak.

--Retain key habitat components such as snags and large downed logs.

--Harvest conifers less than 9 inches in diameter only within those protected activity centers treated to abate fire risk as described below.

Treat fuel accumulations to abate fire risk.

--Select for treatment 10% of the protected activity centers where nest sites are known in each recovery unit having high fire risk conditions. Also select another 10% of the protected activity centers where nest sites are known as a paired sample to serve as control areas.

--Designate a 100 acre "no treatment" area around the known nest site of each selected protected activity center. Habitat in the no treatment area should be as similar as possible in structure and composition as that found in the activity center.

--Use combinations of thinning trees less than 9 inches in diameter, mechanical fuel treatment and prescribed fire to abate fire risk in the remainder of the selected protected activity center outside the 100 acre "no treatment" area.

--Retain woody debris larger than 12 inches in diameter, snags, clumps of broad-leaved woody vegetation, and hardwood trees larger than 10 inches in diameter at the root collar.

--Select and treat additional protected activity centers in 10% increments if monitoring of the initial sample shows there were no negative impacts or there were negative impacts which can be mitigated by modifying treatment methods.

--Use light prescribed burns in non-selected protected activity centers on a case-by-case basis. Burning should avoid a 100 acre "no treatment" area around the activity center. Large woody debris, snags, clumps of broad-leaved woody vegetation should be retained and hardwood trees larger than 10 inches diameter at the root collar.

--Pre and post treatment monitoring should be conducted in all protected activity centers treated for fire risk abatement. (See monitoring guidelines)

Steep Slopes (Mixed conifer and pine-oak forests outside protected activity centers with slopes greater than 40% that have not been logged within the past 20 years)

No seasonal restrictions apply.

Treat fuel accumulations to abate fire risk.

--Use combinations of thinning trees less than 9 inches in diameter, mechanical fuel removal, and prescribed fire.

--Retain woody debris larger than 12 inches in diameter, snags, clumps of broad-leafed woody vegetation, and hardwood trees larger than 10 inches in diameter at the root collar.

--Pre and post treatment monitoring should occur within all steep slopes treated for fire risk abatement. (See monitoring guidelines)

Reserved Lands (Wilderness, Research Natural Areas, Wild and Scenic Rivers, and Congressionally Recognized Wilderness Study Areas)

Allow prescribed fire where appropriate.

C. RESTRICTED AREAS (Mixed conifer, pine-oak, and riparian forests)

Mixed Conifer and Pine-oak Forests

Manage to ensure a sustained level of owl nest/roost habitat well distributed across the landscape. Create replacement owl nest/roost habitat where appropriate while providing a diversity of stand conditions across the landscape to ensure habitat for a diversity of prey species.

The following table displays the minimum percentage of restricted area which should be managed to have nest/roost characteristics. The minimum mixed conifer restricted area includes 10% at 170 basal area and an additional amount of area at 150 basal area. The additional area of 150 basal area is +10% in BR-E and +15% in all other recovery units. The variables are for stand averages and are minimum threshold values and must be met simultaneously. In project design, no stands simultaneously meeting or exceeding the minimum threshold values should be reduced below the threshold values unless a district-wide or larger landscape analysis of restricted areas shows that there is a surplus of restricted area across simultaneously meeting the threshold values. Management should be designed to create minimum threshold conditions on project areas where there is a deficit of stands simultaneously meeting minimum threshold conditions unless the district-wide or larger landscape analysis shows there is a surplus.

VARIABLE	MC ALL RU	MC BR-E RU	MC OTHER RU	PINE-OAK
Restricted area %	10%	+10%	+15%	10%
Stand Averages for:				
Basal Area (sq.ft./ac.)	170	150	150	150
18 inch + trees/ac	20	20	20	20
Oak BA (sq.ft./ac.)	NA	NA	NA	20
Percent total existing stand density index by size class:				
12-18" DBH	10	10	10	15
18-24" DBH	10	10	10	15
24+" DBH	10	10	10	15

Attempt to mimic natural disturbance patterns by incorporating natural variation, such as irregular tree spacing and various patch sizes, into management prescriptions.

Maintain all species of native trees in the landscape including early seral species.

Allow natural canopy gap processes to occur, thus producing horizontal variation in stand structure.

Emphasize uneven-aged management systems. However, both even-aged and uneven-aged systems may be used where appropriate to provide variation in existing stand structure and species diversity. Existing stand conditions will determine which system is appropriate.

Extend rotation ages for even-aged stands to greater than 200 years. Silvicultural prescriptions should explicitly state when vegetative manipulation will cease until rotation age is reached.

Save all trees greater than 24 inches dbh.

In pine-oak forests, retain existing large oaks and promote growth of additional large oaks.

Encourage prescribed and prescribed natural fire to reduce hazardous fuel accumulation. Thinning from below may be desirable or necessary before burning to reduce ladder fuels and the risk of crown fire.

Retain substantive amounts of key habitat components:

- Snags 18 inches in diameter and larger
- Down logs over 12 inches midpoint diameter
- Hardwoods for retention, recruitment, and replacement of large hardwoods

Riparian Areas

Emphasize maintenance and restoration of healthy riparian ecosystems through conformance with forest plan riparian standards and guidelines. Management strategies should move degraded riparian vegetation toward good condition as soon as possible. Damage to riparian vegetation, stream banks, and channels should be prevented.

Domestic Livestock Grazing

Implement forest plan forage utilization standards and guidelines to maintain owl prey availability, maintain potential for beneficial fire while inhibiting potential destructive fire, maintain and restore riparian ecosystems, and promote development of owl habitat. Strive to attain good to excellent range conditions.

Old Growth

Except where other wise noted, implement forest plan old growth standards and guidelines to maintain and promote development of owl habitat.

D. OTHER FOREST AND WOODLAND TYPES

Apply ecosystem approaches to manage for landscape diversity mimicking natural disturbance patterns, incorporating natural variation in stand conditions and retaining special features such as snags and large trees, utilizing appropriate fires, and retention of existing old growth in accordance with forest plan old growth standards and guidelines.

E. GUIDELINES FOR SPECIFIC RECOVERY UNITS

Colorado Plateau

No special additional guidelines apply

Southern Rocky Mountain - New Mexico

No special additional guidelines apply

Upper Gila Mountains

No special additional guidelines apply

Basin and Range - West

Emphasize restoration of lowland riparian habitats

Management activities necessary to implement the Mt Graham red squirrel recovery plan, which may conflict with standards and guidelines for Mexican spotted owl, will take precedence and will be exempt from the conflicting Mexican spotted owl standards and guidelines.

Basin and Range - East

Emphasize restoration of lowland riparian habitats

Management activities necessary to implement the Sacramento Mountain thistle recovery plan, which may conflict with standards and guidelines for Mexican spotted owl, will take precedence and will be exempt from the conflicting Mexican spotted owl standards and guidelines.

F. MONITORING GUIDELINES

Monitoring and evaluation should be collaboratively planned and coordinated with involvement from each national forest, USFWS Ecological Services Field Office, USFWS Regional Office, USFS Regional Office, Rocky Mountain Research Station, recovery team, and recovery unit working groups.

Population monitoring should be a collaborative effort with participation of all appropriate resource agencies.

Habitat monitoring of gross habitat changes should be a collaborative effort of all appropriate resource agencies.

Habitat monitoring of treatment effects (pre and post treatment) should be done by the agency conducting the treatment.

Prepare an annual monitoring and evaluation report covering all levels of monitoring done in the previous year. The annual report should be forwarded to the Regional Forester with copies provided to the recovery unit working groups, USFWS Ecological Services field offices, and the USFWS Regional Office.

Range-wide

Track gross changes in acres of owl habitat resulting from natural and human caused disturbances. Acreage changes in vegetation composition, structure, and density should be tracked, evaluated, and reported. Remote sensing techniques should provide an adequate level of accuracy.

In protected and restricted areas where silvicultural or fire abatement treatments are planned, monitor treated stands pre and post treatment to determine changes and trajectories in fuel levels; snag basal areas; live tree basal areas; volume of down logs over 12 inches in diameter; and basal area of hardwood trees over 10 inches in diameter at the root crown.

Upper Gila Mountain, Basin and Range East, and Basin and Range West Recovery Units.

Assist the recovery team and recovery unit working groups to establish sampling units consisting of 19 to 39 square mile quadrats randomly allocated to habitat strata. Quadrats should be defined based on ecological boundaries such as ridge lines and watersheds. Quadrat boundaries should not traverse owl territories. Twenty percent of the quadrats will be replaced each year at random.

Using the sample quadrats, monitor the number of territorial individuals and pairs per quadrat; reproduction; apparent survival; recruitment; and age structure. Track population density both per quadrat and habitat stratum.

NORTHERN GOSHAWK (These S&Gs are superceded by red squirrel S&Gs when necessary only in red squirrel habitat on Mt. Graham in Management Areas 2 or 2A.)

Applicability: The northern goshawk standards and guidelines apply to the forest and woodland communities described below that are outside of Mexican spotted owl protected and restricted areas. Within Mexican spotted owl protected and restricted areas, the Mexican spotted owl standards and guidelines take precedence over the northern goshawk standards and guidelines. One or the other set of standards and guidelines apply to all forest and woodland communities but the Mexican spotted owl standards always take precedence in areas of overlap.

Standards: Survey the management analysis area prior to habitat modifying activities including a 1/2 mile beyond the boundary.

Establish, and delineate on a map, a post-fledging family area that includes six nesting areas per pair of nesting goshawks for known nest sites, old nest sites, areas where historical data indicates goshawks have nested there in the past, and where goshawks have been repeatedly sighted over a two year or greater time period but no nest sites have been located.

Manage for uneven-age stand conditions for live trees and retain live reserve trees, snags, downed logs, and woody debris levels through out woodland, ponderosa pine, mixed conifer and spruce-fir forest cover types. Manage for old age trees such that as much old forest structure as possible is sustained over time across the landscape. Sustain a mosaic of vegetation densities (overstory and understory), age classes and species composition across the landscape. Provide foods and cover for goshawk prey.

Limit human activity in nesting areas during the breeding season.

Manage the ground surface layer to maintain satisfactory soil conditions i.e. to minimize soil compaction; and to maintain hydrologic and nutrient cycles.

When activities conducted in conformance with these standards and guidelines may adversely affect other threatened, endangered, or sensitive species or may conflict with other established recovery plans or conservation agreements; consult with US Fish and Wildlife Service to resolve the conflict.

Within the ranges of the Kaibab pincushion cactus, *Pediocactus paradinei*, and the Arizona leatherflower, *Clematis hirsutissima arizonica*, management activities needed for the conservation of these two species that may conflict with northern goshawk standards and guidelines will be exempt from the conflicting northern goshawk standards and guidelines until conservation strategies or recovery plans (if listed) are developed for the two species.

Guidelines:

A. General

Emphasize maintenance and restoration of healthy riparian ecosystems through conformance with forest plan riparian standards and guidelines. Management strategies should restore degraded riparian areas

to good condition as soon as possible. Damage to riparian vegetation, stream banks, and channels should be prevented.

Refer to USDA Forest Service General Technical Report RM-217 entitled "Management Recommendations for the Northern Goshawk in the Southwestern United States" for scientific information on goshawk ecology and management which provide the basis for the management guidelines. Supplemental information on goshawk ecology and management may be found in "The Northern Goshawk: Ecology and Management" published by the Cooper Ornithological Society as Studies in Avian Biology No. 16. In woodland forest cover types, use empirical data to determine desired habitat conditions.

B. Inventory

Use the R3 survey protocol to get complete coverage of the management analysis area (Kennedy and Stahlecker 1993, as modified by Joy, Reynolds, and Leslie 1994). Management analysis areas should be entire ecosystem management areas if possible.

Complete at least one year of survey, but two years of survey should be done to verify questionable sightings, unconfirmed nest sites, etc. If nesting goshawks are found during the first year of inventory, a second year of inventory is not needed in that territory.

For areas where complete inventories cannot be done, use aerial photographs to locate vegetative structural stages (VSS) 4-6 within the project area and inventory just those sites for goshawk nest areas using R3 inventory protocol. All un-inventoried areas (VSS 1-3) will be managed to post-fledging family area (PFA) specifications while in that stage. If, while using this inventory option, evidence suggests goshawks are present (such as finding plucking perches or molted goshawk feathers) conduct a complete inventory as outlined above.

If forests have goshawks commonly nesting in stands classified as VSS 1-3, use the complete inventory methods for those areas. There may be situations where an area is classified as a VSS 3, based on the predominant VSS class, but in actuality a combination of VSS 4 & 5 predominate the area. For those situations, use the complete inventory methods.

C. Home Range Establishment

Post-fledging family areas (PFA) will be approximately 600 acres in size. Post-fledging family areas will include the nest sites and consist of the habitat most likely to be used by the fledglings during their early development.

Establish a minimum of three nest areas and three replacement nest areas per Post-fledging family area. The nest areas and replacement nest areas should be approximately 30 acres in size. A minimum total of 180 acres of nest areas should be identified within each post-fledging family area.

Nest site selection will be based first on using active nest sites followed by the most recently used historical nest areas. When possible, all historical nest areas should be maintained.

Manage for nest replacement sites to attain sufficient quality and size to replace the three suitable nest sites.

D. Management Scale

Distribution of habitat structures (tree size and age classes, tree groups of different densities, snags, dead and down woody material, etc.) should be evaluated at the ecosystem management area level, at the mid-scale such as drainage, and at the small scale of site. Where VSS 6 is deficit within the ecosystem management area, all VSS 6 will be maintained regardless of location. However, over time, the intent is to sustain a relatively even distribution (again based on site quality) of VSS 6 across the ecosystem management area.

E. Vegetation Management

1. Landscapes outside Goshawk post-fledging family area's

General: The distribution of vegetation structural stages for ponderosa pine, mixed conifer and spruce-fir forests is 10% grass/forb/shrub (VSS1), 10% seedling-sapling (VSS2), 20% young forest (VSS 3), 20% mid-aged forest (VSS4), 20% mature forest (VSS 5), 20% old forest (VSS6). NOTE: The specified percentages are a guide and actual percentages are expected to vary + or - up to 3%.

The distribution of VSS, tree density, and tree age are a product of site quality in the ecosystem management area. Use site quality to guide in the distribution of VSS, tree density and tree ages. Use site quality to identify and manage dispersal PFA and nest habitat at 2 - 2.5 mile spacing across the landscape.

Snags are 18" or larger DBH and 30 feet or larger in height, downed logs are 12 inches in diameter and at least 8 feet long, woody debris is 3 inches or larger on the forest floor, canopy cover is measured with vertical crown projection on average across the landscape.

The order of preferred treatment for woody debris is: 1) prescribed burning, 2) lopping & scattering, 3) hand piling or machine grapple piling, 4) dozer piling.

Canopy Cover: Canopy cover guidelines apply only to mid-aged to old forest structural stages (VSS 4, VSS 5, and VSS 6) and not to grass/forb/shrub to young forest structural stages (VSS 1, VSS 2, and VSS 3).

Spruce-Fir: Canopy cover for mid-aged forest (VSS 4) should average 1/3 60% and 2/3 40%, mature forest (VSS 5) should average 60+%, and old forest (VSS 6) should average 60+%. Maximum opening size is 1 acre with a maximum width of 125 feet. Provide two groups of reserve trees per acre with six trees per group when opening size exceeds 0.5. Leave at least 3 snags, 5 downed logs, and 10-15 tons of woody debris per acre.

Mixed Conifer: Canopy cover for mid-aged forest (VSS 4) should average 1/3 60% and 2/3 40%, mature forest (VSS 5) should average 50+%, and old forest (VSS 6) should average 60+%. Maximum opening size is up to 4 acres with a maximum width of up to 200 feet. Retain one group of reserve trees per acre of 3-5 trees per group for openings greater than 1 acre in size. Leave at least 3 snags, 5 downed logs, and 10-15 tons of woody debris per acre.

Ponderosa Pine: Canopy Cover for mid-aged forest (VSS 4) should average 40+%, mature forest (VSS 5) should average 40+%, and old forest (VSS 6) should average 40+%. Opening size is up to 4 acres with a maximum width of up to 200 feet. One group of reserve trees, 3-5 trees per group, will be left if the opening is greater than an acre in size. Leave at least 2 snags per acre, 3 downed logs per acre, and 5-7 tons of woody debris per acre.

Woodland: Manage for uneven age conditions to sustain a mosaic of vegetation densities (overstory and understory), age classes, and species composition well distributed across the landscape. Provide for reserve trees, snags, and down woody debris.

2. Landscapes Within post-fledging family area's

General: Provide for a healthy sustainable forest environment for the post-fledging family needs of goshawks. The principle difference between within the post-fledging family area and outside the post-fledging family area is the higher canopy cover within the post-fledging family area and smaller opening size within the post-fledging family area. Vegetative Structural Stage distribution and structural conditions are the same within and outside the post-fledging family area.

Spruce-Fir: Canopy Cover for mid-aged forest (VSS 4) should average 60+% and for mature (VSS 5) and old forest (VSS 6) should average 70+%.

Mixed Conifer: Canopy Cover for mid-aged (VSS 4) to old forest (VSS 6) should average 60+%.

Ponderosa Pine: Canopy Cover for mid-aged forest (VSS 4) should average 1/3 60+% and 2/3 50+%. Mature (VSS 5) and old forest (VSS 6) should average 50+%.

Woodland: Maintain existing canopy cover levels.

3. Landscapes Within Nesting Areas

General: Provide unique nesting habitat conditions for goshawks. Important features include trees of mature to old age with high canopy cover.

The structure of the vegetation within nest areas is associated with the forest type, and tree age, size, and density, and the developmental history of the stand. Table 5 of RM-217 presents attributes required for goshawks on locations with "low" and "high" site productivity.

Preferred treatments to maintain the desired structure are to thin from below with non-uniform spacing and use of handtools and fire to reduce fuel loads. Lopping and scattering of thinning debris is preferred if prescribed fire cannot be used. Piling of debris should be limited. When necessary, hand piling should be used to minimize compaction within piles and to minimize displacement and destruction of the forest floor and the herbaceous layer. Do not grapple or Dozer pile debris. Manage road densities at the lowest level possible to minimize disturbance in the nest area. Use small, permanent skid trails in lieu of roads for timber harvesting.

Spruce-fir, Mixed Conifer and Ponderosa Pine Cover Types: The nesting area contains only mature to old forest (VSS 5 & 6) having a canopy cover (measured vertically) between 50-70% with mid-aged VSS 6 trees 200-300 years old. Non-uniform spacing of trees and clumpiness is desirable.

Woodland: Maintain existing canopy cover levels.

F. Human Disturbance

Limit human activities in or near nest sites and post-fledging family area's during the breeding season so that goshawk reproductive success is not affected by human activities.

The breeding season extends from March 1 through September 30.

Low intensity ground fires are allowed at any time in all forested cover types, but high intensity crown fires are not acceptable in the post-fledging family area or nest areas. Avoid burning the entire home range of a goshawk pair in a single year. For fires planned in the occupied nest area, a fire management plan should be prepared. The fire management plan should minimize the risk of goshawk abandonment while low intensity ground fire burns in the nesting area. Prescribed fire within nesting areas should be planned to move with prevailing winds away from the nest tree to minimize smoke and risk of crown fire developing and driving the adults off or consuming the nest tree.

G. Ground Surface Layer (All forested cover types)

Manage road densities at the lowest level possible. Where timber harvesting has been prescribed to achieve desired forest condition, use small, skid trails in lieu of roads.

Piling of debris should be limited. When necessary, hand or grapple piling should be used to minimize soil compaction within piles and to minimize forest floor and herbaceous layer displacement and destruction.

Limit dozer use for piling or scattering of logging debris so that the forest floor and herbaceous layer is not displaced or destroyed.

GRAZING MANAGEMENT

Standards: Forage use by grazing ungulates will be maintained at or above a condition which assures recovery and continued existence of threatened and endangered species.

Guidelines: Identify key ungulate forage monitoring areas. These key areas will normally be 1/4 to 1 mile from water, located on productive soils on level to intermediate slopes, and be readily accessible for grazing. Size of the key forage monitoring areas could be 20 to 500 acres. In some situations such as high mountain meadows with perennial streams, key areas may be closer than 1/4 mile from water and less than 20 acres. Within key forage monitoring areas, select appropriate key species to monitor average allowable use.

In consultation with US Fish and Wildlife Service, develop site-specific forage use levels. In the event that site-specific information is not available, average key species forage utilization in key forage monitoring areas by domestic livestock and wildlife should not exceed levels in the following table during the forage growing season.

ALLOWABLE USE GUIDE (percent) BY RANGE CONDITION AND MANAGEMENT STRATEGY *

Range Condition **	Continuous Season-long Use	Defer 1 Year in	Defer 1 Year in	Defer 2 Years in	Rest 1 Year in	Rest 1 Year in	Rest 2 Years in	Rest 2+ Years in
Very Poor	0	10	5	15	15	10	20	25
Poor	10	20	15	20	20	15	30	35
Fair	20	25	20	30	30	25	40	45
Good	30	35	35	35	35	35	45	50
Excellent	30	35	35	35	35	35	45	50

DEFER 2 YEAR TO R1/R2

* = Site-specific data may show that the numbers in this table are substantially high or low. These numbers are purposefully conservative to assure protection in the event that site-specific data is not available.

** = Range Condition as evaluated and ranked by the Forest Service is a subjective expression of the status or health of the vegetation and soil relative to their combined potential to produce a sound and stable biotic community. Soundness and stability are evaluated relative to a standard that encompasses the composition, density, and vigor of the vegetation and physical characteristics of the soil.

The above table is based on composition and climatic conditions typical of sites below the Mogollon Rim. On sites with higher precipitation and vegetation similar to sites above the Mogollon Rim, allowable use for ranges in poor to excellent condition under deferment or rest strategies may be increased by 5%. The guidelines established in the above table are applicable only during the growing season for the identified key species within key areas. Allowable use for key forage species during the dormant season is not covered in the above table. These guidelines are to be applied in the absence of more specific guidelines currently established through site specific NEPA analysis for individual allotments.

Guidelines for allowable use for specific allotment(s) management or for grazing strategies not covered in the above table will vary on a site-specific basis when determined through the Integrated Resource Management (IRM) process.

Allowable use guidelines may be adjusted through the land management planning revision or amendment process. Guidelines established through this process to meet specific ecosystem objectives, will also employ the key species and key area concept and will be monitored in this manner.

OLD GROWTH

Standards: Until the forest plan is revised, allocate no less than 20 percent of each forested ecosystem management area to old growth as depicted in the table below.

In the long term, manage old growth in patterns that provide for a flow of functions and interactions at multiple scales across the landscape through time.

Allocations will consist of landscape percentages meeting old growth conditions and not specific acres.

Guidelines: All analyses should be at multiple scales - one scale above and one scale below the ecosystem management areas. The amount of old growth can be provided and maintained will be evaluated at the ecosystem management area level and be based on forest type, site capability, and disturbance regimes.

Strive to create or sustain as much old growth compositional, structural, and functional flow as possible over time at multiple-area scales. Seek to develop or retain old growth function on at least 20 percent of the naturally forested area by forest type in any landscape.

Use information about pre-European settlement conditions at the appropriate scales when considering the importance of various factors.

Consider the effects of spatial arrangement on old growth function, from groups to landscapes, including de facto allocations to old growth such as goshawk nest sites, Mexican spotted owl protected activity centers, sites protected for species behavior associated with old growth, wilderness, research natural areas, and other forest structures managed for old growth function.

In allocating old growth and making decisions about old growth management, use appropriate information about the relative risks to sustaining old growth function at the appropriate scales, due to natural and human-caused events.

Use quantitative models at the appropriate scales when considering the importance of various factors. These models may include, but are not limited to: Forest Vegetation Simulator, BEHAVE, and FARSITE.

Forested sites should meet or exceed the structural attributes to be considered old growth in the five primary forest cover types in the southwest as depicted in the table on page 24.

The Minimum Criteria for the Structural Attributes Used to Determine Old-Growth

Forest Cover Type, Name	Pinyon-Juniper		Interior Ponderosa Pine		Aspen	Mixed-Species Group		Engelmann Spruce Subalpine Fir	
Forest Cover Type, SAF Code	239		237		217	210,211 216,219		206, 209	
Site Capability Potential Break Between Low and High Site			55 (Minor)		ALL	50 Douglas Fir (Edminister &) Jump		50 Engelmann Spruce (Alexander)	
Site	Low	High	Low	High		Low	High	Low	High
1. Live Trees									
In Main Canopy:									
Trees/acre	12	30	20	20	20	12	16	20	30
DBH/DRC (inches)	9	12	14	18	14	18	20	10	14
Age (years)	150	200	180	180	100	150	150	140*	140*
								170**	170**
2. Variation in Tree Diameters (Yes or No)	ND	ND	ND	ND	NO	ND	ND	ND	ND
3. Dead Trees									
Standing									
Trees/acre	0.5*	1	1	1	ND	2.5	2.5	3	4
DBH/DRC(inches)	9	10	14	14	10	14	16	12	16
Height(feet)	8	10	15	25	ND	20	25	20	30
Down									
Pieces/acre	2	2**	2	2	ND	4	4	5	5
Diameter(inches)	9	10	12	12	ND	12	12	12	12
Length(feet)	8	10	15	1	ND	16	16	16	16
4. Tree Decadence									
Trees/acre	ND	ND	ND	ND	ND	ND	ND	ND	ND
5. # of Tree Canopies	SS/ MS	SS/ MS	SS/ MS	SS/ MS	SS	SS/ MS	SS/ MS	SS/ MS	SS/ MS
6. Total Basal Area (sq.ft./acre)	6	24	70	90	ND	80	100	120	140
7. Total Canopy Cover (percent)	20	35	40	50	50	50	60	60	70

Pinyon-Pine Foot Notes

- * = dead limbs help make up dead material deficit
- ** = Unless removed for firewood or fire burning activities

Spruce-Fir Foot Notes

- * = In mixed corkbark fir and Engelmann spruce stands where Engelmann spruce is less than 50% of the stand composition.
- ** = In mixed corkbark fir and Engelmann spruce stands where Engelmann spruce is 50% or more of the stand composition.

ND = not determined; SS = single-storied; MS = multi-storied

MANAGEMENT AREAS
AND PRESCRIPTIONS

The mission, goals and objectives for the Coronado National Forest are attained through applying groups of management practices and activities to specific units of land. The groups of management practices and activities are called "prescriptions" and the land units are called "management areas". This portion of the Plan describes the prescriptions, the management areas, and the linkage between them.

A prescription is defined as "management practices selected and scheduled for application on a specific area to attain multiple use and other goals and objectives". (36 CFR 219.3 (u)). A management area is a unit of land where a given prescription is to be applied. These areas are outlined on the Management Area Maps, accompanying this Plan. The number displayed within the management area boundary refers to the mapping number contained in this Plan.

All prescriptions developed for this Plan integrate a number of resource and support element activities and will produce a variety of outputs when applied to a management area. Each prescription is broken down into the following categories:

Management Emphasis and Intensity	A brief statement regarding the resource management and direction for the prescription.
Management Area Description	This part gives a general description of the physical, biological, and administrative characteristics of the management area.
Capability Area Types (Analysis Areas)	<p>This section includes a list of all the capability area types where the prescription can be applied. The Coronado National Forest has developed capability area types (CA's) on the basis of "Terrestrial Ecosystems of the Southwest" (1980) with its major components of soil, vegetation, and climate and modifying components of landform, slope, and lithology. The analysis of public issues, concerns, and opportunities was used along with the CAs to determine the analysis areas to be used during the development of alternatives.</p> <p>The purpose of delineating capability area types is to predict the response of identified land areas to various management activities. The capability area types are homogeneous in climate, slope, land form, and geology. A capability area type can be defined and delineated on maps and can be identified on the ground. Data can be generated by each area for the purpose of estimating the capability to provide goods, services, or resource uses for each prescription.</p> <p>Capability area types are not necessarily contiguous areas. The total of all areas of the identical type found on the Forest define a single Capability Area type. Each prescription is expected to have the same consequences or to produce the same results when applied to any acre within the capability area type. The Capability Area Type Index in Appendix A is a quick reference.</p>
Management Practices	A management practice (DU) is a grouping of activities for which budgets are prepared and for which a manager makes decisions on the spending level and the scope, direction, or quality of the work to be performed. Individual projects are grouped by practices for use in short-range program planning and in the budget process. An index of management practices (DU) is provided in Appendix B.
Activities	<p>There is a list of resource management activities that are applicable to the management practices. These activities are grouped into resource or support elements and are identified by alpha/numeric code (e.g., A01, B01, etc.). Each activity has a unique code, title and unit of measure for the work performed. An index is provided in Appendix B. A more detailed description of activities can be found in FSH <u>1309.11</u> Management Information Handbook.</p> <p><u>Resource</u> program elements are defined as major mission-oriented activities that fulfill statutory or executive requirement.</p> <p><u>Support</u> program elements encompass the activities necessary to maintain and facilitate outputs of several of all resource elements.</p>
Standards and Guidelines	The standards and guidelines which apply to each activity are listed. The standards and guidelines set forth: (1) the timing and intensity of the planned activities; (2) the specific policies that apply to the activities in each prescription; and (3) the mitigation measures and coordinating requirements needed to protect resources and the environment.

How to Apply the Prescriptions

In applying management practices or activities, District Rangers or Staff locate the practices or activities on management and capability area maps and field check the location to determine the applicable standards and guidelines to be met and the suitability of applying the practices or activities at that specific location. Practices or activities are monitored in accordance with Chapter 6, Monitoring Plan, to insure compliance with costs, outputs, and standards and guidelines.

If proposed practices or activities are not adequately covered by the Plan, an environmental analysis is conducted to evaluate the proposal and alternatives to it, as well as coordinate the selected practices or activities with applicable standards and guidelines for the area. Additional management constraints not covered by the standards and guidelines in the Plan are determined at this time.

If the practices or activities in the Plan are not appropriate for a specific site because of land suitability or other conflicts with standards and guidelines, the planned action is redesigned or relocated. Major unforeseen practices or activities which cannot be changed and which conflict with the Plan may result in an amendment or revision. Amendments or revisions are accomplished by the Forest Supervisor after appropriate public notification (36 CFR 219.10(f)).

Table 2a. Summary of Management Area Allocation

<u>Management Area</u>	<u>Net Forest Acres</u>
1	97,772
2	27,663
2A	3,071
3	14,772
3A & 3B	4,165
4	1,128,289
7	41,547
8	3,805
8A	3,685
9	397,505
14	4,240
TOTAL	1,726,514

MANAGEMENT PRESCRIPTION APPLICABLE TO ALL AREAS OF FOREST

<u>Management Practices</u>	<u>Activities</u>	<u>Standards and Guidelines</u>
Dispersed Recreation O&M (DU 1)	AO1	1. Develop operational plans for all areas that are receiving resource damage because of recreation activities.
Developed Recreation O&M (DU 5)	AO1	2. Determine use capacities and manage to those capacities at less than standard or standard.
Wilderness Management (DU 8)	BO1	3. Integrate recreation planning with other planning through development and use of the Recreation Opportunity Spectrum and education of forest personnel in its applications.
		4. Nominate appropriate trails to the National Recreation Trails System.
		5. ---Protect all caves and their unique values while more specific management direction is being developed. ---Some caves may require protection by restricting use and admission.
		<u>5. Caves will be evaluated under provisions of the Federal Cave Protection Act of 1988. Caves determined to be significant under the Act or those being evaluated are exempt from locational disclosure under the Freedom of Information Act.</u>
		<u>6. The location and resources of caves will be kept confidential when needed to protect important archaeological resources, habitat for endangered wildlife, sensitive cave biota and unique geological features. This confidentiality also includes information provided by cooperators under signed agreements.</u>
		<u>7. Specific management prescriptions will be prepared for caves with high resource, educational or recreational values; hazardous conditions; or heavy use. These prescriptions will include guidelines for appropriate use, necessary restrictions and monitoring requirements. Planning priority is for those caves currently under permit.</u>
		<u>8. Inventory, map and monitor caves forestwide to determine visitor capacity, condition and further management needs. Evaluation of this information will help identify priority caves that may require protection measures such as gating, entry permits or education emphasis.</u>
		<u>9. Surface disturbing land management decisions will include consideration of potential impacts to delicate cave ecosystems.</u>
		<u>10. Measures for protection of caves will be incorporated into project planning. These may include avoidance of the alteration of cave entrances; limitation of management activities within an area draining into a cave if they may affect the cave ecosystem; avoidance of diversion of surface drainage into caves; and limitation of public access if required to prevent damage to cave resources or if there are safety hazards.</u>
		<u>11. Identified bat roosts will be managed as a sensitive resource and for the enhancement of populations. Protection measures may include seasonal closures, education and gating. Management of roosts will include consultation with state and federal wildlife agencies.</u>
		<u>12. Access for exploration and development of locatable mineral resources will be analyzed in response to a proposed operating plan. Potential impacts to cave resources will be considered in reviewing proposed mining operating plans.</u>



Management Practices Activities

Standards and Guidelines

13. Withdraw from mineral entry those areas needed to protect caves from mining activities.
14. Excavation to locate caves will be analyzed and permitted on a case by case basis. Exploration inside caves, including excavation, will be commensurate with identified resource values and permitted on a case by case basis.
15. Research activity will be permitted when compatible with identified resource values and when regionally significant.
16. All management direction will be accomplished with involvement of interested publics. Encourage management of specific caves through the use of a memorandum of understanding with caving organizations.
17. Entry permits will be required for caves based upon specific resource considerations.
18. Transportation and recreation planning will consider existing and future needs for both motorized (vehicular) and non-motorized recreation opportunities. Appropriate users will be contacted prior to closing roads or trails to existing uses.

The following criteria will be applied to each area of the Forest when considering changes in motorized vehicle use:

- a. The type of recreational uses to be accommodated and the appropriate maintenance levels for each road or trail.
 - b. Safety of both non-vehicle users and vehicle users.
 - c. Minimization of conflicts between vehicle users and non-vehicle users.
 - d. Protection of the natural resource base.
19. The standards and guidelines pertaining to travel and use of motor vehicles within the Forest are by area designation as follows: Designations are shown on the ORV map. The signing of areas open or closed to motor vehicle use will be in accordance with standards and guidelines contained in the Regional Guide for the Southwestern Region.
- a. Designation: Closed to all motorized travel.
Guidelines: Closed to all motorized vehicles at all times, except those uses authorized by law, permits, and orders in connection with resource management and public safety.
 - b. Designation: Restricted. Generally closed to all cross-country motorized travel. Roads and trails are open to travel except when posted closed.
Guidelines: Closed to cross-country travel by all motorized vehicles except those uses authorized by law, permits, and orders in connection with resource management and public safety.

Management Practices Activities

Standards and Guidelines

All roads and trails are open to motorized travel unless posted as closed. Roads and trails are those listed in the transportation system inventory or physically evident on the ground and recognizable as roads or trails. They will be identified with standard route markers to accommodate all users. Vehicles may pull off roads or trails up to 300 feet for parking or camping.

- c. Designation: Restricted. Generally closed to all cross-country motorized travel. Roads are open to travel except when posted closed. All trails are closed to motorized travel.

Guidelines: Closed to cross-country travel by all motorized vehicles except those uses authorized by laws, permits, and orders in connection with resource management and public safety.

All roads are open to motorized travel unless posted as closed. All trails are closed to motorized travel. A trail is defined as "a way for purposes of travel by foot, stock or trail vehicles, 40 inches wide or less". Roads and trails are those listed in the transportation system inventory or physically evident on the ground and recognizable as roads. They will be identified with standard route markers to accommodate all users. Vehicles may pull off roads up to 300 feet for parking or camping.

In Sabino Canyon Recreation Area, private motor vehicles are allowed only in the parking lot. Only administrative, educational, emergency, and shuttle bus vehicluar traffic are allowed on the canyon roads. Limits on bicycle use may be required.

Visual Resource A03
Management
 (DU 2)

1. Continue to maintain and protect the visual integrity of the landscape by meeting or exceeding the established visual quality objectives which range from preservation to maximum modification. This shall be done by providing visual analysis for all management practices to predict visual impacts, recommending methods for meeting visual quality objectives and mitigating visual impacts in accordance with design guidelines in USDA Handbook 478, National Forest Landscape Management, Volume 2 series. Facilities developed to accommodate the viewer will remain visually subordinate to the surrounding landscape.
2. Rehabilitate or enhance the existing visual quality in the process of accomplishing other resource management practices.
3. Evidences of management activities no longer desired will be removed and rehabilitated consistent with designated visual quality objectives.
4. Viewshed corridor plans will be prepared for management activities which fall within viewing areas of major recreational roads and their associated recreation areas. These plans will identify key visual elements of the viewshed and coordinate the activities to promote diversity and the desired visual character over time.
5. Inventory the Existing Visual Condition (EVC) and the Visual Absorption Capability (VAC) of the landscape.

MANAGEMENT PRESCRIPTION APPLICABLE TO ALL AREAS OF FOREST (continued)

Management Practices Activities

Standards and Guidelines

Cultural Resource A02
Management
(DU 3)

1. The Forest will comply with the National Historic Preservation Act (NHPA), as amended, and will undertake active management which recognizes cultural resources as equal in importance to other multiple uses. Cultural resources will be managed in coordination with the State Historic Preservation Plan and planning activities of the State Historic Preservation Officer and State Archaeologist, and in accordance with the Forest Service Manual and the Coronado National Forest Planning Assessment, negotiated settlement to the Save the Jemez et al./State of New Mexico vs. Forest Service litigation.
2. ~~Surface--disturbing~~ Forest authorized projects will be managed to comply with 36 CFR 800, the Forest Service Manual and the Coronado National Forest Planning Assessment, and the settlement to the Save the Jemez et al./State of New Mexico vs. Forest Service litigation. All consultation responsibilities with the State Historic Preservation Officer will be followed. The area of the undertaking's potential environmental impact will be inventoried for cultural resources and areas of Native American religious use. Inventory standards will be as specified in the Forest Service Manual, settlement document and Forest Service guidelines, and will be determined in consultation with the State Historic Preservation Officer. The identification of areas of Native American religious use will be sought during the project scoping portion of the environmental analysis process. Native American groups descended from groups that occupied the project vicinity aboriginally will be consulted as appropriate.
3. During the conduct of undertakings, the preferred management of sites listed in, nominated to, eligible for, or potentially eligible for the National Register is avoidance and protection. Cultural properties will be protected from damage by project activities through project design, individual site identification, protection measures, training, monitoring and coordination with law enforcement staff. Unevaluated sites will be managed as if eligible, unless consultation with the State Historic Preservation Officer indicates otherwise. Management will attempt to achieve a "No Effect" determination in undertakings. When this is not feasible, a "No Adverse Effect" determination will be the preferred standard. This may include cases where consultation with the SHPO indicated that data recovery and interpretation are appropriate. The procedures in 36 CFR 800 will be followed in reaching a management decision.
4. The interaction between cultural and other resources for any specific undertaking will be evaluated in project-level analyses. Where resource management conflicts occur, the desirability of in-place preservation of cultural resources will be weighed against the values of the proposed land use. Preservation of cultural resources in place will become increasingly important under the following conditions:
 - where present methods of investigation and data recovery cannot realize the current research potential of the sites;
 - where the sites are likely to have greater importance for addressing future research questions than current ones;

Management Practices Activities

Standards and Guidelines

- where the cultural values derive primarily from qualities other than research potential, and where those values are fully realized only when the cultural remains exist undisturbed in their original context(s) (e.g., association with significant historical persons or events, special ethnic or religious values, or unique interpretive values);
 - where cultural resources are important primarily for the quality of their architecture and the integrity of their setting;
 - where preservation in place is necessary to accomplish the objectives of the State Historic Preservation Plan;
 - where site density would make data recovery economically infeasible, or require unattainable operating conditions.
5. ~~A cultural resources overview will be completed for the Forest in 1987. The overview will be updated as necessary based on new scientific data and the management situation.~~ The Forest cultural resources history overview is complete and will be updated and augmented with interviews and archival information. The general prehistory overview for Southeastern Arizona will be reviewed and expanded in order to provide specific background and management information for Forest cultural resources.
6. ~~A cultural resources management assessment will be prepared in consultation with the State Historic Preservation Officer (SHPO) by April 1, 1988. The assessment will include:~~
- discussion of the cultural resources overview;
 - identification of areas requiring more inventory;
 - provision for the identification, classification, and evaluation of known and predicted cultural resources;
 - compilation of a listing of sites having priority for evaluation and nomination to the National Register of Historic Places;
 - determination of maintenance needs for sites listed on or determined eligible for the National Register of Historic Places;
 - development of a prioritized list of sites needing stabilization;
 - provisions for protection of significant sites from vandalism or natural deterioration;
 - identification of opportunities for interpretation of cultural resources;
 - consideration of interactions among cultural and other resources, and opportunities for coordination with the SHPO and other state and federal agencies.

Management Practices Activities

Standards and Guidelines

6. The Forest will participate with other forests in development of a cultural resources allocation process to assign sites to appropriate management categories. In consultation with the State Historic Preservation Officer, cultural resources will be allocated to management categories.

7. The Forest will nominate to the National Register at least two sites per year for each full-time professional archaeologist employed in the Forest cultural resources management program, or one thematic or multiple property nomination per year. Sites determined eligible for the National Register will be inspected periodically unless previous data recovery is considered complete. Sites listed on the National Register will be inspected at least biennially.

8. ~~Top-priority-sites-for-stabilization/maintenance-are-the Marjilda-Site, Rucker-Historic-Site, and the Dragoon Springs Stage Stop. Sites listed on the National Register which do not need maintenance at this time are the American Flag Post Office, the Yaqui Springs sites (Coronado National Memorial), and the Powers Cabin in the Galiuro Mountains. The State Historic Preservation Officer and the Advisory Council on Historic Preservation Officer will be consulted in developing and evaluating a proposal to allow the Powers Cabin in the Galiuro Wilderness to deteriorate naturally. The Forest will provide for the stabilization of cultural resources with priorities determined by National Register status, the inherent scientific and interpretive values of the resource, and by the feasibility of current technology to arrest further deterioration. The procedures in 36 CFR 800 will be followed in reaching a final decision.~~

9. A cultural resources professional will inspect each site that may be affected by an undertaking. ~~and each undertaking with the potential to affect cultural resources.~~ At least 20 percent of the sites designated for protection within each undertaking, including all National Register and eligible properties, will be inspected by a cultural resources specialist, site administrator, contracting officer's representative, or project inspector. If damage to a cultural resource is discovered, the procedures in the ~~settlement to the Save the Jemez et al/State of New Mexico vs. Forest Service litigation~~ Forest Service Manual and Forest Service Handbook 2309.24 will be followed.

10. Appropriate measures will be developed to protect cultural resources from deterioration due to natural forces, visitor use, and vandalism. Protective measures may include, signing, fencing, administrative closure, patrolling, interpretive signs, and stabilization or data recovery. Contracts, permits, and leases which have the potential to affect cultural resources will include appropriate clauses on protection responsibilities and liability for damage.

11. The Forest will pursue opportunities to interpret cultural resources to the public. On-site interpretation will include interpretive trails, signs, exhibits, and self-guided and specialist-guided tours at historic and prehistoric sites. Off-site interpretation will include lectures, professional reports and publications, brochures, programs and displays. Interpretation of cultural resources will be integrated with other resource interpretation, and with other recreation facilities and programs. The Forest will pursue opportunities to develop cooperative efforts with other Federal and State agencies interested in cultural resource interpretation, such as the Bureau of Land Management and other National Forests, and with private partners.



MANAGEMENT PRESCRIPTION APPLICABLE TO ALL AREAS OF FOREST (continued)

Management Practices Activities

Standards and Guidelines

12. The Forest will conduct inventories in areas where the need has been identified in the Forest Planning Assessment. Priorities will be based on management needs, i.e. where inventory information is necessary to avoid potential conflicts with other uses, to predict site distribution and density, to prepare National Register nominations, or to develop interpretation for sites.
- 13 The Forest will maintain architectural National Register properties in accordance with the Secretary of the Interior's standards and guidelines. Historic values will be considered in the development and modification of facilities. Programmatic memoranda of agreement will be developed for the maintenance and treatment of structures listed in the National Register to ensure proper long-term treatment and facilitate consultation with the State Historic Preservation Officer.
- Wildlife and Fish CO1, C12 1. Maintain or improve occupied habitat of commonly hunted
O&M (DU 10) CO2 species, listed threatened and endangered species, and management indicator species through mitigation of Forest activities with cooperation of New Mexico Department of Game and Fish, Arizona Game and Fish Department, and US Fish and Wildlife Service. Where applicable consult with other wildlife and plant oriented groups and affected agencies. (See Appendix H for minimum desired habitat acres).
2. Coordinate where needed, animal damage and plant control on Forest Service administered lands with the US Fish and Wildlife Service and state wildlife and plant agencies.
3. Maintain or improve current vegetative diversity (numbers of plant associations and species occurrence) by mitigation of Forest activities. (See Appendix H for desired acres).
4. With cooperation of federal, Arizona and New Mexico wildlife agencies, develop overall direction for listed threatened and endangered species. (See Appendix G for species list). Delist federally and state listed threatened and endangered species in accordance with species recovery plans. Reoccupy historical habitat Forest-wide with other identified species.
5. Reintroduce extirpated native species into historical habitats in accordance with cooperative interagency plans.
6. Consult with the New Mexico Department of Game and Fish, New Mexico Department of Natural Resources, Arizona Game and Fish Department, and U.S. Fish and Wildlife Service during the environmental analysis process on projects significantly affecting wildlife and threatened and endangered plant habitats. Specific agency responsibilities are described in FSM 2610 (Wildlife and Fish Cooperative Relations) and 2670 (Threatened and Endangered Plants and Animals) and in the Endangered Species Act. Where applicable consult with other wildlife and plant oriented groups (such as State Heritage Programs) and affected federal agencies.
7. Determine presence of federally and state listed threatened and endangered plant and animal species in project areas through on-site inventory and consultation with existing data bases as part of environmental analysis completion. Recommendations for habitat needs will be made on a project by project basis.

Management Practices Activities

Standards and Guidelines

8. In cooperation with the U.S. Fish and Wildlife Service, Arizona Game and Fish Department, and New Mexico Department of Game and Fish develop a general activity plan for state and federally listed threatened and endangered species. This directional plan would guide habitat management on the Coronado National Forest by: (1) determining critical habitat for threatened and endangered species and pre- scribing measures to prevent the destruction or adverse modification of such habitat; (2) recommending appropriate conservation measures including the designation of special areas to meet the protection and management needs of such species; (3) prioritizing completion of recovery plans on memorandums of understanding by species; and (4) estab- lishing a time frame for (3) above. Habitat requirements, research needs, and transplant goals with completion dates would be outlined for each species within its recovery plan. (See Appendix G for species list).
9. Develop management plans for designated endangered species critical habitat on site by site basis as species recovery plans are completed. Habitat management for Federally listed species will take precedence over unlisted species. Habitat management for endangered species will take precedence over threatened species. Habitat management for sensitive species will take precedence over non-sensitivitive species.
10. In cooperation with Arizona and New Mexico wildlife agencies develop an activity plan for transplanting other native species into historically occupied habitat. This direc- tional plan would guide habitat management on the Coronado National Forest by: (1) prioritizing relocation sites Forest-wide by species; (2) developing habitat management plans and memorandum of understanding for relocation sites; and (3) establishing a schedule for completion of (1) and (2) above.
11. Evaluate through consultation with Arizona Game and Fish, New Mexico Departments of Game & Fish and Natural Resources, along with other wildlife and plant-oriented groups where appropriate, population viability of Management Indicator Species through determination of: (1) amount of suitable habitat; (2) distribution of suitable habitat; (3) number of individuals that support regional population goals; and (4) likelihood of continued existence.
12. Mitigate impacts on wildlife and plant diversity by applying the following standards and guidelines to the appropriate management activities. Wildlife species to be featured are shown for each individual management area.
 - a. Mineral entry and oil and gas exploration
 - (1) Leave buffers around watering and feeding areas for escape and hiding cover. Buffer widths vary with the site but must be wide enough to screen affected wildlife from the project site.
 - (2) Rehabilitate site after entry using mixture of forage and cover plant species.

Management Practices Activities

Standards and Guidelines

(3) Within occupied habitat of threatened and endangered species.

(a) Specific recommendations made on site by site basis. Recommendations vary from seasonal limitations to no construction permitted or mineral withdrawal.

b. Recreation

(1) Trails

(a) New Construction

1. Leave one mile buffer around peregrine falcon eyrie locations and other critical raptor nesting sites.

2. Route around rock talus slopes.

(b) Maintenance of existing trails.

1. Minimum maintenance within one mile of peregrine falcon eyrie location.

2. Limit maintenance to between October 1 and February 1 within one mile of peregrine falcon.

(2) Recreation Use

(a) Establish species tolerance levels on a project site by site basis.

c. Fuelwood Harvest

(1) Follow old growth standards and guidelines per the regional standards and guidelines depicted at the beginning of Chapter 4 (plan pages 22 to 23). Old growth characteristics have been placed in tabular form (plan page 24).

(a) Retention areas will emphasize hiding, escape, bedding and thermal cover around feeding and watering areas, in drainages, and along roads. Leave strips vary in size from 50 to 200 feet depending on density by existing vegetation.

(b) Retention areas will emphasize leaving mast and berry producing trees in the same mixtures of mature and overmature species as in pre-treatment stand.

Management Practices Activities

Standards and Guidelines

- (2) In Mexican spotted owl and northern goshawk habitat, manage other tree age classes per region-wide guidelines depicted at the head of Chapter 4 (plan pages 15 to 22). In other areas manage other tree classes as follows:

Poles: greater than or equal to 20% of the stand.

Sapling and seedling: less than or equal to 60% of the stand.

- (3) Maintain 3 or more cavity bearing live trees and 3 or more snags or decadent trees per acre. Tree diameters at breast height will be at least 12 inches through rotation period, where feasible.
- (4) Meander cutting block boundaries following natural lines for greater edge effect.
- (5) In fuelwood stands yielding less than 4 cords per acre at end of rotation, leave 50% of trees with diameter breast heights less than 4 inches for thermal, hiding and escape cover and as growing stock.
- (6) Retain all age classes of riparian species (defined in FSM 2526, Riparian Watershed Management) and madrone.
- (7) Control livestock and recreation use in stands for two growing seasons or more after harvest to establish vegetative regeneration.
- (8) Retain two turkey roosts per square mile. A roost will include at least 7 trees with 12 inch diameters and 30 foot heights or greater within one half mile of water.
- (9) Leave at least two slash piles as cover or nest sites within one half mile of water. In turkey and Mearns' quail habitats, lop and scatter the slash.
- (10) Retain 150 foot vegetation buffers around raptor nests and colonial turkey vulture and owl roost sites.
- (11) In high density Mearns' quail habitat, leave 15 acres of uncut tree stands interspersed with openings less than 150 feet in width. Utilization of forage by livestock will not exceed 45% by weight. In lower density habitat follow guidelines (1), (2), (4), (5), (6), and (7) above.
- (12) In identified threatened and endangered species habitat, the above standards and guidelines will be modified, if necessary, on a site by site basis.

d. Roads

- (1) Limit density of existing and new road construction to one mile of road or less per square mile.

MANAGEMENT PRESCRIPTION APPLICABLE TO ALL AREAS OF FOREST (continued)

Management Practices Activities

Standards and Guidelines

- (2) Close and reseed temporary fuelwood roads after harvest.
- (3) Establish tolerance levels for state and federally listed threatened and endangered species for new construction and maintenance of roads on project by project basis.

e. Range Management

- (1) Provide wildlife input into allotment management plans in order to:
 - (a) Maintain wildlife and livestock utilization of perennial vegetation at levels established in FSM 2209.21, R-3 (Range Analysis and Management Handbook).
 - (b) Provide for one water per section available to wildlife yearlong.
 - (c) Provide for wildlife passage through fences by:
 - 1. Building fences with 4 wires or less with bottom wire 16 inches off ground, top wire 12 inches above second wire, and fence height less than or equal to 42 inches.
 - 2. Providing crossings at established antelope travel routes.

f. Range and water rehabilitation projects

- (1) Leave strips of existing vegetation in drainages and around waters. Width varies with density of existing vegetation but adequate hiding, escape, bedding and thermal cover is usually provided with strips of 50 to 150 feet wide.
- (2) Construct 2 slash piles within one half mile of water. In turkey and Mearn's quail habitats, lop and scatter the slash.
- (3) Retain all non-targeted plant species, (such as cacti and agaves) within limits of treatment method.
- (4) Include plant species for wildlife in reseeding mixture.

g. Other forest products harvest

- (1) Beargrass
 - (a) Harvest areas less than 6 acres when removing 100% of plants.
 - (b) Reentry at least 2 years after initial treatment.

MANAGEMENT PRESCRIPTION APPLICABLE TO ALL AREAS OF FOREST (continued)

Management Practices Activities

Standards and Guidelines

- (c) Selectively harvest only one out of three plants in drainages.
- (d) No harvest during Merriam's and Gould's turkey nesting and brooding periods in occupied turkey habitats.
- (2) Yucca, cactus, ocotillo, etc.
 - (a) Harvest permitted on site by site basis.

h. Timber harvest

- (1) Maintain basal area and age class distributions as shown in silvicultural guidelines for timber harvest in Management Area 2.
- (2) Retain current acres of meadows
 - (a) Route timber haul roads around meadows
 - (b) Restrict off-road vehicle use to designated roads.
 - (c) Leave 50 to 150 feet buffers around meadows to provide thermal, escape and hiding cover.
- (3) Leave 3 or more snags of at least 20 inches diameter breast height per acre through rotation period.
- (4) Meander harvest block boundaries to create greater edge effect.
- (5) Retain all ages classes of riparian species (defined in FSM 2526. Riparian Watershed Management) and madrone.
- (6) Control livestock and recreation use in stands for 2 or more growing seasons after harvest to allow vegetative regeneration.
- (7) Leave 50 to 150 feet or more vegetation buffers around waters and along roads and drainages to provide thermal, escape, bedding and hiding cover. Width varies with density of existing vegetation.
- (8) Retain 150 foot buffers around raptor nests.
- (9) Manage for two turkey roosts per section over rotation period. Roosts will include at least 7 trees with 20 inch diameter breast heights and 50 foot heights or greater on a one fourth acre area. Roosts sites will have at least a basal area of 120 and be within a one half mile of water.
- 0) In harvest stands lop and scatter slash within one half mile of water.

MANAGEMENT PRESCRIPTION APPLICABLE TO ALL AREAS OF FOREST (continued)

Management Practices Activities

Standards and Guidelines

(11) Manage aspen as follows:

- (a) 40% of stand has aspen and conifer basal area greater than or equal to 161; 30% greater than or equal to 81 but less than 160; 30% less than or equal to 80.
- (b) 20% of canopy cover retained in overmature or mature age classes.
- (c) Leave 3 cavity bearing overmature and mature trees and 3 snags with diameter breast heights greater than 10 inches per acre during the 80 year rotation period.
- (d) Regeneration areas will be less than 6 acres.

(12) Gambels oak

- (a) Retain 40% of canopy cover (compared to total enclosure) as mature and overmature; less than or equal to 30% as poles; and less than or equal to 30% as seedlings/saplings.

Wildlife Habitat C09, C10
Maintenance (DU 11)

1. Maintain wildlife structures to the following guidelines. They are intended to meet specific wildlife habitat objectives as shown for each Management Area. Structures may not exist in every Management Area.

- a. Maintain all water developments every 4 years.
- b. Maintain study plots once every 10 years.
- c. Maintain other structures once every 4 years.

T&E Plant Habitat C03, C04
Improvement C05, C06
 (DU 12) C07, C08

The following structural and nonstructural improvement guidelines are intended to meet the specific wildlife habitat objectives as shown for each Management Area. They may not be applicable for every Management Area.

Fish Habitat
Improvement
 (DU 13)

Non-structural wildlife improvements

Game Habitat
Improvement (DU 14)
Nongame Habitat
Improvement (DU 15)

- a. Prescribe burn feasible areas on a 20 year cycle.
- b. Seed suitable wildlife forage species as needed in fuelwood and timber areas.
- c. Transplant listed threatened and endangered and other identified species into suitable habitat following guidelines of species recovery plans and memorandums of understanding.
- d. Revegetate wildfire areas with wildlife forage, cover and riparian species. Native species should be used when available.
- e. Thin or patch cut an average of 10 acres of aspen, gambel oak and timber species per year.

Structural wildlife improvements

- a. Construct water developments or potholes to accomplish 1 per section within 4 decades.

MANAGEMENT PRESCRIPTION APPLICABLE TO ALL AREAS OF FOREST (continued)

Management Practices Activities

Standards and Guidelines

- b. Consider structural improvements and maintenance for threatened and endangered species as technology develops.
- c. Construct fish habitat improvement structures as needed for threatened and endangered species.
- d. Fence riparian areas where prescribed by approved allotment management plans. Miles of fence constructed will vary with management plan.

Range Management DO1
O&M (DU 16)

- 1. Priority for allotment management planning will be given to areas with opportunity to reverse range deterioration or to increase permitted numbers.
- 2. Priority for range improvements goes to allotments with approved plans and where cost effective.
- 3. Specific standards and guidelines for livestock grazing operations are those contained in:

Region-wide Standards and Guidelines (Plan page 22)

- FSH 2209.21 (Range Analysis Handbook)
- FSH 2209.22 (Structural Range Improvement Handbook)
- FSH 2209.23 (Nonstructural Range Improvement Handbook)
- FSM 2323 (Grazing Management in Wilderness)

- 4. Discontinue livestock grazing in Redfield Allotment (Galiuro Mountains) due to economic and ecological reasons.

Timber Management E00
(DU 32)

- 1. Coordinate fuelwood programs, to the extent possible, with those on adjacent lands.
- 2. Complete fuelwood and Christmas tree inventories.
- 3. Timber management priorities are to enhance wildlife and recreation resources.
- 4. Fuelwood and other forest products, such as beargrass and manzanita, will be made available to residents of Mexico when not fully utilized by U.S. citizens.

Watershed & Soil FO1, FO2
Maintenance FO3, FO4
 254, 255
 K01, K03
 K04

- 1. Use water needed for National Forest programs frugally and efficiently.
- 2. First priority for watershed improvement projects goes to unsatisfactory watershed condition.
- 3. Complete watershed analyses and watershed restoration action plans.
- 4. In all aspects of planning (budget, long range, coordination with other agencies, coordination with other disciplines within the Forest Service and cooperation with research) watershed will be represented. Plans will be sensitive to maintaining or improving watershed conditions.
- 5. Through management services, provide information to minimize disturbance and improve already disturbed areas. Best management practices will be used to minimize the time of recovery to a satisfactory erosion level, minimize soil productivity loss, improve water quality and minimize channel damage.

MANAGEMENT PRESCRIPTION APPLICABLE TO ALL AREAS OF FOREST (continued)

Management Practices Activities

Standards and Guidelines

6. Monitor designated projects according to an approved water quality monitoring plan.
7. Restrict equipment use to terrain and climatic conditions where soil damage will be minimal.
8. Manage riparian areas in accordance with legal requirements regarding floodplains, wetlands, wild and scenic rivers, and cultural and other resources. Recognize the importance and distinct values of riparian areas in Forest Plans.
9. Manage riparian areas to protect the productivity and diversity of riparian-dependent resources by requiring actions within or affecting riparian areas to protect and, where applicable, improve dependent resources (FSM 2526). Emphasize protection of soil, water, vegetation, and wildlife and fish resources prior to implementing projects (FSM 2526).
10. Give preferential consideration to resources dependent on riparian areas over other resources. Other resource uses and activities may occur to the extent that they support or do not adversely affect riparian-dependent resources.
11. By the end of the first time period, complete classifications and inventories of all riparian areas, and complete action plans to improve all unsatisfactory riparian areas. Improve all riparian areas to satisfactory or better condition by the end of Period 5. Such satisfactory conditions are specified below, expressed as a percentage of "natural" conditions (that is, what each site can produce if not further disturbed by man). Twenty-five percent of all riparian areas must be in satisfactory condition by Period 2.
 - a. Aquatic resource:
 - (1) Maintain at least 80 percent of natural shade over water surfaces in fish bearing streams.
 - (2) Maintain at least 80 percent of natural bank protection.
 - (3) Maintain the composition of sand, silt, and clay within 20 percent of natural levels in fish bearing streams.
 - b. Vegetation resource (where the site is capable of supporting woody plants);
 - (1) Maintain at least 60 percent of the woody plant composition in three or more riparian species.
 - (2) Maintain at least three age classes of riparian woody plants, with at least 10 percent of the woody plant cover in sprouts, seedlings, and saplings of riparian species.
 - (3) Maintain at least 60 percent of natural shrub and tree crown cover.
 - c. Wildlife resources: Maintain at least 60 percent of natural shade over land surfaces.

MANAGEMENT PRESCRIPTION APPLICABLE TO ALL AREAS OF FOREST (continued)

<u>Management Practices</u>	<u>Activities</u>	<u>Standards and Guidelines</u>
Minerals Management (DU 36)	GO1, GO2 GO5, GO6	12. On a site-specific basis, identify riparian-dependent resources and develop action plans and programs to bring about conditions essential to supporting those dependent resources.
		1. To the extent possible, avoid construction of roads across sensitive soils and scenic lands. Prohibit the construction of roads across mountain meadows.
		2. Mining and leasing activities will be allowed within the framework of applicable laws and regulations including environmental laws and regulations designed to mitigate the impacts of mining activities. Emphasis should be on gaining cooperation and control through the use of operating plans and bonds for rehabilitation to protect and restore surface resources.
Human Resource Programs (DU 38)	HO2, HO3 HO4, HO6 HO7	3. Exploration and development of common variety minerals for use as aggregate sources must be based on needs identified in transportation plans. Allocation of mineral aggregate will be based on Forest Service needs and the most cost efficient use of various quality aggregates. Forest Service will have priority before personal or commercial use of aggregate materials.
		1. Consider needs of handicapped persons in all new development or redevelopment projects.
		2. Use volunteers to supplement other resource management activities.
Land Classification (DU 39)	J11, J12	1. Capitalize on opportunities to consolidate small private land holdings into economically viable units through land ownership adjustment.
		2. Recognize, in the periodic review of Forest land ownership adjustment planning, the public benefits to be gained and the effect of the planning on land adjacent to the Coronado National Forest.
		3. Consider all resource values and social needs in doing land adjustment planning.
Land Management Planning (DU 40)	J22	1. Carry out the intent and direction contained in the Land and Resource Management Planning Regulations and current FSM 1920 Manual direction (Land and Resource Management Planning).
Special Use Management (DU 41)	JO1, J10	1. Make rights-of-way wide enough to safely accommodate the use and its future maintenance.
		2. Require site development and rehabilitation plans for uses; such as, sanitary landfills, dumps, borrow pits, quarries, storage yards and work camps in order to minimize all resource impacts.
		3. Utility lines will be placed underground when necessary to meet the visual quality objective unless this is not feasible because of overriding environmental concerns, costs and technical considerations. Existing utility lines that do not meet the visual quality objective will be placed underground or realigned when reconstruction becomes necessary.

Management Practices Activities

Standards and Guidelines

4. Existing utility and transportation corridors will continue to be used for those types of uses. Every attempt should be made to locate new utilities within those existing corridors that meet the visual quality objective. Existing corridors that do not meet the visual quality objective should be relocated when construction becomes necessary. New corridors shall be located so that the visual quality objectives are met.
5. The powerline serving the Mt. Graham International Observatory will be buried. The astronomical observatory permittee will provide electric power capability to Columbine Administrative Site.
6. Public access to special use areas will continue so long as it is consistent with safety and the type of use permitted.
7. Land occupancy and use authorizations will be evaluated in light of their effects on the management, protection, development, and utilization of the resources and the long-term public interest in full recognition and response to the requirements and intent of the National Environmental Policy Act.
8. Maintain existing electronic and astrophysical sites and complete site management plans for all sites with cooperation of user groups. Continue to establish user groups or organizations for each site. Consolidation of existing and new facilities and uses shall be given high priority over opening new sites. Group uses according to compatibility.
9. Within the Pinaleno Mountains, High Peak (Mt. Graham) will no longer be considered for electronic site development. Any development of the West Peak electronic site will be deferred until further analysis is completed as part of recovery planning for the Mt. Graham red squirrel.
10. Electronic sites will be managed to the following standards:
 - a. Maximize joint use of existing buildings.
 - b. Lot plans as presently established will be eliminated. Sites allocated on a total required facility basis.
 - c. Maintenance of individual site roads and trails will be carried out jointly through cooperative maintenance proportionate payments to the amount of use or will be maintained by the users.
 - d. Clearing of vegetation will be limited to that which poses a hazard to facilities and operational efficiency.
 - e. Commercial broadcasting, and constant carriers, will be allowed where compatible. These sites must be separated physically from land mobile and microwave sites.

Any potential electromagnetic interference must be resolved before construction can proceed. Microwave corridors will be protected.
 - f. VHF transmitters will be permitted if frequencies are compatible with those of previous users. (Authorize only specified frequencies and not wide range bands on 2700-10 Technical Data Sheets.)
 - g. All new and replacement towers must be self-supporting.

MANAGEMENT PRESCRIPTION APPLICABLE TO ALL AREAS OF FOREST (continued)

Management Practices Activities

Standards and Guidelines

- h. New and replacement antennas and towers will be below the height for which the FAA requires lights because of the interference with the fire lookout tower and aesthetics.
- i. All utility lines will be placed underground.
- j. Any prospective permittee desiring a site shall furnish detailed plans of buildings and antenna support structure to the District Ranger for approval. All towers will meet Electronic Industries Association standard RS-222-C, structural standards for steel antenna towers. These plans will show the relationship of the proposed building and antenna to other facilities in the area, along with manufacturer's specifications for equipment to be used.
- k. All buildings will be colored to blend with the background.

Lands JO4, JO5
Administration J10, J12
 (DU 42) J13, J15

- 1. Take actions necessary to determine status of NPS lands and interests in lands.
- 2. Update and maintain land status records.
- 3. Acquire lands or interest in lands through exchange, purchase or donation in accordance with the Forest Land Adjustment Classification Maps and criteria set forth in Table 11.
- 4. Make the following changes in the Forest Land Adjustment Program:
 - a. East Whitetail Canyon
(Chiricahua Mountains)
 - Reclassify approximately 183 acres of National Forest land as base-for-exchange.
 - Reclassify approximately 464 acres of private land from priority 3 for acquisition to undesirable for National Forest purposes.
 - b. Holy Cross Area
(Santa Catalina Mountains)
 - Reclassify approximately 340 acres of National Forest land as base-for-exchange.
 - c. Summerhaven Area
(Santa Catalina Mountains)
 - Reclassify approximately 41 acres of private land from priority 1 to priority 3 for acquisition.
 - d. North and east side of Santa Rita Mountains. Reclassify approximately 2500 acres of National Forest land as base-for-exchange.
- 5. Exchanges should result in an improved forest land ownership pattern.

Management Practices Activities

Standards and Guidelines

6. The exchange of National lands into private ownership should not conflict with county zoning or State and local planning goals.
7. National Forest land exchanges should foster sound community development. Before exchanges are consummated, it should be determined that the lands being conveyed to private ownership are suitable for their intended use from the standpoint of soils, availability of water, drainage, access, and other physical and environmental factors.
8. Some areas of high management and operating costs, such as residence areas, do not contribute proportionately to achieving Forest Service goals and objectives. These areas should be carefully evaluated to determine the merits of exchanges. Areas that are costly to administer, have long-term land occupancy commitments, do not contribute significantly to achieving Forest Service goals and objectives, and have minimal benefit to the general public, should be considered as candidate areas for exchange in return for areas of high value multiple resource lands.
9. Emphasize acquisition of water oriented property inside the National Forest boundary. This property provides much needed high density public recreation use as well as high value wildlife and fish habitat.
10. Attempt to acquire private land from willing sellers that will provide additional public recreational opportunities including open space. Acquisition will receive low priority Forest-wide.
11. Review all existing Forest Service withdrawals for following:
 - Recreation Areas
 - Administrative Sites
 - Revocations and All Others
12. Inventory fixtures (fences, buildings, etc.) which intrude upon or occupy National Forest Service lands, as cases come to light. Resolve cases, by priority, as time and funding permits.

Land Line JO6, JO7
 Location (DU 43)

1. Post legal boundaries between private and National Forest System lands on a priority basis to let the public know where National Forest land is located. Priorities will be selected with emphasis directed toward minimizing future encroachment cases and resolving present encroachments. (See Table 8). The level of activity is estimated at 26 miles per year.
2. Property lines in environmentally sensitive areas must be visible to be effective. Excessive clearing and painting will be avoided.
3. On all vegetation and fuel control projects, searches will be made for all land survey corners and bearing trees. Original field notes will be used in these searches.
4. All fences to be constructed along Forest boundaries will be staked by a land line survey crew.

MANAGEMENT PRESCRIPTION APPLICABLE TO ALL AREAS OF FOREST (continued)

<u>Management Practices</u>	<u>Activities</u>	<u>Standards and Guidelines</u>
Rights-of-Way Acquisition (DU 44)	J18	<ol style="list-style-type: none"> 1. Work closely with the state, counties, and other Federal agencies to resolve rights-of-way problems. Insure public access to the various parts of the Forest on state, county or permanent Forest Service roads. 2. Obtain necessary public access for all permanent roads and trails <u>within</u> the National Forest boundary. 3. Attempt to secure rights-of-way needs as shown by schedules included in Table 7. 4. Interior and boundary fences will have horse or hiker gates located at appropriate places such as trails, major drainages, and major ridgelines.
Transportation System Planning (DU 47 & 50)	L01 L20 L19 L23	<ol style="list-style-type: none"> 1. Recognize pleasure driving as an important aspect of transportation system planning by coordinating circulation systems with the recreation opportunity spectrum. 2. Develop the minimum transportation system to adequately meet management, protection and utilization needs, but in locations that will minimize damage and maximize the values of all resources. 3. New roads or trails needed for resource development and management will be designed and constructed to standards identified in the transportation planning for the concerned area. 4. Road Maintenance activities will be conducted primarily for protection of our road investment, resource protection, user safety, and user economy. Funding will continue to be the primary constraint on the intensity of road maintenance efforts. When roads in need of maintenance cannot be serviced because of budget constraints, they will be closed if unacceptable resource damage is occurring. Maintenance agreements with local government and private organizations will be sought to supplement Forest Service funding. 5. <u>Snowplowing will be provided by the Mt. Graham International Observatory permittee to keep Swift Trail (State Highway 306) and the new access road open for limited access such as in level 2 road maintenance. Generally access will not be suited for passenger vehicles. Tire chains and/or four-wheel drive would be required above the snowline.</u> 6. Criteria for determining the appropriate level of trail maintenance are: <ol style="list-style-type: none"> a. Type of use (e.g. foot, horses, vehicles, or mix) b. Amount of use. c. Significance of trail. (e.g. major access route, leads to dead end, etc.)
Road & Trail Construction & Reconstruction (DU 49 & 51)	L05, L09 L10, L11 L12, L13 L21, L22	<ol style="list-style-type: none"> 1. Reconstruct major roads based on schedule shown in Table 9. 2. Bring the General Hitchcock Highway to standard, two lane and 30 mph design speed, to improve safety and reduce maintenance costs. Keep the highway as a scenic highway. Maintain to level 5. Pima County will assume management responsibility once reconstruction is completed. Ensure that reconstruction has minimum impact on unique rock formations, riparian areas, T&E plants, etc. 3. Construct or reconstruct trails based on needs shown in Table 10.

MANAGEMENT PRESCRIPTION APPLICABLE TO ALL AREAS OF FOREST (continued)

<u>Management Practices</u>	<u>Activities</u>	<u>Standards and Guidelines</u>
Facility Construction (DU 52)	L24	1. Construct or reconstruct facilities in accordance with schedule in Table 6.
Facility Maintenance (DU 53)	L25	1. Maintain facilities to the appropriate condition class. See Appendix F for definition of building condition classes.
Dam Administration	L28	1. Inspect dams as per current FSM direction.
General Administration (DU 55)	TO2	1. Every attempt will be made to make the public aware of Forest Service management activities. Emphasis shall be placed on those practices that exclude public use such as electronic or astrophysical sites, and those practices not generally understood by the public.
Fire Management (DU 56)	PO1, PO3 PO4, PO7 P10, PO2 P19, P20 P21, P22 P16, P17 P24, PO9 PO8	<p>1. Develop the most cost efficient operations for fire management activities depending on the resources, property, and lives to be protected.</p> <p>2. Keep the level of prevention and suppression activities commensurate with the increasing risks and hazards.</p> <p>3. Utilize prescribed fire in wilderness to enhance wilderness values including restoration and maintenance of threatened species habitat and to permit lightning-caused fires to more nearly play their natural ecological role within wilderness. Additional planned ignitions will be used to reduce the risk from wildfire or its consequences, to life and property within wilderness or to resources, life or property outside wilderness.</p> <p>3. Conduct fire suppression activities in a way to protect watershed and visual resource values.</p> <p>4. Appropriate fire suppression responses will protect life and property.</p>
Air Quality Management		1. All management practices will be planned so that air quality will meet local, State and Federal standards.
Chemical Management		<p>1. Safeguard water, people, animals, pets, and property in connection with use of pesticides and fire retardants.</p> <p>2. Conform to Department of Agriculture standards in the use of all pesticides and promote development of acceptable alternatives for the use of pesticides.</p> <p>3. Chemicals may be used within guidelines approved by other agencies for the following purposes:</p> <p>a. Insecticides and rodenticides in recreation areas and administrative sites.</p> <p>b. Herbicides for aquatic weed control in fishing lakes. Requests normally come from State Game and Fish Departments.</p> <p>c. Insect and disease control on timber and range lands. Proposals for insect control on range lands (i.e. grasshoppers, etc.) normally come from outside agencies.</p>

MANAGEMENT PRESCRIPTION APPLICABLE TO ALL AREAS OF FOREST (continued)

Management Practices Activities

Standards and Guidelines

- d. Small research studies from universities or governmental research agencies.
- e. Herbicides to control brush and herbaceous plants along State and Federal highways. Requests normally come from State Highway Departments as part of annual highway maintenance.
- f. Dust control at recreation sites and administrative sites and on roads.
- g. Cyanide leaching as part of mining operations.
- h. Herbicides to control invading plants that reduce herbaceous forage production on rangelands. Not all of the control would be done by use of herbicides. Depending on individual site circumstances, the control might be by mechanical means, prescribed fire, fuelwood harvest, herbicides, or some combination.

Insect & Disease

P34

- 1. Threatened, endangered, and sensitive species habitat requirements will take precedence over vegetation manipulation to control insects and disease. All silvicultural examinations will integrate insect and disease considerations in the final stand prescriptions to maintain stand vigor and composition in resistant conditions. Special attention will be given to removal of mistletoe infected trees during intermediate harvests and regeneration harvests.

Management

Law Enforcement
(DU 58)

P25, P27

- 1. Increase and strengthen law enforcement efforts through memoranda of understanding and providing Forest Service law enforcement personnel.
- 2. Enforce laws firmly and fairly. Emphasize personal contact and education over issuance of citations.
- 3. In all programs, incorporate measures to promote safety.

MANAGEMENT AREA 1

Management Emphasis and Intensity: Manage for visual resources and semi-primitive dispersed recreation opportunities including those related to wildlife. Visual quality objectives will be met.

Management Area Description: Steep, rugged lands that may be very visible from major travel routes. These lands have generally been determined as incapable of or unsuitable for sustained wood harvest and livestock grazing. Slopes are generally greater than 40%. Includes all vegetative types except major riparian areas.

Capability Area Types: 1M, 6M, and 7M, Total acres = 97,772.

Specific Management Prescription

Timber Suitability: All acres unsuitable

[VEGETATION MANIPULATION TABLE IS DELETED]

Management Practices Activities

Standards and Guidelines

Dispersed A15
Recreation L23
 O&M (DU 1)

1. Maintain 25% of trails to level 2 and 75% to level 3. See Appendix E for a definition of levels.
2. Use of motorized vehicles is restricted to existing trails and roads. Some trails may be closed to motorized vehicles for safety, resource protection, and user conflict reasons. All trails on the Santa Catalina Ranger District are closed to motorized vehicles.
3. Emphasize semi-primitive motorized and semi-primitive nonmotorized recreation opportunities. When roads are no longer needed, close them in order to create more opportunities for semi-primitive nonmotorized or primitive experiences.
4. Manage dispersed use at a level of 100% reduced service.

Visual Resource A03
Management
(DU 2)

Manage the following acres at the indicated Visual Quality Objectives:

12,710 Acres Retention 13%
51,819 Acres Partial Retention 53%
33,265 Acres Modification 33%
978 Acres Maximum Modification 1%

Wildlife C01, C02
 O&M (DU 10) C12

Specific standards and guidelines for management of wildlife are shown in the Forest-wide prescription for activities appropriate to this Management Area. They are intended to meet the following objectives:

1. Maintain and improve current habitat for federally listed plant and animal species and work toward delisting.
2. Maintain current levels of occupied habitat for:

mule deer
white-tailed deer
javelina
bighorn sheep
pronghorn
cottontail

MANAGEMENT AREA 1 (continued)

Management Practices Activities

Standards and Guidelines

white-sided jackrabbit
 black bear
 raptors
 Merriam's turkey
 Gould's turkey
 scaled quail
 Mearn's quail
 Gambel's quail
 waterfowl
 Baird's sparrow
 five-striped sparrow
 Arizona ridge nosed rattlesnake
 twin-spotted rattlesnake
 western massassauga
 Gila topminnow

Wildlife Habitat Maintenance (DU 11) CO9, C10 C11

1. Maintain wildlife structures based on guidelines shown in the Forest-wide prescription. The objective is to maintain current levels of occupied habitat for:

mule deer
 white-tailed deer
 javelina
 bighorn sheep
 pronghorn
 cottontail
 black bear
 Merriam's turkey
 scaled quail
 waterfowl
 Gila topminnow

T&E Plant Habitat Improvement (DU 12) CO3, CO4 CO7, CO8 CO5, CO6

Structural and nonstructural habitat improvement projects will be based on guidelines shown in the Forest-wide prescription. They are intended to meet the following objectives:

Fish Habitat Improvement (DU 13)

1. Improve quality and availability of forage and availability of water for commonly hunted species:

Game Habitat Improvement (DU 14)

mule deer
 white-tailed deer
 javelina
 bighorn sheep
 pronghorn

Nongame Habitat Improvement (DU 15)

2. Maintain horizontal and vertical plant diversity at current level.
3. Delist threatened and endangered species and reoccupy historic habitat with other identified species following guidelines in approved species recovery plans and memorandums of understanding.
4. Maintain and improve current nesting habitat for endangered species as directed by approved recovery plans.

Range Management O&M (DU 16) D02,

1. Manage rangeland at level A (No assigned permitted use for livestock).

Watershed & Soil Maintenance & Improvement F05 F03, F06 K05

1. Restore to satisfactory watershed condition on an emergency basis watersheds or portions of watersheds when damaged. Watershed treatment is a low priority in this management

MANAGEMENT AREA 1 (Continued)

<u>Management Practices</u>	<u>Activities</u>	<u>Standards and Guidelines</u>
(DU 33, 34) (DU 45, 46)	K04, K06 552, 553	area. Water and soil resources improvement may consist of channel stabilization, and revegetation using native or nonnative species. See Appendix D for appropriate activities.
Lands Administration (DU 42)	J13, J15	<ol style="list-style-type: none"> 1. Attempt to acquire private lands that will "fill in" ownership pattern, resulting in more effective management of National Forest lands. 2. Act on all exchange offers that appear to be in the public interest.
Road Maintenance (DU 48)	L19	<ol style="list-style-type: none"> 1. Bring existing roads that are to be retained on the system to a maintainable standard which is suitable for the planned use and provides for minimum safety, and resource protection. Maintain roads to level 2. See Appendix F for a definition of levels. 2. Close, drain and revegetate existing roads that are determined to be unneeded for further use. This should be a cost of the initiating resource element.
Fire & Fuels Management (DU 56, 57)	P08, P09 P12, P15	<ol style="list-style-type: none"> 1. The management area is divided into fire suppression zones 1 and 2 based on resource protection and cost objectives. See Chapter 5 and map for definition and location of zones. 2. Natural fuel treatment may consist of broadcast burning or wood gathering for fuelwood. 3. Prescribed fire will be used to reduce fuel hazards, enhance wildlife values, and enhance visual resources. 4. All projects that include prescribed fire will include specific burning prescriptions that will insure the fire can be controlled within established boundaries and that the burning meets the desired resource objectives.
Insect & Disease Management	P34, P35 P36	<ol style="list-style-type: none"> 1. Maintain surveillance for insect and disease outbreaks. Where opportunities exist, attempts will be made to reduce or prevent damage from insects and diseases. Use integrated pest management techniques which are compatible, economical, and environmentally acceptable. 2. Recognize and prevent conditions favorable for insect and disease outbreaks.

MANAGEMENT AREA 2

Management Emphasis and Intensity: Manage for dispersed recreation opportunities. Uses such as electronic sites and observatories will be permitted on special sites. Sawtimber and fuelwood harvest will be done to enhance recreation, visual quality, and wildlife values. Visual quality objectives will be met. Watershed conditions will be maintained or improved.

Management Area Description: Coniferous forest lands that are suitable for a wide variety of recreational and special uses. Slopes generally less than 40%. Includes both suitable and unsuitable timber producing lands. Located in the Chiricahua, Pinaleno, Santa Rita, and Santa Catalina Mountain Ranges.

Capability Area Types: 4M, 9AHM, 9BHM, 9CHM, and 9DHM. Total acres = 27,663

Specific Management Prescription

Timber Suitability:

Suitable for timber harvest = 5,000 acres (Chiricahua and Santa Catalina Mountains)
All other acres unsuitable

[VEGETATION MANIPULATION TABLE IS DELETED]

<u>Management Practices</u>	<u>Activities</u>	<u>Standards and Guidelines</u>
Dispersed Recreation O&M (DU 1)	A14, A15 L23	<ol style="list-style-type: none"> 1. Maintain trails to level 3. See Appendix E for a definition of levels. 2. Use of motorized vehicles is restricted to existing trails and roads. Some roads and trails may be closed to motorized vehicles for safety, resource protection, and user conflict reasons. All trails on the Santa Catalina Ranger District are closed to motorized vehicles. 3. Road 507 will be closed to public motorized vehicles at the junction with Swift Trail. Nonmotorized activities will be permitted along the first 1.8 miles to the red squirrel refugium boundary. 4. Within the Pinaleno Mountains, snowmobiles are restricted to roads and trails designated (signed) for their use. 5. Facilities for snowplay activity (tubing/sledding) could be developed outside suitable habitat for the Mt. Graham red squirrel. Consider as part of other recreational site development in MA 3A/3B. 6. Manage dispersed use at a level of 100% reduced service. 7. Maintain at least the current amount of ROS Class Semiprimitive Nonmotorized (SPNM) acres and limit additional Semiprimitive Motorized (SPM) and Roaded Natural (RN) acres by closing roads which are determined to be unneeded and allowing creation of temporary roads only for resource utilization.
Visual Resource Management (DU 2)	A03	<p>Manage the following acres at the indicated Visual Quality Objectives:</p> <ul style="list-style-type: none"> 23,694 Acres Retention 87% 2,996 Acres Partial Retention 11% 272 Acres Modification 1% 272 Acres Maximum Modification 1%

MANAGEMENT AREA 2 (Continued)

Trail Construction L21, L22
& Reconstruction
(DU 4)

1. Construct trail head as follows:
Period 3 - Construct trailhead parking lot with two unit vault toilet.

Wildlife & Fish O&M (DU 10)
O&M (DU 10) C01, C02, C12

Specific standards and guidelines for management of wildlife are shown in the Forest-wide prescription for activities appropriate to this Management Area. They are intended to meet the following objectives:

1. Maintain and improve current habitat for federally listed threatened and endangered plants and animals and work toward delisting.
2. Maintain 80% or more of primary and secondary cavity nester habitat in timber, aspen, and Gambel's oak stands.
3. Maintain or improve current levels of occupied habitat for:
white-tailed deer Mexican spotted owl
black bear Northern goshawk
Mt. Graham red squirrel
other squirrel species
Merriam's turkey
buff-breasted flycatcher
raptors
Arizona ridge-nosed rattlesnake
twin-spotted rattlesnake
rock rattlesnake
Arizona trout
4. Studies to define the life history and ecology of the red squirrel and the spruce-fir and mixed conifer forests will be conducted for at least a 10-year period. Studies will also include human/wildlife encounters and potential impacts. Specific studies to be conducted will be determined by appropriate agencies and the University of Arizona. Funding responsibilities will be part of the final study determination.
5. Monitor squirrel population and habitat annually through inventory and analysis. Red squirrel habitat needs will supercede the needs of all other species.

Wildlife Habitat Maintenance (DU 11) C09, C10, C11
T&E Plant Habitat Improvement (DU 12) C03, C04
Fish Habitat Improvement (DU 13) C05, C06
Game Habitat Improvement (DU 14) C07, C)8
Nongame Habitat Improvement (DU 15)

Maintenance of structural and nonstructural habitat improvements will be based on guidelines as shown in the Forest-wide prescription. They are intended to meet the following objectives:

1. Maintain and improve occupied habitat for:
Mt. Graham red squirrel Mexican spotted owl
white-tailed deer Northern goshawk
black bear
Merriam's turkey
buff-breasted flycatcher
Arizona trout
 2. Maintain horizontal and vertical plant diversity.
 3. Delist threatened and endangered species and reoccupy historical habitat with other identified species following guidelines of approved recovery plans and memorandums of understanding.
 4. Improve old growth spruce-fir and mixed conifer forest habitat conditions for the Mt. Graham red squirrel.
 5. Reforest existing fuelbreaks, clearcuts and road beds as needed to increase habitat for the Mt. Graham red squirrel.
1. Manage rangeland at level A (no livestock) or B (some livestock). See Appendix C for definition of range management levels.

Range Management O&M (DU 16) D02, D06

Range Management Levels

Level	Acres
A	12,900
B	14,334

Management excludes most livestock grazing except for recreational animals to protect other values or eliminate conflicts with other uses. Livestock grazing may continue where it currently exists without detriment to emphasized resources and uses.

Projected Range Condition

Condition	Acres	
	Period 1	Period 5
Satisfactory	14,334	14,334
Unsatisfactory	12,900	12,900

Range Improvement D05
(DU 17)

1. Range improvements are minimal and constructed only to the extent needed to protect and maintain other resources in the presence of livestock grazing.

Timber Sale E06
Preparation & E07, 478, 479
Administration E05
(DU 19, 21)
TSI-KV (DU 60)

1. Silviculturally manage the tree resource under uneven or even age management as appropriate with emphasis upon recreation, visual quality, wildlife, and watershed. Complete stand examinations of all suitable acres.
2. The removal of timber is based on a 240 year rotation using group selection and small patch shelterwood cuts to feature four age classes plus wildlife openings. The desired age class structure is as follows:

Class	Age	Percent of Total Area
Seedling-sapling (includes openings)	0-60	40
Poles-sawtimber	61-120	20
Mature sawtimber	121-180	20
Old growth sawtimber	181-240	20

Within the 0 to 60 and 61 to 120 year old stands, maximum basal areas should be maintained for thermal cover. Stocking should not be so high as to cause stand stagnation and decreased tree vigor (less than 120BA). In the two older age classes, basal areas should vary so that 25 to 50% of the stands are opened up (40BA) and the other 50 to 75% are dense (up to 120BA).

Existing meadows in the mixed conifer and spruce-fir types are not included in the suitable timber land base. They will be maintained as open meadows. Additional wildlife openings will be created through timber harvest practices. These will normally rotate as part of the harvest cycle.

3. Reduce slash from wood harvest by offering logging residue as fuelwood. Residual slash will be treated within two years. Within suitable habitat for the Mt. Graham red squirrel (Pinaleno Mountains), dead and down material will not be removed for fuelwood except for on-site recreational use.

4. Within suitable habitat for the Mt. Graham red squirrel (Pinaleno Mountains), Christmas trees will not be harvested.

Watershed & Soil F05
Maintenance & F03, F06
Improvement
(DU 33, 34) K05, K04
(DU 45, 46) K06, 552

1. Restore damaged watersheds to a satisfactory watershed condition.

Watershed treatment is a low priority in this management area. Watershed maintenance and improvement may consist of channel stabilization, activities to increase water infiltration, and revegetation using native or non-native species. See Appendix D for appropriate activities.
2. Manage all programs to eliminate or minimize onsite and downstream water pollution.

MANAGEMENT AREA 2 (Continued)

- | | | |
|---|----------------------------------|--|
| Minerals Management
(DU 36) | G07 | 3. Provide, to the extent possible, conservation pools and minimum streamflows in authorizing or developing water storage impoundments and diversion projects. |
| Lands Administration
(DU 42) | J13, J15 | 1. Common materials may be removed for the purpose of meeting other management objectives.

1. Attempt to acquire private lands that will "fill in" ownership pattern, resulting in more effective management of National Forest lands.

2. Act on all exchange offers that appear to be in the public interest. |
| Road & Trail Maintenance
(DU 48, 50) | L19 | 1. Bring existing roads and trails that are to be retained on the system to a maintainable standard which is suitable for the planned use and provides for safety, resource protection and user comfort. Maintain 40% of roads to level 3; and 50% to level 4 and 10% to level 5. See Appendix E for a definition of levels.

2. Close, drain and revegetate existing roads and trails that are determined to be unneeded for further use. This should be a cost of the initiating resource element.

3. <u>Between approximately November 15 and April 15 each year, Swift Trail (State Road 366), beginning at its intersection with Forest Road 507 to its terminus, will be closed to all motorized vehicles except those officially authorized.</u>

4. <u>All access roads leading off Swift Trail above Forest Road 507 and including Road 352 (Heliograph Peak Road) will be closed to all motorized vehicles except those officially authorized. This does not include access roads into developed public recreation sites.</u> |
| Fire & Fuels Management
(DU 56, 57) | P08, P09
P11, P12
P14, P15 | 1. The management area is in fire suppression zone 1 based on resource objectives. See Section 5 for definition of zones.

2. Require 100% slash treatment within cleared right-of-way boundaries.

3. Within foreground distance zones of sensitivity level 1 and 2 (trails, roads, use areas, and water bodies), require 100% treatment of all activity slash.

4. Fuel treatment may consist of chipping, broadcast burning, piling and burning, or lopping and scattering.

5. Prescribed fire will be used to reduce fuel hazard and enhance wildlife habitat.

6. All projects that include prescribed fire will include specific burning prescriptions that will insure the fire can be controlled within established boundaries and that the burning meets the desired resource objectives.

7. Burn logging slash and debris piles in locations and at times that will minimize scorching of adjacent trees and shrubs. |
| Insect & Disease Management | P34, P35
P36 | 1. Maintain surveillance for insect and disease outbreaks. Where opportunities exist, attempts will be made to reduce or prevent damage from insects and diseases. Use integrated pest management techniques which are compatible, economical, and environmentally acceptable.

2. Recognize and prevent conditions favorable for insect and disease outbreaks.

3. Dispose of logging and construction slash prior to next field season or next flight of insect. |

MANAGEMENT AREA 2A

Management Emphasis and Intensity: Manage to provide opportunities for astronomical and biological research, perpetuation of wilderness values, and unique wildlife and vegetative species. Provide for an increase in habitat for the endangered Mt. Graham red squirrel while allowing for a minimum level of astrophysical facilities development.

Use restrictions will be imposed as necessary to protect physical, biological and astronomical qualities of the area. Resource management activities will only be done to enhance wildlife or astronomical values. Watershed conditions will be maintained or improved.

<u>Summary of Management Emphasis</u>	<u>Acres</u>
Wilderness	- 442
Biological Research (Red Squirrel Refugium)	1,616 (Mt. Graham Red Squirrel and Spruce-Fir)
Astronomical/Biological Research	134
Astronomical Use	16
Dispersed Recreation	863

Note: Maintenance and improvement of red squirrel habitat is the primary emphasis for areas considered to be suitable habitat.

Management Area Description: Coniferous forest lands that have been determined to be suitable for both astronomical research and habitat for old growth forest dependent species such as the Mt. Graham red squirrel. Slopes generally less than 40% in the spruce-fir vegetative type and generally greater than 40% in the mixed conifer vegetative type. Located in the Pinaleno Mountain Range.

Capability Area Types: 4M (mountain grassland), 9CHM (coniferous forest Douglas Fir-Pine), and 9DHM (coniferous forest spruce-fir). Total acres = 3,071.

Specific Management Prescription

Timber suitability:

Tentatively suitable for timber production	=	3,071 acres
Not appropriate for timber production	=	3,071 acres
Suitable for timber production	=	0 acres

[VEGETATION MANIPULATION TABLE IS DELETED]

<u>Management Practices</u>	<u>Activities</u>	<u>Standards and Guidelines</u>
Dispersed Recreation (DU 1)	A15 L23	<ol style="list-style-type: none"> 1. Trails and trailheads will be closed and not maintained for public use within the red squirrel refugium. Those that provide access to trails outside the refugium will be relocated. 2. Hiking will be allowed along the observatory access road and in other areas outside the refugium. Trails will be maintained to level 2 (near primitive). See Glossary, Trail Maintenance. 3. Use of motorized vehicles is allowed only on the new observatory access road. No public or private vehicles will be allowed except by permit. Workers will be shuttles to the observatory. Road 669 will be gated closed to all but official vehicles beyond the observatory boundary. 4. Road 507 will be closed to public motorized vehicles at the junction with Swift Trail. Nonmotorized activities will be permitted along the first 1.8 miles to the red squirrel refugium boundary.

Management Practices Activities

Standards and Guidelines

5. No snowmobiles are permitted except for approved administrative activities. Facilities for snowplay activity (tubing/sledding) will not be provided.
6. Manage dispersed use at the following service levels: 1,750 acres at less than standard (red squirrel refugium). No public use permitted except as part of shuttle tour.

863 acres at less than standard. Nonmotorized public uses permitted.
7. Manage ROS classes as follows:

<u>Class</u>	<u>Acres</u>
Semi-primitive Nonmotorized	2,275
Roaded Natural	780
Urban	16

8. Develop an interpretive program for the natural and physical sciences considering the following techniques:
 - a. Employing volunteer interpreters and educators.
 - b. Publishing plant and animal guides, visitor etiquette brochures, and astronomical information.
 - c. Building environmental displays.
 - d. Conducting visitor programs.

9. The following applies to the 16 acre astrophysical permitted use area:

Prohibit all hunting, camping, hiking, and campfires. Limited daylight public access. Roadway closed at night. Radio transmissions controlled. Fencing may be used to limit access to the area. Pets are required to be kept on a leash within all areas of the refugium where there is public access.

Visual Resource Management A03
(DU 2)

1. Manage the following acres at the indicated visual quality objectives:
 - 442 acres-preservation 14%
 - 2,613 acres-retention 85%
 - 16 acres-modification/max modification less than 1%
2. Trees will remain dominant and continuous along sky line. Trees will be used to assist in screening structures. Telescope structures will use colors that blend into the landscape except for possibly southerly aspects. Astrophysical areas will be shaped and revegetated to assist in screening structures. Astrophysical sites will be designed to best fit the natural landscape.

Cultural Resource Management A02

1. All cultural sites will be avoided by management activities. Sites ARO3-05-04-101 and ARO3-05-04-102 will be managed for long term preservation. Additional specific standards and guidelines for cultural resource management is shown in the Coronado National Forest Plan under management prescription applicable to all areas of the Forest.

Developed Recreation Management A08
(DU 6)

1. Develop an interpretive program for the natural and physical sciences as part of any off-forest visitor center and as part of the observatory shuttle. Added emphasis to be placed on visitor etiquette and protection of natural resources.

Management Practices Activities

Standards and Guidelines

- | | | |
|---|-----------------|---|
| Wilderness
Recreation
O&M
(DU 8) | B03
L23 | 2. Minimal picnic facilities will be provided within the permitted astronomical use area for observatory visitors. These will be incorporated with parking and other facilities.

3. The astrophysical permittee will provide a shuttle service for observatory visitors. This service will operate seven days a week during the approximate period of April 15 to November 15. |
| Wildlife & Fish
O&M
(DU 10) | C01, C02
C12 | 1. Trails will be maintained to level 2 (near primitive). See Glossary, Trail Maintenance.

2. Use of motorized vehicles is prohibited except as approved for emergency or other special needs.

3. Recommend 442 acres for inclusion in the Wilderness Preservation System. Manage wilderness at 100% less than standard. |
| | | 1. Within the red squirrel refugium (1,750 acres) the general objective is to reduce human/wildlife conflicts and improve the habitat for the red squirrel. <u>Red squirrel habitat needs will supercede the needs of all other species.</u>

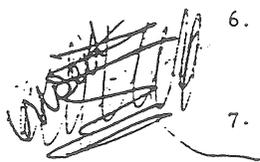
2. Studies to define the life history and ecology of the red squirrel and the spruce-fir and mixed conifer forests will be conducted for at least a 10-year period. Studies will also include human/wildlife encounters and potential impacts. Specific studies to be conducted will be determined by appropriate agencies and the University of Arizona. Funding responsibilities will be part of the final study determination.

3. Monitoring of red squirrels within and adjacent to the observatory and associated roads will be done during the life of the operation. This will be the responsibility of the observatory permittee with guidance from appropriate agencies.

4. Specific standards and guidelines for management of wildlife are shown in the Coronado National Forest Plan under the forest-wide prescription for activities appropriate to this management area. These are intended to meet the following objectives: <ul style="list-style-type: none"> a. Improve current habitat for the endangered Mt. Graham red squirrel and work toward delisting. Emphasize establishment and maintenance of old growth forests within the entire management area. b. Assist in the establishment and implementation of recovery plans for all federally listed threatened or endangered species. c. Inventory and analyze population levels and habitat quality for all appropriate management indicator species in order to monitor plan objectives. d. In spruce-fir, mixed conifer and aspen stands maintain at least 80% of the existing primary and secondary cavity nesting habitat during any activity. 5. Construction activities will utilize methods to minimize windthrow or blowdown in spruce-fir and mixed conifer forests. Small trees that would be destroyed by construction activities will be salvaged for use in reforestation efforts. |

Management Practices Activities

Standards and Guidelines



Wildlife Habitat Maintenance (DU 11)
Non-game Habitat Improvement (DU 15)

CO9, C11

6. Implement an effective environmental education program (See dispersed recreation management guidelines) to lessen the impacts of recreation uses on the area.
7. Monitor squirrel population and habitat annually through inventory and analysis.

Maintenance and improvement of structural and nonstructural improvement activities will be commensurate with the Wilderness Act and guidelines shown in the Coronado National Forest Plan forest-wide prescription.

They are intended to meet the following objectives:

1. Improve habitat for the endangered Mt. Graham red squirrel. Develop a recovery plan to identify specific habitat improvement measures.
2. Improve old growth spruce-fir and mixed conifer forest habitat conditions.
3. Reforest existing fuelbreaks, clearcuts and road beds to increase habitat for old growth dependent species including the Mt. Graham red squirrel. Reforestation efforts in red squirrel habitat will be initiated immediately with the objective of completing initial efforts in 5 years. The University of Arizona will share in the cost of this effort.

Range Management O&M (DU 16)

DO2, DO6

Manage rangeland at level A (no livestock.)

Exclude livestock grazing including recreational animals to protect wildlife values.

Timber Management (DU 32)

E00

1. Within the Management Area, removal of vegetation is limited to research activities under permit, sanitation and salvage operations, and maintenance and improvement of wildlife habitat.

2. Use of down woody material for firewood is restricted to on-site recreational use within areas open to public use (863 acres.)

Watershed and Soil Maintenance and Improvements (DU 33, 34) (DU 45, 46)

F05, F03
F06, K06
552, 553

1. Maintain satisfactory watershed condition.

2. Watershed maintenance and improvement may consist of channel work (including debris clearing and structures) and revegetation (seeding and/or planting) using native or non-native species. Additionally, in the astrophysical developed area, contour structures including earth structures (such as dikes, trenches, and felled trees), may be used.

3. Watershed restoration within wilderness may consist of channel stabilization (including debris clearing and structures) and revegetation (seeding and planting). Non-native species will be used only in emergency situations when suitable native species are not available.

4. Manage all programs to eliminate or minimize on-site and downstream water pollution. Wastewater (sewage and gray water) will be handled with approved septic tank/drain field systems. During construction phases, areas will be cleared only for construction planned for in that year.

Management Practices ActivitiesStandards and Guidelines

All toxic waste chemicals and materials will be hauled off the Forest to a suitable treatment or disposal facility. Garbage and trash will be hauled off Forest to a suitable disposal site. Topsoil will be stockpiled and redistributed to provide a fertile base, and slopes will be revegetated with native species. Cut material (soil and rock) from construction not used as fill or for revegetation will be hauled off the Forest to a suitable disposal site. Significant construction and operation activities will not be allowed within the cienega watersheds.

5. All domestic and construction water needed on site will be hauled from City of Safford's Deadman Canyon water supply or from other locations off the Forest.
6. The character of the cienegas will be maintained naturally (including annual free water fluctuations, channel characteristics, water quality, and composition and density of riparian vegetation). Surface water flows will not be diverted or impounded within the cienegas.

Minerals JO1
Management
(DU 36)

1. Common materials may not be removed for any purpose.
2. Recommend withdrawal from mineral entry and mineral leasing on 2,629 acres to protect essential habitat for Federal and State listed threatened and endangered species and astronomical research operations. Mineral withdrawal is automatic with wilderness designation for the remaining 442 acres.

Special Use JO1
Management
(DU 41)

1. Allocate 150 acres of land on and around Emerald Peak for astronomical research and testing. Testing permits for High Peak or other areas will be terminated. Sixteen acres of the 150 acres will be allocated as an astrophysical permitted use area. Within this area three telescopes could be developed immediately: the 10-meter submillimeter telescope (SMT), the 11.3-meter Columbus optical/IR and the Vatican Observatory Advanced Technology 1.8-meter Telescope (VATT). The other 134 acres will be for astronomical testing using nondisruptive methods and facilities. Additional telescopes likely to be considered during the testing phase include: the Smithsonian Interferometer array, a replacement of the VATT with an 8-meter optical/IR telescope, a 5-meter submillimeter telescope and two additional 8-meter optical/IR telescopes.
2. Restrict only those uses necessary for safety and to protect the quality of observations and the environment. Public use restrictions are shown under recreation management.
3. Astrophysical support facilities such as a dormitory and/or visitor center, will be located off Forest. Astrophysical support facilities located on Forest will include buildings for a maintenance shop and equipment, utilities, meteorological tower, communications, water storage, a site engineer's residence, and helicopter landing pad. Sleeping accommodations within astrophysical facilities are allowed.
4. All astrophysical development will conform with the total required facilities concept (allocation for the minimum area that would be needed for facilities and still meet the need of the special use applicant FSM 2728.22c).
5. A management plan for the construction and operation of the observatory and associated road systems will be developed in a way to least likely have adverse effects on the red squirrel. The plan will include standards and guidelines

Management Practices Activities

Standards and Guidelines

for human activities on the site and adjacent areas. If additional facilities are approved after the 10-year study period, the management plan will be revised to include the additions.

6. Monitoring and inspection activities will assure compliance and immediate control of construction and operation activities.
7. A construction fence delineating the areas of ground disturbance impact will be placed around each development site prior to the start of construction.
8. Existing roads 507 and 669 will remain available, without modification, to the observatory permittee for the purpose of site engineering, test drilling and site preparation. This availability will apply only until the new access road is completed or no later than one year following issuance of the observatory permit.

Road Maintenance L19
 (DU 48)
 Construction L10, L11
 (DU 49) L12

1. The new access road will have up to a 14-foot wide bed a gravel or compacted surface. The road will be located to avoid degrading existing midden habitat with a minimum buffer of 220 to 250 feet from any midden. The observatory permittee will bear all costs associated with construction and maintenance of the access road. The road will be maintained to level 3 (see Glossary, Road Maintenance).
2. Dust abatement could be accomplished near telescope facilities using materials agreed to by the Forest Service.
3. Close, drain, and revegetate all unneeded roads as they are identified. Funding will be provided by the observatory permittee to the extent the closures provide additional habitat for the red squirrel.

Fire and Fuels PO8, PO9
 Management P12, P14
 (DU 56, 57) P15, P16

1. The observatory permittee would be notified of schedule, size and location of all prescribed fires in the Pinaleno Mountains.
2. Utilize prescribed fire to reduce risk from wildfire and enhance wildlife values with emphasis on red squirrel habitat. Allow fire to assume its natural role in wilderness areas.
3. The management area is within fire suppression zone 1. (See Glossary "Fire Zone 1").

Insect and Disease P34, P35
 Management P36

1. With the wilderness, outbreaks of insects or disease will be controlled using integrated pest management concepts when there is a clear and imminent danger to other values outside wilderness.
2. Within other areas, outbreaks of insects or disease will be controlled using integrated pest management concepts when there is a significant danger to the vegetation needed to sustain habitat for the Mt. Graham red squirrel and astronomical research activities.



NEW MA July '98.

Management Emphasis and Intensity: Manage to perpetuate the unique wildlife and vegetative species, in particular the Wet Canyon talussnail, present within this management area. Provide for an increase in habitat stability for the Wet Canyon talussnail, while allowing for other uses in the area. Dispersed and developed recreation activities and other uses will be allowed to the extent they do not degrade the unique values of the management area. Facilities may be allowed and maintained as long as the unique resource values are protected.

Management Area Description: Located in the Pinaleno Mountain Range, this management area includes the Wet Canyon watershed downstream to the mouth of Twilight Creek, but does not include Twilight Creek or its associated watershed.

Desired Condition: The Wet Canyon watershed provides a sustainable aquatic and related habitat that with dense forest that shades talussnail habitat and maintains the mesic conditions in the canyon bottom. Riparian and watershed conditions are as stable as local weather conditions allow. The trail use has no effect on habitat needed for the talussnail. Visitor use within the area is compatible with protection of the talussnail.

Capability Area Types: 6, 9A, 9BC, 12 Total acres = 1,220 acres

Specific Management Prescription

Timber Suitability:
All acres unsuitable

Vegetation manipulation is limited per standards and guidelines that follow.

Management Practices

Standards and Guidelines

Visual Resource
Management

Manage the following acres at the indicated Visual Quality Objectives:

1,220 Acres Partial Retention

Recreation
Management

1. During periods of fire closure, the Wet Canyon Picnic area will be closed to campfires.
2. Open trails will be identified and signed. Nonsystem trails will be closed. Eliminate direct trail impact in talussnail habitat as soon as possible.
3. Use existing water system at Arcadia Campground to supply drinking water to Wet Canyon Picnic area, as needed.
4. Provide a "Visitor Information Sign" at the loop trail presenting information about the floral and faunal components within Wet Canyon with emphasis on the stream and riparian complex.

Wildlife/Fish

1. Inventory and map the riparian area in Wet Canyon using current Forest Service and Arizona Game and Fish Department standards. Document riparian conditions and occupied talussnail habitats to serve as baseline for future monitoring activities. Complete by end of FY 99.
2. Conduct an aquatic macroinvertebrate survey of Wet Canyon to document biodiversity. Identify possible species to track aquatic health trends. Complete by end of FY 99 to establish baseline information.

Range Management

1. Manage the rangeland at Level A (i.e., no grazing).

Watershed/Soils

1. Maintain satisfactory watershed condition.
2. Submit a "Application for Permit" for an instream water right on Wet Canyon Creek by the end of FY99. Monitor discharge in Wet Canyon to establish a hydrographic baseline by end of FY20. Monitoring procedures to be developed by the Forest Hydrologist.

Mineral Management

1. Common materials may not be removed for any purpose. As needed, recommend withdrawal from mineral entry and mineral leasing for the entire Management Area. Issue "no surface occupancy" stipulations for mineral leasing activities within the Management Area.

Management Practices
Road Management

Standards and Guidelines

1. Give full consideration to the habitat and movement needs of the talussnail if Highway 366 road crossing at Wet Canyon is upgraded. Road construction or reconstruction projects should be designed to eliminate further habitat fragmentation (e.g., use a bridge or arched culvert over Wet Canyon crossing). Other proposals for improvement will be evaluated in terms of their potential indirect impacts to the talussnail from increased public access and use of the area.

Fire Management

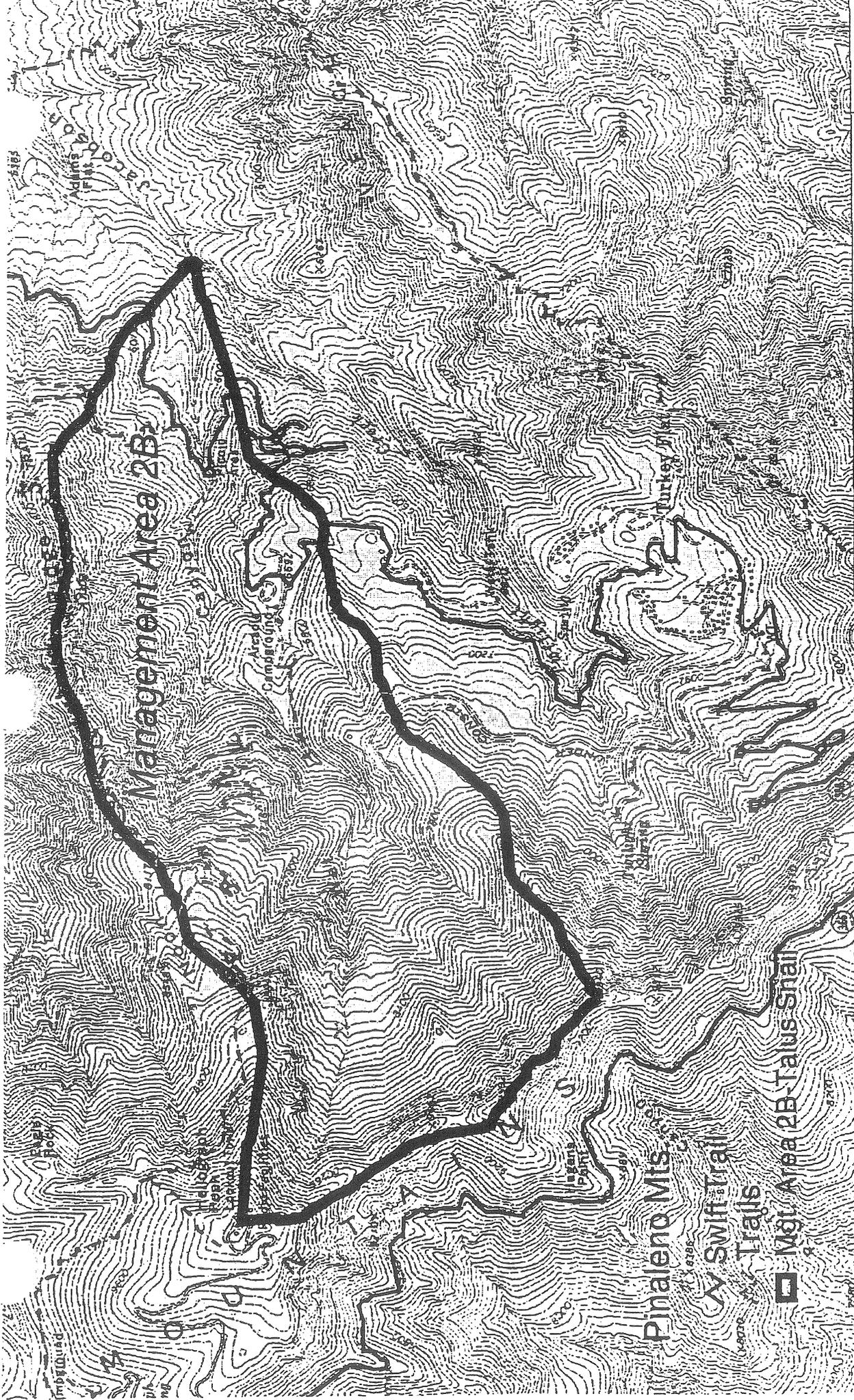
1. Wet Canyon is within Fire Suppression Zone 1 (i.e. immediate suppression action to protect high value resources).
2. Evaluate fuel loading situation and prescribe actions that reduce potential fire hazards related to talussnail protection.

Insect/Disease Management

1. Manage ecosystem health to prevent catastrophic impacts to talussnail habitat from insects and disease.

Talussnail Research

1. Encourage scientific investigation of talussnail reproduction, recruitment, mortality, population trends, ecology, etc. Encourage investigation of the talussnail species with other species within the group Sonorella in the Pinaleno Mountains.



1:24000
 drafted 6/1998 by tla & mgk

1:24000
 CONTOUR INTERVAL 40 FEET
 NATIONAL GEODETIC VERTICAL DATUM OF 1929

1 MILE
 1 KILOMETER

0 1000 2000 3000 4000 5000 6000 7000 FEET

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1908 600 000 FEET

1910 50

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CORONADO NATIONAL FOREST
Federal Building
300 West Congress
Tucson, Arizona 85701

RETURN SERVICE REQUESTED

MANAGEMENT AREA 3

Management Emphasis and Intensity: Manage for a variety of dispersed recreation opportunities while protecting or maintaining the unique physical, biological and cultural resources. Visual quality objectives will be met. Other activities should maintain or enhance the recreational opportunities. Watershed conditions will be improved or maintained. Cave Creek, outside the South Fork, will be managed with an emphasis on wildlife habitat. Habitat for species shown under standards and guidelines will be maintained or improved primarily through coordination with other resource activities. Wildlife oriented recreation is also an important part of the management for dispersed and developed use in Cave Creek.

Management Area Description: Undeveloped grasslands, woodlands, coniferous forest and riparian areas that have a high attraction to recreationists. Many are near developed recreation sites and are influenced by the presence of these sites, although not developed themselves. Includes all slope ranges. Includes known essential habitats for threatened and endangered plants and animals.

Capability Area Types: 1P, 1HM, 5HM, 6P, 6PH, 6HM, 6M, 7P, 7PH, 7HM, 9BHM, and 11AR
Total Acres = 14, 772

Specific Management Prescription

Timber Suitability:
All acres unsuitable

[VEGETATION MANIPULATION TABLE IS DELETED]

<u>Management Practices</u>	<u>Activities</u>	<u>Standards and Guidelines</u>
Dispersed Recreation O&M (DU 1)	A14, A15 L23	<ol style="list-style-type: none"> Maintain trails to level 3. See Appendix E for a definition of levels. Use of motorized vehicles is restricted to existing trails and roads. Some trails may be closed to motorized vehicles for safety, resource protection, and user conflict reasons. All trails on the Santa Catalina Ranger District are closed to motorized vehicles. Maintain current Roded Natural (RN) recreation opportunities while creating increased Semiprimitive Nonmotorized (SPNM) opportunities when possible by closing roads which are determined to be unneeded. Manage dispersed use at a level of 35% less than standard and 65% standard. Initiate or continue environmental education programs in Sabino, Madera, and Cave Creek Canyons.
Visual Resource Management (DU 2)	A03	<p>Manage the following acres at the indicated Visual Quality Objectives:</p> <p>8,125 Acres Retention 55% 3,988 Acres Partial Retention 27% 2,659 Acres Modification 18%</p>
Trail Construction & Reconstruction (DU 4)	L21, L22	<ol style="list-style-type: none"> Construct trailhead facility as follows: Period 4 - Construct an unpaved trailhead parking lot with two unit vault toilet as appropriate.

Management Practices Activities

Standards and Guidelines

Wildlife Practices C01, C02
 O&M (DU 10) C12

Specific standards and guidelines for management of wildlife are shown in the Forest-wide prescription for activities appropriate to this Management Area. They are intended to meet the following objectives:

1. Maintain and improve current habitat for federally listed threatened and endangered plants and animals and work toward delisting.
2. In fuelwood stands maintain 80% or more of occupied habitat (compared to untreated stands) for primary and secondary cavity nesters. In other areas maintain 100% of occupied habitat for these species.
3. As part of allotment management planning complete riparian management plans by the second period.
4. Maintain or improve current levels of occupied habitat for:

Apache fox squirrel
 white-tailed deer
 mule deer
 javelina
 pronghorn
 cottontail
 raptors
 Mearn's quail
 Merriam's turkey
 coppery-tailed trogon
 sulphur-bellied flycatcher
 beardless flycatcher
 thick-billed kingbird
 Bell's vireo
 blue-throated hummingbird
 Arizona ridge-nosed rattlesnake
 Mexican stoneroller
 Gila topminnow
 Sonora chub
 Gila chub
 Arizona trout

Wildlife Habitat C09, C10
 Maintenance C11
 (DU 11)

Maintain wildlife structures based on guidelines as shown in the Forest-wide prescription. The objective is to maintain current levels of occupied habitat for species listed above.

T&E Plant Habitat C03, C04
 Improvement C05, C06
 (DU 12) C07, C08

Structural and nonstructural habitat improvements will be based on guidelines as shown in the Forest-wide prescription. They are intended to meet the following objectives:

Fish Habitat
 Improvement
 (DU 13)

1. Improve quality of forage for:

Game Habitat
 Improvement
 (DU 14)

white-tailed deer
 mule deer
 pronghorn
 Merriam's turkey
 Gould's turkey

Nongame Habitat
 (DU 15)

2. Delist threatened and endangered species and reoccupy historical habitat with other identified species following approved species recovery plans and memorandums of understanding. Also improve federally endangered species habitat following these same guidelines.

MANAGEMENT AREA 3 (Continued)

Management Practices Activities

Standards and Guidelines

<p>Watershed & Soil Maintenance & Improvement (DU 33, 34) (DU 45, 46)</p>	<p>FO5 F)3, FO6 KO5 KO4, KO6 552</p>	<ol style="list-style-type: none"> 1. Restore damaged watersheds to a satisfactory watershed condition. Watershed treatment is a high priority in this management area. Watershed maintenance and improvement may consist of channel stabilization, activities to increase water infiltration, and revegetation using native or non-native species. See Appendix D for appropriate activities. 2. Manage all programs to eliminate or minimize onsite and downstream water pollution. 3. Remove slash and clearing debris from drainages, as needed, whether perennial or ephemeral, so that it is above the high water line. 4. Provide, to the extent possible, conservation pools and minimum streamflows in authorizing or developing water storage impoundments and diversion projects.
<p>Minerals Management (DU 36)</p>	<p>GO7</p>	<ol style="list-style-type: none"> 1. Common materials may be removed to accomplish other resource objectives.
<p>Special Use Management (DU 41)</p>	<p>JO1</p>	<ol style="list-style-type: none"> 1. Require permits for studies involving structures or facilities placed on the Forest or manipulation of surface or plants.
<p>Lands Administration (DU 42)</p>	<p>J13, J15</p>	<ol style="list-style-type: none"> 1. Attempt to acquire private lands that will "fill in" ownership pattern, resulting in more effective management of National Forest lands. 2. Act on all exchange offers that appear to be in the public interest.
<p>Road Maintenance (DU 48)</p>	<p>L19</p>	<ol style="list-style-type: none"> 1. Bring existing roads that are to be retained on the system to a maintainable standard which is suitable for the planned use and provides for safety, resource protection and user comfort. Maintain 50% of roads to level 3, 30% to level 4, and 20% to level 5. See Appendix E for a definition of levels. 2. Close, drain, and revegetate existing roads that are determined to be unneeded for further use. This should be a cost of the initiating resource element.
<p>Fire & Fuels Management (DU 56, 57)</p>	<p>PO8, PO9 P11, P12 P14, P15</p>	<ol style="list-style-type: none"> 1. The management area is divided into fire suppression zones 1 and 2 based on resource protection and cost objectives. See Section 5 for definition of zones. 2. Fuel treatment may consist of chipping, broadcast burning, piling and burning, or lopping and scattering. 3. Prescribed fire will be used to reduce fuel hazard and to maintain or improve wildlife habitat and watershed conditions. 4. A project that includes prescribed burning will include specific burning prescriptions that will insure the fire can be controlled within established boundaries and that the burning meets the desired resource objectives. 5. Burn slash and debris piles in locations and at times that will minimize scorching of adjacent trees and shrubs.

MANAGEMENT AREAS 3A AND 3B

Management Emphasis and Intensity: Manage for a variety of developed recreation opportunities while mitigating the impact on the unique physical, biological, and cultural resources. Visual quality objectives will be met. Other activities will maintain or enhance the recreational opportunities. Watershed conditions will be improved or maintained.

Management Area Description: Lands that are suitable and capable of supporting recreational developments. Average slopes less than 15%.

Capability Area Types: 1P, 4M, 6P, 9AHM, 9BHM & 9CHM, 11AR & 12R
Total Acres = 4,165

Specific Management Prescription

Management Practices Activities

Standards and Guidelines

Visual Resource A03
Management
(DU 2)

Manage the following acres at the indicated Visual Quality Objectives:

- 1,882 Acres Retention 45%
- 2,083 Acres Partial Retention 50%
- 200 Acres Modification 5%

Developed A08, A09
Recreation A11, A13
 A16
 L28
 L23
 L19

1. Maintain existing public recreation sites at current capacities except as noted in DU 6.
2. Maintain existing organization sites.
3. Continue and expand as needed the Sabino Canyon Shuttle System.
4. Recreation residences, with the exception of those on tenure in the Santa Catalina Mountains and Madera Canyon, will be maintained unless and until a determination has been made that the site involved is needed for a higher priority public purpose.

Prior to the termination, nonrenewal or modification of the special use permits for the Arizona Bible School Organization Camp and the Columbine Summer Home Tract located in the Pinaleno Mountains, the effect of these special use authorizations on the Mt. Graham red squirrel and other threatened or endangered species will be determined.

New construction, alteration, addition, or substantial repair of cabins will be limited to one story on existing foundations and a loft. Sun decks may be authorized.

5. Maintain trails to level 4. See Appendix E for a definition of levels.
6. Use of motorized vehicles is restricted to existing trails and roads. Some trails may be closed to motorized vehicles for safety, resource protection, and user conflict reasons. All trails on the Santa Catalina Ranger District are closed to motorized vehicles.
7. Maintain existing lakes at planned capacities to provide continued fishing opportunities. Allow Sabino Lake in the Sabino Canyon Recreation Area to remain in its present silted-in condition to provide opportunities for wildlife viewing in the invading riparian vegetation.
8. Determine need for continued public commercial services in Madera Canyon.
9. Inspect and maintain existing dams for public safety and recreation opportunities.
10. Manage developed sites at a level of 85% less than standard and 15% standard depending on site needs and time of year.
11. Maintain roads in Sabino Canyon, Pena Blanca Lake, and Rose Canyon to level 5. All other roads will be maintained to level 4. See Appendix F for definition of levels.

Standards and GuidelinesManagement Practices Activities

12. Encourage private sector development of campgrounds with facilities such as electricity, sewers, and dump stations on private land.
13. Initiate and continue environmental education program for Cave Creek, Sabino Canyon and Madera Canyon.
- Emphasize environmental education by considering the following:
- a. Employing interpreters and educators (volunteer or paid.)
 - b. Construction of nature trails.
 - c. Publishing plant and animal guides and visitor etiquette brochures.
 - d. Building environmental displays.
 - e. Conducting visitor programs.
14. Specific standards and guidelines for the Sabino Canyon Recreation Area are:
- a. Prohibit hunting, fishing, and trapping in, and the removal of, native animals or plants from the Sabino Canyon Recreation Area.
 - b. Refrain from the introduction of nonnative animals or plants into the Sabino Canyon Recreation Area. Through information and education, discourage the public from releasing nonnative species in the area.
 - c. Study the feasibility of eliminating all species of nonnative fishes from the portion of Sabino Creek within the Sabino Canyon Recreation Area, and reintroducing the native Longfin Dace, (*Agosia chrysogaster*).
 - d. Encourage research to increase available information concerning the flora and fauna of the Sabino Canyon Recreation Area. Emphasis should be on inventory of species present and evaluation of their status.
 - e. Continue to prohibit camping, pets, and glass containers in the Sabino Canyon Recreation Area.
 - f. Prohibit the possession of, or discharge of a firearm or any other implement capable of taking life, causing injury, or damaging property within the Sabino Canyon Recreation Area, except that unoperable implements may be transported through the area on designated routes.
15. Continue the year-round operation at the Mt. Lemmon Ski Area. Facilities will be those necessary to directly support the winter and summer operations. Operations will be limited to the current special use permit area as amended to include a maintenance and storage facility. The area will be managed for a VQO of Modification.
16. Manage the planned Fred Lawrence Whipple Observatory multi-purpose facility to provide adequate public service and access. The trailhead and visitor center will be open 7 days a week yearlong. Interpretive tours of the mountain and observatory facilities will be offered daily by reservation. These things will be done as needed to meet public demand and weather permitting. Smithsonian Institution will provide needed staffing to operate and maintain recreational and interpretive facilities. Forest Service will assist with design and layout of interpretive programs.
1. Table 5 shows the schedule for rehabilitation or upgrading of existing facilities.
2. Development of new sites will be in accordance with schedule shown in Table 4.

Recreation Site
Construction &
Reconstruction
(DU 6)

A05, A06

MANAGEMENT AREAS 3A AND 3B (Continued)

<u>Management Practices</u>	<u>Activities</u>	<u>Standards and Guidelines</u>
Wildlife & Fish O&M (DU 10)	C01, C02 C12	1. Specific standards and guidelines for management of wildlife are shown in the Forest-wide prescription for activities appropriate to this Management Area. They are intended to maintain and improve current levels of occupied habitat for appropriate indicator species groups and threatened and endangered species.
T&E Plant Habitat Improvement (DU 12)	C03, C)4 C05	Non-structural habitat improvement will be based on guidelines shown in the Forest-wide prescription. The objective is to:
Fish Habitat Improvement (DU 13)		1. Delist threatened and endangered species following guidelines of approved recovery plans and memorandums of understanding.
Game Habitat Improvement (DU 14)		
Nongame Habitat Improvement (DU 15)		
Range Management O&M (DU 16)	D02	1. Manage suitable rangeland at level A (no assigned capacity for livestock.) Some livestock grazing is permitted for the purpose of reducing the fire hazard from grasses. Some sites may be closed to grazing to meet recreation objectives.
Timber Sale Administration (DU 21)	479	1. Wood gathering in recreation sites will be limited to "dead and down" or standing trees that are a safety hazard and only for use in the area. 2. Thin, within visual quality and recreation objectives, to improve fire protection or for site maintenance.
Watershed & Soil Maintenance & Improvement (DU 33, 34) (DU 45,46)	F05 F03, F06 K05, K06 552	1. Manage all programs to eliminate or minimize onsite and downstream water pollution. 2. Manage all programs to maintain satisfactory watershed conditions. Watershed treatment is a high priority in this management area. See Appendix D for appropriate activities.
Lands Administration (DU 42)	J04	1. Maintain withdrawals of all developed recreation sites and recommend mineral withdrawals for existing sites not already covered. 2. Recommend mineral withdrawals prior to new site construction.
Transportation System Planning (DU 47) (DU 50)	L01 L20	1. Bring existing roads and trails that are to be retained on the system to a maintainable standard which is suitable for the planned use and provides for safety, resource protection, and user comfort.
Fire Management (DU 56)	P08, P09	1. The management area is in fire suppression zone one based on objectives for resource protection. See Section 5 for a definition of zones.
Insect & Disease		1. Maintain surveillance for insect and disease outbreaks. Where opportunities exist, attempts will be made to reduce or prevent damage from insects and diseases. Use integrated pest management techniques which are compatible, economical, and environmentally acceptable. 2. Recognize and prevent conditions favorable for insect and disease outbreaks.

MANAGEMENT AREA 4

Management Emphasis and Intensity: Manage for a sustained harvest of livestock forage and fuelwood while maintaining and improving game animal habitat. Fully mitigate the impacts on cultural resources and non-game wildlife habitats. Visual quality objectives will be met or exceeded. Dispersed recreation activities may occur except for those that adversely affect the productivity of the land or resources. Watershed and soil conditions will be improved or maintained.

Management Area Description: Lands capable and suitable for fuelwood harvest, livestock grazing, and game habitat management. Average slopes are 0-40%. Includes desert scrub, grassland, chapparal, and woodland vegetative types.

Capability Area Types: 1P, 1HM, 2P, 2PH, 3P, 5H, 5HM, 6P, 6PH, 6HM, 7P, 7PH, and 7HM
Total Acres = 1,128,289

Specific Management Prescription

Timber Suitability: All acres unsuitable

[VEGETATION MANIPULATION TABLE IS DELETED]

<u>Management Practices</u>	<u>Activities</u>	<u>Standards and Guidelines</u>
Dispersed Recreation O&M (DU 1)	A14, A15 L23	<ol style="list-style-type: none"> 1. Maintain 25% of trails to level 2 and 75% to level 3. See Appendix E for definition of levels. 2. Use of motorized vehicles is restricted to existing trails and roads. Some trails may be closed to motorized vehicles for safety, resource protection, and user conflict reasons. All trails on the Santa Catalina Ranger District are closed to motorized vehicles. 3. Maintain existing ROS class composition, except if any existing roads are determined to be unneeded, close them to create more opportunities for semiprimitive nonmotorized or primitive experiences. 4. Manage dispersed use at less than standard.
Visual Resource Management (DU 2)	A03	<p>Manage the following acres at the indicated Visual Quality Objectives:</p> <p>135,201 Acres Retention 12% 406,144 Acres Partial Retention 36% 440,208 Acres Modification 39% 146,736 Acres Maximum Modification 13%</p>
Wildlife & Fish O&M (DU 10)	CO1, CO2 C12	<p>Specific standards and guidelines for management of wildlife are shown in the Forest-wide prescription for activities appropriate to this Management Area. They are intended to meet the following objectives:</p> <ol style="list-style-type: none"> 1. Maintain and improve current habitat for federally listed plant and animal species and work toward delisting.

Management Practices Activities

Standards and Guidelines

2. In fuelwood stands (as compared to an unharvested stand) maintain 80% or more of the occupied high density habitat and 60% to 80% of the low density habitat for Mearns' quail. Maintain 80% or more of the occupied habitat for cavity nesters.

Outside fuelwood areas maintain 100% of occupied habitat for quail and cavity nester species.

4. Maintain current levels of occupied habitat for:

mule deer
 white-tailed deer
 javelina
 desert bighorn sheep
 pronghorn
 cottontail
 white-sided jackrabbit
 black bear
 raptors
 Merriam's turkey
 Gould's turkey
 scaled quail
 Gambel's quail
 waterfowl
 Baird's sparrow
 Arizona ridge nosed rattlesnake
 twin-spotted rattlesnake
 western massasauga
 Gila topminnow

Wildlife Habitat Maintenance (DU 11) CO9, C10
 C11

1. Maintain wildlife structures based on guidelines as shown in the Forest-wide prescription. The objective is to maintain current levels of occupied habitat for:

mule deer
 white-tailed deer
 javelina
 desert bighorn sheep
 pronghorn
 cottontail
 black bear
 Merriam's turkey
 scaled quail
 Gambel's quail
 waterfowl
 Gila topminnow

T&E Plant Habitat Improvement (DU 12) CO3, CO4
 CO5, CO6
 CO7, CO8

Fish Habitat Improvement (DU 13)

Game Habitat Improvement (DU 14)

Nongame Habitat Improvement (DU 15)

Structural and nonstructural habitat improvements projects will be based on guidelines in the Forest-wide prescription. They are intended to meet the following objectives:

1. Improve quality and availability of forage and availability of water for commonly hunted species.

mule deer
 white-tailed deer
 javelina
 desert bighorn sheep
 pronghorn

2. Maintain horizontal and vertical plant diversity at current levels.

Range Management DO2, DO4
 O&M (DU 16) DO6

Range Improvement
 (DU 17, 18) DO3, DO5

3. Delist threatened and endangered species and reoccupy historical habitat with other identified species following guidelines in approved species recovery plans and memorandums of understanding.
4. Maintain and improve current nesting habitat for endangered species as directed by approved recovery plans.
1. Manage suitable rangeland as follows:
 See Appendix C for definition of range management levels.

Range Management Levels

<u>Level</u>	<u>Vegetation Type</u>	<u>Acres</u>
B	Grassland & Chaparral	134,264
C	Grassland	239,599
D	Grassland & Woodland	754,876

Projected Range Condition

<u>Condition</u>	<u>Acres</u>	
	<u>Period 1</u>	<u>Period 5</u>
Satisfactory	932,559	1,072,302
Unsatisfactory	196,180	56,437

2. Develop proper grazing systems to insure renewal of desired vegetative species for livestock forage, big and small game habitat and to improve soil and water resources.
3. Grazing intensity, utilization standards, and kinds and numbers of livestock will vary depending on the particular allotment and will be based on the physiological needs of the forage plants. Attempt to achieve efficient use of full capacity range.
4. Structural and nonstructural improvements should receive high priority in these areas as needed for the desired level of management.
5. Vegetative manipulation will be used for range forage improvement and may consist of such activities as prescribed burning, mechanical removal, wood harvest, use of approved herbicides, livestock grazing, and reseeding of native or non-native species. See Appendix C for activity selection criteria.

Timber Sale EO6
 Preparation & EO7, 478, 479
 Administration
 (DU 19, 21)

TSI - KV EO5
 (DU 60)

1. Silviculturally manage the woodland resource under uneven age management. Fuelwood harvest will be limited to those lands which contain fuelwood species having a crown cover of 10% or more. Manage to sustain an average 40 to 50 year cutting cycle.
2. The removal of dead or green trees for wood products or Christmas trees will be by individual tree selection or group selection limited to maximum clearing size of two acres. Harvest will be restricted to removal of over-mature, mature, poor form, low vigor or over-crowded trees for the purpose of maintaining vigorous stands and desired wildlife habitat.

Management Practices Activities

Standards and Guidelines

		3.	Use fuelwood sales to accomplish other management objectives such as fuel hazard reduction, visual quality enhancement and range management.
		4.	Prohibit the removal of saguaro cactus, agave, yucca and ironwood wildings unless it becomes necessary to remove them in order to accommodate a use of higher priority. The harvest of beargrass, ocotillo, and most cactus species will be permitted as long as there is no significant impact on other resources or uses.
Watershed & Soil Maintenance & Improvement	FO5 FO3, FO6 K05, K04 K06, 552	1.	Restore damaged watersheds to a satisfactory watershed condition.— Watershed treatment is a high priority in this management area. Watershed maintenance and improvement may consist of channel stabilization, activities to increase water infiltration, and revegetation using native or non-native species. See Appendix D for appropriate activities.
	(DU 33, 34) (DU 45, 46)	2.	Manage all programs to eliminate or minimize onsite and downstream water pollution.
		3.	Provide, to the extent possible, conservation pools and minimum streamflows in authorizing or developing water storage impoundments and diversion projects.
Minerals Management	G07	1.	Common materials for personal or commercial use will require a permit. Attempt to locate borrow areas in places that would enhance resources or facilities.
	(DU 36)		
Lands Administration	J13, J15	1.	Act on land exchange offers involving Priority 1 lands and the most desirable Priority II lands to the extent possible.
	(DU 42)		
Road & Trail Maintenance	L19 L23	1.	Bring existing roads and trails that are to be retained on the system to a maintainable standard which is suitable for the planned use and provides for safety and resource protection. Maintain 80% of roads to level 2; 15% to level 3; 3% to level 4; and 2% to level 5. See Appendix E for a definition of levels.
	IDU 48, 50)	2.	Close, drain, and revegetate existing roads that are determined to be unneeded for further use. This should be a cost of the initiating resource element.
Fire Management	PO8, PO9	1.	The management area is divided into fire suppression zones 1 and 2 based on resource protection and cost objectives. See Section 5 for definition of zones.
	(DU 56)		
Fuels Management	P11, P12 P14, P15	1.	Reduce slash from fuelwood harvest to a level that is compatible with Forest Service ability to protect the remaining resources.
	(DU 57)	2.	Within foreground distance zones of sensitivity levels 1 and 2 (trails, roads, use areas, and water bodies) require 100% treatment of all slash and debris.
		3.	Fuel treatment may consist of chipping, broadcast burning, piling and burning, or lopping and scattering.

Management Practices Activities

Standards and Guidelines

Insect & Disease Management P34, P35
P16

4. Prescribed fire will be used to reduce fuel hazard, and enhance wildlife habitat and improve range conditions.
 5. All projects that include prescribed burning will include specific burning prescriptions that will insure the fire can be controlled within established boundaries and that the burning meets the desired resource objectives.
 6. Burn fuelwood slash and debris piles in locations and at times that will minimize scorching of adjacent trees and shrubs.
-
1. Maintain surveillance for insect and disease outbreaks. Where opportunities exist, attempts will be made to reduce or prevent damage from insects and disease. Use integrated pest management techniques which are compatible, economical and environmentally acceptable.
 2. Recognize and prevent conditions favorable for insect and disease outbreaks.

MANAGEMENT AREA 7

Due to the blending and sometimes indistinct differences between riparian vegetation types, Management Area 7 has been assigned two distinct prescriptions. The resource manager will have to decide which prescription is appropriate based on the actual ground conditions. Prescription A is intended for capability types 11AR and 12R while Prescription B is intended for capability Types 10R and 11BR.

PRESCRIPTION A

Management Emphasis and Intensity: Manage to perpetuate the unique wildlife or vegetative species. Improve and manage riparian areas (as defined by FSM 2526, Riparian Watershed Management) to benefit riparian dependent resources. Dispersed recreation activities and other uses may be allowed to the extent they do not degrade the unique values. Facilities may be allowed and maintained for the purpose of protecting these resources. Visual quality objectives will be met.

Management Area Description: Undeveloped lands that have been identified as supporting flora and fauna associations that are unique enough to require special management practices. Includes identified riparian ecotypes. Includes deciduous and coniferous forest types. Includes known, essential habitats for threatened and endangered plants and animals.

Capability Area Types: 8M, 9AHM, 9BHM, 11AR, and 12R.
Total acres = 24,423.

Specific Management Prescription

Timber Suitability: All acres unsuitable.
Proposed Vegetation Manipulation:

[VEGETATION MANIPULATION TABLE IS DELETED]

<u>Management Practices</u>	<u>Activities</u>	<u>Standards and Guidelines</u>
Dispersed Recreation O&M (DU 1)	A14, A15 L23	<ol style="list-style-type: none"> Maintain trails to level 3. See Appendix E for a definition of levels. Use of motorized vehicles is restricted to existing trails and roads. Some trails may be closed to motorized vehicles for safety, resource protection, and user conflict reasons. All trails on the Santa Catalina Ranger District are closed to motorized vehicles. Maintain current Roaded Natural (RN) recreation opportunities while creating increased Semiprimitive Nonmotorized (SPNM) opportunities when possible by closing roads which are determined to be unneeded, and creating temporary roads only for resource utilization projects. Manage dispersed use at a level of 75% less than standard and 25% standard.
Visual Resource Management	A03	<p>Manage the following acres at the indicated Visual Quality Objectives:</p> <p>8,792 Acres Retention 36% 8,060 Acres Partial Retention 33% 6,106 Acres Modification 25% 1,465 Acres Maximum Modification 6%</p>
Wildlife & Fish O&M (DU 10)	CO1, CO2 C12	Specific standards and guidelines for management of wildlife are shown in the Forest-wide prescription for activities appropriate to this Management Area. They are intended to meet the following objectives:

Management Practices Activities

Standards and Guidelines

1. Maintain and improve current habitat for federally listed plant and animal species, and work toward delisting.
2. In fuelwood stands maintain 90% or more of occupied habitat (compared to untreated stands) for primary and secondary cavity nesters. In other areas maintain 100% of occupied habitat for these species.
3. As part of allotment management planning, complete riparian management plans by the second period.
4. Maintain or improve current levels of occupied habitat for:

Apache fox squirrel
white-tailed deer
mule deer
javelina
pronghorn
cottontail
raptors
Mearns' quail
Gould's turkey
Merriam's turkey
coppery-tailed trogon
sulphur-bellied flycatcher
beardless flycatcher
thick-billed kingbird
Bell's vireo
blue-throated hummingbird
Arizona ridge-nosed rattlesnake
Mexican stoneroller
Gila topminnow
Sonora chub
Gila chub
Arizona trout

Wildlife Habitat
Maintenance
(DU 11)

C09, C10
C11

1. Maintain wildlife structures based on guidelines shown in the Forest-wide prescription. They are intended to maintain current levels of occupied habitat for species listed above.

T&E Plant Habitat
Improvement
(DU 12)

C03, C04
C05, C06

Structural and nonstructural habitat improvements will be based on guidelines as shown in the Forest-wide prescription. They are intended to meet the following objectives:

Fish Habitat
Improvement
(DU 13)

C07, C08

1. Improve quality and availability of forage and water for:

Game Habitat
Improvement
(DU 14)

white-tailed deer
mule deer
pronghorn
Merriam's turkey
Gould's turkey

Nongame Habitat
Improvement
(DU 15)

2. Delist threatened and endangered species and reoccupy historical habitat with other identified species following approved species recovery plans and memorandums of understanding. Also improve habitat for federally listed plants and animals following these same guidelines.

Range Management
O&M (DU 16)

DO2, DO4
DO6

1. Manage suitable rangeland at level D. If level D is not achievable, manage at level A (no livestock). See Appendix C for definition of range management levels.

Management Practices Activities

Standards and Guidelines

Projected Range Conditions

<u>Condition</u>	<u>Acres</u>	
	<u>Period 1</u>	<u>Period 5</u>
Satisfactory	21,736	22,220
Unsatisfactory	2,687	2,203

2. The following criteria will be considered when determining whether livestock should be excluded from riparian areas. Exclusion may be temporary or permanent; seasonal or yearlong.
 - a. Satisfactory riparian conditions as described in the Forest-wide prescription can not be achieved or maintained.
 - b. There is a need to protect natural or artificial regeneration of riparian species.
 - c. There is a need to protect Threatened and Endangered species habitat.

Range Improvements D05
(DU 17)

1. Structural improvements are minimal and constructed only to the extent needed to protect and maintain the unique resources in presence of grazing.
2. Vegetative manipulation is not used for range improvement.

Timber Sale E06
Preparation & E07, 478
Administration 479
(DU 19, 21)

1. Restrict removal of vegetation, such as beargrass, agave, yucca, ocotillo and cactus, to salvage operations and to remove invading species.
2. Use fuelwood sales to accomplish other management objectives such as hazard reduction, visual quality enhancement, and wildlife habitat improvement. Harvest will be limited to individual tree selection.

Watershed & Soil F05
Maintenance & F03, F06
Improvement
(DU 33, 34)
(DU 45, 46) K05, K06
KO4, 552

1. Restore damaged watersheds to satisfactory watershed condition. Watershed treatment is a high priority in this management area. Watershed maintenance and improvement may consist of channel stabilization, and revegetation using native or non-native species. See Appendix D for appropriate activities.
2. Manage all programs to eliminate or minimize onsite and downstream water pollution.

Minerals Management G07
(DU 36)

1. Consider mineral withdrawals as needed to protect essential habitats for threatened and endangered species.

Lands Administration J04, J13
(DU 42)

1. Attempt to acquire private lands that will "fill in" ownership pattern, resulting in more effective management of National Forest lands.
2. Act on all exchange offers that appear to be in the public interest.

Road & Trail Planning L01
& Maintenance L19
(DU47, 48)

1. Attempt to avoid these areas with new road and trail development.
2. Bring existing roads and trails that are to be retained on the system to a maintainable standard which is suitable for

Management Practices Activities

Standards and Guidelines

Fire & Fuels
Management
(Du 56, 57)

P08, P09
P11, P12
P15

- the planned use and provides for minimum safety and resource protection. Maintain roads to level 2. See Appendix E for a definition of levels.
2. Close, drain, and revegetate existing roads that are determined to be unneeded for further use. This should be a cost of the initiating resource element.
 1. The management area is divided into fire suppression zones 1 and 2 based on resource protection and cost objectives. See Section 5 for definition of zones.
 2. Require 100% treatment of all slash and debris within cleared right-of-way boundaries.
 3. Within foreground distance zones of sensitivity level 1 and 2 (trails and road use areas and water bodies) require 100% treatment of all activity slash.
 4. Fuel treatment may consist of chipping, broadcast burning, piling and burning, or lopping and scattering.
 5. The prescribed use of fire will be used to reduce fuel hazard and enhance wildlife habitat.
 6. All projects that include prescribed burning will include specific burning prescriptions that will insure the fire can be controlled within established boundaries and that the burning meets the desired resource objectives.
 7. Burn debris piles in locations and at times that will minimize scorching of adjacent trees and shrubs.

Insect & Disease
Management

P34, P35
P36

1. Maintain surveillance for insect and disease outbreaks. Where opportunities exist, attempts will be made to reduce or prevent damages from insects and diseases. Use integrated pest management techniques which are compatible, economical and environmentally acceptable.
2. Recognize and prevent conditions favorable for insect and disease outbreaks.

MANAGEMENT AREA 7, PRESCRIPTION B

Management Emphasis and Intensity: Manage to perpetuate the unique wildlife or vegetative species while producing livestock forage and fuelwood on a sustained basis. Recreation activities and other uses may occur to the extent they do not degrade the unique values. Visual quality objectives will be met. Facilities may be allowed and maintained for the purpose of protecting these resources.

Management Area Description: Undeveloped lands that have been identified as supporting flora and fauna associations that are unique enough to require special management practices. Includes identified higher ecosystem extensions, such as oak and mesquite bottoms. Includes known, essential habitats for threatened and endangered plants and animals.

Capability Area Types: 10R and 11BR. Total acres = 17,124.

Specific Management Prescription

Timber Suitability: All acres unsuitable.

[VEGETATION MANIPULATION TABLE IS DELETED]

<u>Management Practices</u>	<u>Activities</u>	<u>Standards and Guidelines</u>
Dispersed Recreation O&M (DU 1)	A14, A15 L23	<ol style="list-style-type: none"> Maintain trails to level 3. See Appendix E for a definition of levels. Use of motorized vehicles is restricted to existing trails and roads. Some trails may be closed to motorized vehicles for safety, resource protection, and user conflict reasons. All trails on the Santa Catalina Ranger District are closed to motorized vehicles. Maintain current Roaded Natural (RN) recreation opportunities while creating increased Semiprimitive Nonmotorized (SPNM) opportunities when possible by closing roads which are determined to be unneeded, and creating temporary roads only for resource utilization products. Manage dispersed use at a level of 75% less than standard and 25% standard.
Visual Resource Management (DU 2)	A03	<p>Manage the following acres at the indicated Visual Quality Objectives:</p> <ul style="list-style-type: none"> 6,165 Acres Retention 36% 5,651 Acres Partial Retention 33% 4,281 Acres Modification 25% 1,027 Acres Maximum Modification 6%
Wildlife & Fish O&M (DU 10)	C01, C02 C12	<p>Specific standards and guidelines for management of wildlife are shown in the Forest-wide prescription for activities appropriate to this Management Area. They are intended to meet the following objectives:</p> <ol style="list-style-type: none"> Maintain and improve current habitat for federally listed threatened and endangered plants and animals, and work toward delisting.

Management Practices Activities

Standards and Guidelines

2. In fuelwood stands (as compared to an unharvested stand) maintain 80% or more of the occupied high density habitat and 60% to 80% of the low density habitat for Mearns' quail. Maintain 80% or more of the occupied habitat for cavity nesters.

In other areas maintain 100% of occupied habitat for quail and cavity nester species.

3. Maintain or improve current occupied levels of habitat for:

- white-tailed deer
- mule deer
- javelina
- pronghorn
- cottontail
- raptors
- Merriam's turkey
- Gould's turkey
- coppery-tailed trogon
- sulphur-bellied flycatcher
- beardless flycatcher
- thick-billed kingbird
- Bell's vireo
- blue-throated hummingbird
- Arizona ridge-nosed rattlesnake
- Mexican stoneroller
- Gila topminnow
- Sonora chub
- Gila chub

Wildlife Habitat Maintenance (DU 11) C09, C10
C11

1. Maintain wildlife structures based on guidelines shown in the Forest-wide prescription. They are intended to maintain current levels of occupied habitat for species listed above.

T&E Plant Habitat Improvement (DU 12) C03, C04
C05, C06
C07, C08

Structural and nonstructural habitat improvements will be based on guidelines as shown in the Forest-wide prescription. They are intended to meet the following objectives:

Fish Habitat Improvement (DU 13)

1. Improve quality and availability of forage and water for:

Game Habitat Improvement (DU 14)

- white-tailed deer
- mule deer
- pronghorn
- Merriam's turkey
- Gould's turkey

Nongame Habitat Improvement (DU 15)

2. Delist threatened and endangered species and reoccupy historical habitat with other identified species following approved species recovery plans and memorandums of understanding. Also improve habitat for federally listed plants and animals following these same guidelines.

Range Management O&M (DU 16) D02, D04
D06

1. Manage suitable rangeland at level D. If level D is not achievable, manage at level A (no livestock). See Appendix C for definition of range management levels.

Range Improvement (DU 17, 18) D03, D05

Management seeks full utilization of forage allocated to livestock. Cost effective management systems and techniques, including fencing and water development, are designed and applied to obtain relatively uniform livestock distribution and use of forage and to maintain plant vigor.

Management Practices Activities

Standards and Guidelines

Projected Range Conditions

<u>Condition</u>	<u>Acres</u>	
	<u>Period 1</u>	<u>Period 5</u>
Satisfactory	15,412	15,412
Unsatisfactory	1,712	1,712

Timber Sale Preparation & Administration (DU 19, 21)	EO6 EO7, 478 479	2.	Vegetative manipulation may be used for range improvement and may consist of such activities as prescribed burning, mechanical removal, wood harvest, use of approved herbicides, livestock grazing, and reseeding of native or nonnative species. See Appendix D for activity selection criteria.
TSI - KV (DU 60)	EO5	1.	Silviculturally manage the woodland tree resource under uneven age management. Fuelwood harvest will be limited to those lands which contain fuelwood species having a crown cover of 10% or more. Manage to sustain an average 40 to 50 year cutting cycle. The removal of dead or green trees for wood products or Christmas trees will be by individual tree selection or group selection limited to maximum clearing size of two acres. Harvest will be restricted to removal of overmature, mature, poor form, low vigor or over-crowded trees for the purpose of maintaining vigorous stands and sustaining the yield of wood products while maintaining the unique values of the area.
		2.	Use fuelwood sales to accomplish other management objectives such as hazard reduction, visual quality maintenance, range improvement, and wildlife habitat improvement.
		3.	Prohibit the removal of saguaro cactus, agave, yucca, and ironwood wildings unless it becomes necessary to remove them in order to accommodate a use of higher priority. The harvest of beargrass, ocotillo, and most cactus species will be permitted as long as there is no significant impact of other resources or uses.
Watershed & Soil Maintenance & Improvement (DU 33, 34) (DU 45, 46)	FO5 FO3, FO6 KO5, KO4 552 KO6	1.	Watershed treatment is a high priority in this management area. Watershed maintenance and improvement may consist of channel stabilization, activities to increase water infiltration, and revegetation using native or nonnative species. See Appendix D for activity selection criteria.
		2.	Manage all programs to eliminate or minimize onsite and downstream water pollution.
Minerals Management (DU 36)	GO7	1.	Common materials for personal or commercial use may be removed by permit or for National Forest management purposes.
Lands Administration (DU 42)	JO4, J13 J15	1.	Consider mineral withdrawals as needed to protect essential habitats for federally threatened and endangered species.
		2.	Attempt to acquire private lands that will "fill in" ownership pattern, resulting in more effective management of National Forest lands.
		3.	Act on all exchange offers that appear to be in the public interest.
Road Planning & Maintenance (DU 47, 48)	LO1 L19	1.	Attempt to avoid these areas with new road development.

Fire & Fuels
Management
(DU 56, 57)

P08, P09
P11, P12
P15

2. Bring existing roads that are to be retained on the system to a maintainable standard which is suitable for the planned use and provides for safety, and resource protection. Maintain roads to level 2. See Appendix E for a definition of levels.
3. Close, drain, and revegetate existing roads that are determined to be unneeded for further use. This should be a cost of the initiating resource element.
1. The management area is divided into fire suppression zones 1 and 2 based on resource protection and cost objectives. See Section 5 for definition of zones.
2. Reduce slash from fuelwood harvest and right-of-way clearing to a level that is compatible with Forest Service ability to protect the remaining resources and still provide needed wildlife habitat.
3. Fuel treatment may consist of chipping, broadcast burning, piling and burning, or lopping and scattering.
4. Prescribed fire will be used to reduce fuel hazard and maintain or improve wildlife habitat, livestock forage and watershed condition.
5. All projects that include prescribed burning will include specific burning prescriptions that will insure the fire can be controlled within established boundaries and that the burning meets the desired resource objectives.
6. Burn fuelwood slash and debris piles in locations and at times that will minimize scorching of adjacent trees and shrubs.

Insect & Disease
Management

P34, P35
P36

1. Maintain surveillance for insect and disease outbreaks. Where opportunities exist, attempts will be made to reduce or prevent damages from insects and diseases. Use integrated pest management techniques which are compatible, economical and environmentally acceptable.
2. Recognize and prevent conditions favorable for insect and disease outbreaks.

MANAGEMENT AREA 8

Management Emphasis and Intensity: Manage to provide opportunities for nondisruptive research and education. Use restrictions will be imposed as necessary to keep areas in their climax state. There will be no harvest of forest products including fuelwood.

Management Area Description: Includes those lands that have been determined to be suitable for designation as research natural areas. Includes the following areas:

<u>Existing RNA</u>	<u>Acres</u>
Butterfly	1000
Goudy Canyon*	370
Elgin	290
<u>Goodding (North End)*</u>	<u>7</u>
<u>New RNA Proposal</u>	<u>Acres</u>
Canelo	350
<u>Goodding (North Extension)*</u>	<u>153</u>
<u>Other</u>	<u>Acres</u>
Research Ranch	1635

* Remainder in Wilderness (MA 8A)

The Research Ranch will not be designated as an official research natural area but will be managed under a memorandum of understanding to meet similar objectives except some vegetative manipulation will be allowed for research projects.

Capability Area Types: 6P, 6P/H, 6H/M, 6M, 9CH/M, and 11AR.
Total acres = 3555 3805

Specific Management Prescription

Timber Suitability: All Acres Unsuitable.

Management Practices Activities

Standards and Guidelines

Dispersed	A14, A15	1. Maintain 50% of trails at level 2 and 50% at level 3. See Appendix E for a definition of levels.
Recreation	L23	2. Motor vehicles are not permitted in research natural areas. Within the Research Ranch, use of motorized vehicles is permitted only on designated roads and trails. Some trails may be closed to use by motor vehicles for safety reasons, to eliminate conflicting uses or to further protect resources.
O&M (DU 1)		3. Attempt to maintain semiprimitive nonmotorized opportunities that exist within the Research Ranch. If any existing roads are determined to be unneeded, close them to create more opportunities for primitive or semiprimitive nonmotorized experience.
		4. Manage dispersed use at less than standard.
Visual Resource Management (DU 2)	A03	Manage the following acres at the indicated Visual Quality Objectives: <u>2,170 Acres Retention 57% (RNAs)</u> <u>1,635 Acres Partial Retention 43% (Research Ranch)</u>
Wildlife & Fish O&M (DU 10)	CO1, CO2 C12	Specific standards and guidelines for management of wildlife are shown in the Forest-wide prescription for activities appropriate to this Management Area. They are intended to meet the following objectives:

<u>Management Practices</u>	<u>Activities</u>	<u>Standards and Guidelines</u>
		<ol style="list-style-type: none"> 1. Maintain or improve occupied habitat for federally and state listed animals. 2. Maintain or improve current populations of endangered and threatened plants.
T&E Plant Habitat Improvement (DU 12)	CO3, CO4 CO5	Nonstructural habitat improvement projects will be based on guidelines in the Forest-wide prescription. They are intended to meet the following objectives:
Fish Habitat Improvement (DU 13)		<ol style="list-style-type: none"> 1. Delist threatened and endangered species following guidelines of approved recovery plans and memorandums of understanding.
Game Habitat Improvement (DU 14)		
Nongame Habitat Improvement (DU 15)		
Range Management O&M (DU 16)	DO2	<ol style="list-style-type: none"> 1. Manage rangeland at level A (no livestock). Management excludes livestock grazing to protect other values or eliminate conflicts with other uses.
Watershed Maintenance & Improvement (DU 33, 34)	FO3, FO5	<ol style="list-style-type: none"> 1. Watershed treatment is a low priority in this management area. If treatment is appropriate, activities are described in Appendix D. 2. These areas will be monitored for watershed condition trends as relic areas.
Minerals Management (DU 36)	GO7	<ol style="list-style-type: none"> 1. There will be no removal of mineral materials. 2. Maintain withdrawals from mineral entry for all areas. 3. Recommend withdrawals from mineral entry for new areas. 4. No surface occupancy for leasable minerals.
Road Maintenance (DU 48)	L19	<ol style="list-style-type: none"> 1. Bring existing roads that are to be retained on the system to a maintenance standard which is suitable for the planned use and provides for safety and resource protection. Maintain roads to maintenance level 2. See Appendix E for a definition of levels. 2. Close, drain, and revegetate roads that are determined to be unneeded for further use.
Fire Management (DU 56)	PO8, PO9	<ol style="list-style-type: none"> 1. The management area is divided into fire suppression zones 1 and 2 based on objectives for resource protection and cost of suppression. See Section 5 for definition of zones. 2. Use prescribed fire to reduce risk and to permit lightning to more nearly play its natural role.
Insect & Disease Management		<ol style="list-style-type: none"> 1. Outbreaks of insects or disease will not be controlled, except where there is a clear and imminent danger to timber or other values outside the research natural area.

MANAGEMENT AREA 8A

Management Emphasis and Intensity: Manage for wilderness values and uses while providing opportunities for nondisruptive research and education. Use restrictions will be imposed as necessary to keep areas in their climax state. There will be no harvest of forest products including fuelwood.

Management Area Description: Includes those lands that have been determined to be suitable for both wilderness designation and designation as research natural areas. Includes the following areas:

<u>Existing RNA</u>		<u>Acres</u>
Pole Bridge		460
Santa Catalina		890
(reduced)		
Goodding*	545	<u>538</u>
Goudy Canyon*		190
<u>New RNA Proposal</u>		<u>Acres</u>
Goodding extension: South		1470
<u>North*</u>		<u>47</u>
Pole Bridge extension		90

* Remainder is outside Wilderness (MAB)

The Santa Catalina RNA will be reduced from 4131 acres to 890 acres. This will give a more manageable size while maintaining viable populations of targeted species.

Pole Bridge RNA is enlarged to include a more representative example of Chihuahua pine. The Goodding RNA is enlarged to include additional examples of Southwestern vegetative types as well as rare and threatened or endangered species.

Capability Area Types: 6H/M, 6M, 9AH/M, and 11AR.
Total acres = 3645 3685

Specific Management Prescription

Timber Suitability: All Acres Unsuitable.

<u>Management Practices</u>	<u>Activities</u>	<u>Standards and Guidelines</u>
Visual Resource Management (DU 2)	A03	Manage the following acres at the indicated Visual Quality Objectives: 3645 <u>3685</u> Acres Preservation 100%
Wilderness Recreation O&M (DU 8)	BO2, BO3	<ol style="list-style-type: none"> Maintain trails to level 1 and level 3. See Appendix E for a definition of levels. Use of motorized vehicles is prohibited except as approved for emergency or other special needs. Manage wilderness use at less than standard. Maintain existing ROS class composition.
Wildlife & Fish O&M (DU 10)	CO1, CO2 C12	<p>Specific standards and guidelines for management of wildlife are shown in the Forest-wide prescription for activities appropriate to this Management Area. They are intended to meet the following objectives:</p> <ol style="list-style-type: none"> Maintain or improve occupied habitat for federally and state listed animals. Maintain or improve current populations of endangered and threatened plants.

MANAGEMENT AREA 8A (Continued)

Management Practices Activities

Standards and Guidelines

T&E Plant Habitat Improvement
(DU 12)

CO3, CO4
CO5

Nonstructural habitat improvement projects will be based on guidelines in the Forest-wide prescription. They are intended to meet the following objective:

Fish Habitat Improvement
(DU 13)

1. Delist threatened and endangered species following guidelines of approved recovery plans and memorandums of understanding.

Game Habitat Improvement
(DU 14)

Nongame Habitat Improvement
(DU 15)

Range Management O&M (DU 16)

DO2

1. Manage rangeland at level A (no livestock.) Management excludes livestock grazing to protect other values or eliminate conflicts with other uses.

Watershed Maintenance & Improvement
(DU 33, 34)

FO3, FO5
KO4

1. Watershed treatment is a low priority in this management area. If treatment is appropriate, activity selection criteria is described in Appendix D.
2. Monitor these areas for watershed condition trends as relic areas.

Minerals Management
(DU 36)

G07

1. There will be no removal of mineral materials. Mineral withdrawals will be unnecessary because the segregative effect of wilderness designation exceeds that of a withdrawal.

Fire Management
(DU 56)

PO8, PO9

1. The management area is in fire suppression zones 1 and 2 based on objectives for resource protection. See Section 5 for definition of zones.
2. Use prescribed fire to reduce risk and to permit lightning to more nearly play its natural role.

Insect & Disease Management

1. Outbreaks of insects or disease will not be controlled, except where there is a clear and imminent danger to timber or other values outside the research natural area.

MANAGEMENT AREA 9

Management Emphasis and Intensity: Manage for wilderness values while providing livestock grazing and providing recreation opportunities that are compatible with maintaining wilderness values and protecting resources. Fire management emphasis will be to permit lightning caused fires to play, as nearly as possible, their natural ecological role within wilderness.

Management Area Description: Include all vegetative and land form types that have been determined to be suitable for wilderness designation. Includes the following areas:

<u>Existing Wilderness</u>	<u>Acres</u>
Chiricahua (87,700)	87,150 (The other 550 acres are in Pole Bridge RNA)
Pusch Ridge (56,933)	56,043 (The other 890 acres are in Santa Catalina RNA)
Galiuro	76,317
Miller Peak	20,190
Mt. Wrightson	25,260
Pajarita (7,420)	5,365 (The other 2,055 acres are in Goodding RNA)
Rincon Mountain	38,590
Santa Teresa	26,780

New Wilderness Proposal

Mt. Graham (62,000)	61,810 (The other 190 acres are in Goudy RNA)
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Capability Area Types: All. Total acres = 397,505.

Specific Management Prescription

Timber Suitability: All Acres Unsuitable.

[VEGETATION MANIPULATION TABLE IS DELETED]

Management Practices Activities

Standards and Guidelines

Air Resource Management		<ol style="list-style-type: none"> In the original (prior to Arizona Wilderness Bill) Chiricahua and Galiuro Wilderness Area (Class 1 Areas) maintain high quality visual conditions. The form, line, texture, and color of characteristic landscapes will be clearly distinguishable when viewed as middleground. Also, cultural resources and ecosystems will remain unmodified by air pollutants. Impacts on vegetation, animals, and water quality will be predicted using current modeling techniques. Determine baseline information and the background condition of the air quality related values and specify limits of acceptable change that will affirmatively protect these values in Class 1 areas.
Visual Resource Management (DU 2)	A03	Manage the following acres at the indicated Visual Quality Objective: 397,505 Acres Preservation 100%
Wilderness Recreation O&M (DU 8)	B02, B03 L23	<ol style="list-style-type: none"> Maintain trails to following standards: 15% level 1 25% level 2 57% level 3 3% level 4 <p>See Appendix F for definition of levels.</p>

Management Practices Activities

Standards and Guidelines

- 3. Use of motorized vehicles is prohibited except as approved for emergency or other special needs.
- 4. Maintain existing ROS classification composition except recognize potential to increase Primitive (P) and Semi-primitive Nonmotorized (SPNM) opportunities by closing adjacent roads which are deemed unnecessary.
- 5. Manage wilderness use as follows:
 - Standard - 172,499 acres
(generally in riparian and other concentrated use areas.)
 - Less than standard - 225,046 acres
(generally in other types and low use areas.)
- 6. Cooperate with Saguaro National Monument to implement as nearly identical management of the Rincon Wilderness as possible. Develop a joint operation and maintenance plan.
- 7. Permit lightning caused fires to play, as nearly as possible, their natural ecological role within wilderness.

Trail Con-
struction &
Reconstruction
(DU 9)

L21 & L22

- 1. Construct new trail heads as follows: (Note: These developments will be in adjacent management areas just outside the wilderness boundary.

Period 1

Construct trailhead parking lot and two-unit vault toilet as appropriate.

Period 2

Construct trailhead parking lot and two-unit vault toilet as appropriate.

- 2. Construct/reconstruct trails in accordance with Table 10 to aid in the distribution of wilderness users.

Wildlife & Fish
O&M
(DU 10)

CO1, CO2
C12

Specific standards and guidelines for management of wildlife are shown in the Forest-wide prescription for activities appropriate to this Management Area. They are intended to meet the following objectives.

- 1. Maintain and improve current habitat for endangered and threatened plants and animals, and work toward delisting.
- 2. As part of livestock grazing allotment and recreation management planning, complete riparian management plans by second period.
- 3. Maintain current levels of occupied habitat for:

- mule deer
- white-tailed deer
- javelina
- bighorn sheep
- pronghorn
- cottontail
- black bear
- Mt. Graham spruce squirrel
- Apache fox squirrel
- Arizona gray squirrel
- raptors

Management Practices Activities

Standards and Guidelines

Merriam's turkey
 Mearn's quail
 Gambel's quail
 buff-breasted flycatcher
 coppery-tailed trogon
 sulphur-bellied flycatcher
 N. tyrannulet flycatcher
 thick-billed kingbird
 Bell's vireo
 blue-throated hummingbird
 twin-spotted rattlesnake
 Arizona ridge-nosed rattlesnake
 rock rattlesnake
 Gila topminnow
 Arizona trout
 Mexican stoneroller
 Sonora chub
 Gila chub

Wildlife Habitat Maintenance (DU 11) CO9, C10, C11
 T&E Plant Habitat Improvement (DU 12) CO3, CO4
 Fish Habitat Improvement (DU 13) CO5, CO6
 Game Habitat Improvement (DU 14) CO7, CO8
 Nongame Habitat Improvement (DU 15)

Maintenance and improvement activities will be commensurate with the Wilderness Act and guidelines shown in the Forest-wide prescription. They are intended to meet the following objectives:

1. Maintain habitat for:

mule deer
 white-tailed deer
 javelina
 pronghorn
 black bear
 Merriam's turkey
 Gould's turkey

2. Improve habitat for:

desert bighorn sheep
 Gila topminnow
 Sonora chub
 Gila chub
 Arizona trout
 peregrine falcon

and other identified species following guidelines of approved species recovery plans and memorandums of understanding.

3. Consider and implement as appropriate, structural improvement for native and game fish habitats.

Range Management O&M (DU 16) DO2, DO4
 DO6

1. Manage suitable rangeland at levels as follows. See Appendix C for definition of range management levels.

Range Improvements (DU 17, 18) DO5

Range Management Levels

<u>Level</u>	<u>Acres</u>
A	89,900
B	242,945
C	64,700

Management Practices Activities

Standards and Guidelines

Projected Range Condition

<u>Condition</u>	<u>Acres</u>	
	<u>Period 1</u>	<u>Period 5</u>
Satisfactory	352,790	352,790
Unsatisfactory	44,755	44,755

Management controls livestock numbers so that livestock use is within present grazing capacity. Range improvements may be constructed to protect and enhance the wilderness resource in the presence of grazing.

2. Vegetative manipulation is not used for range improvement, except as a result of prescribed fire.
 3. Riparian areas will be managed to achieve and maintain satisfactory riparian conditions as described in the Forest-wide prescription. This may be accomplished through the use of structural improvements, movement of livestock or the exclusion of livestock.
- Watershed & Soil Maintenance (DU 34, 46) PO3, KO4
552, 553
1. Watershed treatment is a low priority in this management area. Restore damaged watersheds to satisfactory condition. Watershed restoration may consist of channel stabilization, and revegetation using native or non-native species. Non-native species will be used only in emergency situations when suitable native species are not available. See Appendix D for details of activities.
- Lands Administration (DU 42) JO4, J13
J15
1. Act on all land exchange offers involving acquisition of private land.
- Rights-of-Way Acquisition (DU 44) J18
1. Attempt to acquire needed rights-of-way to provide public access to the wilderness areas. Coordinate with other agencies to acquire public access and develop public parking for trails.
- Fire & Fuels Management (DU 56, 57) PO8, PO9
P12, P14
P15, P16
1. Utilize prescribed fire to reduce to an acceptable level, the risks and consequences of wildfire within the wilderness or escaping from wilderness.
 2. Due to external constraints, fire management options to have lightning fires play a natural role in wilderness resource management may be accomplished by both natural and management ignitions.
 3. The management area is divided into fire suppression zones 1 and 2 based on objectives for resource protection and cost of suppression. See Section 5 for definitions of zones.
 4. Conduct suppression in a manner compatible with overall wilderness management objectives. Preference will be given to the method that will cause the least:
 - a. Alternation of wilderness landscape.
 - b. Disturbance of the land surface.
 - c. Disturbance to visitor solitude.
 - d. Reduction of visibility during periods of visitor use.
 - e. Adverse effect on other air quality related values.
- Insect & Disease Management P34, P35
P36
1. Outbreaks of insects or disease will not be controlled, except where there is a clear and imminent danger to timber or other values outside the Wilderness, and then, only by approval of the Regional Forester.

MANAGEMENT AREA 14

Management Emphasis and Intensity: Manage to perpetuate the unique wildlife or vegetative species. Improve and manage riparian areas (as defined by FSM 2526 Riparian Watershed Management) to benefit riparian dependent resources. Recreation activities and other uses may occur to the extent they do not degrade the unique values. Facilities may be allowed and maintained for the purpose of protecting these resources. Visual quality objectives will be met or exceeded.

Management Area Description: Lands within the South Fork of Cave Creek (Chiricahua Mountains) and Guadalupe Canyon (Peloncillo Mountains) that have been identified as supporting flora and fauna associations that are unique enough to require special management practices, including formal designation as a zoological or botanical area. Includes known, essential habitats for threatened and endangered plants and animals.

Capability Area Types: 2P, 2PH, 6P, 6PH, 6HM, 6M, 7P, & 11AR.
Total acres = 4,240.
(762 acres - South Fork and 3,78 acres - Guadalupe Canyon)

Specific Management Prescription

Timber Suitability: All Acres Unsuitable.

[VEGETATION MANIPULATION TABLE IS DELETED]

<u>Management Practices</u>	<u>Activities</u>	<u>Standards and Guidelines</u>
Dispersed Recreation Management O&M (DU 1)	A14, A15 L23	<ol style="list-style-type: none">1. Maintain trails to level 3. See Appendix E for definition of levels.2. Leave road into South Fork open for access to recreation residences and to existing trail and day use picnic area.3. Use of motorized vehicles is permitted only on designated roads.4. Emphasize semi-primitive nonmotorized recreation opportunities above South Fork Picnic Area and roaded natural opportunities below.5. Manage dispersed use at a level of 50% less than standard and 50% standard.6. Recommend the designation of the South Fork of Cave Creek (outside the wilderness area) as a zoological-botanical area and portions of Guadalupe Canyon as a zoological area. A ten foot wide strip along each side of the South Fork Road, around the South Fork picnic area and around the existing recreation residences will be excluded from this designation. They will be part of management area 3A.7. Develop an environmental education program in South Fork by considering the following techniques:<ol style="list-style-type: none">a. Employing interpreters and educators (volunteers or paid).b. Publishing plant and animal guides and visitors etiquette brochures.c. Building environmental displays.d. Conducting visitor programs.8. Monitor effects of hunting and trapping on wildlife and safety of people. This includes the use of firearms and air guns. Consider prohibiting these activities if necessary through a Forest Supervisor's closure.9. A Forest Service permit will be required for plant collection and for research activities that involve placing anything on the National Forest. Collection permits will

MANAGEMENT AREA 14 (Continued)

Management Practices Activities

Standards and Guidelines

an effective environmental education program. (See Dispersed Recreation Management guidelines.)

- | | | |
|---|------------------------------|---|
| <p>Wildlife Habitat Maintenance (DU 11)</p> | <p>CO9, C10, C11</p> | <p>Maintenance of existing structures and development of new structural and nonstructural improvements will be based on guidelines shown in the Forest-wide prescription. They are intended to meet the following objectives:</p> |
| <p>T&E Plant Habitat Improvement (DU 12)</p> <p>Game Habitat Improvement (DU 14)</p> <p>Nongame Habitat Improvement (DU 15)</p> | <p>CO3, CO5
CO6, CO8</p> | <p>1. Maintain quality of forage for:</p> <p>white-tailed deer
mule deer
Merriam's turkey
Gould's turkey</p> <p>2. Delist threatened and endangered species and reoccupy historical habitat with other identified species following approved species recovery plans and memorandums of understanding. Also improve habitat for federally listed plants and animals following these same guidelines.</p> |
| <p>Range Management O&M (DU 16)</p> | <p>DO2</p> | <p>1. In the South Fork Area, manage suitable rangeland at level C with the utilization level established at 30% use by weight of key species in key areas.</p> <p>In the Guadalupe Canyon Area manage suitable rangeland at levels A or D. See Appendix C for definition of management levels.</p> |

Projected Range Condition

<u>Condition</u>	<u>Acres</u>	
	<u>Period 1</u>	<u>Period 5</u>
Satisfactory	3,604	3,816
Unsatisfactory	636	424

- | | | |
|---|---|---|
| <p>Timber Sale Preparation & Administration (DU 19, 21)</p> | <p>EO6
EO7, 478
479</p> | <p>1. Removal of vegetation is limited to research and educational activities under permit, salvage operations, invading species and maintenance and improvement of wildlife habitat and visual quality.</p> |
| <p>Watershed & Soil Maintenance & Improvement (DU 33, 34)
(DU 45, 46)</p> | <p>FO5
FO3, FO6
KO5, KO4
KO6, 552</p> | <p>1. Watershed treatment is a high priority for this management area. Watershed maintenance and improvement may consist of channel stabilization, and revegetation using native species. See Appendix D for details of activities.</p> <p>2. Manage all programs to eliminate or minimize onsite and downstream water pollution.</p> |
| <p>Minerals Management (DU 36)</p> | <p>GO7</p> | <p>1. Recommend withdrawals from mineral entry to protect essential habitats for threatened and endangered species and recreational opportunities and facilities investments.</p> <p>2. There will be no removal of mineral materials.</p> <p>3. Recommend no surface occupancy for leasable minerals.</p> |
| <p>Fire & Fuels Management (DU 56, 57)</p> | <p>PO8, PO9
P11, P12
P15, P14</p> | <p>1. The South Fork Area is within fire suppression zone 1 and the Guadalupe Canyon Area is within fire suppression zone 2. See Section 5 for definition of zones.</p> |

MANAGEMENT AREA 14 (Continued)

Management Practices Activities

Standards and Guidelines

2. Use prescribed fire to maintain or improve the unique vegetation or wildlife species.
3. Fuel treatment may consist of broadcast burning, piling and burning, lopping and scattering, or fuelwood gathering.
4. All projects that include prescribed burning will include specific burning prescriptions that will insure the fire can be controlled within established boundaries and that the burning meets the desired resource objectives.
5. Prescribed fire will be used to reduce fuel hazard and enhance wildlife habitat.
6. Within foreground distance zones of sensitivity level 1 and 2 (trails, roads, use areas and water bodies) require 100% treatment of all activity slash.
7. Burn debris piles in locations and at times that will minimize scorching of adjacent trees and shrubs.
8. Outbreaks of insects or disease will be controlled if there is a significant danger to the recreation uses or the unique vegetation or wildlife species or if it poses a threat to other uses outside the zoological area.

MANAGEMENT AREA 15 - Wild Chile Botanical Area

Management Emphasis and Intensity: This area is an administrative delineation that provides for additional notoriety, protection, and research on wild relatives of economically important crops, in particular, wild chile (*Capsicum annuum* var. *aviculare*). General forest management will continue under the multiple-use sustained yield principles that guided this area previous to the Management Area 15 delineation.

Management Area Description: Lands within the Rock Corral Canyon sub-watershed located on the Nogales Ranger District that have been identified as supporting flora that are unique enough to require special management practices, including formal designation as a botanical area. The vegetation consists of 2,344 acres of oak woodland, 421 acres of desert grassland, and 71 acres of deciduous riparian habitat. Slopes are less than 15% on 74 acres, on 814 acres, and greater than 40% on 1948 acres. The Botanical Area contains about 3 1/2 miles of unimproved roads (Level 2). The management area contains no suitable timber land and 888 acres of suitable livestock grazing land. All land located within this management area is National Forest System land. The new management area was carved out of existing Management Areas 1, 4, and 7.

Capability Area Types: (See Management Areas 1, 4, and 7 for this information).
Total Acres = 2836

Specific Management Prescription

EXCEPT FOR THE REFINED STANDARDS AND GUIDELINES DEPICTED BELOW MANAGEMENT GUIDANCE WILL FOLLOW THE APPROPRIATE STANDARDS AND GUIDELINES ASSOCIATED WITH MANAGEMENT AREAS 1, 4, AND 7 PER MANAGEMENT AREA MAP FOUND ON FOREST PLAN PAGE 86-2)

<u>Management Practices</u>	<u>Activities</u>	<u>Standards and Guidelines</u>
Dispersed Recreation Management	A14, A15 L23	<ol style="list-style-type: none">1. Use of motorized vehicles is permitted only on designated roads.2. A Forest Service permit will be required for plant collection and for research activities that involve placing anything on the National Forest. Collection permits can be issued to Native Seeds/Search for up to 10 years to include: 1) continued plant monitoring, 2) limited removal of plant parts, 3) establishment of small exclosures, and 4) mist-netting, small animal trapping and/or invertebrate collections consistent with state game department requirements. Additionally, the permit could be issued to authorize Native Seeds/Search organization the responsibility of conduct and management of research and other tours of the Chile Botanical Area in the interest of scientific investigation.
Range Management	D02	<ol style="list-style-type: none">1. Maintain existing grazing at the current management intensity and operation. Keep non-use season consistent with Chile plant protection during its growth period (approximately August to November).
Timber Sale Preparation &	E06 E07, 478	<ol style="list-style-type: none">1. Removal of vegetation is limited to research and educational activities under permit.
Minerals Management	G07	<ol style="list-style-type: none">1. Recommend no surface occupancy for leasable minerals.
Fire & Fuels Management	P08, P09 P11, P12	<ol style="list-style-type: none">1. The Rock Corral Watershed is in Fire Suppression Zone 2. Fire Suppression should be conducted in such a fashion to protect and promote the Botanical values. Prescribed fire maybe used prior to chile flowering and fruiting.

MANAGEMENT AREA 15 (continued)

The Forest Map depicted below depicts the distribution of Management Areas 1, 4, and 7 within the Chile Botanical Area. For management direction for specific areas see the respective Forest Plan Standards as follows: Management Area 1 on page 47; Management Area 4 on page 62; Management Area 7 on page 67.



5. SUMMARY OF FIRE MANAGEMENT ACTIVITIES

The Forest has been divided into two fire suppression zones. These zones are based on resource management objectives with consideration of property and resource values to be protected. The following fire suppression zones are shown on the Fire Management Map.

Once the final alternative is selected and the final plan is implemented, any fire suppression zone boundaries not coinciding with management area boundaries will be used to further subdivide the management areas as necessary to clearly incorporate the zones into management areas.

Each wildfire ignition requires an appropriate suppression response. This response will be one that most efficiently meets fire management direction under current and expected burning conditions. The response may range from a strategy of prompt control to one of containment or confinement. Life and property will be protected in all suppression responses.

Fire Management Zone 1:

The appropriate suppression response in this zone will be predicated upon preventing fires from reaching or damaging high value resources and improvements. Containment and control will be used to accomplish this objective during very high and extreme fire danger.

<u>Fire Danger Class</u>	<u>Appropriate Response</u>
(1) Low	Confinement, Containment or Control
(2) Medium	Confinement, Containment or Control
(3) High	Confinement, Containment or Control
(4) Very High	Containment, Control
(5) Extreme	Containment, Control

Control for Danger Classes Very High and Extreme will be accomplished through maximum use of people and equipment needed to control and suppress any wildfire within as short a time as possible, by the most direct method possible.

Fire Management Zone 2:

The appropriate suppression response in this zone will be predicated upon responses that will suppress wildfires at the least cost with acceptable damage to improvements, and maintenance of sufficient forage to sustain livestock grazing operations and ground cover to keep watersheds in satisfactory condition. Confinement, containment, and control will be used to meet these objectives.

<u>Fire Danger Class</u>	<u>Appropriate Response</u>
(1) Low	Confine
(2) Medium	Confine
(3) High	Confine
(4) Very High	Confine, Contain, Control
(5) Extreme	Confine, Contain, Control

The appropriate response will be accomplished through minimum use of people and equipment.

For each fire, the responsible line officer shall evaluate and document the suppression response prior to each subsequent burning period. If the response is no longer consistent with fire management direction, or is anticipated to become inappropriate, the fire shall be considered an "escaped fire".

Definitions:

Confine: To limit fire spread within a predetermined area principally by use of natural or preconstructed barriers or environmental conditions. Suppression actions may be minimal and limited to surveillance under appropriate conditions.

Contain: To surround a fire, and any spot fires therefrom, with control line as needed, which can reasonably be expected to check the fires spread under prevailing and predicted conditions.

Control: To complete the control line around a fire, any spot fires therefrom, and any interior islands to be saved, burn out any unburned area adjacent to the fire side of the control line and cool down all hot spots that are immediate threats to the control line, until the line can reasonably be expected to hold under foreseeable conditions.

Escaped Fire: A fire which has exceeded, or is anticipated to exceed, pre-planned initial action capabilities or the fire management direction.

6. MONITORING PLAN

INTRODUCTION

The purpose of monitoring and evaluating the implementation of the Forest Plan is to inform the decision maker of the progress toward achieving the goals, objectives, and standards and guidelines.

Monitoring will determine:

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

A detailed annual monitoring action program will be prepared as part of the total Forest annual program of work. This annual monitoring program will include the details on the amount and location of monitoring to be accomplished based on the approved program of work and funds available for monitoring. Specific locations, intensity of sampling, person-days required, and costs will be identified in the annual monitoring program.

Evaluation of the results of the site-specific monitoring program will be documented in the annual evaluation report. The significance of the results of the monitoring program will be analyzed and evaluated by the Forest interdisciplinary team. These evaluations will address changes in standards and guidelines, costs, and outputs and recommendations for plan amendments or revisions.

Based on the evaluation, any need for further action is recommended to the Forest Supervisor. The recommendations can include:

- No action needed. Monitoring indicates goals, objectives, and standards are being reasonably achieved;
- refer recommended action to the appropriate line officer for improvement of application of management prescriptions;
- modify the management prescription as a Forest Plan amendment;
- revise the projected schedule of outputs; or
- initiate revision of the Forest Plan.

The documented file of the Forest Supervisor's decision resulting from monitoring and evaluation is maintained for future use in amending or revision of the Forest Plan. An annual evaluation report of these decisions will be prepared and sent to the Regional Forest for his consideration.

The Forest Plan's monitoring requirements follow. For each activity, practice, or effect to be monitored, one or more measurement techniques are specified. A frequency for measuring and compiling data on the monitored item is established (FREQUENCY). The expected precision and reliability of that measurement is stated. (Precision is the exactness of accuracy with which the data will be collected; reliability is the degree to which the monitoring accuracy reflects the total Forest's situation). TIME FOR REPORTING establishes the frequency for an evaluation and reporting of the results of monitoring.

Abbreviations:

AGF = Arizona Game & Fish
AMS = Analysis of the Management Situation
EA = Environmental Assessment
MA = Management Area
MAR = Management Attainment Report
NMGF = New Mexico Game & Fish
RIM = Recreation Information Management
SO = Supervisor's Office
TES = Terrestrial Ecosystem Survey
U of A = University of Arizona
USFWS = U.S. Fish & Wildlife Service

RECREATION 1

1. ITEM MONITORED:
Actual dispersed recreation use in Recreation Opportunity Spectrum (ROS) settings.
2. PURPOSE:
Federal Regulation, sample output.
Forest issue related.
3. MONITORING METHOD:
 - 1) Recreation Information Management Report (based on District Ranger estimates).
 - 2) Inspection of heavily used dispersed areas, including evaluation of vegetative deterioration and soil erosion.
 - 3) Compile ORV restriction violation records.
4. FREQUENCY:
Annual
5. EXPECTED PRECISION/RELIABILITY:
RIM Level 5 for all dispersed areas.
6. TIME FOR REPORTING:
Years 3, 6, and 9.
7. COST:
\$100 each report for each Ranger District with heavy use or complex reporting units, \$25 each report for other Districts. Total annual cost (includes reports) is \$550.
8. EVALUATION:
Compare actual use records for a five year time period to project use by ROS setting. If use exceeds 30% of projected use and/or the trend in ORV violations increase 30% over current violations, the ID Team will evaluate and make recommendations to management.

RECREATION 2

1. ITEM MONITORED:
Developed site use, Public and Private sector.
2. PURPOSE:
Federal Regulation, sample output.
Forest issue related.

3. MONITORING METHOD:

Recreation Information Management Report, Visitor Use Report, (based on District Ranger estimates and on actual count of tickets sold or other counts by private sector operators).

4. FREQUENCY:

Annual

5. EXPECTED PRECISION/RELIABILITY:

RIM level 5 for all sites except developed sites in private sector (ski areas, campgrounds, etc.) level 3.

6. TIME FOR REPORTING:

Years, 3, 6, and 9.

7. COST:

\$150 each report for heavy use Districts, \$25 each report for light use Districts. Total annual cost (includes reports) is \$800.

8. EVALUATION:

Compare actual use to projected use. Average actual use for each 3 year reporting period. If actual use is under by 10% or is over by 30%, the ID Team will evaluate and make recommendations to management.

RECREATION 3

1. ITEM MONITORED:

Recreation use satisfaction.

2. PURPOSE:

Federal regulation, sample output.
Forest issue related.

3. MONITORING METHOD:

On the ground interviews with recreation users. Twenty sites for one day each.

4. FREQUENCY:

Annual

5. EXPECTED PRECISION/RELIABILITY:

+ 20%/+ 30%

6. TIME FOR REPORTING:

Years 1, 5, and 8.

7. COST:

Total annual cost (including reports) is \$2000.

8. EVALUATION:

Compare user perception with projected use and satisfaction. If 30% or more of responses are below satisfaction level anticipated, evaluate.

RECREATION 4

1. ITEM MONITORED:
Condition of developed sites in the public sector.
2. PURPOSE:
Forest issue related and a measure of prescriptions and effects.
3. EXPECTED FUTURE CONDITION:
Satisfaction for developed recreation use will be below demand. Less than full service management will result in some site deterioration, loss in investment due to heavy use, and deferred maintenance.
4. MONITORING METHOD:
Recreation Information Management (RIM) Report, Facility Condition Inventory, (based on District Staff examination of each site and each facility using professional or technical opinion).
5. FREQUENCY:
Annual
6. EXPECTED PRECISION/RELIABILITY:
Precision of monitoring is acceptable if done by experienced personnel. Precision and reliability should be + 10/+ 10%.
7. TIME FOR REPORTING:
Years 4 and 9.
8. COST:
Total annual cost (including reports) is \$1,700.
9. EVALUATION:
During fourth and ninth year, if less than 80% of the facilities forestwide are within RIM Condition Classes I or II, the ID Team will evaluate and make recommendations to management.

WILDERNESS I

1. ITEM MONITORED:
Wilderness use by Wilderness Opportunity Spectrum Class.
2. PURPOSE:
Federal Regulation, measure prescriptions and effects. Forest issue related.
3. MONITORING METHOD:
Recreation Information Management Report, Visitor Use Report, (based on District Ranger estimates).
4. FREQUENCY:
Annual
5. EXPECTED PRECISION/RELIABILITY:
+ 20%/+ 20%
6. TIME FOR REPORTING:
Years 3, 6, and 9.

7. COST:

\$200 per report (years 3, 6, and 9).

8. EVALUATION:

Compare actual use record for a 5 year time period to projected use for each wilderness. If use exceeds 30% of total projected use, ID Team will evaluate and Plan modification may be necessary.

VISUAL QUALITY

1. ITEM MONITORED:

The effect of management activities on acres of visual quality objectives.

2. PURPOSE:

Federal Regulations, measure prescriptions and effects.

3. MONITORING METHOD:

The Visual Resource Management System will be used as a basis of the monitoring activity.

4. FREQUENCY:

Years 4 and 9.

5. EXPECTED PRECISION/RELIABILITY:

+ 10%/+ 10%

6. TIME FOR REPORTING:

Years 4 and 9.

7. COST:

\$200 each report.

8. EVALUATION:

If visual quality objectives acres in Retention or Partial Retention is reduced 20%, the ID Team will evaluate and make recommendations to management.

WILDLIFE

1. ITEM MONITORED:

A. Population and habitat trends of management indicator species.

2. PURPOSE:

- A. Federal and State Regulations.
- B. Forest issue related.

3. MONITORING METHOD:

- A. White-tailed deer - sex and age (NMGF, AGF using aerial, horse, and foot transects). Also hunter kill information.
- B. Mearns's quail - Population trend data from hunter wing barrel returns.
- C. Pronghorn - Sex and age ratios (AGF using aerial, horse and foot transects). Also hunter kill information.
- D. Merriam's turkey - hunter kill information.
- E. Coppery-tailed trogon - sex and age ratios (Private cooperators and wildlife biologist using foot transects).
- F. Gila topminnow - Number of miles of occupied habitat (USFWS, AGF using foot transects.)

- G. Black bear - Recording sign, hunter kill information, depredation reports, and campground problems.
- H. Human effects on desert bighorn sheep - radio collar tracking (AGF); vegetation use (University of Arizona); population trend (AGF).
- I. Other indicator species groups and threatened and endangered species. Measurements of appropriate habitat components.

4. FREQUENCY:

Annually

5. EXPECTED PRECISION/RELIABILITY:

- A. Birds - $\pm 10\%$ / $\pm 80\%$
- B. Other Game and Fish Data - Variable by species.

6. TIME FOR REPORTING:

Annually

7. COST:

- A. White-tailed deer - \$400 annually
- B. Mearn's quail - \$40 annually
- C. Pronghorn - \$160 annually
- D. Merriam's turkey - \$80 annually
- E. Coppery-tailed trogon - \$100 annually
- F. Gila topminnow - \$160 annually
- G. Black bear - \$200 annually
- H. Human effects on Bighorn sheep - \$200 annually
- I. Other indicator species groups and threatened and endangered species - \$11,250 annually for first 5 years, then \$11,250 once every 10 years thereafter.

8. EVALUATION:

The monitoring system includes Forest Service costs of management, analysis, and interpretation of the data obtained from monitoring. The proposal has an integrated system involving three levels of monitoring: (1) Species-only (those management indicator species as required by law); (2) management guilds (guilds of birds in habitats especially vulnerable to change through human activities); and (3) habitats (most wildlife species would be monitored by inference from trends in habitats, based on knowledge of each species' habitat requirements).

It should be realized monitoring of wildlife resources on such a scale as proposed is at best tentative and exploratory. State-of-the art knowledge indicates it is a suitable system at the present time, but it must be noted that modifications may be needed within the planning period to better indicate the effects of National Forest management activities on the Coronado's wildlife resources.

Costs shown are Forest Service costs only. They reflect two needs: (1) State and responsible federal agencies would monitor species population within their authority. Costs given are for coordination by the Forest with these agencies. (2) Needed research represents the bulk of costs noted. Evaluation of these needs could be used for base data displays such as integrated stand management, habitat suitability index and wildlife and fish habitat relationships.

RANGE 1

1. ITEM MONITORED:

Action is being taken to bring unsatisfactory ranges to satisfactory condition.

2. PURPOSE:

Federal regulation.
Forest issue related.

3. MONITORING METHOD:
Grazing Statistical Report as updated from allotment analysis data.
4. FREQUENCY:
Annual
5. EXPECTED PRECISION/RELIABILITY:
 $\pm 10\%/\pm 25\%$
6. TIME FOR REPORTING
10 years
7. COST:
\$100 per report (year 10)
8. EVALUATION:
If the number of acres in satisfactory condition is not within $\pm 20\%$ of the predicted level, an evaluation will be made by the ID Team.

RANGE 2

1. ITEM MONITORED:
Range condition and trend
2. PURPOSE:
Forest issue related.
3. MONITORING METHOD:
Range Analysis conducted per R-3 standards (FSH 2209.21) by qualified Range Conservationists.
4. FREQUENCY:
5% of allotments annually.
5. EXPECTED PRECISION/RELIABILITY:
 $\pm 20\%/\pm 20\%$
6. TIME FOR REPORTING
Annual
7. COST:
\$100 per report
8. EVALUATION:
If the number of acres in satisfactory condition and upward or stable trend is not within $\pm 20\%$ of that scheduled, the ID Team will evaluate.

RANGE 3

1. ITEM MONITORED:
New or revised range management plans.
2. PURPOSE:
Forest issue related.

3. MONITORING METHOD:

PAMARS

4. FREQUENCY:

Annual

5. EXPECTED PRECISION/RELIABILITY:

$\pm 5\%/\pm 5\%$

6. TIME FOR REPORTING

Annual

7. COST:

\$50 per report

8. EVALUATION:

If the number of updated plans is 10% below the projected level, the Forest ID Team will evaluate.

RANGE 4

1. ITEM MONITORED:

Range development

2. PURPOSE:

Federal regulation, sample prescription and effects.
Forest issue related.

3. MONITORING METHOD:

Data on completed range improvements (fences, waters, revegetation, etc.) can be tracked through the existing PAMARS system and the annual grazing statistical report.

4. FREQUENCY:

Annual

5. EXPECTED RELIABILITY:

$\pm 10\%$

6. TIME FOR REPORTING

Every 5 years (years 5 and 10)

7. COST:

\$100 per report (years 5 and 10)

8. EVALUATION:

Evaluate every 5 years. Accomplishment of 75% or less of planned improvements will require evaluation the the ID Team.

RANGE 5

1. ITEM MONITORED:

Permitted use

2. PURPOSE:
Federal regulation, sample output.
Forest issue related.
3. MONITORING METHOD:
Data generated from grazing permits and displayed in Grazing Statistical Report.
4. FREQUENCY:
Annual
5. EXPECTED RELIABILITY:
 $\pm 5\% / \pm 5\%$
6. TIME FOR REPORTING
Annual
7. COST:
\$100 per report
8. EVALUATION:
Evaluate annually. Evaluate by ID Team if permitted use varies $\pm 10\%$ from the predictions.

RANGE 6

1. ITEM MONITORED:
Grazing capacity
2. PURPOSE:
Federal regulation, sample output.
Forest issue related.
3. MONITORING METHOD:
Annual grazing statistical report, which is updated with new analysis data.
4. FREQUENCY:
Annual
5. EXPECTED RELIABILITY:
 $\pm 5\% / \pm 20\%$
6. TIME FOR REPORTING
Annual
7. COST:
\$100 per report
8. EVALUATION:
Evaluate annually to determine rate in meeting expected capacity. Evaluate by the ID Team if 20% below anticipated capacity.

SOIL AND WATER

1. ITEM MONITORED:

Productivity and hydrologic functioning of the land as represented by watershed condition ratings.

2. PURPOSE:

Federal regulation, measured effects

3. MONITORING METHOD:

Sampling of percent ground cover as specified in Terrestrial Ecosystem Note 23. Samples will be taken randomly within the forest. Each point sampled can fall into one of two classes (a) unsatisfactory watershed condition or (b) satisfactory or better watershed condition.

4. FREQUENCY:

Once per period (decade) over 6th and 7th year of the period.

5. EXPECTED RELIABILITY:

$\pm 15\%$ / $\pm 15\%$

6. TIME FOR REPORTING

At the end of the 7th year of each period.

7. COST:

\$5,000 in the 6th and 7th year of the period.

8. EVALUATION:

Improvement in trend must be within 50% of predicted change by the end of the first decade. Variance will require evaluation by the ID Team and recommendations to management.

RIPARIAN

1. ITEM MONITORED:

Condition of riparian areas.

2. PURPOSE:

Forest issue related.

3. MONITORING METHOD:

Establish forest record to maintain inventory of riparian acres treated by direct means such as planting, fencing and indirect means such as range management plans, roads closed, campsites closed, etc.

4. FREQUENCY:

Annual

5. EXPECTED PRECISION/RELIABILITY:

$\pm 20\%$ / $\pm 10\%$

6. TIME FOR REPORTING

Annual

7. COST:

\$300 in the eighth year of the decade.

8. EVALUATION:
Departure of 20% from the planned level of treatment will require evaluation by the ID Team.

PROTECTION 1

1. ITEM MONITORED:
Fire suppression effectiveness.
2. PURPOSE:
Federal regulation, measure prescription and effects.
3. MONITORING METHOD:
A. Periodic inspections and reviews by specialists to determine if fire control organization is effective in controlling fire losses within acceptable limits.
B. Fire reviews of selected fires.
4. FREQUENCY:
Periodic as needed.
5. EXPECTED RELIABILITY:
Visual observation $\pm 40\%$
6. TIME FOR REPORTING:
Fifth year
7. COST:
\$100 in the fifth year of the decade.
8. EVALUATION:
Periodic evaluation will be made to determine if the fire suppression organization is insuring compliance with a minimum of 80% of standards and guidelines are applied on 90% of fires.

PROTECTION 2

1. ITEM MONITORED:
Determine that destructive insects and disease organisms do not increase to potentially damaging levels following management activities.
2. PURPOSE:
Federal regulation
3. MONITORING METHOD:
A. Periodic aerial surveys
B. Ground checks by qualified personnel.
4. FREQUENCY:
As needed from; (1) yearly aerial flights, (2) ground checks on an opportunity basis.
5. EXPECTED RELIABILITY:
 $\pm 40\% \pm 30\%$

6. TIME FOR REPORTING:

Annual

7. COST:

\$200 annually

8. EVALUATION:

Data will be evaluated to determine if the buildup results from a management practice. If the buildup occurs, an evaluation of significance will be made by the ID Team. If potentially damaging, the ID Team will modify management prescriptions.

PROTECTION 3

1. ITEM MONITORED:

Visibility of Class 1 area wilderness - (Portions of Galiuro and Chiricahua wilderness areas existing prior to Arizona Wilderness Act.)

2. PURPOSE:

Baseline condition of visibility and determine degradation for Class I area.

3. MONITORING METHOD:

Automated camera system and additional particulate sampling.

4. FREQUENCY:

Pictures taken 3 times daily. Particulate data collected on opportunity basis.

5. EXPECTED RELIABILITY:

± 10%

6. TIME FOR REPORTING:

Annually

7. COST:

\$4,000 in first year for equipment and monitoring.
\$2,000 annually for years 2-10.

8. EVALUATION:

If form, line, texture, and color of characteristic landscape is not clearly distinguishable from middle ground, the ID team will evaluate and make recommendation to management.

TIMBER AND
FUELWOOD 1

1. ITEM MONITORED:

Insure acres are treated according to the management prescription.

2. PURPOSE:

Federal regulation; measure prescriptions and effects.

3. MONITORING METHOD:

Timber Management Information system; Staff field reviews of 5% of treatment projects.

4. FREQUENCY:

Annual

5. EXPECTED RELIABILITY:

+ 10%

6. TIME FOR REPORTING:

Every 5 years (years 5 and 10)

7. COST:

\$100 each report (years 5 and 10)

8. EVALUATION:

Evaluation will be made if planned treatment varies + 25% from schedule at 5 year intervals.

TIMBER AND
FUELWOOD 2

1. ITEM MONITORED:

Cords of fuelwood made available.

2. PURPOSE:

Federal regulation, sample output, Forest related issue.

3. MONITORING METHOD:

Review annual total of timber sale reports, total fuelwood advertised but not sold, free use, and administrative or other use.

4. FREQUENCY:

Annual

5. EXPECTED RELIABILITY:

+ 20%

6. TIME FOR REPORTING:

Fifth year

7. COST:

\$200 for report in the fifth year.

8. EVALUATION:

Compare total cords made available to the projected output. If variation exceeds + 20%, the ID Team will evaluate.

TIMBER AND
FUELWOOD 3

1. ITEM MONITORED:

Review maximum size limits for harvest areas to determine whether such size limits should be continued.

2. PURPOSE:

Federal regulation.

3. MONITORING METHOD:

A sample of openings will be checked to see if reason may exist to change the size of stands. The ID Team will be the sampling team. Ten percent (10%) of openings created per year will be sampled.

4. FREQUENCY:

Every third year.

5. EXPECTED RELIABILITY:

$\pm 25\%$, $\pm 20\%$

6. TIME FOR REPORTING:

Years 3, 6, and 9.

7. COST:

\$200 per report (in years 3, 6, and 9).

8. EVALUATION:

Examine one project annually for changes in standard.

TIMBER AND
FUELWOOD 4

1. ITEM MONITORED:

Adequate restocking of timber harvest lands.

2. PURPOSE:

Federal regulation to insure restocking.

3. MONITORING METHOD:

Each timber sale area will be considered a population. To be considered adequately stocked 80% of the areas would have to have the prescribed number of trees. Samples will be taken randomly within each timber sale area using stand exams and reforestation handbook procedures and enter results in stand record system.

4. FREQUENCY:

Once 2 years after final harvest and once the 4th year following harvest. If problems are indicated, more frequent samples will be made.

5. EXPECTED RELIABILITY:

$\pm 10\%$ / $\pm 10\%$

6. TIME FOR REPORTING:

Annual

7. COST:

\$200 annually

8. EVALUATION:

If samples indicate inadequate stocking, i.e., less than minimum stocking on 80% of the sampled areas, an evaluation by the ID Team will be made.

TIMBER AND
FUELWOOD 5

1. ITEM MONITORED:
Re-evaluation of Unsuitable Timber Lands.
2. PURPOSE:
Federal regulation
3. MONITORING METHOD:
 - A. Review new or update soil survey data.
 - B. Development of better technology for regeneration establishment.
 - C. Stand exams
 - D. Timber inventory results
4. FREQUENCY:
At time of Plan revision, 10th year.
5. EXPECTED RELIABILITY:
 $\pm 10\% / \pm 20\%$
6. TIME FOR REPORTING:
As part of revised Forest Plan or the tenth year of the decade.
7. COST:
\$1,000 in the year of evaluation.
8. EVALUATION:
The data monitored will be used as the basis for an evaluation to determine which lands are suited to timber production.

CULTURAL
RESOURCES

1. ITEM MONITORED:
Avoidance of damage to or loss of cultural resources through ground-disturbing activities.
2. PURPOSE:
Protection of cultural resources
3. MONITORING METHOD:
Field inspection
4. FREQUENCY:
Under the direction of a professional cultural resources specialist, a sample of ground-disturbing projects will be monitored on an annual basis.
5. EXPECTED PRECISION/RELIABILITY:
Expect virtual precision and reliability on those projects monitored.
6. TIME FOR REPORTING:
Annually
7. COST:
Varies with project size, amount and degree of ground-disturbance, and density of cultural resources. Estimated annual cost is \$3,000.

CULTURAL
RESOURCES 2

8. EVALUATION:

If field inspections reveal the loss of or damage to significant cultural resources, an automatic review and assessment of pertinent Plan elements by relevant Forest line and staff personnel will be triggered.

1. ITEM MONITORED:

Loss of or damage to cultural resources through natural erosion or human vandalism.

2. PURPOSE:

Protection of cultural resources

3. MONITORING METHOD:

Field inspection

4. FREQUENCY:

Under the direction of a professional cultural resources specialist, a sample of significant cultural resources identified on the Forest will be monitored a minimum of once a year. Sites identified as sensitive will be monitored more frequently.

5. EXPECTED PRECISION/RELIABILITY:

This is an area of great subjectivity. Expected precision and reliability will vary on a case-by-case basis. It is a relatively simple task to see and document the advance of an erosional gully toward an archaeological site. It is much more difficult to accurately estimate the loss of or damage to cultural resources by natural or human agents.

6. TIME FOR REPORTING:

Annually

7. COST:

Hard to estimate because much of the observation and documentation will be accomplished during the performance of other duties and tasks, both by professional cultural resource specialists and by District personnel. Annual report will cost an estimated \$1,000. That cost will increase as additional cultural resources are identified during the Plan period.

8. EVALUATION:

If field inspections reveal the loss of or damage to significant cultural resources, an automatic review and assessment of pertinent Plan elements by relevant Forest line and staff personnel will be triggered.

COSTS 1

1. ITEM MONITORED:

Unit costs

2. PURPOSE:

Federal regulation

3. MONITORING METHOD:

Annual PAMARS reporting system

4. FREQUENCY:

At end of each fiscal year.

5. EXPECTED PRECISION/RELIABILITY:

+ 5%/+ 20%

6. TIME FOR REPORTING:

Annual at close of each fiscal year.

7. COST:

\$100 annually

8. EVALUATION:

If costs vary more than + 20%, an evaluation will be made.

COSTS 2

1. ITEM MONITORED:

Total annual budget.

2. PURPOSE:

Verify ability to implement Forest Plan.

3. MONITORING METHOD:

Annual PAMARS reporting system and Regional Forester's Program, Budgeting and Information System.

4. FREQUENCY:

At end of each fiscal year.

5. EXPECTED PRECISION/RELIABILITY:

+ 5%/+ 5%

6. TIME FOR REPORTING:

3rd, 6th, and 9th year.

7. COST:

\$100 per report

8. EVALUATION:

If budget varies more than - 10% or + 15% from an average annual over 3 years, an evaluation will be made by the ID Team and Plan modification may be necessary.

COSTS 3

1. ITEM MONITORED:

Budget by program component.

2. PURPOSE:

Verify ability to implement Forest Plan.

3. MONITORING METHOD:

Annual PAMARS reporting system and Regional Forester's Program, Budgeting and Information System.

4. FREQUENCY:

At end of each fiscal year.

5. EXPECTED PRECISION/RELIABILITY:

$\pm 5\%/\pm 5\%$

6. TIME FOR REPORTING:

3rd, 6th, and 9th year.

7. COST:

\$100 per report

8. EVALUATION:

If budget varies more than - 10% or + 15% from an average annual over 3 years, an evaluation will be made by the ID Team and Plan modification may be necessary.

STANDARDS AND
GUIDELINES

1. ITEM MONITORED:

Plan implementation.

2. PURPOSE:

Federal regulation.

3. MONITORING METHOD:

Review District General Management Reviews, Program Reviews and Activity Reviews and public comments.

4. FREQUENCY:

Every four years

5. EXPECTED PRECISION/RELIABILITY:

$\pm 10\%/\pm 15\%$

6. TIME FOR REPORTING:

4th and 8th year

7. COST:

\$300 per report

8. EVALUATION:

If specific monitoring items in this Monitoring Plan do not meet established evaluation criteria, the ID Team will evaluate and Forest Plan modification may be necessary.

If standards and guidelines not specifically monitored in the Monitoring Plan are not accomplished to the level of acceptance as recommended by the ID Team and established by the Forest Supervisor, the Forest Plan will be evaluated and modification may be necessary.

OUTPUTS

1. ITEM MONITORED:

Management attainment report items.

2. PURPOSE:

Verify achievement of output targets.

3. MONITORING METHOD:

Management Attainment Report

4. FREQUENCY:

Once per year.

5. EXPECTED PRECISION/RELIABILITY:

$\pm 5\%/\pm 5\%$

6. TIME FOR REPORTING:

End of fiscal year.

7. COST:

\$100 per year

8. EVALUATION:

If outputs fall outside the scheduled range of implementation, an evaluation will be made by the ID Team and Plan modification may be necessary.



APPENDIX

A - Definition of Capability Area Types

Summary of Capability Area (CA) Types

<u>CA Type Code</u>	<u>Vegetative Type</u>	<u>Land Form Modifier</u>
1 P	Southwestern Desertscrub	Plains
1 H/M	Southwestern Desertscrub	Hills and Mountains
1 M	Southwestern Desertscrub	Mountains
2 P	Desert Grassland	Plains
2 P/H	Desert Grassland	Plains and Hills
3 P	Plains Grassland	Plains
4 M	Mountain Grassland	Mountains
5 H	Chaparral	Hills
5 H/M	Chaparral	Hills and Mountains
6 P	Broadleaf Woodland	Plains
6 P/H	Broadleaf Woodland	Plains and Hills
6 H/M	Broadleaf Woodland	Hills and Mountains
6 M	Broadleaf Woodland	Mountains
6 P/S	Broadleaf Woodland	Plains Savannah
7 P	Coniferous Woodland	Plains
7 P/H	Coniferous Woodland	Plains and Hills
7 H/M	Coniferous Woodland	Hills and Mountains
7 M	Coniferous Woodland	Mountains
8 M	Deciduous Forest	Mountains
9 A H/M	Coniferous Forest Pine-Oak Juniper	Hills and Mountains
9 B H/M	Coniferous Forest Ponderosa Pine	Hills and Mountains
9 C H/M	Coniferous Forest Douglas Fir-Pine	Hills and Mountains
9 D H/M	Coniferous Forest Spruce-Fir	Hills and Mountains
10 R	Dry Desert Riparian	
11 AR	Wet Deciduous Riparian	
11 BR	Dry Oak Riparian	
12 R	Wet Coniferous Riparian	

NARRATIVE DESCRIPTION OF CAPABILITY AREA TYPES

The 1P terrestrial ecosystem is characterized by nearly level to moderately sloping alluvial fans and piedmont plains (sometimes severely dissected) at elevations of about 2,100 to 4,900 feet. Dominant slopes range from 1 to 15 percent. The climate is steppe (hot). Mean annual air temperature ranges from about 62° to 72° F. Mean annual precipitation ranges from about 8 to 11 inches which comes as gentle rains in winter and high intensity localized thunderstorms in summers. The dominant native vegetation is saguaro, palo verde, creosote bush, ocotillo, mesquite, catclaw, and brittle bush. The foothills and plains below the Catalina Mountains are a good example of 1P.

The 1H/M terrestrial ecosystem is characterized by moderately sloping to steep hills and rough mountain slopes at elevations of about 3,000 to 5,100 feet. Dominant slopes range from 25 to 40 percent. 1H/M is otherwise similar to 1P. The footslopes of the front range of the Catalina Mountains is typical of 1H/M.

The 1M terrestrial ecosystem is characterized by moderately steep to steep rough mountain slopes at elevations of about 3,000 to 5,500 feet. Dominant slopes are 40 to 60 percent. 1M is otherwise similar to 1P. The mountain slopes of the front range of the Catalina Mountains are typical of 1M.

The 2P terrestrial ecosystem is characterized by nearly level to moderately sloping alluvial fans and piedmont plains at elevations of about 3,500 to 5,500 feet. Dominant slopes range from 1 to 15 percent. The climate is steppe (hot). Mean annual air temperature ranges from about 59° to 70° F. Mean annual precipitations ranges from about 11 to 14 inches which comes as gentle rains in winter and high intensity localized thunderstorms in summer. The dominant native vegetation are grasses including, but not necessarily limited to, bush muhly, cane beardgrass, Texas bluestem, tobosa in limited areas, curly mesquite, black, sideoats, and hairy gramas. Incidental to major overstory amounts of mesquite also occur. The exotic Lehman's lovegrass also is common. The mesquite grassland type seen from I-19 between Tucson and Nogales is typical of 2P.

The 2P/H terrestrial ecosystem is characterized by a complex of gently sloping to moderately steep hills and valley plains at elevations of about 3,500 to 5,500 feet. Dominant slopes range from 5 to 40 percent. 2P/H is otherwise similar to 2P. A good example of 2P/H can be seen from I-19 between Tucson and Nogales.

The 3P terrestrial ecosystem is characterized by grassed level to moderately sloping alluvial fans, valley and piedmont plains, tableland, and interspersed moderately sloping low hills at elevations of about 5,000 to 5,500 feet. Dominant slopes range from 1 to 15 percent with hills ranging up to 25 percent. The climate is humid subtropical. Mean annual air temperature ranges from about 56° to 64° F. Mean annual precipitation ranges from about 14 to 18 inches which comes as gentle rains in winter and high intensity localized thunderstorms in summer. The dominant vegetation is plains lovegrass, curly mesquite, vine mesquite, cane beardgrass, and hairy sideoats, little bluestem, and blue grama. The exotic weeping lovegrass commonly occurs. The valley plains (the main drainage ways) may have an overstory of emory oak. The grassland of the San Rafael Valley is typical of 3P.

4M is characterized by level to gently sloping basins and valley plains at elevations above 7,500 feet. Dominant slopes range from 0 to 5 percent. The climate is temperate continental. Mean annual air temperature ranges from 45° to 50° F. Mean annual precipitation ranges from about 24 to 30 inches which comes as snow in winter and thunderstorms in the summer. The dominant native vegetation is wheatgrass species, long tongue muhly, deer grass, bullgrass, pine drop seed, june grass, and sedge species. The open meadow area just below Rustler Park in the Chiricahuas is a good example of 4M.

5H is characterized by moderately sloping to moderately steep hills at elevations of about 4,800 to 5,500 feet. Dominant slopes range from 15 to 40 percent. The climate is humid subtropical. The temperature ranges from 52° to 58° F. Mean annual precipitation ranges from about 16 to 21 inches which comes as gentle rains and some snow in winter, and high intensity localized thunderstorms in summer. The dominant native vegetation is mountain mahogany, desert ceanothus, manzanita, toumey, emory, silver leaf, and Arizona white oak and a scattering of Chihuahua, pinyon, and ponderosa pine. Turbinella oak may also be present. Much of the Santa Teresa Mountains have good examples of 5H.

5H/M is characterized by a complex of moderately sloping to steep hills and mountains at elevations of about 4,800 to 6,300 feet. Dominant slopes range from 25 to over 60 percent. 5H/M is otherwise similar to 5H. Much of the Santa Teresa Mountains are typical of 5H/M.

6P/S is characterized by nearly level to moderately steep sided tableland and piedmont plains at elevations of about 5,000 to 5,400 feet. Dominant slopes are 1 to 35 percent. The climate is humid subtropical. Mean annual air temperature ranges from 57° to 65° F. Mean annual precipitation ranges from about 14 to 18 inches which comes as low intensity rains in winter and high intensity localized thunderstorms in summer. The dominant native vegetation is characteristic of an oak savannah which is

NARRATIVE DESCRIPTION OF CAPABILITY AREA TYPES (Continued)

what 6P/S is. Tree canopy cover is less than 5 percent. Grasses include plains lovegrass, curly mesquite, vine mesquite, little bluestem, cane beardgrass, hairy sideoats, and blue grama. The area north of the Mexico border to the Canelo Hills and Huachuca Mountains are good examples of 6P/S.

6P is characterized by nearly level to moderately sloping alluvial fans and piedmont plains at elevations of about 4,800 to 5,400 feet. Dominant slopes range from 1 to 15 percent. The climate is humid subtropical. Mean annual air temperature ranges from about 52° to 58° F. Mean annual precipitation ranges from about 16 to 19 inches which comes as low intensity rains in winter and high intensity localized thunderstorms in summer. The dominant native vegetation is emory and Arizona white oak, alligator juniper, manzanita, and Juniperus Erythrocarpa. The flat wooded areas surrounding the San Rafael Valley is typical of 6P.

6P/H is characterized by a complex of gently sloping to moderately steep hills and piedmont plains at elevations of about 4,800 to 5,800 feet. Dominant slopes range from about 5 to 35 percent. 6P/H is otherwise similar to 6P. Much of the Canelo Hills area is representative of 6P/H.

6H/M is characterized by moderately sloping to moderately steep hills and mountains at elevations of about 4,800 to 6,300 feet. Dominant slopes are 25 to 40 percent. Good examples of 6H/M are found in any of the more mountainous oak types on the Coronado.

6M is characterized by moderately steep to steep mountains at elevations of about 5,000 to 6,300 feet. Dominant slopes are 40 to over 60 percent. Good examples of 6M are found in almost all of the Coronado's mountain ranges.

7P is characterized by nearly level to moderately sloping alluvial fans and piedmont plains at elevations of about 5,000 to 6,000 feet. Dominant slopes range from 1 to 15 percent. The climate is humid subtropical. Mean annual air temperature ranges from about 50° to 58° F. Mean annual precipitation ranges from about 17 to 22 inches which comes as gentle rains and snow in winter and high intensity localized thunderstorms in summer. The dominant native vegetation is pinyon pine (mostly Mexican), alligator juniper, Arizona white oak, emory oak, and may have some Chihuahua pine.

7P/H is characterized by a complex of gently sloping to moderately steep hills and valley plains at elevations of about 5,000 to 6,200 feet. Dominant slopes range from 5 to 40 percent. 7P/H is otherwise similar to 7P.

7H/M is characterized by moderately sloping to moderately steep hills and rough mountain slopes at elevations of about 5,500 to 7,000 feet. Dominant slopes range from 25 to 40 percent. 7H/M is otherwise similar to 7P.

7M is characterized by moderately steep to steep rough mountain slopes at elevations of about 6,000 to 7,000 feet. Dominant slopes are 40 to 60 percent. 7M is otherwise similar to 7P.

8M is characterized by moderately sloping to moderately steep or steeper canyons and mountain slopes at elevations of about 7,500 to 9,300 feet. Dominant slopes are 15 to 40 percent. The climate is temperate continental. Mean annual air temperature ranges from about 44° to 50° F. Mean annual precipitation ranges from about 26 to 32 inches which comes as gentle rains and perhaps heavy snows in winter and high intensity localized thunderstorms in summer. The dominant native vegetation is aspen, Rocky Mountain maple, box elder, ash, and New Mexican locust.

9AH/M is characterized by moderately sloping to moderately steep hills and rough mountain slopes at elevations of about 6,500 to 7,700 feet. Dominant slopes are 25 to 40 percent. The climate is on the border between humid subtropical and temperate continental. Mean annual air temperature ranges from about 49° to 55° F. Mean annual precipitation ranges from about 20 to 26 inches which comes as gentle rains and perhaps heavy snows in winter and high intensity localized thunderstorms in summer. The dominant native vegetation is a mix of manzanita, Arizona white oak, silver leaf oak, alligator juniper, pinyon pine (dominantly Mexican), Chihuahua pine, and ponderosa pine.

9BH/M is characterized by moderately sloping to very steep mountain slopes at elevations of about 7,000 to 9,000 feet. Dominant slopes are 25 to 80 percent. The climate is temperate continental. Mean annual air temperature ranges from about 45° to 52° F. Mean annual precipitation ranges from about 22 to 26 inches which comes mostly as snow in the winter and high intensity thunderstorms in summer. The dominant native vegetation is ponderosa pine, alligator juniper, some gambel oak, and madrone. Good examples of 9BH/M occur in the Pinaleno, Santa Catalina, Chiricahua, and Huachuca Mountains.

NARRATIVE DESCRIPTION OF CAPABILITY AREA TYPES (Continued)

9CH/M is characterized by moderately sloping to very steep mountain slopes at elevations of about 6,800 to 9,000 feet. Dominant slopes are 25 to 80 percent. The climate is temperate continental. Mean annual air temperature ranges from about 45° to 50° F. Mean annual precipitation ranges from about 28 to 32 inches which comes as snow in the winter and high intensity thunderstorms in summer. The dominant native vegetation is Douglas fir and ponderosa pine. Good examples of this type occur in the Chiricahua, Huachuca, Pinaleno, and Santa Catalina Mountains.

9DH/M is characterized by moderately sloping to moderately steep mountain slopes at elevations of about 8,000 to 9,800 feet. Dominant slopes are 15 to 40 percent. The climate is boreal. Mean annual air temperature ranges from about 38° to 44° F. Mean annual precipitation ranges from about 30 to 35 inches which comes in winter as heavy snows and high intensity thunderstorms in summer. The dominant native vegetation is white fir, Douglas fir, scattered aspen, and in a few areas, high densities of Engelmann spruce and corkbark fir. Good examples of this type occur at the top of the Chiricahua, Santa Catalina, and Pinaleno Mountains.

10R is characterized by nearly level to gently sloping intermittent streams at elevations of about 4,300 to 4,800 feet. Dominant slopes are 0 to 5 percent. The climate is steppe (hot). Mean annual air temperature ranges from about 66° to 72° F. Mean annual precipitation ranges from about 8 to 10 inches which comes from gentle rains in winter and high intensity localized thunderstorms in summer. Because of its position, significantly larger amounts of moisture are available. 10R is a riparian zone whose native vegetation includes mesquite, desert and seep willow, and desert broom. Gardner Canyon or the lower part of Cave Creek near Portal (off the Forest) is a good example of 10R.

11AR is characterized by nearly level to gently sloping intermittent streams at elevations of about 4,800 to 5,600 feet. Dominant slopes are 0 to 5 percent. The climate is steppe (hot). Mean annual air temperature ranges from about 56° to 64° F. Mean annual precipitation ranges from about 12 to 16 inches which comes from gentle rains in winter and high intensity localized thunderstorms in summer. Because of its position, significantly larger amounts of moisture are available. 11AR is a riparian zone whose native vegetation includes Fremont cottonwood, Arizona sycamore, a few emory oak and Arizona walnut, wolfberry, and Texas mulberry. Cave Creek, just south of Portal, is a good example of 11AR.

11BR is characterized by nearly level to gently sloping intermittent streams at elevations of about 4,600 to 5,600 feet. Dominant slopes are 0 to 5 percent. The climate is humid subtropical. Mean annual air temperature ranges from about 54° to 58° F. Mean annual precipitation ranges from about 16 to 19 inches which comes as gentle rains in winter and high intensity localized thunderstorms in summer. Because of its position, significantly larger amounts of moisture are available. 11BR is a riparian zone whose native vegetation is primarily large diameter emory oak, Arizona walnut, and alligator juniper. 11BR, especially on the Douglas District, is an extremely good fuelwood area.

12R is characterized by nearly level to gently to moderately sloping perennial, and frequently flowing intermittent streams at elevations of about 5,000 to 7,200 feet. Dominant slopes are 0 to 10 percent. The climate is humid subtropical to temperate continental. Mean annual air temperature ranges from about 46° to 52° F. Mean annual precipitation ranges from about 18 to 24 inches which comes as gentle rains and some snow in winter and high intensity localized thunderstorms in summer. Because of its position, significantly larger amounts of moisture are available. 12R is a riparian zone whose native vegetation primarily includes Arizona cypress, pinyon pine, apache pine, Chihuahua pine, ponderosa pine, Arizona white oak, Douglas fir, Arizona sycamore, silverleaf oak, aspen, emory oak, and Rocky Mountain maple. The South Fork of Cave Creek is a good example of 12R.

B - Definition of Management Practices and Activities

Practices

DU-1 Dispersed recreation operation, administration, and maintenance.
DU-2 Visual resource inventory and planning.
DU-3 Cultural resource management.
DU-4 Non-wilderness trail construction or reconstruction.
DU-5 Developed recreation operation, administration, and maintenance.
DU-6 Recreation site construction.
DU-8 Wilderness management.
DU-9 Wilderness trail construction or reconstruction.
DU-10 Wildlife and fish plans and management.
DU-11 Wildlife habitat maintenance.
DU-12 Threatened and endangered plant habitat improvement.
DU-13 Fish habitat improvement.
DU-14 Game habitat improvement.
DU-15 Non-game habitat improvement.
DU-16 Range management operation, maintenance, and protection.
DU-17 & 18 Range improvement.
DU-19 Timber sale preparation.
DU-21 Timber sale administration.
DU-32 Timber management and plans.
DU-33 Water resource improvement.
DU-34 Water resource operation, maintenance, and protection.
DU-36 Management of mining activities.
DU-38 All human resource programs.
DU-39 Land classification.
DU-40 Land management planning.
DU-41 Special uses management (non-recreation).
DU-42 Lands administration.
DU-43 Land line location.
DU-44 Rights-of-Way.
DU-45 Soil resource improvements.
DU-46 Soils management operation, maintenance, and protection.
DU-47 Transportation system planning.
DU-48 Road maintenance for arterial and collector roads.
DU-49 Trail construction and reconstruction.
DU-50 Trail system management.
DU-51 Road construction.
DU-52 Fire, administration, and operation facility construction.
DU-53 Fire aviation and other facility maintenance.
DU-54 Dam administration and management.
DU-55 General administration.
DU-56 Fire, aviation, air quality management, and fuel management.
DU-57 Fuel treatment and maintenance.
DU-58 Cooperative search, rescue, and law enforcement.
DU-60 Timber stand improvement from KV funds.
DU-61 Wildlife habitat improvement from KV funds.

Activities

A01 Recreation planning and inventory.
A02 Cultural resource management.
A03 Visual resource inventory and planning.
A05 Recreation site construction.
A06 Recreation site rehabilitation.
A07 Visitor information services planning.
A08 Visitor information services--full service management.
A09 Visitor information services--reduced service management.
A11 Developed recreation sites--full service management.
A13 Developed recreation sites--reduced service management.
A14 Dispersed recreation--full service management.
A15 Dispersed recreation--reduced service management.
A16 Recreation management--private and other public sector.
B01 Wilderness planning and inventory.
B02 Wilderness area--standard service management.
B03 Wilderness area--less than standard service management.

B - Definition of Management Practices and Activities (Continued)

Activities

CO1 Fish and wildlife prescriptions.
CO2 Wildlife surveys and coordination.
CO3 Non-structural wildlife habitat improvement.
CO4 Non-structural fish habitat improvement.
CO5 Non-structural threatened or endangered plant habitat improvement.
CO6 Structural wildlife habitat improvement.
CO7 Structural fish habitat improvement.
CO8 Structural threatened or endangered plant habitat improvement.
CO9 Wildlife habitat maintenance.
C10 Fish habitat maintenance.
C11 Threatened and endangered plant habitat maintenance.
C12 Wildlife and fish cooperation with other agencies and groups.
DO1 Range resource planning and inventory.
DO2 Range resource management.
DO3 Range forage improvement.
DO4 Range forage improvement maintenance.
DO5 Range structural improvements.
DO6 Maintenance of range structural improvements.
EO0 Timber resource management planning and inventory.
EO5 Timber stand improvement.
EO6 Timber sale preparation.
RO7 Timber harvest administration.
FO1 Water resource planning.
FO2 Water resource inventory.
FO3 Water resource monitoring.
FO4 Water uses management.
FO5 Water resource improvement.
FO6 Water resource improvement maintenance.
GO1 Mining law compliance and administration.
GO2 Minerals management - oil and gas.
GO4 Minerals management - geothermal.
GO5 Minerals management - uranium.
GO6 Minerals management - non-energy.
GO7 Minerals management - common minerals material.
HO2 Youth conservation corps program.
HO3 Young adult conservation corps program.
HO4 Senior community service employment program.
HO6 Volunteers in the National Forests.
HO7 Other human resource programs.
JO1 Special use management (non-recreation).
JO4 Withdrawals, modifications, and revocations.
JO5 Land status maintenance.
JO6 Property boundary location.
JO7 Property boundary and corner maintenance.
J10 Encroachment.
J11 Land ownership planning.
J12 Land adjustment planning.
J13 Land exchange.
J15 Land acquisition.
J18 Rights-of-Way acquisition.
J22 Forest land and resource planning.
KO1 Soil resource inventory.
KO3 Soil resource planning.
KO4 Soil monitoring.
KO5 Soil resource improvement.
KO6 Soil resource improvement maintenance.
LO1 Transportation system planning and inventory.
LO5 Arterial road reconstruction.
LO9 Collector road reconstruction.
L10 Local road preconstruction.
L11 Local road construction engineering.

B - Definition of Management Practices and Activities (Continued)

Activities

L12 Local road construction.
L13 Local road reconstruction.
L19 Road maintenance.
L20 Trail inventory and planning.
L21 Trail preconstruction.
L22 Trail construction and reconstruction.
L23 Trail system management.
L24 Fire, aviation, and other construction and reconstruction.
L25 Fire, aviation and other facility maintenance.
L28 Dam administration and management.
P01 Fire management planning and analysis.
P02 Fire prevention.
P03 Fire detection.
P04 Initial attack forces.
P07 Forest fire support and facilitating services.
P08 Initial attack fire suppression action.
P09 Escaped fire suppression.
P10 Fuel management inventory.
P11 Treatment of activity fuels.
P12 Treatment of natural fuels.
P14 Fuel treatment area maintenance.
P15 Vegetation treated by burning.
P16 Air resource management.
P17 Air quality and visibility coordination.
P19 Aerial transportation of personnel.
P20 Aerial transportation of goods.
P21 Aerial application of materials.
P22 Aerial platform.
P24 Law enforcement.
P25 Cooperative law enforcement.
P27 Cooperative search and rescue.
P34 Insect and disease management - surveys and technical assistance.
P35 Insect and disease management - suppression.
P36 Insect and disease management plan inputs.
T02 General administration.
254 Administration of water uses.
255 Water uses inventory.
478 Commercial non-convertible products sale and administration.
479 Free-use and administrative free-use administration.
552 Order 3 soil inventory.
553 Order 4 soil inventory.
908 Forest plan implementation.

C - Definition of Range Resource Management Levels

Table C-1 Standards and Guidelines for Range Management Levels

	(1)	(2)	(3)	(4)	(5)	(6)
Management Intensity Level	Range Analysis, Production Utilization Studies, Condition & Trend Clusters Interval	Update Allotment Management Plans	Grazing System $\frac{1}{2}$	Allotment Inspection Frequency and Intensity	Level of Structural Improvements (DO5) Needed to Implement and Maintain Management Systems	Non-structural Improvements (DO3) Implemented to Improve and/or Maintain Range Forage Production
Level A No Livestock Grazing						
Level B Some Livestock Grazing	Interval will be dictated by needs of other resource elements.	Every 10 years	Will obtain relatively uniform distribution at the 25% use level over 60% of the Full Capacity Range	8 Years Extensive	Limited improvements, boundary fences, low-cost water developments. Only those improvements needed to meet prescriptions objectives.	Not implemented at this level
Level C Extensive Livestock Management	25 years	Once established, update at 5 year intervals.	Will obtain relatively uniform distribution at the 30-35% use level over 90% of the Full Capacity Range.	5 years Extensive	Additional interior fencing, permanent waters.	Normally not implemented at this level. May include some seeding of fuel-wood areas. Minor vegetation control without seeding.
Level D Intensive Livestock Management	25 years	Update as needed, but at least every 5 years.	Will obtain relatively uniform distribution at 35-55% use level over 100% of the Full Capacity Range. Apply intensive management systems.	3-4 years Intensive	Higher density, water developments, and interior fencing.	(See following page).

1/ On management systems which provide for a high percentage of rest or winter-only grazing, the use level may exceed these guidelines.

Table C-2 Targeted Species for Control and Methods (Level D Management) ^{1/}

<u>CA Type</u>	<u>Mechanical</u>	<u>Chemical</u>	<u>Prescribed Fire</u>	<u>Fuelwood Sales</u>
1 P		Amole, Catclaw, Burroweed, Mesquite, Snakeweed	Amole	
1 HM		Amole	Amole	
1 M				
2 P	Mesquite	Amole, Catclaw, Burroweed, Mesquite, Snakeweed	Amole	Mesquite
2 P/H	Mesquite	Amole, Catclaw, Burroweed, Mesquite, Snakeweed	Amole	Mesquite
3 P	Ripping, Seeding	Catclaw, Senecio	Catclaw	
4 M				
5 H	Aerial Seeding	Oak, Pinyon, Manzanita, Juniper	Oak, Pinyon, Manzanita, Juniper	Pinyon, Oak, Juniper
5 H/M		Oak, Pinyon, Manzanita, Juniper	Oak, Pinyon, Manzanita, Juniper	Oak, Pinyon, Juniper
6 P/S	Manzanita Ripping, Seeding	Catclaw, Manzanita Senecio	Catclaw, Manzanita Senecio	Manzanita
6 P	Seeding, Ripping	Catclaw, Senecio Oak, Juniper	Catclaw, Senecio	Oak, Juniper
6 P/H	Seeding, Ripping	Catclaw, Senecio Oak, Juniper	Catclaw, Senecio	Oak, Juniper
6 H/M	Aerial Seeding	Oak, Juniper		Oak, Juniper
6 M				
7 P	Pinyon, Juniper, Oak, Seeding	Pinyon, Juniper, Oak	Pinyon	Pinyon, Juniper, Oak
7 P/H	Pinyon, Juniper, Oak, Seeding	Pinyon, Juniper, Oak	Pinyon	Pinyon, Juniper, Oak
7 H/M	Aerial Seeding	Pinyon, Juniper, Oak	Pinyon, Juniper, Oak	Pinyon, Juniper, Oak
7 M				
8 M				
9A H/M				Juniper, Oak
9B H/M				Juniper, Oak
9C H/M				
9D H/M				

Table C-2 Targeted Species for Control and Methods (Level D Management) ^{1/} (Continued)

<u>CA Type</u>	<u>Mechanical</u>	<u>Chemical</u>	<u>Prescribed Fire</u>	<u>Fuelwood Sales</u>
10 R				Mesquite
11A R				Oak
11B R				Oak, Juniper
12 R				

^{1/} Table C-2 is a decision matrix for specific species by individual management areas. The table shows which management practices are effective for the various species. Where more than one practice can be used, the decision will be based on the latest literature and cost effectiveness of the project. Prescribed burning will be used where the literature shows that burning will be effective based on plant density and ground cover. Chemical control will be used on areas where burning is not effective or on species where burning promotes resprouting. Mesquite, pinyon, juniper, and oak will be offered as fuelwood before other treatments are considered when the material is of sufficient size for fuelwood. This list may not be all inclusive. Other plant species and control techniques will be proposed as technology progresses.

D - Watershed Maintenance and Improvement Activities

Activities

Capabilities 1/
as set by
Terrestrial
Ecosystem
Survey
Note: 2559-23

Channel Work
(includes debris
clearing and
structures)

Brush
Crushing

Contour Structures
Earth Structures; Felled
such as dikes, trees
trenches, etc.

Revegetation
(Seeding/planting)

Shaping

Ripping

Capability
Type

Management Areas

1P			9,14	3,4		3,4,9,14	3
1HM			9,14			3,4,9,14	3
1M			1,3,9			1,3,9	8
2P			9	3,4		3,4,9	3
2PH			9	3,4		3,4,9	6
3P		3,4	3,4,9	3,4		3,4,9,14	3
4M	2		2,3B,9	2,3B		2,3B,9	5
5H			3,4,9		3,4	3,4,9	6
5HM			3,4,9,14			3,4,9,14	3
6P	3,4	3,4	3,4,9,14	3,4	3,4	3,4,9,14	6
6PH	3,4		3,4,9,14	3,4	3,4	3,4,9,14	6
6HM			3,4,9,14			3,4,9,14	7
6M			1,3,9,14			1,3,9,14	7

D - Watershed Maintenance and Improvement Activities Applicable to Management Areas (Continued)

Capability Type	Activities							Channel Work (includes debris clearing and structures)	Priorities as set by Terrestrial Ecosystem Survey Note: 2559-23
	Ripping	Shaping	Revegetation (Seeding/planting)	Earth Structures; such as dikes, trenches, etc.	Contour Structures; Felled trees	Brush Crushing			
6PS	3.4	3.4	3.4, 9.14	3.4			3.4, 9.14	3	
7P		3.4	3.4, 9.14	3.4			3.4, 9.14	6	
7PH			3.4, 9.14	3.4			3.4, 9.14	3	
7HM			3.4, 9.14				3.4, 9.14	6	
7M			1.3.9				1.3.9	6	
8M			1.3.7A.9	1.3.7A			1.3.7A.9	6	
9AHM			2.3.3B.4, 7A.9	1.2.3.3B.4			2.3.3B.4, 7A.9	3	
9BHM			2.3.3B.4, 7A.9, 14	1.2.3.3B.4			2.3.3B.4, 7A.9, 14	7	
9CHM			2.3.3B.4, 7A.9	1.2.3.3B.4			2.3.3B.4, 7A.9	6	
9DHM			2.3B	1.2.3B			2.3B	7	
10R, 11AR			3.3B.4, 7B.7A				3.3B.4, 7B.7A		
11BR, 12R			14				14		

Management Areas

Footnote:

1/ Priorities do not consider all sociological, political or ecological conditions, and therefore are subject to change.

E - DEFINITION OF ROAD AND TRAIL MAINTENANCE STANDARDS

ROAD MAINTENANCE STANDARDS

Level 1 - This level is assigned to intermittent service roads during the time management direction requires that the road be closed or otherwise blocked to traffic. Basic custodial maintenance is performed to protect the road investment and to keep damage to adjacent resources to an acceptable level. Drainage facilities and runoff patterns are maintained.

Roads receiving Level 1 maintenance may be of any type, class, or construction standard and may be managed at any other maintenance level during the time management direction requires that they be open for traffic. However, while being maintained at Level 1, they are closed or blocked to traffic.

Level 2 - This level is assigned where management direction requires that the road be open for limited passage of traffic. Traffic is normally minor, usually consisting of one or a combination of administrative, permitted, dispersed recreation, or other specialized uses. Log haul may occur at this level.

Road in this maintenance level are normally characterized as single lane, primitive type facilities intended for use by high clearance vehicles. Passenger car traffic is not a consideration.

Level 3 - This level is assigned where management direction requires the road to be open and maintained for safe travel by a prudent driver in a passenger car. Traffic volumes are minor to moderate; however, user comfort and convenience is not considered a priority.

Roads at this maintenance level are normally characterized as low speed, single lane with turnouts and spot surfacing. Some roads may be fully surfaced with either native or processed material. The functional classification of these roads is normally local or minor collector.

Level 4 - This level is assigned where management direction requires the road to provide a moderate degree of user comfort and convenience at moderate travel speeds. Traffic volumes are normally sufficient to require a double lane aggregate surfaced road. Some roads may be single lane and some may be paved and/or dust abated. The functional classification of these roads is normally collector or minor arterial.

Level 5 - This level is assigned where management direction requires the road to provide a high degree of user comfort and convenience. These roads are normally double lane, paved facilities. Some may be aggregate surfaced and dust abated. Functional classification of these roads is normally arterial.

More specific information regarding each maintenance level is found in FSH 7709.15 and FSM 7700.

TRAIL MAINTENANCE STANDARDS

Trail Maintenance - Level 1

Trails maintained for primitive experience level. Custodial care only. No tread maintenance. Drainage functional and not likely to fail. Trail sides not brushed but tread is kept passable. Small slides may remain except for those with erosion potential. Structures maintained as needed. Signing may be deferred.

Trail Maintenance - Level 2

Trails maintained for near-primitive experience level. Tread maintained for public safety. Logs or similar rustic structures may be provided at stream crossings. Drainage same as Level 1. Signing at a minimum level commensurate with level of trail use.

Trail Maintenance - Level 3

Trails maintained for intermediate experience level. Tread maintained for public safety and user convenience. Drainage same as Level 1. Trailsides brushed out at handbook standards. Structures maintained to original design standards. Signing same as Level 2.

Trail Maintenance - Level 4

Trails maintained at relatively high standards to provide for public safety and convenience. Tread relatively smooth, firm and may require stabilization. Signing at high level, all other elements same as Level 3. These trails are generally maintained for family or senior citizen use.

TRAIL MAINTENANCE STANDARDS (Continued)

Trail Maintenance - Level 5

Trails maintained for high use and experienced levels, including special purposes such as interpretive trails, bicycle trails, trails to major vista points, trails for the handicapped, etc. Basic care same as Level 4 but patching of paved tread may be needed annually. Trail sides maintained to meet high visual quality standards by brushing and clean-up of debris beyond the trail limits. Vistas are maintained.

CRITERIA FOR DETERMINING APPROPRIATE TRAIL MAINTENANCE LEVEL

1. Type of use (e.g., foot, horses, vehicles or mix)
2. Amount of use.
3. Significance of trail. (e.g., major access route, leads to dead end, etc.)

F - BUILDING CONDITION CLASSES

There are no standard definitions for either building condition classes or for maintenance level standards for Forest Service buildings.

To describe the conditions of existing buildings in the Coronado National Forest Land Management Plan, it is necessary to define differing condition classes.

The condition classes, used to describe the buildings and structures listed in this plan, were basically derived from the facility condition classes listed in the Recreation Information Management Handbook. These classes have been modified somewhat and are listed below.

Condition 1, Satisfactory

Building is adequate to meet present and projected future needs. Annual maintenance needs are minimal and will not exceed 5% of replacement cost. Useful life exceeds 25 years.

Condition 2, Substandard

Building is adequate to meet present and projected future needs but may be substandard as to type and/or construction standards. Building is in a deteriorated condition. Annual maintenance needs exceed 5% of replacement cost but are less than 20% of replacement cost. Generally the useful life is less than 25 years.

Condition 3, Betterment

Building is deteriorated to the point that heavy maintenance is needed. Annual maintenance needs exceed 20% of replacement cost. Building may be inadequate to meet present or projected future needs. Building may require remodeling. Useful life cannot be extended beyond 25 years.

Condition 4, Replacement

Maintenance needs exceed 50% of replacement cost. Building may be unsafe, create health hazards or nuisance, or be inadequate to meet present or future needs. Building may be needed at a different location, or may require a study to see if it is necessary.

Condition 5, Eliminate

Building is no longer needed and will not be replaced. Building should be torn down and removed. Maintenance needs are zero.

Condition 6, Historic Site

Building is no longer in use and should be evaluated for inclusion into the National Register of Historic Places. If the building does not qualify, it should be torn down and removed. Maintenance needs exist only if the building qualifies or is already included in the register. The amount of money needed for maintenance is determined by the amount of work necessary to prevent further deterioration of the building.

Update

G - Lists of Threatened and Endangered Species and Management Indicator Species

Threatened and Endangered Species

	Federal 1 Classification	Arizona 2 Classification	New Mexico 3 Classification
<u>Mammals</u>			
Southern yellow bat			Group II
Black-tailed prairie dog		Group I	
White-sided jackrabbit			Group I
Mt. Graham spruce squirrel		Group IV	
- Mexican wolf	Endangered	Group I	Group I
- Jaguar	Endangered	Group I	Group I
Desert bighorn sheep		Group III	Group I
<u>Birds</u>			
Great egret		Group IV	
Snowy egret		Group IV	
Black-bellied whistling duck		Group IV	
Gray hawk		Group II	
Black hawk		Group III	Group II
Osprey		Group III	
- Bald eagle	Endangered		Group II
- Peregrine falcon	Endangered	Group III	Group I
- Aplomado falcon	Proposed Endangered	Group I	
Gould's Turkey			Group II
- Masked bobwhite quail	Endangered	Group II	
Buff-collared nightjar			Group I
Spotted owl		Group IV	
Costa Hummingbird			Group II
Blue-throated hummingbird		Group IV	Group II
Lucifer hummingbird			Group II
Violet-crowned hummingbird		Group IV	Group II
Berylline hummingbird		Group IV	
White-eared hummingbird			Group II
Broad-billed hummingbird			Group II
Elegant trogon		Group IV	
Gila woodpecker			Group II
Rose-throated becard			Group II
Tropical kingbird		Group III	
Thick-billed kingbird		Group III	Group II
Buff-breasted flycatcher		Group III	
Northern beardless tyrannulet		Group III	Group I
Black-capped gnatcatcher		Group IV	
Sprague's pipit		Group IV	
Gray vireo			Group II
Bell's vireo			Group II
Varied bunting			Group II
Baird's sparrow		Group III	Group II
Five-striped sparrow		Group III	
Yellow-eyed junco			Group II
McCown's longspur			Group II
<u>Fishes</u>			
Mexican stoneroller	Category II	Group II	
- Arizona trout	Threatened	Group III	
- Gila topminnow	Endangered	Group III	
- Gila chub	Category I	Group III	
- Spikedace	Proposed Threatened	Group III	
Sonoran chub		Group III	

G - Lists of Threatened and Endangered Species and Management Indicator Species (Continued)

Threatened and Endangered Species

	Federal ¹ Classification	Arizona ² Classification	New Mexico ³ Classification
<u>Reptiles</u>			
Desert massasauga		Group IV	
— Arizona ridge-nosed rattlesnake	Category II	Group IV	
Vine snake		Group IV	
Sonora mountain kingsnake			Group II
Desert hook-nosed snake		Group IV	
Green rat snake			Group II
Mexican garter snake		Group III	Group II
— Gila monster	Category II		Group I
Mountain skink		Group IV	Group II
Giant spotted whiptailed lizard			Group II
Bunch grass lizard			Group II
<u>Amphibians</u>			
Huachuca Tiger salamander		Group II	
Colorado River toad			Group II
Plains narrow-mouthed toad		Group IV	
— Tarahumara frog	Category II	Group II	

1. Federal

"Endangered species" means any species which is in danger of extinction throughout all or a significant portion of its range.

"Threatened species" means any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.

"Proposed endangered" means the species has been listed in the Federal Register for formal status as endangered. A final determination will be made upon receipt of public and agency comments.

"Proposed Threatened" has a similar meaning as "Proposed Endangered" except the species would be listed as threatened.

Category I means the species is a potential candidate for formal listing by the U.S. Fish and Wildlife Service as threatened or endangered; sufficient evidence is on hand to support such a listing.

Category II means the species is a potential candidate for formal listing by the U.S. Fish and Wildlife Service but further information is needed to determine the appropriateness of such a listing.

2. Arizona (List and definitions from: Arizona Game and Fish Commission, 1982, Threatened Native Wildlife in Arizona. Arizona Game and Fish Department Publication, 12pp.)

Group I species that are known or suspected to be extinct in Arizona but that still exist in the United States of Mexico.

Group II corresponds to Federal "endangered" categories.

Group III corresponds to Federal "threatened" category.

Group IV includes species of interest primarily because of limited distribution.

3. New Mexico (List and definitions from: New Mexico Department of Game and Fish, 1985, Listing of Endangered Species and Subspecies in New Mexico. State Game Commission. Regulation No. 624, 4pp.)

Group I species whose prospects of survival or recruitment in the state are in jeopardy.

Group II species whose prospects of survival or recruitment within the state may become in jeopardy in the foreseeable future.

SENSITIVE PLANT SPECIES ON THE CORONADO NATIONAL FOREST

Sensitive Plant Species of Arizona

<u>Name</u>	<u>Status</u>
<u>Agave parviflora</u>	2
<u>Agave scottii var. terleasei</u>	2
<u>Allium gooddingii</u>	1
<u>Amsonia grandiflora</u>	2
<u>Amsonia kearneyana</u> 1/	1
<u>Aster lemmoni</u>	1
<u>Cereus greggii</u>	2
<u>Cheilanthes arizonica</u>	2
<u>Cheilanthes pringlei</u>	2
<u>Choisya mollis</u>	2
<u>Corypantha recurvata</u>	2
<u>Corypantha robbinsorum</u> 1/	Proposed threatened
<u>Corypantha scheeri var. robustispina</u> 1/	1
<u>Cynanchum wigginsii</u>	S
<u>Dalea tentaculoides</u>	1
<u>Desmanthus bicornutus</u>	1
<u>Echinocereus ledingii</u>	S
<u>Erigeron arizonicus</u>	S
<u>Erigeron eriophyllus</u>	1
<u>Erigeron kuschei</u>	1
<u>Erigeron lemmoni</u>	2
<u>Erigeron pringlei</u>	2
<u>Euphorba plummerae</u>	S
<u>Fraxinus gooddingii</u>	S
<u>Graptopetalum batramii</u>	2
<u>Ipomoea lemmoni</u>	2
<u>Lilaeopsis recurva</u>	2
<u>Lilium parryi</u>	2
<u>Manihot davisae</u>	S
<u>Margaranthus lemmoni</u>	2
<u>Neolloydia erectocentra var. erectocentra</u>	2
<u>Notholaena lemmoni</u>	2
<u>Pectis imberbis</u>	1
<u>Penstemon discolor</u>	1
<u>Perityle cochisensis</u>	S
<u>Phaseolus supinus</u>	S
<u>Pherotrichis balbisii</u>	S
<u>Polemonium pauciflorum hinkleyi</u>	2
<u>Polygonum fusiforme</u>	2
<u>Ranunculus arizonicus</u>	S
<u>Rumex orthoneurus</u>	1
<u>Senecio huachucanus</u>	1
<u>Sophora arizonica</u>	S
<u>Spiranthes graminea</u>	S
<u>Streptanthus carinatus</u>	S
<u>Streptanthus lemmoni</u>	2
<u>Talinum marginatum</u>	2
<u>Tumamoca macdougallii</u>	Proposed endangered
<u>Vauquelinia pauciflora</u>	1

1/ Small amount of habitat on National Forest.

SENSITIVE PLANT SPECIES ON THE CORONADO NATIONAL FOREST (Continued)

Status

- 1 : potential candidate for formal listing by the U.S. Fish & Wildlife Service as threatened or endangered; sufficient evidence is on hand to support such a listing.
- 2 : potential candidate for formal listing by the U.S. Fish & Wildlife Service but further information is needed to determine the appropriateness of such a listing.

This list of species and definitions are from the September 27, 1985, Notice of Review Amendments.

Proposed endangered:

The species has been listed in the Federal Register for formal status as endangered. A final determination will be made upon receipt of public and agency comments.

Proposed threatened:

Same definition as proposed endangered except formal status would be threatened.

- S : a Region 3 (U.S. Forest Service) sensitive species not on the Federal Notice of Review of September 27, 1985. Forest Service policy is to keep these species from federal or state listing through coordination in land managing activities.

Sensitive Plant Species of New Mexico

<u>Name</u>	<u>Status</u>
<u>Agastache pallidiflora mearnsii</u>	NM-T
<u>Aletes filifolius</u>	NM-1
<u>Cereus greggii</u>	NM-T
<u>Corypantha scheeri var. scheeri</u>	NM-E
<u>Escobaria orcuttii</u>	NM-T
<u>Ferocactus wislizenii</u>	NM-1
<u>Ipomopsis pinnatifida</u>	NM-T
<u>Mammillaria wrightii var. wilcoxii</u>	NM-1
<u>Penstemon dasphyllus</u>	NM-1
<u>Vaquelinia pauciflora</u>	NM-T

The status of these plants has been proposed by the New Mexico Native Plants Advisory Committee in A Handbook of Rare and Endemic Plants of New Mexico, 1984, 291 pp. Definitions for these classifications are:

Status:

- NM-E : taxon restricted to a few sites in New Mexico and/or is in threat of extinction or rapidly declining; biologically endangered.
- NM-T : taxon is relatively restricted in New Mexico or has the potential for rapid extinction; biological threatened.
- NM-1 : taxon is common in New Mexico but wholly endemic to state; commercially exploited; of restricted distribution in New Mexico; or widely distributed but of local occurrence in New Mexico and subject to threats; State Priority-1.

MANAGEMENT INDICATOR SPECIES INCLUDED IN MANAGEMENT INDICATOR SPECIES GROUPS

- Group 1
- Cavity Nesters
- Coppery-tailed trogon
Sulphur-bellied flycatcher
Other primary and secondary
cavity nesters
- Group 2
- Riparian Species
- Gray hawk
Blue-throated hummingbird
Coppery-tailed trogon
Rose-throated becard
Thick-billed kingbird
Sulphur-bellied flycatcher
Northern beardless tyrannulet
Bell's vireo
Black bear
- Group 3
- Species Needing Diversity
- White-tailed deer
Merriam's turkey
Coppery-tailed trogon
Sulphur-bellied flycatcher
Buff-breasted flycatcher
Black bear
- Group 4
- Species Needing Herbaceous Cover
- White-tailed deer
Mearns' quail
Pronghorn antelope
Desert massassauga
Baird's sparrow
- Group 5
- Species Needing Dense Canopy
- Bell's vireo
Northern beardless tyrannulet
Gray hawk
- Group 6
- Game Species
- White-tailed deer
Mearns' quail
Pronghorn antelope
Desert bighorn sheep
Merriam's turkey
Black bear
- Group 7
- Special Interest Species
- Mearns' quail
Gray hawk
Blue-throated hummingbird
Coppery-tailed trogon
Rose-throated becard
Thick-billed kingbird
Sulphur-bellied flycatcher
Buff-breasted flycatcher
Northern beardless tyrannulet
Five-striped sparrow

MANAGEMENT INDICATOR SPECIES INCLUDED IN MANAGEMENT INDICATOR SPECIES GROUPS (Continued)

Group 8

Threatened and Endangered Species

Desert bighorn sheep
Gray hawk
Peregrine falcon
Blue-throated hummingbird
Coppery-tailed trogon
Rose-throated becard
Thick-billed kingbird
Sulphur-bellied flycatcher
Buff-breasted flycatcher
Northern beardless tyrannulet
Bell's vireo
Baird's sparrow
Five-striped sparrow
Mexican stoneroller
Arizona trout
Gila topminnow
Gila chub
Sonora chub
Desert massassauga
Twin-spotted rattlesnake
Arizona ridge-nosed rattlesnake
Huachuca tiger salamander
Tarahumara frog
Western barking frog
Spikedace
Arizona tree frog
Mt. Graham spruce squirrel
Gould's turkey

H - Desired Vegetative Condition and Minimum Habitat for Indicator Species at Year 2030

DESIRED VEGETATIVE CONDITION

<u>Vegetation Grouping</u>	<u>Net Acres</u>	<u>Percent</u>
Southwestern Desert Scrub	227,193	13
Desert Grassland	186,188	11
Plains Grassland	28,102	2
Mountain Grassland	930	1
Interior Chaparral	78,299	4
Broadleaf Woodland	847,078	49
Oak Savannah	30,201	2
Coniferous Woodland	155,667	9
Deciduous Forest	309	1
Coniferous Forest	115,088	7
Higher Ecosystem Extensions:		
Mesquite	4,669	1
Oak	15,983	1
Riparian Types:		
Deciduous	25,976	2
Coniferous	10,831	1
Total	1,726,514	

MINIMUM HABITAT FOR INDICATOR SPECIES ^{1/}

<u>Species</u>	<u>Acres or miles of Occupied Habitat</u>
White-tailed deer	1,430,071
Mearns' quail	225,410
Pronghorn antelope	57,692
Desert bighorn sheep	72,458
Merriam's turkey	422,901
Gray hawk	567
Peregrine falcon	no data
Blue-throated hummingbird	no data
Coppery-tailed trogon	12,190
Rose throated becard	752
Thick-billed kingbird	1,200
Sulphur-bellied flycatcher	no data
Buff-breasted flycatcher	90
Northern beardless tyrannulet	1,270
Baird's sparrow	no data
Five-striped sparrow	18,279
Bell's vireo	no data
Desert massassauga	389
Arizona ridge-nosed rattlesnake	28,175
Twin-spotted rattlesnake	46,351
Huachuca tiger salamander	640
Tarahumara frog	1,339
Western barking frog	891
Mexican stoneroller	3.3 miles
Arizona trout	19.6 miles
Gila topminnow	4.5 miles
Gila chub	4.4 miles
Sonora chub	3.7 miles
Spikedace	no data
Arizona tree frog	no data
Mt. Graham spruce squirrel	2,603
Black bear	641,113
Gould's turkey	no data

^{1/} The data shown here represents estimates of current occupied habitat. Until better information is available regarding minimum viable populations, it is assumed currently occupied habitat represents the minimum desirable situation for various wildlife species.

OBJECTIVES

An objective is defined as "a specific statement of measurable results to be achieved within a stated time period" (36 CFR 219.3 (w)). The Forest Plan objectives are quantitative. The appearance of these quantitative objectives does in no way authorize any site specific accomplishment of any of the listed objectives. All actions to implement the Forest Plan will be authorized on a case-by-case basis with appropriate public involvement and site specific NEPA compliance. The list of objectives is not considered "management direction" and was therefore moved to Appendix I for public information purposes only. The NEPA published Calendar of Proposed Actions, not this Forest Plan, is the public information document that alerts the public to our impending actions.

The RPA targets (objectives and activities) defined for the Forest by the Southwest Regional Guide are listed for reference only. These RPA targets do not imply that the Forest Plan authorizes output production at those levels. Objectives and levels of activity for the Forest are shown in the following tables.

Table -	<u>2B</u>	RPA Targets
Table -	<u>3</u>	Projected Program Outputs and Costs of Forest Plan
Table -	4	List of Recreation Site Construction Needs
Table -	5	List of Recreation Site Reconstruction Needs
Table -	6	Fire, Aviation and Other Facility Construction and Reconstruction Needs
Table -	7	Right-of-Way Needs for Period 1
Table -	9	Major Road Reconstruction and Construction Needs
Table -	10	Trail Construction and Reconstruction Needs
Table -	11	Land Adjustment Plan
Table -	12	Wildlife Habitat Improvement Projects by Period
Table -	13	Structural and Nonstructural Range Improvements by Period
Table -	14	Average Annual Sawtimber Offering for Period 1
Table -	15	Summary of Vegetative Management Practices
Table -	16	Cultural Resource Stabilization & Protection Projects
Table -	17	Cultural Resource Interpretive Projects
Table -	18	List of Potential National Register Evaluations, Nominations and Management Plans
Table -	19	List of Inventory and Study Evaluation Units

Table 2B. Resource Planning Act Targets From Regional Guide By Periods
(Average Annual Outputs)

		<u>P1</u>	<u>P2</u>	<u>P3</u>	<u>P4</u>	<u>P5</u>
Developed Recreation	MRVDs	1715	2070	2100	2400	2655
Dispersed Recreation ^{1/}	MRVDs	993	990	1035	1080	1125
Permitted Grazing Use	MAUMs	401	417	429	439	449
Timber Yield		0	0	0	0	0
Wildlife & Fish Habitat Improvement	M.AC.EQ.	12.4	9.4	7.5	4.5	4.2
Water Yield Meeting Quality Goals	MAC.FT.	88	89	102	105	105
Trail Construction & Reconstruction	Miles	3.8	2.8	4.0	5.0	5.4
Reforestation	Acres	119	165	183	203	210
Timber Stand Improvement	Acres	203	25	25	35	47
Mineral Leases & Permits	Operating Plans	192	221	244	281	293
Fuelbreaks & Fuel Treatment	M Acres	1.6	1.9	2.1	2.4	2.6
Land Purchase & Acquisition (Excludes Exchange)	Acres	375	4	4	4	4
Soil & Water Resource Improvement (Improved Watershed Condition)	Acres	712	820	820	820	820

^{1/} Includes other dispersed, other wilderness, hunting, fishing, and nongame use.

Table 3. Projected Program Outputs and Costs of the Forest Plan

Output/Activity	Unit of Measure	Average Annual Units by Periods				
		P1	P2	P3	P4	P5
RECREATION Developed Use (Including VIS)	Thousand Recreation Visitor Days	1317	1457	1515	1548	1574
Dispersed Use (Including Wild- derness & Wildlife)	Thousand Recreation Visitor Days	1464	1772	2146	2606	3149
Trails:						
Trail Construction	Miles	7.0	0	0	0	0
Reconstruction	Miles	12.0	40.00	40.00	40.00	40.00
Roads:						
Construction	Miles	1.0	1.0	1.0	1.0	1.0
Reconstruction	Miles	12.6	20.0	20.0	20.0	20.0
WILDERNESS 1/ Wilderness Mgt.	Thousand Acres	402	402	402	402	402
WILDLIFE & FISH Wildlife Habitat Improvement (from all funds)	Thousand Acres	12.2	12.0	12.0	12.0	13.2
RANGE Grazing Use (Livestock)	Thousand Animal Unit Months	350	338	344	354	360
Grazing Capacity	Thousand Animal Unit Months	333	340	348	355	360
TIMBER Programmed Sales Offered ^{4/}	Thousand Cubic Feet Thousand Board Feet	51 255	51 255	51 255	51 255	51 255
Fuelwood ^{2/}	Thousand Cubic Feet Thousand Board Feet	212 1060	220 1100	233 1165	231 1155	230 1150
Reforestation	Acres	0	0	0	0	0
Timber Stand Improvement	Acres	16	16	16	16	16
WATER ^{3/} Total Water Yield	Thousand Acre Feet	146	146	146	146	146
MINERALS Minerals Leases and Permits	Operating Plans	150	200	200	200	200
PROTECTION Fuelbreaks and Fuel Treatment	Thousand Acres	0.76	0.76	0.76	0.76	0.76

Table 3. Projected Program Outputs and Costs of the Forest Plan (continued)

Output/Activity	Unit of Measure	Average Annual Units by Periods				
		P1	P2	P3	P4	P5
LANDS						
Land Purchase & Acquisition (Excl. Exchange)	Acres	0	0	0	0	0
SOILS						
Soil & Water Resource Res. Improv. (From all-funds) Improvement	Acres	117	117	117	117	117
COSTS - Total Budgeted (1980 dollars)						
Capital Investments (1980 dollars)	Millions Dollars	6.00	6.08	6.03	5.98	6.03
	Millions Dollars	0.234	0.234	0.234	0.234	0.234

- 1/ Includes existing areas and new recommendations.
- 2/ Includes dead and green fuelwood.
- 3/ Maximum water yield meeting quality standards is 108,000 acre feet.
- 4/ Total available timber is 210 MCF, 1049 MBF.

Table 4. List of Recreation Site Construction Needs

Tables 4 and 5 represent a complete list of currently identified facilities. Detailed work schedules will be reviewed and updated annually for the first decade in the forest implementation schedule. Implementation of any specific facility may be delayed beyond the first decade due to changing national, regional, or local priorities and availability of funding sources.

<u>Site</u>	<u>Planned Capacity (Persons at One Time)</u>	<u>Miles of Road/Trail Construction/Reconstruction</u>	<u>Year Completed</u>
<u>Douglas Ranger District</u>			
Winn Falls Campground	150	0.5	
East Cochise Stronghold Campground	225	0.5	
Rucker Canyon Complex	375	2.5	
<u>Nogales Ranger District</u>			
Madera Picnic Site	50	0.1	1988
Pena Blanca Parking & Comfort Station	50	0.1	
Madera Entrance Facility	5	0.1	
Madera Trailheads & Comfort Stations	100	0.1	
Proctor Road Campground	100	1.5	
Gardner Campground	400	2.5	
Walker Campground	235	2.0	
Pajarito Campground	250	1.5	
FLWO Visitor Center & Picnic Site	50	0.1	
Richardson Cabin Group Site	50	0.1	
Madera Amphitheatre Parking & Lights	50	0.1	
Kentucky Camp Interpretive Site & PG	50	6.0	
<u>Sierra Vista Ranger District</u>			
Reef Campground & Picnic Site	150	0.5	1988
Merritt Point Parking & Comfort Station	200	0.3	1990-91
Parker Canyon Lake Complex	700	2.8	
Kartchner VIS	300	1.8	
Kartchner Complexes	1120	NA	
<u>Safford Ranger District</u>			
Mt. Graham Roadside Camps & Trail Access Parking	220	0.5	
Twilight Campground	195	1.4	
Riggs Ridge Campground	200	0.5	
Jacobson Picnic Site	60	1.3	
Snowflat Parking & Comfort Station	50	0.1	
Snowflat-Treasure Park Campground	(Postponed until second decade)		
Swift Trail VIS	40	0.1	
Marijilda Canyon Interpretive Site & PG	50	3.0	
<u>Santa Catalina Ranger District</u>			
Whitetail Complex	200	0.7	
Sabino In-Canyon Interpretation	200	0	
Tanque Verde Parking	200	N/A	
Redington Picnic Site	250	0.1	
Chimney Rock Campground	200	0.3	
Italian Trap Campground	200	2.5	
Old Prison Site Campground	200	0.7	
Sabino Visitor Information Center	200	0.1	
Peppersauce Cave Parking & Comfort Station	50	0.2	
<u>Forestwide</u>			
Multi-Agency Info. Center (Tucson Area)	150	0.1	

Table 5. List of Recreation Site Reconstruction Needs

<u>Site</u>	<u>Capacity (Persons at One Time)</u>	<u>Year Completed</u>
<u>Douglas Ranger District</u>		
Cave Creek Complex	180	
Sycamore/Turkey Creek Campgrounds	50	
Rucker Canyon Complex	125	
East Cochise Stronghold Campground	225	
<u>Nogales Ranger District</u>		
Pena Blanca Complex	480	
Bog Springs Campground	65	
Calabasas Campground	30	
<u>Sierra Vista Ranger District</u>		
Parker Canyon Lake Complex	150	
<u>Safford Ranger District</u>		
Stockton Pass Campground	55	
Columbine Information/Interpretation	48	
<u>Santa Catalina Ranger District</u>		
Loma Linda Water System	NA	1987
Molino Basin Campground	280	
Catalina Highway Improvements	1995	
Hitchcock Campground	75	
Bear Canyon/Bear Wallow Picnic Sites	235	
Peppersauce Campground	155	
Sabino Canyon Recreation Complex	850	
Rose Canyon Campground Powerline	NA	
Windy Point Vista	50	
(planned as part of highway construction)		
Lowell Historic Interpretive Site	50	
Sykes/Loma Linda/Inspiration Rock PG's	250	
<u>Forestwide</u>		
Water Systems	NA	

Table 6. Fire, Aviation, and Other Facility Construction and Reconstruction Needs

This represents a complete list of currently identified administrative facility needs. Work schedules for the first decade will be reviewed and updated annually in the Forest implementation schedule.

Primary Offices and Work Centers

Year Completed

- Nogales Ranger District Office Complex
Includes an office, warehouse/shop and crew quarters on land now being acquired by forest.
- Douglas Ranger District-Portal Administrative Site
Relocate office, shop and crew quarters.
- Santa Catalina Ranger District Office Complex
Remodel and add to current office facility at Sabino Canyon. Construct administrative facility independent of visitor center (see Table 4) at Sabino Canyon.
- Sierra Vista Ranger District Office Complex
Construct new office, warehouse and shop on forest land.
- Santa Catalina Ranger District-Palisades Administrative Site
Redesign and reconstruct existing parking and office. Relocate trailer park and construct equipment storage.
- Safford Ranger District-Columbine Administrative Site
Build modular crew quarters.
- Santa Catalina Ranger District-Sabino Warehouse
Construct shop building.
- Sierra Vista Ranger District-Canelo Administrative Site
Build modular crew quarters.
Remodel shop and warehouse.

Miscellaneous

(Note: Many of these items are required to meet current health and safety requirements)

- Additional water system storage facilities on Mt. Lemmon.
Flammable material storage on all Ranger Districts.
Hazardous material storage & cleanup on all Ranger Districts.
Replace fuel storage tanks on all Ranger Districts.
Construct and remodel various storage and equipment facilities on all Ranger Districts.
Replace and upgrade water system facilities at recreation sites.
Replace and upgrade toilet facilities at recreation sites.
-

Table 7. Right-of-Way Needs for Period 1

The detailed forest implementation schedule will be reviewed and revised annually to reflect changing priorities and opportunities.

Road or Trail No.	Road or Trail Name	Year Acquired
<u>Douglas Ranger District</u>		
317	Price Canyon	1988
4236	Fourr Canyon	
4282	Rock Creek	
63	Geronimo Trail	
4254	Stanford/Pridham Canyon	
356	East Whitetail	
360	John Long	
4382	Grapevine	
42 & 42A	Cave Creek	
356	Miller	
<u>Nogales Ranger District</u>		
4206	Alamo Canyon	1987
4104 or 162	Fish Canyon	1989
223	Kane	1989
Various	Santa Rita Exp. Range	1990
216	Perry	1990
4104	Beck	
781	Elephant Head	
217	California Gulch-Warsaw	
165	Greaterville	
152	Big Casa Blanca	
4107	Wood Canyon	
234	Adobe Canyon	
627	Hog Canyon	
684	Puerto Springs-Sardina	
623	Pesquiera Canyon	
684	Sopori Ranch	
<u>Sierra Vista Ranger District</u>		
61	Hathaway	1988
369	French Joe	
778	Mine Canyon	
779	Granite Peak (Rain Valley)	
4012	Cottonwood	
208	Middle Canyon	
199	Brown Canyon	
212	J-Six	
201	Canelo	
<u>Safford Ranger District</u>		
----	Water Tank	1987
6607	Schoenhoker	1987
----	Rhodes Ranch	1987
695 & 695A	Northend Galiuro	
277	Goodwin/Blackrock	
673	Lindsey Canyon	
T64	Fisher Basin Trail	
T66	Cottonwood Mountain Trail	
T67	Gardner Canyon Trail	
T284	Cobre Canyon Trail	
----	YLE	
672	Cedar Springs Butte Loop	
659 & 692	Galiuro-Winchester	
<u>Santa Catalina Ranger District</u>		
736	Charouleau Gap	
640	Canada Del Oro	
38	Control Road	

Table 9. Major Road Reconstruction and Construction Needs.

Table 9 represents a list of currently identified needs for road reconstruction and construction. Detailed work schedules will be reviewed and updated annually in the forest implementation schedule. Work on any specific road may be delayed beyond the first period due to changing national, regional, and local priorities and availability of funding sources.

Major Roads

1. General Hitchcock (Mt. Lemmon) Highway FH 39 (25 miles) and Ski Valley Road No. 11 (3.5 miles). Maintain as a scenic highway but reconstruct on the existing alignment and to the existing standard (two lanes with a 30 mph design speed). Financing to come from Forest Highway Funds through the FHWA. The first section was completed in 1989 and the second begun in 1991.
2. Washington Camp to Montezuma Pass Road No. 61 (34.7 miles). This road is included in the Forest Highway System and needs reconstruction.
3. Ruby Road No. 39 - Approximately 13.5 miles are in need of reconstruction.
4. Montezuma Pass Road No. 48 - Approximately 5.3 miles are in need of reconstruction.
5. Onion Saddle Road No. 42 - Approximately 30 miles are in need of reconstruction.
6. Carr Canyon Road No. 368 - This road was reconstructed and surfaced in 1987 and 1988.
7. Redington Pass Road No. 371 - Approximately 12.2 miles are in need of reconstruction. Work on the west end (1.0 mile) was completed in 1988.
8. Mt. Lemmon Control Road. Approximately 17.5 miles are in need of reconstruction.
9. Madera Canyon Roads 70 & 70A - Resurface and construct parking pullouts - Reconstruct bridges.

Other Roads

10. Reconstruct or construct roads associated with administrative facilities listed in Table 6.
11. Reconstruct or construct roads associated with recreation facilities listed in Tables 4 and 5.
12. Purchase rights-of-way and construct or reconstruct those roads necessary to provide public access to the Forest as shown in Table 7.
13. Construct or reconstruct roads into fuelwood areas. Estimate is for approximately 20 miles total with 10 miles scheduled for the first decade.
14. Reconstruct roads with low traffic volume (level 2 and 3 maintenance) - Approximately 5 miles per year are planned for reconstruction to correct safety and long-term maintenance problems.

Table 10. Trail Construction and Reconstruction Needs ^{1/}

This table represents a complete list of currently identified trail facility needs. Work schedules will be reviewed and updated annually for the first decade in the forest implementation schedule. Implementation of any specific facility may be delayed beyond the first decade due to changing national, regional, or local priorities.

<u>Construct/ Reconstruct</u>	<u>Trail Name</u>	<u>Estimated Miles</u>	<u>Year Completed</u>
<u>Douglas Ranger District</u>			
C	Rucker Lake Trail and Catwalk	1.5	
R	Horseshoe	0.3	
R	East Whitetail-Indian Creek	0.5	
R	South Fork #243	2.0	
R	Other Backcountry Trails	10.0	
<u>Nogales Ranger District</u>			
C	Madera Canyon Lower Trail #89	2.0	1987
C	Madera to Montosa Bike Trail	3.5	1988-1989
C&R	Pena Blanca Lake Trail	3.2	1988 (partial)
C	Madera Canyon Upper Trail	2.0	
C	Madera to Florida	2.0	
R	Madera Lower Trail #89 (hard surface)	5.0	1990
R	Very Steep #77	1.8	
R	Super Trail #134	2.0	
R	Agua Caliente #77	4.8	

Table 10. Trail Construction and Reconstruction Needs ^{1/} (continued)

<u>Construct/ Reconstruct</u>	<u>Trail Name</u>	<u>Estimated Miles</u>	<u>Year Completed</u>
<u>Sierra Vista Ranger District</u>			
C	Reef Campground	0.5	1989
C	Kartchner Cave-Middle Canyon	3.0	
C	Arizona Trail	20.0	
C	Hamburg #122	1.3	
C&R	Parker Lake Trail #75 and Bridge	3.4	
R	Scott Canyon #117	1.0	
R	Crest #103	6.0	
R	Brown Canyon #110	0.3	
R	Comfort Spring #109	1.2	1990 (partial)
R	Bear Canyon	0.4	
R	Wild Cow	3.0	
R	Clark Springs	0.5	
R	Shellenberger Canyon	4.0	
R	Death Trap Springs	1.8	
R	Cottonwood Saddle	4.0	
R	Lutz Canyon	2.0	
R	Ida-Oversite	0.5	
R	Lutz-Sunnyside-Scotia	0.5	
R	Lower Ramsey-Carr Peak-Brown	0.5	
R	Other Backcountry Trails	5.0	
<u>Safford Ranger District</u>			
C	Riggs Lake Trail #340 and Bridge	0.5	
C&R	Twilight to Arcadia	1.2	1990
C&R	Shake #309	1.2	
C&R	Grant Hill	5.9	
C&R	Upper Hospital Flat	2.8	
C&R	Lower 507	2.0	
C	Riggs Interpretive-Handicap Trail	0.8	
C	Noon Creek	0.2	
C&R	Cunningham-Grant Creek	8.2	
C&R	Arcadia to Wet Canyon	1.7	
C	Shannon	1.0	
C	Bible Camp	1.2	
R	Round the Mountain #302	1.0	
R	Jesus Goudy #298	5.7	
R	Grant Creek #305	4.0	
R	Dutch Henry #297	3.0	
R	Pipe Stem #271	4.4	
R	Rattlesnake #96	0.5	
R	Mailbox #276	3.0	
R	Mt. Graham (relocation)	0.5	1988
<u>Santa Catalina Ranger District</u>			
C	Tanque Verde Falls #342	0.5	1989
C	Arizona Trail	8.5	1989 (partial)
C	Cody	2.5	
C&R	Espero #25	4.9	
C	Romero	0.5	
C&R	Sutherland #6	2.6	
C	Rose Canyon Lake	1.5	
R	Phone Line #27	7.0	
R	Seven Falls #29	1.0	
R	Sabino #23	1.0	
R	Romero (Catalina Park)	0.5	
R	Bear #29	1.8	
R	Green Mountain #21	1.0	
R	Mt. Lemmon Loop	1.0	
R	Marshall Gulch	1.0	

^{1/} Construction, reconstruction and heavy maintenance will be accomplished through a combination of appropriated funds, volunteer contributions and other private or public funding sources.

Table 11. Land Adjustment Plan

To improve management and benefit the administration of the National Forest, certain private lands within or adjacent to the boundary of the Forest have been classified as desirable for acquisition. Because local and physical conditions may change during the life of this plan, the lands classified in this plan and others that may be considered, will meet one or more of the following criteria.

1. Lands within designated wildernesses.
2. Lands that contain vital threatened and endangered species habitat, or vital wildlife habitat (i.e. lambing areas).
3. Lands needed for developed and dispersed recreation.
4. Wet lands, riparian areas, and other water oriented lands.
5. Lands that contain unique, natural, or cultural values.
6. Lands that will improve public land management, meet specific administrative needs, or benefit other National Forest programs.
7. Lands that provide needed access, or protect public lands from fire, or trespass or prevent damage to public land resources.
8. Lands that need rehabilitation or stabilization to restore their productivity.
9. Lands that are needed to block up public land ownership or meet research needs.
10. Lands that are needed to meet programs prescribed or endorsed by acts, or reports of Congress, or the Department of Agriculture.
11. Acquire inholdings that contain needed rights-of-way and will contribute to the Forest Resource Management Base.

The acquisition program will be achieved through purchase, exchange, and donation authorities. The Purchase Program Centers about the Land and Water Conservation Fund Act that designates that lands within the following categories are eligible for acquisition with L&WCFA funds:

1. Congressionally designated areas.
2. Wilderness.
3. Threatened and endangered species habitat.
4. Recreation acquisition composites and inholdings.

The basic goals of the composite program are to provide:

- 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 lands.

The following table shows the approved and proposed L&WCFA composites:

Table 11a. Approved and Proposed Recreation Acquisition Composites ^{1/}
Coronado National Forest

<u>Composites</u>	<u>Date Approved</u>	<u>Acres Approved as desirable for Acquisition</u>	<u>New Acres Remaining</u>	<u>1980 Est. Cost of Lands (million \$)</u>
Madera	2/16/78	15.49	15.49	.5
Santa Catalina	10/17/78	65.27	54.17	.5
Huachuca Mountain	Proposed ^{2/}	2174	2174	2.5
Dragon Mountain	Proposed ^{2/}	1463	1463	1.5
Chiricahua Mountain	Proposed ^{2/}	6387	6387	8.0

^{1/} Essentially all of the lands identified for acquisition with L&WCFA Funds are also eligible for acquisition by exchange or donations, and will be acquired by these authorities when the opportunity arises and when appropriate.

^{2/} This RAC has been reviewed by the Regional Office and personnel of the U.S. Department of Interior.

The Donation authorities are applicable for any of the lands that meet the Acquisition criteria.

The Land Exchange Program operates under several authorities and is the major land adjustment program that can be employed to acquire all of the lands that meet the acquisition criteria. The lands offered by the United States in a land exchange are tentatively classified as base-in-exchange. Because local and physical conditions may change during the life of this plan, those lands classified in this plan and any other that may be considered will generally meet one or more of the following criteria:

1. Lands needed to meet the needs of expanding communities.
2. Isolated tracts or scattered parcels that cannot be efficiently managed.
3. Provide consolidation of the public lands.
4. To improve management, benefit specific resources, or increase management efficiency.
5. To meet overriding public needs.

Table 12. Wildlife Habitat Improvement Projects by Period

Specific projects are identified in the Forest 10-year implementation schedule which is reviewed annually.

Alternative/Practice	Unit	Planning Period				
		1	2	3	4	5
		(Totals for Period)				
<u>Game and Nongame</u>						
Prescribed burning	thousand acres	27	27	27	27	27
Waters	number	10	10	10	10	10
Meadow maintenance or Aspen regeneration	acres	300	200	100	100	100
Fencing (if appropriate)	miles	30	20	20	0	0
Acquire access	miles of road	8	8	8	8	8
Brush piles (KV)	number of piles	80	80	80	80	80
Seeding (KV)	acres	500	500	500	500	500
Opening (KV)	acres	100	100	100	100	100
Waters (KV)	number	15	15	15	15	15
Prescribed burning (KV)	thousand acres	7.4	7.2	7.2	7.2	7.2
<u>T&E Species (including KV)</u>						
Transplant	thousand acres	1.6	1.6	1.6	1.6	1.6
Structures	number	3	3	3	3	3

Table 13. Structural and Nonstructural Range Improvements by Period

Specific projects are identified in the Forest 10-year implementation schedule which is reviewed annually.

Improvement Type	Unit Measure	Period				
		1	2	3	4	5
		(Totals for Period)				
<u>Structural</u>						
Fences & Waters (FS)	No. of structures	690	138	138	33	33
Fences & Waters (Permittee)	No. of structures	460	92	92	22	22
<u>Nonstructural</u>						
Plant Modification	thousand acres	2	4	4	4	3
Grass Seeding	thousand acres	3	2	2	2	2
Prescribed Burning	thousand acres	26	24	24	24	24

Table 14. Average Annual Sawtimber Offering ^{1/}

Period 1			
Sale Area	Harvest Type	Acres	Volume
Santa Catalina Mountains	Intermediate	87	140
Santa Catalina Mountains	Shelterwood	22	35
Chiricahua Mountains	Intermediate	80	80
		189	255

^{1/} These figures represent the average annual volume offered for ten years. The actual amount offered in any given year could vary depending upon other resource objectives for that year.

Emphasis to complete stand examinations will be paramount and will be completed during Period 1. The amounts of timber listed may be harvested selling fuelwood to meet the target. All sales, if not bid, may be utilized as fuelwood.

Table 15. Summary of Vegetative Management Practices (NEW REGIONAL TABLE)

COMPOSITION (Forest Type)*	Aspen and Western Live Oak				Engelmann spruce-subalpine fir, white fir, blue spruce limber pine, Rocky Mountain juniper, cottonwood-willow ponderosa pine, pinyon-juniper, AZ cypress, mesquite.		All Forest Types	Grassland, Meadow, and Alpine.	
STRUCTURE	DESIRED ONE-AGED, SINGLE-STORIED STAND (one-age class comprises >= 90% of total stand BA for most of the rotation. Age difference between oldest and youngest tree in class is less than 20% of the rotation).				DESIRED TWO-AGED, TWO-STORIED STAND (two age classes, each >10% BA most of the rotation).		DESIRED UNEVEN-AGED, MULTI-STORIED STAND (more than two age classes).	ANY DESIRED ONE-, TWO-, OR MULTI-STORIED STAND	OPEN
FUNCTION	Coppice Regen Method	Clear cut Regen Method	Seed Tree Regen Method	Shelterwood Regen Method	Irregular Shelterwood Regen Method	Single Tree or Group Selection (<=2-4 ac)	Intermediate Treatment Methods	No or Few Trees	
	Activity	Activity	Activity	Activity	Activity	Activity	Activity	Activity	
VEGETATIVE MANAGEMENT PRACTICE	Coppice w/reserves	<=5% tree cover post harvest: patch cut strip cut stand cut	Prep Cut Seed Cut	Prep Cut Seed Cut	Prep Cut Seed Cut	Single Tree Sel. Group Selection	Improvement Liberation Thinning	Meadow Maintenance & Creation	
		6-10% tree cover post harvest: patch cut strip cut stand cut	1-10% tree cover post harv final removal	Group seed Strip seed Removal	Removal Final removal	Seed cut Removal Final removal	Salvage Prescribed fire Cleaning Weeding		
				Strip removal Final removal		COPPICE REGEN Coppice with standards			

*Source: Eyre, F.H., 1980, Forest Cover Types of the U.S. and Canada. Society of American Foresters, Washington, D.C., 148 p.

Table 16. Cultural Resource Stabilization and Protection Projects

Table 16 represents currently identified stabilization and protection needs for cultural resource sites. "New Projects" are those for which substantial new stabilization work is required to prevent damage or deterioration. "Stabilization Maintenance Projects" are those for which stabilization work has been completed, where continued monitoring or maintenance are necessary. Detailed work schedules will be reviewed and updated annually in the forest implementation schedule. Implementation of any specific stabilization project may be delayed beyond the first decade due to changing national, regional, or local priorities and availability of funding sources.

Site #	Site Name	Projects Underway
<u>New Projects</u>		
ARO3-05-02-377	Kentucky Camp	x
ARO3-05-04-01	Marijilda Site	
ARO3-05-05-142	Lowell Administrative Site	
ARO3-05-05-110	Lemmon Rock Lookout	
	Cima Administrative Site	
ARO3-05-02-126	Atascosa Lookout	x
(various)	Rock Art Sites	
(various)	Rockshelters and Cave sites	x
ARO3-05-02-26	Alto Post Office	
	Canelo Administrative Site	
ARO3-05-04-115	West Peak Lookout	
ARO3-05-04-116	Heliograph Lookout	
ARO3-05-04-117	Webb Peak Lookout	
ARO3-05-01-227	Monte Vista L.O. Cabin	
ARO3-05-02-23	Old Glory Stamp Mill	
ARO3-05-01-317	Dragoon White House - Horse Ranch Ruin	
<u>Stabilization Maintenance Projects</u>		
ARO3-05-01-20	Camp Rucker	x
ARO3-05-02-31	Madera White House Ruin	x
ARO3-05-02-04	Hank and Yank Ruins	x
ARO3-05-04-04	Powers Cabin	x
ARO3-05-01-27	Dragoon Stage Stop	x
ARO3-05-01-225	Barfoot Lookout	

Table 17. Cultural Resource Interpretive Projects.

Table 17 represents currently identified cultural resource interpretation needs and opportunities. Detailed work schedules will be reviewed and updated annually in the forest implementation schedule. Implementation of any specific interpretation project may be delayed beyond the first decade due to changing national, regional, or local priorities and availability of funding sources. All cultural resource interpretation will be integrated with other resource interpretation, as appropriate.

<u>Interpretive Trails</u>	<u>District</u>
Romero Ruin Interpretive Trail	Santa Catalina
Camp Rucker Trail Extension	Douglas
Marijilda Interpretive Trail	Safford
Kentucky Camp Interpretive Trail	Nogales
Cochise Stronghold Interpretive Trail Reconstruction	Douglas
Reef Historic Trail Extension	Sierra Vista
<u>Programs</u>	
Passports in Time volunteer program	various sites
Dragoon Mountains video	Douglas
Environmental education programs	All
Arizona Arch. Week Activities	All
Lowell CCC program	Santa Catalina
<u>Literature</u>	
Quincentennial auto tour booklet (Desert Islands and Uplands)	SV, Douglas, Safford
Reef history booklet	All
Camp Rucker booklet	Douglas
Galiuro history booklet	Safford
Rock Art Report - public edition	All
Arizona Trail booklet	Nog., SV, SC
Santa Catalina Mountains history booklet	All
<u>Exhibits and Displays at F.S. Facilities</u>	
Nogales R.S. interpretive display	Nogales
Columbine visitor information center exhibit	Safford
Sabino Canyon visitor information center exhibit	Santa Catalina
Smithsonian Base Camp exhibit	Nogales
Cave Creek visitor information center exhibit	Douglas
Douglas R.S. exhibit	Douglas
<u>Signs</u>	
Smithsonian Base Camp Petroglyph sign	Nogales
Hank & Yank sign	Nogales
Elephant Head Bike Trail signs	Nogales
Swift Trail signs	Safford
Powers Cabin sign	Safford
Historic Fire Lookouts signs	Douglas, Nogales, Safford, S.Catalina
Roadside historic interpretation	Douglas
Pima Canyon site signs	Santa Catalina
Arizona Trail signs	Nog., SV, SC
Depression-era administrative sites/signs	All
Control Road brochure or auto tour	Santa Catalina
Hitchcock Highway/Prison Camp signs	Santa Catalina
Old Glory Millsite sign	Nogales

Table 18. List of Potential National Register Evaluations, Nominations, and Management Plan

Table 18 represents currently identified evaluation, nomination, and management plan needs for cultural resource sites. The nomination list includes sites that have been determined eligible for the National Register, but formal nominations have not yet been completed. The evaluation list includes sites that need determinations of eligibility for the National Register to determine future management. The management plan list includes properties already nominated to, listed on, or determined eligible for the National Register. Management plans are desirable to preserve the significant aspects of the National Register properties and efficiently integrate with other resource management needs. Detailed work schedules will be reviewed and updated annually in the forest implementation schedule. Nominations and management plans may be delayed beyond the first decade due to changing national, regional, or local priorities and availability of funding sources.

National Register Nominations

Kentucky Camp
 Sutherland Wash Rock Art sites
 Camp Rucker
 Trincheras and Peak Sites
 Half Moon Valley

Ranger District

Nogales
 Santa Catalina
 Douglas
 Nog./Sierra Vista
 Douglas

Evaluations

Brophy-Shaw House
 Schilling House
 Hooker Cabin
 Powers Garden cabin and barn
 Empire Gulch Archaeological Sites
 Samaniego Ridge Archaeological Sites
 Sabino Canyon Archaeological Sites
 Historic Mining Sites
 Ceremonial Cave Sites
 Precopia Springs Stage Stop
 Reddington Pass-Az. Trail historic sites
 O'Donnell Canyon Archaeological Sites
 Miller Peak Wilderness Mining Sites
 Happy Valley Archaeological District
 Gilman Ranch house

Douglas
 Douglas
 Safford
 Safford
 Nogales
 Santa Catalina
 Santa Catalina
 Nogales, S.Vista
 All
 Santa Catalina
 Santa Catalina
 Sierra Vista
 Sierra Vista
 Santa Catalina
 Safford

Management Plans

Depression-Era Administrative Sites
 National Register Fire Lookouts
 Marijilda Canyon Prehistoric Arch. District
 Rock art sites
 Council Rocks Archaeological District
 Upper Davidson Canyon Arch. District
 Red Cave

All
 Douglas, Nogales,
 Safford, S. Catalina
 Safford
 All
 Douglas
 Nogales
 Sierra Vista

Table 19. List of Inventory and Study Evaluation Units

A large portion of the Forest's inventory and evaluation of cultural resources is conducted to help determine the effect of various projects on cultural resources. However, broad-based inventory and evaluation are necessary to implement the goals of this management plan. Table 19 lists currently-identified information, inventory, and evaluation requirements. Based on Study Evaluation Units and inventory needs identified in the Forest's planning assessment, these include both geographic areas and thematic groups (classes of cultural resources, specific cultural groups, and particular time periods). Part of the research required for each unit will be accomplished through the non-undertaking surveys conducted for para-archaeologist certification. Data will help identify future protection and stabilization needs, National Register nominations, interpretive projects, and allocation strategies.

Detailed work schedules will be reviewed and updated annually in the forest implementation schedule. Implementation of any specific project may be delayed beyond the first decade due to changing national, regional, or local priorities and availability of funding sources.

<u>Evaluation Unit</u>	<u>District</u>
Dragoon Mountains (geographic)	Douglas
Mining Ventures (thematic)	All
Catalina Pediment (geographic)	Santa Catalina
Rock Art Sites (thematic)	All
Caves and Caverns (thematic)	All
Routes Across the Mountains (thematic)	All
Historic Document Verification (thematic)	All
Canyons of the Chiricahuas (geographic)	Douglas
Empire Gulch, Santa Ritas (geographic)	Nogales
Protohistoric/historic Native American use (thematic)	All
Historic exploration and settlement (thematic)	All
Archaic use of the forest (thematic)	All
Prehistoric agriculture (thematic)	All
Adaptation to upland areas (thematic)	All
Forest administration history (thematic)	All
Historic recreation and tourism (thematic)	All
Regional cultural interactions/Chronology (thematic)	All
Peloncillo Mountains (geographic)	Douglas
Canyons of the Huachucas (geographic)	Sierra Vista
Along the Border (geographic)	Nogales/Sierra Vista
Chihuahuan Frontier (thematic)	Douglas/Nogales/Sierra Vista

