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Department of
Agriculture

Forest
Service

Southwestern
Region

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Carson National Forest Plan



Carson National Forest
Land and Resource Management Plan

CARSON FOREST PLAN

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PURPOSE OF
THE PLAN

This Plan defines the direction for managing the Carson 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 (38 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;

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- (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.

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)).

Land management prescriptions and 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 and amended accordingly after appropriate public notification.

ORGANIZATION OF THE FOREST PLAN DOCUMENTATION

Chapter 2 of the Forest Plan describes the major issues and concerns and how the Forest Plan responds to 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 desired condition of the Forest by the end of the fifth period from implementation of the plan; and describes management direction and associated resource management standards and guidelines. A management area map is included with the EIS/PLAN package. Chapter 5 is the monitoring plan. The Glossary defines terms used in the Plan.

RELATIONSHIP TO
OTHER PLANNING
LEVELS AND
STUDIES

Development of a Forest Plan occurs within the framework of Forest Service regional and national planning. The RPA Program sets the national direction and output levels for National Forest System lands based on suitability and capability information from each Forest Service Region. Each Region distributes its share of the national production levels among the Forests of the Region. This distribution is based on the detailed site-specific information gathered at the Forest level.

Each Forest Plan, in turn, either validates or provides a basis for changing production levels assigned by the Region. Activities and projects are planned and implemented by the Forest to carry out direction developed in the Forest Plan. Information from Forest Plans of all Forests in the Region will be used in developing and revising a Regional Guide.

Analysis that supports the Forest Plan is contained in the accompanying Environmental Impact Statement (EIS). Therefore, the Forest Plan and the EIS are companion documents. The EIS describes alternatives considered in arriving at the Forest Plan and assesses environmental effects of implementing the Plan and its alternatives. Also contained in the EIS is a Glossary and List of Preparers to aid in reading and interpreting the Forest Plan. Supporting information is contained in planning records on file at the Carson National Forest Supervisor's Office. The Analysis of the Management Situation (AMS) is summarized in the EIS and Forest Plan and is referenced in several places in the Forest Plan. The AMS document is part of the planning records and may be inspected.

The final Environmental Impact Statement (EIS) will be used for tiering [40 CFR 1502.20 and 1508.28]. Tiering means that, if needed, future environmental documents for projects based on the Carson Forest Plan will only summarize or incorporate by reference issues discussed in the EIS. Environmental documents for those projects will focus on site specific issues, concerns, and opportunities unique to the project. Environmental assessments will not be prepared for projects that have been found to have limited context and intensity [40 CFR 1508.27(a) and (b)] and produce little or no environmental effects, individually or cumulatively, to either the biological or physical components of the human environment [40 CFR 1508.14][FSM 1951.2] or have been adequately addressed in other environmental documents, including the EIS associated with the Forest Plan.

Budget proposals for fiscal years 1986 and 1987 will have been submitted to Congress by the time the Carson Forest Plan can be implemented in fiscal year 1987. Included in these proposals are operation, maintenance, and investment projects costs for the continued management of the Carson National Forest. When

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the Carson Forest Plan is implemented in fiscal year 1987, the time needed to bring activities into compliance with the Forest Plan will vary depending on the type of project. Most operation and maintenance activities, projects in the first year of development, new special use proposals and transfers of existing permits can be brought into compliance with the Forest Plan within the first year of implementation. Projects in the second to fifth year of implementation as well as many contractual obligations will continue as planned.

Investment projects, because of their size and complexity, are phased in over a period of three to five years. For example, timber sales to be sold in 1987 are normally inventoried and reconnaissanced in 1985, marked and cruised in 1986, and appraised and sold in 1987. Roads, campgrounds, wildlife habitat projects and grazing systems are phased in the same way. The number and type of disciplines (e.g. foresters, wildlife biologists, engineers) needed in the organization are also tied directly to these projects. In addition, there are many existing contracts or permits for timber sales, special uses, and grazing. Duration of these contracts are from several months to several years, as in the example of a special use road.

The Rio Grande Wild and Scenic River is partially within the Forest boundary. The entire designated area is administered by the Secretary of the Interior, as directed by the Wild and Scenic Rivers Act (P.L. 90-542). A management plan for this area is available for review at the Bureau of Land Management office in Taos, NM. This River Management Plan is incorporated by reference in the Carson Forest Plan.

No other rivers within the Carson Forest boundary are listed on the Nationwide River Inventory. No other rivers are eligible for Wild and Scenic River designation.

The Columbine-Hondo area was classified a Wilderness Study Area (WSA) in the New Mexico Wilderness Act of 1980. This Act directed the Secretary of Agriculture to review these lands as to their suitability or non-suitability for preservation as wilderness. This planning process is the vehicle through which the Regional Forester will make his recommendation to the Secretary of Agriculture.

Concerning other roadless areas on the Carson National Forest, the Act further states:

"...that review and evaluation (referring to the RARE II process) shall be deemed for the purposes of the initial land management plans required for such lands by the Forest and Rangeland Renewable Resources Planning Act of 1974 as amended by the National Forest Management Act of 1976 to be

an adequate consideration of the suitability of such lands for inclusion in the National Wilderness Preservation System, and the Department of Agriculture shall not be required to review the wilderness option prior to the revision of the initial plans, and in no case prior to the date established by law for completion of the initial planning cycle..."

Therefore, no other areas will receive further study.

PLANNING PROCESS

The proposed Forest Plan was developed in compliance with the NFMA regulations (36 CFR 219) and the Council on Environmental Quality (CEQ) guidelines (40 CFR 1500) that were developed to implement NEPA of 1969.

The planning process specified in the NFMA regulations was followed in development of the Carson Forest Plan. The planning process utilized the interdisciplinary (ID) approach. An ID Team was created by gathering professionals with diverse backgrounds in the physical, biological, economic, and social sciences. Implementation of this Plan will require continued ID teamwork [36 CFR 219.5 and .10].

The planning process is a logical, rational, and trackable approach to natural resource decision-making. The planning actions as described in the NFMA regulations [36 CFR 219.12(b)-(k)] and used in this Forest planning effort are as follows:

- Identification of issues, concerns, and opportunities,
- Development of planning criteria,
- Inventory data and information collection,
- Analysis of the management situation,
- Formulation of alternatives,
- Estimation of effects of alternatives,
- Evaluation of alternatives,
- Preferred alternative recommendation (Forest Plan),
- Plan approval,
- Monitoring and evaluation.

Planning was based on the following principles [36 CFR 219.1(b)] which were intergrated throughout the process:

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"Plans guide all natural resource management activities and establish management standards and guidelines for the National Forest System. They determine resource management practices, levels of resource production and management, and the availability and suitability of lands for resource management." "Forest planning will be based on the following principles:

- (1) Establishment of goals and objectives for multiple-use and sustained-yield management of renewable resources without impairment of the productivity of the land;"

(Goals, objectives, and the levels of sustained outputs are contained in Chapter 4.)

- "(2) Consideration of the relative values of all renewable resources, including the relationship of nonrenewable resources, such as minerals, to renewable resources;"

(Both quantifiable and nonquantifiable values were evaluated for alternatives and benchmarks. These values are displayed and discussed in detail in Chapters 2 and 4, and Appendices C and F of the EIS.)

- "(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;"

(This principle was the foundation of the planning process. Planning models, prescriptions, benchmarks, and alternatives were formulated to consider all components of the Forest. Some components were emphasized in some of the analysis but minimum standards for all other components were always met.)

- "(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 degradations 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;"

(Extensive coordination was done throughout the planning process. These efforts are described in Chapters 1 and Appendix A of the EIS.)

"(10) Use of a systematic, interdisciplinary approach to ensure coordination and integration of planning activities for multiple-use management;"

(The ID Team members that developed the proposed Forest Plan are listed in Chapter 5 of the EIS.)

"(11) EORWB OJD UREZCEIT PCFWNY PORTNYPOTNAI#"

(The public has been involved throughout the process. A description of public involvement is found in Chapter 6 of the EIS.)

(12) Establishment of quantitative and qualitative standards and guidelines for land and resource planning and management;"

(These principles were integrated into the standards and guidelines for management found in Chapter 4. Impacts and effects of the proposed management are described in Chapter 4 of the EIS.)

(The management situation for all resources and uses is described in the AMS on file at Forest offices and summarized in Chapter 3 of the EIS and Chapter 3 of this Plan.)

"(13) Management of National Forest System lands in a manner that is sensitive to economic efficiency; and"

(Economic efficiency of the alternatives and proposed Forest Plan was evaluated throughout the process. Chapters 2 and 4, and Appendices C and E of the EIS describe the economic efficiency analysis.)

"(14) Responsiveness to changing conditions of land and other resources and to changing social and economic demands of the American people."

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(Demand considerations and social and economic effects of the alternatives and Forest Plan are found in Chapters 2, 3, and 4 of the EIS and in the AMS.)

PLAN CONFORMITY

"As soon as practicable after approval of the plan, the Forest Supervisor shall ensure that, subject to valid existing rights, all outstanding and future permits, contracts, cooperative agreements, other instruments for occupancy and use of affected lands are consistent with the plan. Subsequent administrative activities affecting such lands, including budget proposals, shall be based on the plan. The Forest Supervisor may change proposed implementation schedules to reflect differences between proposed annual budgets and appropriated funds. Such scheduled changes shall be considered an amendment to the forest plan, but shall not be considered a significant amendment, or require the preparation of an environmental impact statement, unless the changes significantly alter the long-term relationship between levels of multiple-use goods and services projected under planned budget proposals as compared to those projected under actual appropriations." [36 CFR 219.10(e)]

The following items were not considered in the Forest Plan because they developed too late to incorporate. They are compatible with the management direction, but funding is not included. They are:

- Management of the Valle Vidal Unit
- Forest Microwave System (Provides communication between Forest offices)
- FLIPS (National Forest Service Computer system)
- Other unforeseen capital investments which may be necessary over time.

VALIDITY

If at some time in the future it is found that a particular portion of the Forest Plan is invalid, that will not invalidate the entire plan. The other portions of the plan would continue to be implemented.

PLAN AMENDMENTS

"The Forest Supervisor may amend the forest plan. Based on an analysis of the objectives, guidelines, and other contents of the forest plan, the Forest Supervisor shall determine whether a proposed amendment would result in a significant change in the plan. If the change resulting from the proposed amendment is determined to be significant, the Forest Supervisor shall follow the same procedure as that required for development and approval of a forest plan. If the change resulting from the amendment is determined not to be significant for the purposes of the planning process, the Forest Supervisor may implement the amendment following appropriate public notification and satisfactory completion of NEPA procedures." [36 CFR 219.10(f)]

PLAN REVISION

"A forest plan shall ordinarily be revised on a 10-year cycle or at least every 15 years. It also may be revised whenever the Forest Supervisor determines that conditions or demands in the area covered by the plan have changed significantly or when changes in RPA policies, goals, or objectives would have a significant effect on forest level programs. In the monitoring and evaluation process, the interdisciplinary team may recommend a revision of the forest plan at any time. Revisions are not effective until considered and approved in accordance with the requirements for the development and approval of a forest plan. The Forest Supervisor shall review the conditions on the land covered by the plan at least every 5 years to determine whether conditions or demands of the public have changed significantly." [36 CFR 219.10(g)]

HOW PLAN WILL
BE USED

The Forest Plan will be used to:

- Determine public issues, management concerns and resource use and development opportunities.
- Define management practices appropriate to the range of resource conditions found on the Forest.
- Assign combinations of management practices to lands for which they are most suited based on productivity and sensitivity of the land and the needs expressed in the issues and concerns.
- Specify the resource production outputs and schedules associated with implementing specific management practices.
- Establish standards and guidelines for resource use and protection.
- Establish monitoring standards to ensure that actual outputs and effects are consistent with those planned.
- Provide a framework for project level decisions and for development of budget proposals.
- Integrate individual resource planning activities.
- Coordinate Forest Service planning activities with the efforts of other Federal agencies, State and local governments and Indian tribes.
- Provide input to subsequent RPA Programs and Regional Guides.

PLANNING AREA
DESCRIPTION

The Carson National Forest encompasses 1,391,692 acres of National Forest System lands in northern New Mexico. It is an administrative unit of the Southwestern Region of the

1. INTRODUCTION

Forest Service, U.S. Department of Agriculture. Portions of this Forest lies within Taos (35%), Rio Arriba (63%), Colfax (1%), and Mora (1%) Counties. Figure 1 is a map of the Forest. The Forest is divided into seven Ranger Districts: El Rito (19%), Canjilon (10%), Jicarilla (11%), Penasco (12%), Questa (12%), Taos (9%), and Tres Piedras (27%).

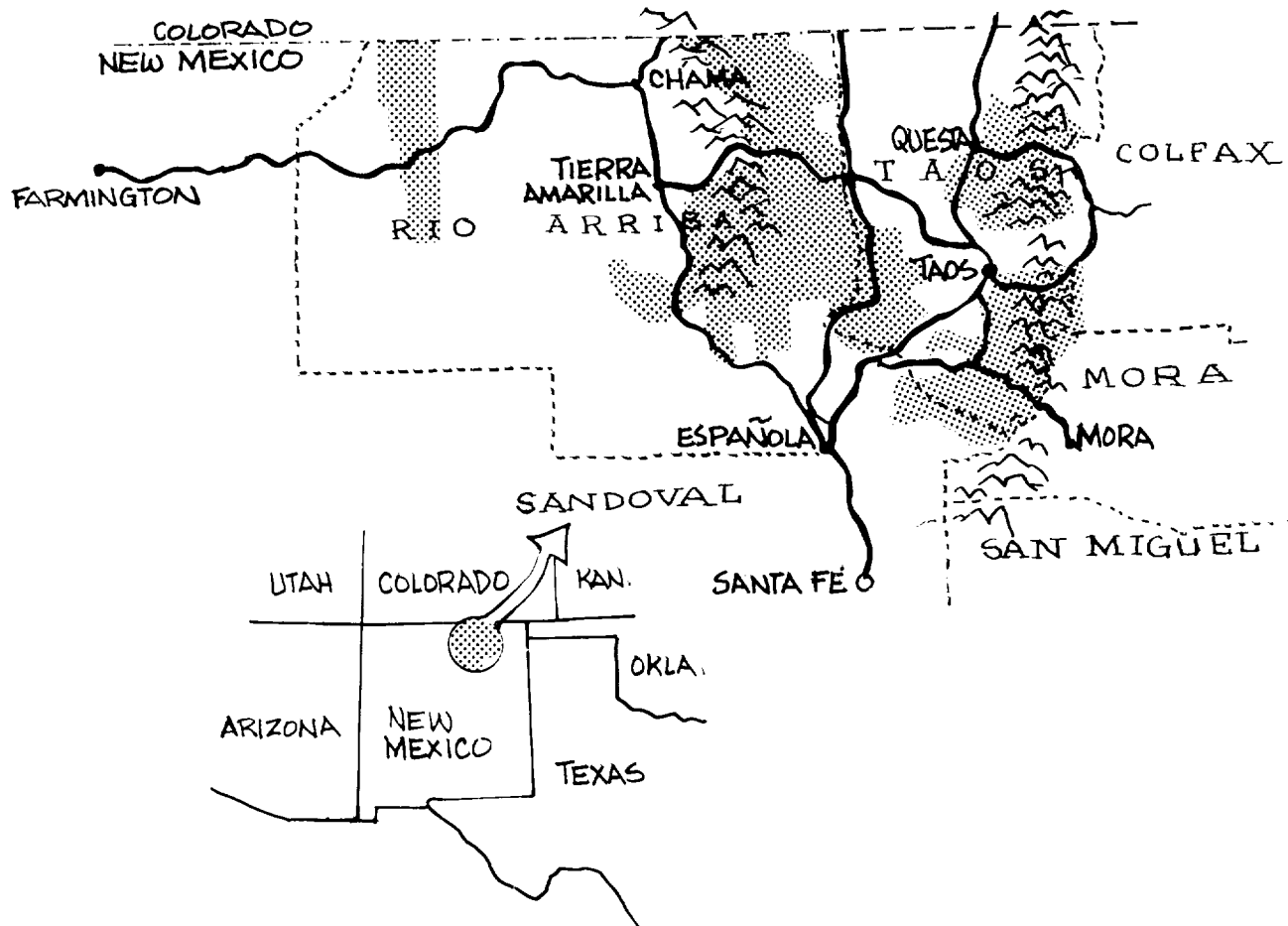
The landscape is generally mountainous with numerous streams, mostly draining into the Rio Grande. Elevations range from 6,000 feet in low elevation grassland to Wheeler Peak, the highest point in New Mexico, which attains an elevation of 13,161 feet.

The entire area of north-central New Mexico can be characterized by a mild climate with cool summers, moderate winter snows, and many days of sunshine. Precipitation varies from 10 to 35 inches a year with the greater amounts falling at the higher elevation areas. Precipitation is split between summer rain and winter snow. Summer precipitation comes mainly from warm, moist air masses from Mexico and is associated with strong southwest winds. Winter precipitation comes from the Pacific Ocean in the western United States. Yearly precipitation is highly variable.

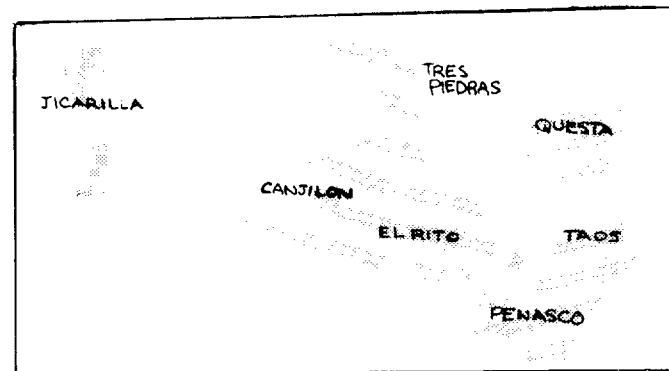
Air temperatures vary from -25°F to 50°F in the winter. Summer air temperatures vary from 30°F to 95°F. Extended periods of extreme heat or cold are rare.

Southwesterly winds are common during the spring months and during the summer in association with thunderstorm activity.

Figure 1. Vicinity of the Carson National Forest.



RANGER
DISTRICT



2. ISSUES, CONCERNS & OPPORTUNITIES

IDENTIFICATION PROCESS

Early public involvement concentrated on identification of issues, concerns and opportunities (ICO) and in presenting an overview of the planning process and highlighting how the public could continue to be involved [36 CFR 219.6].

Public Contact

In the late 1970's the Carson was developing a Forest Plan which included considerable public involvement. The basic approach was to contact all groups, organizations, agencies and individuals, who might be interested in the management of the Carson National Forest. Each was given the opportunity and encouraged to participate. Contacts were made with: 1) Federal, State, County and local governments and agencies, 2) Native American tribes and pueblos, 3) educational institutions, 4) industry and businesses, 5) libraries, 6) conservation, recreation, service and civic organizations, 7) news media, 8) grazing permittees, 9) special use permittees, 10) legislators, 11) churches, 12) water organizations, and 13) numerous individuals. Various means of contact were utilized: interest card, television, pamphlet, newsletter, newspaper, radio, poster, slide-tape show, personal contact, and announcement.

There were 157 ways of managing resources (options) on the Carson presented in a booklet. The options were all possible within existing laws, and displayed a wide range of opportunities for managing eleven resource areas. People's comments enabled the Forest to add new issues, validate existing issues, delete what were previously thought to be issues, and develop a preferred management alternative.

Public responses from the "Option Booklet" were summarized in a second booklet. It combined a more detailed description of each of the eleven resource areas with the results of the comments on the "Option Booklet". It was used as an education and a validation tool. Each section of the second booklet opened with a discussion answering many of the questions raised in the "Option Booklet". The discussions were followed by the comments.

A proposed Forest Plan and draft EIS were prepared and were ready to be sent to the public in September of 1979. However, in that month, the National Forest Management Act Regulations were published. Compliance with these regulations required a revision of much of the planning process.

An eight page newspaper supplement headlining the reason for the delay was published in the local Taos News newspaper. A copy of this supplement, along with a letter was sent to everyone on the Forest planning mailing list.

2. ISSUES, CONCERNS, & OPPORTUNITIES

Additional Sources

The following additional sources were reviewed for previous public comments that could be useful in highlighting issues and opportunities and coordinate with the different planning levels of the Forest Service.

- Regional Guide: The Region sent out a booklet asking for public comments on proposed issues/concerns/opportunities and decision criteria for the Regional Guide. Several public meetings were held throughout the Region. The Forest obtained copies of those comments submitted from northern New Mexico. The proposed Regional issues, concerns, opportunities and decision criteria developed for the Draft Environmental Impact Statement for the Southwestern Regional Guide were also reviewed.
- 1980-1985 RPA: The Forest Service requested from the Washington Office, comments from the general public concerning the 1980-85 RPA Assessment. The Carson got copies of all comments received from individuals from northern New Mexico.
- Closed Files: The Forest reviewed all closed files (files more than a year old) that were on-hand. The vast majority of letters were not applicable (requests for information, etc.). Some provided input.
- RARE II: The Forest utilized the documented RARE II analysis for the Columbine-Hondo Wilderness Study Area.

Each resource situation statement from the previous planning process was reviewed by the Interdisciplinary Team for concerns and opportunities. At the same time any new information acquired through personal contacts, or other communications with the public was incorporated. This resulted in a draft of the preliminary issues/concerns/opportunities.

Booklet

A booklet outlining the planning process, and listing the preliminary issues/concerns/opportunities and decision criteria was sent out to the public for review and comment.

Newspapers, Radio, Open Houses

During the review period there was extensive coverage by the local newspapers and radio stations. Open houses were held at six Ranger Districts to answer people's questions concerning the booklets. The comment period was extended and notices were distributed in English and Spanish inviting people to comment. The Forest also offered to sit down and talk (English or Spanish) with any person or group and translate any or all of the booklet.

Formal and informal levels of consultation were maintained with Federal, State, and local government entities. A concerted effort was made to coordinate with the New Mexico Department of

2. ISSUES, CONCERNS & OPPORTUNITIES

Game and Fish to incorporate their wildlife and fish comprehensive planning objectives into the Forest planning process. The same level of coordination has taken place with the State Parks Board regarding natural areas.

Because of the impact of land and resource allocation and management of National Forest System lands in Taos and Rio Arriba Counties, both County Commissions were contacted throughout the planning process.

Indian Tribes And Pueblos

Native American tribes located adjacent to and within the Carson were contacted for information about uses and religious or symbolic significance of lands within the Forest (36 CFR 219.8 and PL 95-341, American Indian Religious Freedom Act).

ISSUES, CONCERNS AND OPPORTUNITIES AND HOW ADDRESSED

These are the final public issues, concerns of the Forest managers, and management opportunities that are addressed in the Environmental Impact Statement and the Forest Plan. They establish the scope of the EIS [40 CFR *11. A, C.1501.7 and 1508.25]. The numerical outline is used for reference. The notations in () mean: (d) = ICO treated differently in alternatives; (s) = ICO treated the same in all alternatives; (o) = Deferred, to be handled outside the forest planning process.

Following each ICO is a quantitative and qualitative description of how the Forest Plan (Proposed Action) addresses that ICO.

1. COMMERCIAL TIMBER

- 1.1 Timber Harvest (d)
- 1.2 Cost (d)
- 1.3 Visual (d)
- 1.4 Erosion/Sedimentation (d)
- 1.5 Wildlife Habitat (d)
- 1.6 Spruce/Ponderosa Pine (d)
- 1.7 Insect and Disease Control -
Pesticide (d)
- 1.8 Thinning (d)

(1.1) There are means and/or a scientific basis of increasing harvest of commercial sawtimber, cordwood products, posts, poles, and vigas through intensive management, cable harvesting, expanding markets for aspen, and increasing the allowable harvest on the Vallecitos Federal Sustained Yield Unit (VFSYU) to at least a level equal to the annual growth capacity. (1.2) At the highest harvest levels these could cause higher timber harvesting cost (1.3) effects on the visual resource through the roads and clearcuts, (1.4) increases in on-site erosion and stream sedimentation, (1.5) adverse effects on the size and quality of wildlife habitat, (1.6) increases in the quantity of

2. ISSUES, CONCERNS, & OPPORTUNITIES

spruce harvest while decreasing ponderosa pine, and the (1.7) controversial use of pesticides to manage insects and diseases which reduce growth and yields. (1.8) There is an opportunity to accomplish precommercial and sanitation thinning through fuelwood sales.

Table 1. How the Forest Plan addresses the Commercial Timber ICO [Ave. annual for years 1-10].

Allowable Sale Quantity (MMCF)	7.0	Timber management will be applied through integrated resource management to meet a combination of multiple-resource objectives. Increased emphasis will be placed on maintaining or improving quality of wildlife habitat. Visual quality will be maintained or improved. Through application of "best management practices" soil erosion and stream sedimentation will be maintained within accepted limits.
(MMBF)	35.0	
Sawtimber (MMBF)	32.0	
Products (MMBF)	3.0	
VFSYU (MMBF)1/	7.6	A mix of species will be harvested to balance timber costs against product values and other multiple-resource values. By volume, most sawtimber harvest will be in the mixed conifer (17.2 MMBF/YR) followed by ponderosa pine (10.8 MMBF/YR) and spruce (4.0 MMBF/YR). This combination will help provide an effective sale program, and will help prioritize treatment of the mixed conifer type to reduce potential for future damage from western spruce budworm. Within the spruce and mixed conifer types, harvests will be designed to maintain an aspen component for wildlife habitat and visual quality objectives.
Spruce	4.0	
Ponderosa		
Pine	10.8	
Intermediate Harvest Commercial Thinning (acres)	1940	Insect and disease conditions will be monitored yearly, and problems dealt with through integrated pest management procedures. A range of treatment alternatives will be considered based on specific Management Area objectives.
Present Value of Timber Costs (MM\$)		

2. ISSUES, CONCERNS & OPPORTUNITIES

Table 1. How the Forest Plan addresses the Commercial
Timber JCO [Ave. annual for years 1-10] (continued).

Harvest on the Vallecitos Federal Sustained Yield Unit will be increased, but still held below the annual growth potential. Product volume has been included and provisions have been made for local residents to start a small business venture.

Intermediate harvests will help provide commercial and personal-use wood products; and will help improve wildlife habitat, reduce insect and disease problems, and improve timber growth.

1/ Figure represents total volume to be harvested on the Vallecitos Federal Sustained Yield Unit. This volume includes 6.5 MMBF sawtimber plus 1.1 MMBF products.

2. FUELWOOD

- 2.1 Pinon (s)
- 2.2 Demand (d)
- 2.3 User Priority (o)
- 2.4 Livestock (d)
- 2.5 Logging Residue (o)
- 2.6 Availability (o)

(2.1) On some individual Ranger Districts demand exceeds supply for pinon, the preferred fuelwood species. (2.2) The demand is increasing for other species and could exceed the supply in the foreseeable future, caused by availability and accessibility problems. (2.3) Some local residents feel they should have first, or sole, priority for fuelwood. (2.4) Some areas suited for growing pinon are being maintained for livestock forage. (2.5) Some logging residues may not be available for personal use fuelwood. (2.6) There is an opportunity to increase fuelwood availability by managing low productivity timber lands (less than 20 cu. ft./acre/yr.) for small diameter material on a sustained yield basis.

2. ISSUES, CONCERNS, & OPPORTUNITIES

Table 2. How the Forest Plan addresses the Fuelwood ICO [Ave. annual for years 1-10].

(Sold) Green P-J	(Free) Slash
---------------------	-----------------

MMBF 4.6	MMBF 3.6
-------------	-------------

Pinon-juniper firewood supply will exceed demand forest-wide but continue to be scarce on some individual Ranger Districts, particularly those on the east side of the Forest. The pinon-juniper area will be managed to maintain the present harvest level on a sustained basis; existing range revegetation areas will be maintained as grasslands.

Timber sale and thinning slash will be available in adequate supply through the decade. In addition to volume shown in the table, natural downfall will contribute to the supply of dead/dry firewood.

Opportunity exists to expand green firewood sales for other species on "unsuitable" lands, particularly for aspen in Management Area 6.

3. WILDERNESS

- 3.1 Trails (d)
- 3.2 Litter (d)
- 3.3 Overuse (d)

(3.1) Within the wilderness trails are not maintained to provide protection. Some trail segments are poorly located and inadequately signed. (3.2) Heavily used camping areas are often littered. (3.3) Most heavily used campsites are near lakes and streams. The repeated use is causing vegetation damage, soil compaction, and water quality deterioration.

2. ISSUES, CONCERNS & OPPORTUNITIES

Table 3. How the Forest Plan addresses the Wilderness ICO [Ave. annual for years 1-10, & % of demand satisfied]. (cont.)

MRVD	Miles of Trails Maintained	Wilderness Management Funding (M\$)	
12 92%	113	50.0	The primary management emphasis is to provide dispersed recreation and range and watershed condition compatible with wilderness values. Trail maintenance is improved and there is a reduction in litter in the high use zone. Trail and trailhead construction for the proposed Columbine/ Hondo Wilderness should improve distribution and use patterns in existing wildernesses.

4. COLUMBINE-HONDO

- 4.1 Timber (d)
- 4.2 Minerals (d)
- 4.3 Recreation Use Conflicts (d)

Columbine-Hondo was classified a Wilderness Study Area (WSA) in the New Mexico Wilderness Act of 1980. The Forest Plan must recommend this area (or a portion of it) for wilderness or other uses.

(4.1) Approximately half of the WSA consists of lands capable, available and tentatively suitable for timber production. Harvest of this timber would benefit the local community economies. (4.2) Some parts of the WSA have potential for location of various minerals. Wilderness designation would prohibit mineral extraction on those areas that do not have valid mining claims when wilderness designation is made. (4.3) In the Goose Lake watershed the motorized recreation uses conflict with the opportunities for primitive recreation. The motorcycles and fourwheelers want more trails while the primitive recreationists prefer to be isolated from mechanical sights and sounds.

2. ISSUES, CONCERNS, & OPPORTUNITIES

Table 4. How the Forest Plan addresses the Columbine-Hondo ICO.

Acres Wilderness (Acres)	Dispersed Motorized Opportun. (Acres)	Annual LRSY (MCF)	
30,500	0	0	The Forest Plan assigns subunits 1, 2, 3, 5, 6, 7, 8, 9, 10, 11; small portions of 4 and 13 and the majority of 15 and 16 to wilderness. (See Appendix C of the EIS). The area proposed for wilderness meets the requirements of wilderness suitability, availability, need and manageability as outlined in FSM 2320. It also possesses the inherent qualities of wilderness. The acres that are not proposed for wilderness are available for the location of minerals and semi-primitive non-motorized recreation opportunities. Present characteristics of the areas not selected will be maintained so the areas can be reevaluated for wilderness or multiple use when the plan is redone in 10-15 years.

5. FISH AND WILDLIFE

- 5.1 Use Conflicts (d)
- 5.2 Elk/Deer Winter (d)
- 5.3 Predation (o)
- 5.4 Type Changes (d)
- 5.5 Old Growth (d)
- 5.6 Roads (d)
- 5.7 Cutthroat (d)

The requirements of different wildlife species conflict with each other and with domestic livestock (5.2) Elk and deer

2. ISSUES, CONCERNS & OPPORTUNITIES

concentrate during severe winters resulting in overuse of key areas. (5.3) Coyote predation can contribute to declines in deer, antelope, and livestock numbers, while control methods are controversial.

Human activities may harass wildlife especially during winter months and the elk calving season from May to July. Some of those activities are: (5.4) vegetative type changes which enhance or restrict the suitability to support specific species; (5.5) harvest of old growth timber which can reduce habitat for some species; (5.6) road locations, densities, and seasons of use displace wildlife, especially elk; (5.7) stocking streams with rainbow trout is reducing Rio Grande cutthroat trout populations.

Table 5. How the Forest Plan addresses the Fish and Wildlife ICO - Habitat Components.

<u>Habitat Component</u>	<u>Units</u>	<u>Amount</u>	
<u>Old Growth</u>			
Total Forested Land	M acres	1147	The Forest Plan will over time provide high amounts and quality of most habitat components within suitable timberlands and Forest-wide. Requirements for management of old growth, big game cover, vegetative diversity, raptor nesting habitat, and many other habitat components receive high emphasis. Populations of all management indicator species, with the possible exception of certain rare animals, will be managed at levels greatly exceeding minimum viable populations. Rare plants and animals will receive high management emphasis.
Allocated to Old Growth	M acres	486	
(figures exclude oak)	Percent	42	
Unsuitable Timberland	M acres	396	
Allocated to Old Growth	M acres	396	
(figures exclude oak and PJ)	Percent	100	
Suitable Timberland	M acres	380	
Allocated to Old Growth	M acres	23	
	Percent	6	
Pinon-Juniper	M acres	371	
Allocated to Old Growth	M acres	67	
	Percent	18	
Minimum Old Growth Characteristics Identified		Yes	

2. ISSUES, CONCERNS, & OPPORTUNITIES

Table 5. How the Forest Plan addresses the Fish and Wildlife
ICO - Habitat Components (continued).

Snags

Suitable Timberland	No./100 acres	300
---------------------	---------------	-----

Forage/Cover Ratio (Big Game Summer Range)

Suitable Timberland Managed to Provide 60/40 Ratio	Percent	100
--	---------	-----

Minimum Thermal Cover	Percent	10
-----------------------	---------	----

Minimum Hiding Cover	Percent	10
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Minimum Cover Requirements Identified	--	yes
---	----	-----

Forage/Cover Ratio (Primary Big Game Winter)

Suitable Timberland Managed to Maintain Cover Component	Percent	100
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Turkey Roosting Habitat Management

Suitable Timberlands Summer Range	Number	297
Winter Range	Number	594
Total	Number	891

Squirrel Nest Tree Management

Suitable Timberlands	Percent Rating	30 2/ Mod-High
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Openings (Clearcuts)

Suitable Timberlands	Maximum Acres	40
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Raptor Nesting Habitat Management

Forest-wide	Area Managed	10-20 Acres
-------------	-----------------	----------------

2. ISSUES, CONCERNS & OPPORTUNITIES

Table 5. How the Forest Plan addresses the Fish and Wildlife
ICO - Habitat Components (continued).

Spotted Owl Nesting Habitat Management

Forest-wide	Area	300
	Managed	Acres

Vegetative Diversity

Suitable Timberlands	Percent	70
----------------------	---------	----

Edge Contrast (Horizontal Diversity)

Suitable Timberlands	Amount	Medium
----------------------	--------	--------

Dead/Down Log Management ^{3/}

Conifers	Linear	
	Feet/100	
	Acres	5000

Aspen	Linear	
	Feet/100	
	Acres	3300

Active Logging Period Guideline

Suitable Timberlands	Years	3
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Talus Rock Habitat Management

Forest-wide	Percent	100
-------------	---------	-----

Wildlife Forage Allocation

Suitable Range	Percent	4/
----------------	---------	----

2. ISSUES, CONCERNS, & OPPORTUNITIES

Table 5. How the Forest Plan addresses the Fish and Wildlife
ICO - Habitat Components (continued).

Diversity Edge Index

Forest-wide Index 1.41

1/ Assumes 60 percent of suitable timberland can be managed to protect desired snag quantities.

2/ Based on direction to provide a balanced age class and canopy coverage distribution over time on suitable timberlands. Sapling pole and mature (greater than 70 percent canopy coverage), and old growth will provide this habitat component.

3/ To be provided on 75 percent of suitable timberlands.

4/ Forage allocation to wildlife to be based on mutually agreed-upon population goals and objectives of the Forest Service and the New Mexico Department of Game and Fish.

Table 6. How the Forest Plan addresses the Fish and Wildlife
ICO - Roads.

Road Density Guidelines (miles/sq. mile)

Miles for FS Mngt. Miles for public
activities access

3.1

Approximately
1.0-.1 depending
on habitat im-
portance.

(1) Road densities per square mile for the Forest will result in result in an average of approximately 1.0 mile distance between roads open for public travel. (2) All other roads will be closed permanently or seasonally to public use. (3) Additional roads within big game winter ranges will be closed seasonally. (4) Management areas will have no more than one mile of road per square

2. ISSUES, CONCERNS & OPPORTUNITIES

Table 6. How the Forest Plan addresses the Fish and Wildlife
ICO - Roads (continued).

mile of area with the exception of the riparian areas where it is not feasible to reduce density to this level because of the presence of numerous collector and arterial roads.

Table 7. How the Forest Plan addresses the Fish and Wildlife
ICO-Cutthroat Trout [Ave. for years 1-10].

Cutthroat Trout
Fishery Improvement
Structures (number/decade)

Approximately 1000 ^{1/}

(1) Management of cutthroat trout will be consistent with the State Comprehensive Plan. (2) The use of pesticides will require an environmental assessment prior to authorization. (3) Many structures to be constructed.

^{1/} Approximately 450 to be established in other trout fisheries also.

2. ISSUES, CONCERNS, & OPPORTUNITIES

6. RANGE

- 6.1 Forage (d)
- 6.2 Conflicts (d)
- 6.3 Capacity (o)
- 6.4 Soil/Vegetation (d)
- 6.5 Time Impacts (o)
- 6.6 Revegetation Areas (d)
- 6.7 Type Conversion (d)
- 6.8 Wildhorse (d)
- 6.9 Pesticides (d)
- 6.10 Prescribed Burning (d)

(6.1) Forage production on about 30 percent of the range can be increased through better management and construction of improvements. Demand exceeds supply for cattle forage and supply exceeds demand for sheep forage in some areas. (6.2) On some areas capable of meeting these demands, grazing conflicts with other resource uses, such as timber and wildlife. (6.3) Numbers of livestock exceed grazing capacity on some allotments, and vice versa. (6.4) Soil damage and a decline in the condition of some range have been caused by overstocking, continuous grazing, poor distribution, and/or lack of management. (6.5) Lack of time has been a dominant factor preventing implementation of improved grazing systems. It is difficult for some permittees to spend the required time and money to implement intensive management systems. (6.6) Revegetated areas are being invaded by woody plants. (6.7) Some people are opposed to converting pinon-juniper to grass, (6.8) regulating wildhorse herds, (6.9) using pesticides, and (6.10) prescribed burning.

Table 8. How the Forest Plan addresses the Range ICO [Ave. annual for years 1-10 & % of demand satisfied].

Permitted Use (MAUM)	Range Mgt. at 2030	Intensity (acres)			
		A	B	C-D	E
120 (83%)	804	95,483	690,925	1,591	

Increases in permitted livestock use occurs gradually to 2030 by intensifying management and range improvement investments. Impacts on permittees are greater under higher levels of management intensities. Long term productivity and ground cover improves with better livestock management and pesticide use. Wildlife habitat is improved by increasing plant diversity,

2. ISSUES, CONCERNS & OPPORTUNITIES

Table 8. How the Forest Plan addresses the Range ICO [Ave. annual for years 1-10 & % of demand satisfied].

forage production, water development and cover. Wildhorse populations are maintained at levels consistent with carrying capacities.

7. DEVELOPED RECREATION

- 7.1 More Facilities (d)
- 7.2 Overuse (d)
- 7.3 Ski Areas vs. Wilderness (d)
- 7.4 Ski Area Economic Benefits (d)

(7.1) Future demand exceeds supply for developed picnic grounds (adjacent to Questa, Taos, and Penasco), ski areas, group and individual campsites, trailheads, and parking areas and sanitation facilities for cross-country skiers and snowmobilers. (7.2) Overuse in Forest Service campgrounds is resulting in damage to vegetation, soil compaction, and stream sedimentation. (7.3) The proposed Sangre de Cristo ski area could detract from the Wheeler Peak Wilderness. (7.4) This ski area would be economically beneficial to the surrounding communities.

Table 9. How the Forest Plan addresses the Developed Recreation ICO [Ave. annual for years 1-10 & % of demand satisfied].

MRVDS	Ski Area SAOT's Provided	Camp & Picnic PAOT's Provided	
516 100%	17,825	3,425	All fee campgrounds will be maintained at a Full Service Level (FSL), other developed site facilities maintained at a Reduced Service Level (RSL) and campgrounds and picnic areas will be rehabilitated. Soil loss and other resource damage

2. ISSUES, CONCERNS, & OPPORTUNITIES

Table 9. How the Forest Plan addresses the Developed Recreation
ICO [Ave. annual for years 1-10 & % of demand satisfied]
(continued).

is minimized through site
rehabilitation.

Additional campground
hosts and snow rangers
are provided. Land has
been allocated for the
Sangre de Cristo ski
area. Future development
plans for the Sangre de
Cristo ski area will
minimize the impacts on
the Wheeler Peak
Wilderness. Local
communities would benefit
financially. Developed
recreation management
improves.

8. DISPERSED RECREATION

- 8.1 User Conflict (d)
- 8.2 Trails (d)
- 8.3 Signs (d)
- 8.4 Litter (d)
- 8.5 Off Road Vehicles (ORV)
- 8.6 Overuse (d)

(8.1) Use conflicts exist between fourwheelers and hikers, motorcyclists and horseback riders, and between snowmobilers and cross country skiers. (8.2) Trails are not maintained to provide resource protection. (8.3) Some trail segments are poorly located and inadequately signed. (8.4) Some of the heavily used dispersed camping areas are littered and have no sanitation facilities. (8.5) Off road vehicle use can disturb wildlife and/or cause erosion. (8.6) Most heavily used dispersed camping areas are within the riparian area. In some instances, the recreationists are causing vegetation damage, soil compaction, and stream sedimentation. These popular spots are difficult to close, due to the historic use patterns.

2. ISSUES, CONCERNS & OPPORTUNITIES

Table 10. How the Forest Plan addresses the Dispersed Recreation ICO [Ave. annual for years 1-10 & % of demand satisfied].

Trail Maintnd. MRVDS (miles)		
392	176	Dispersed recreation management levels increase. Trail maintenance increases. Heavily used dispersed camping areas (occupancy spots) are rehabilitated and closed or hardened to withstand use. ORV areas are enforced. More visitor contact is provided. Signing and litter control improves.
85%		

9. WATERSHED

- 9.1 Watershed Condition (d)
- 9.2 Runoff (d)
- 9.3 Soil Loss (d)

(9.1) Past and some present activities cause unsatisfactory watershed conditions which impair the long-term productivity of the site. (9.2) Insufficient quantity and quality of vegetation contribute to increased runoff and (9.3) soil loss. (9.2) There is not enough runoff in the Rio Grande Basin to meet needs. The greatest demand for runoff in Taos and Rio Arriba counties is for domestic and irrigation uses.

Table 11. How the Forest Plan addresses the Watershed ICO [Ave. annual for years 1-10].

Water Yield (M acre feet)	Soil Loss ^{1/} (M tons)	
345	1284	The Proposed Action maintains water yield at the current annual average. Watershed condition would be enhanced even though predicted soil loss does not vary significantly from other alternatives. Watershed enhancement would be accomplished via direct and indirect

2. ISSUES, CONCERNS, & OPPORTUNITIES

Table 11. How the Forest Plan addresses the Watershed ICO [Ave. annual for years 1-10] (continued).

improvements. Water quality would also be modestly better.

1/ This includes geologic and accelerated erosion. These numbers are only relative and should be used for comparison purposes only.

10. RIPARIAN

10.1 Heavy Use (d)

10.2 Conflicting Use (d)

(10.1) Areas along water ways are heavily used . Roads are usually located in the riparian areas because they provide a natural way through the country. Most of the recreation sites are there because people prefer sites near water. Livestock also concentrate around water and shade. Some wildlife species are dependent upon the vegetative types, diversity, and water. This concentrated use results in damage to vegetation, compacted soils, erosion, and stream sedimentation. (10.2) The varied uses within the riparian areas are not compatible. Most recreationists do not like the noise and smell of livestock. Wildlife prefer areas isolated from human use. Livestock competes with the wildlife for forage in the riparian.

Table 12. How the Forest Plan addresses the Riparian ICO [Ave. annual for years 1-10].

Disp. Rec. (MRVD)	Fish (MEUD)	Soil Loss (M. ton)	Permit Use (MAUM)	Mi. Rd. Obliterated
93	50	27	4	20

The proposed Action does not totally resolve conflicting use and heavy use within the riparian analysis area, but it comes closer to resolving the ICO than the other alternatives. The Forest Plan emphasizes quality within the riparian areas by minimizing and partially resolving conflicts.

2. ISSUES, CONCERNS & OPPORTUNITIES

11. LAW ENFORCEMENT

- 11.1 Developed Sites (d)
- 11.2 Cultural/Historical (d)
- 11.3 Snags (d)
- 11.4 Livestock (o)
- 11.5 Pinon (d)
- 11.6 Occupancy Trespass (d)
- 11.7 ORV (d)

Many people have expressed the need to increase law enforcement. (11.1) Harassment, vandalism, and theft occur at some campgrounds and trailheads. (11.2) Cultural and historic sites are being vandalized. (11.3) Illegal removal of standing dead ponderosa pine, Douglas-fir, and pinon trees along roads and in riparian areas is reducing the habitat for snag-dependent wildlife species. (11.4) Unauthorized livestock use reduces grazing capacity. (11.5) Illegal removal of green pinon is causing over-harvesting in some areas. (11.6) Many cases of occupancy trespass are discovered as lands inside the National Forest are surveyed. (11.7) Off-road vehicles using closed roads and trails cause soil loss, increase maintenance costs, and harass wildlife.

Table 13. How the Forest Plan addresses the Law Enforcement ICO.

Two coop. agreements of Rio Arriba counties, one patrol unit each county. One Forest Service law enforcement officer shared between Carson and Santa Fe Forests. And east and west side full range law enforcement officers.

Dead and down fuelwood supply is slightly increased. Green wood supply will still be a problem requiring law enforcement efforts due to demand exceeding supply. Increased law enforcement will provide for enforcing ORV restrictions and suppressing losses at recreation sites and trailheads. Losses of government property will be investigated. There will be an increase in the monitoring and suppression of cultural resource vandalism. This alternative best satisfies law enforcement needs for handling unauthorized livestock use.

3. ANALYSIS OF THE MANAGEMENT SITUATION SUMMARY

OVERVIEW

An Analysis of the Management Situation (AMS) was prepared and documented in 1983 as a means of determining the productive capacity of the Forest to supply various goods and services. It was updated in March 1984. Copies of the AMS are filed at Ranger District offices, the Forest Supervisor's Office, the Regional Office, and are available in the planning record. The AMS is incorporated by reference for purposes of analysis in the EIS and Forest Plan.

The AMS is summarized in detail in Chapter 3 of the EIS, The Affected Environment.

Table 14 summarizes the major conclusions in terms of key outputs from the AMS. The table depicts goods and services produced by the Forest Plan and projects supply and demand.

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

Table 14. Comparison of the key outputs with potential supply and projected future use. (Decades 1 and 5)

OUTPUT	UNITS AVG. YRLY.	FOREST PLAN		SUPPLY		POTENTIAL DEMAND	
		DEC. 1	DEC. 5	DEC. 1	DEC. 5	DEC. 1	DEC. 5
DOWNHILL SKIING	MRVD	230	691	385	1021	230	691
CAMP/ GROUND PICNIC AREA REC.	MRVD	254	510	318	716	254	655
EXIST. WILDER REC.	MRVD	13	23	113	113	13	23
C-H RECOMM. WILDER REC.	MRVD	5	9	43	43	5	9

3. ANALYSIS OF THE MANAGEMENT SITUATION SUMMARY

Table 14. Comparison of the key outputs with potential supply and projected future use. (Decades 1 and 5) (continued)

WILD- LIFE REC.	MWFUD	165	244	165	244	159	402
GRAZE CAP.	MAUM	127	134	140	167	-	-
PERM. USE.	MAUM	120	120	120	136	125	185
SAWTIM SALES	MMBF	32.0	36.8	47.5	45.0	32.0	55.0
PROD.	MMBF	3.0	10.1	4.0	7.0	3.0	5.0
FUEL SOLD & FREE	MMBF	8.2	10.8	10.8	10.8	8.2	10.8
WATER YIELD	MAF	345	345	359	413	1750 ^{1/}	2250 ^{1/}

^{1/} Figures taken from New Mexico Water Resources, 1976.

RECREATION	<p>Demand and planned levels of wilderness recreation are in balance in all decades. The potential supply exceeds these levels based on the potential practical capacity of the wilderness areas, not considering limits of acceptable change.</p> <p>There is adequate supply potential to meet demand for developed recreation. The planned level is less than demand because of funding limitations over time in the Forest Plan. This represents a development opportunity that could be used if sufficient funding were available. There is an opportunity for this portion of demand to be met by the private sector.</p>
WILDLIFE	<p>The human population will become more affluent, have more time to spend in wildlife-oriented recreation and will place more of a demand on wildlife and fish. The lands administered by the Carson National Forest are capable of providing only a finite amount of habitat for wildlife and fish. Even with the emphasis placed on wildlife and fish under the final plan, consumptive and non-consumptive demand for some species may not be met in the future. At the projected final plan funding level approximately 80 percent of demand will be met by the year 2000 and 60 percent of demand will be met for the time period 2020 - 2030.</p>

3. ANALYSIS OF THE MANAGEMENT SITUATION SUMMARY

RANGE

The projected level of grazing is less than the projected demand primarily because of the strong wildlife, watershed and recreation emphasis. There are opportunities to increase the amount of grazing through the implementation of more intensive management and by putting increased funding into range improvement.

Such strategy will maintain and ensure the 120 MAUM's of permitted grazing use Decade 1 thru Decade 5.

TIMBER

Demand for firewood is projected to increase through the 5th decade as population increases. The forest should be able to meet firewood demand through a combination of greenwood sales, slash from timber sales and projects, and natural downfall. While demand for pinon exceeds supply on some individual Ranger Districts, Forest-wide the reverse holds true.

Demand for products should be met through the 5th decade. For the 5th decade, the potential supply is shown to be lower than the quantity projected for the Forest Plan. This is because the potential supply (Alt. E) is reduced by outputs in decade 1-4 that are higher than those for the Forest Plan.

Timber demand for the 5th decade is from Regional timber indices in the 1979 RPA assessment. The value for the first decade is an estimate based on recent sale history and comment from industry. Output could be increased to the potential by expanding the suitable timberland base and including some unroaded areas and steep slopes.

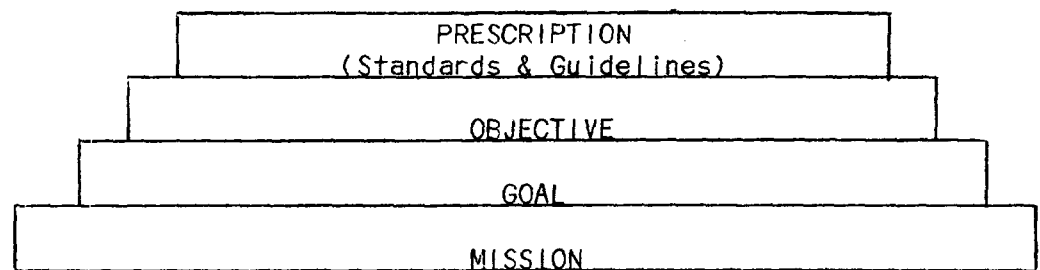
WATER YIELD

The Forest currently cannot meet existing demand for water within the Rio Grande Basin or demand within the basin in the immediate area of the Forest. This condition will continue through all time periods with demand increasing. The potential amount of water the Forest could produce is substantially less than demand within the Rio Grande basin and within the basin in the immediate area of the Forest.

OVERVIEW

This chapter lists the management direction for the Carson National Forest. Discussed first is a general description of the desired condition the Forest is managed toward. This is then followed by the missions, goals, objectives and prescriptions. These are listed from the general to the specific. Figure 2 illustrates these items.

Figure 2. Relationship of mission to goals, to objectives, to prescriptions.



Missions

Missions are very general:

- Show general direction of the organization
- Are addressed to the organization and not to the individuals
- Are used to validate organizational objectives
- Contain the general purpose of the organization

Goals

Goals are:

- A broad general statement usually not quantifiable and timeless
- The principal statements from which objectives are developed
- The central strategy for fulfilling the unit's mission
- Are grouped by resources

4. MANAGEMENT DIRECTION

Objectives

Objectives are:

- Consistent with the missions and goals
- Clear, specific, and as measurable as possible
- Specify the end result to be achieved
- Specify a target date for its completion
- Attainable, and yet provide a challenge
- Brief, written, and communicated to all directly concerned
- Where possible, displayed in table format

Objectives are the annual activity outputs provided to accomplish the goals and to help address the issues, concerns and opportunities. These are specified in the following tables.

The cost for each time period is the amount required to implement the Carson Forest Plan. The annual budget, through the agencies budget process, may be different from that which is indicated as necessary for carrying out the intent of the Forest Plan. It is for this reason that short-range objectives must be rigid enough to guide the development of the annual budget request to insure implementation of Forest Plan direction.

Prescriptions

Management prescriptions are "management practices and intensity selected and scheduled for application on a specific area to obtain multiple-use and other goals and objectives." [36 CFR 219.3] The prescriptions consist of standards and guidelines.

standards & guidelines

Standards and guidelines set forth:

- timing and intensity of planned activities
- specific policies that apply to activities in each prescription
- mitigation measures and coordinating requirements needed to protect resources and the environment.

ORGANIZATION OF MANAGEMENT DIRECTION

The standards and guidelines are first listed for the Forest as a whole. These apply no matter where you are. This section is followed by those standards and guidelines applying to management areas.

DESIRED FUTURE CONDITION

By the year 2030, the Carson National Forest is attempting to achieve a management situation that can respond to local or national demands for a wide mix of recreation opportunities, including wildlife related uses, that range from the primitive to the urban end of the spectrum, for wood products, livestock production and water yield. The goal is to produce these

4. MANAGEMENT DIRECTION

outputs and opportunities on a sustained basis while maintaining air, soil, and water resources at or above minimum local, State, or Federal standards. Levels of output and use opportunities would be adjusted so they are within long term supply potentials and to ensure the impact on cultural, visual, wildlife, and vegetative resources can be mitigated to protect these resources for future management options. Activities related to mineral development and public utility needs would be permitted within the framework of existing laws and environmental concerns.

The intent of management is to promote dependent user stability through direct supply of products such as wood and forage and to provide community stability and enjoyment through the direct or indirect supply of products and other opportunities. Management practices should provide the best cost-benefit results as well as protect resources.

Table 15 displays expected resource outputs in 2030 and the corresponding ICO's that are addressed. Table 16 compares the resource outputs for a 50 year period to the R-3 Guide targets.

Table 15. Desired future condition by the year 2030 and corresponding ICO's.

<u>ITEM</u>	<u>UNIT</u>	<u>ANNUAL OUTPUT</u>	<u>ICO</u>
Allowable Sale Quantity 1/	MMCF MMBF	9.0 46.9	1, 11
Sawtimber			
Forest total	MMBF	36.8	1, 11
VFSYU only	MMBF	6.5	1, 11
Products			
Forest total	MMBF	10.1	1, 11
VFSYU only	MMBF	1.1	
P-J Fuelwood (green)	MMBF	4.6	2, 11
Down/dry Fuelwood (slash)	MMBF	6.2	2, 11
Permitted Grazing Use	MAUM	127	6, 10, 11
Developed Recreation	MRVD	1464	7, 11
Dispersed Recreation	MRVD	647	8, 10
Wildlife Recreation	MWFUD	244	5, 10

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Table 15. Desired future condition by the year 2030 and corresponding ICO's (continued).

<u>ITEM</u>	<u>UNIT</u>	<u>ANNUAL OUTPUT</u>	<u>ICO</u>
Wilderness Recreation	MRVD	32	3, 4, 11
Water Yield	MA-F	345	9

1/ Includes sawtimber and products.

By 2030 the age class distribution on suitable land will be improved as the result of regularly scheduled regeneration harvests. General stand health and vigor will be improved, and dwarf mistletoe and western spruce budworm problems reduced as the result of timber harvest and precommercial thinning. Wildlife habitat diversity will be greater than present through application of integrated stand management; cover requirements will be fully met.

The implementation of the Forest Plan by the year 2030 will have resulted in the maintenance treatment of all the revegetated acres as well as the continued maintenance of sagebrush and pinon-juniper reinvasion occurring on those acres treated during the first 10-15 years of the plan. Those acres in unsatisfactory range condition should improve to the next condition class as the planned allotment management intensity level rises above the current level. The resultant affect would yield approximately 6% more permitted AUM's.

Within the existing wildernesses, trails will be better maintained and signed. Additional management funding will be provided, therefore littering and overuse problems will be minimized. The additional public contact needed to reduce these problems will be accomplished.

Part of the Columbine Hondo Wilderness Study Area will be reserved for wilderness designation, which will satisfy part of the use conflicts concern. The part which is most suitable for timber harvesting and motorized recreation will be evaluated further for either multiple use or wilderness when a new plan is proposed in 10 - 15 years.

Campgrounds and picnic areas will be rehabilitated, therefore, the overuse problems will be addressed. Land will be allocated for the Sangre de Cristo ski area. If constructed, the ski area

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will be designed and managed to minimize impacts on the Wheeler Peak Wilderness.

Additional dispersed recreation management funding will be available, therefore the trail, litter, and overuse problems will decrease. Increased public contact will occur which should assist in off-road vehicle management. User conflicts may continue to occur, as more and more user groups engage in conflicting recreation activities. Funds to monitor and manage these conflicts will be available.

The desired wildlife and fish management situation over the next 50 years will be to protect and/or create sufficient habitat components Forest-wide to provide recreational opportunities in the amount of 244M wildlife and fish user days. This will be accomplished by integrating the habitat needs of wildlife and fish into other resource activities, protection and improvement of habitats of threatened, endangered, and sensitive plant and animal species to achieve their recovery, and through intensive habitat management and improvement to achieve desired wildlife and fish population objectives.

All watersheds will be in satisfactory condition or better by the year 2030 as determined by the watershed condition index. This will be accomplished by direct soil and water improvement methods which include streambank stabilization, contour trenching and plowing, obliteration of roads and revegetation of areas with insufficient vegetative ground cover. Indirect methods will also be used and include livestock grazing allotment management, off-road vehicle management and travelway maintenance/management.

All riparian areas will be in satisfactory or better condition by the year 2030. This will be accomplished by travelway obliteration and an increased level of maintenance of roads within the riparian. Developed recreation areas will be reconditioned in the first decade. Most of the developed recreation areas on the Forest are in the riparian. There is no regularly scheduled timber harvest in the riparian. Timber manipulation will occur only to improve wildlife habitat. Fish habitat improvement structures will be constructed throughout the decade.

Future Issues will probably consist of those this planning effort does not resolve plus acid precipitation, and changes in lifestyle brought about by growth.

HOW TO APPLY PRESCRIPTIONS

- Find the area on the management area map. (Available at Ranger Districts and the Supervisor's Office.)
- Validate the description of the area. [The map should be viewed as an index to what inventories say occurs on the

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ground. Always let what does occur on the ground override the map. If they disagree, look for the description in the Forest Plan that most accurately depicts the real situation. It is always best for the manager to validate by actually viewing the area.]

- Read the appropriate prescription. [Be sure to read the standards and guidelines for all the activities. For example, many standards and guidelines that affect timber activities are under wildlife and recreation activities.]
- Read Forest-wide prescriptions. [In a few rare instances, you may find that these do not totally mesh with those for the management areas. If this occurs, always follow the direction for the smaller area. The Forest-wide standards and guidelines have to be more general to cover all circumstances. The standards and guidelines for management areas can be more specific.]
- Check for possible impact on objectives. [Make sure the project will not jeopardize the objectives. The intent is to meet these objectives. That means not to go over as well as not coming up short.]
- If the planned action is consistent with prescriptions, the manager should perform an environmental analysis using the interdisciplinary process (FSH 1909.15). [The Environmental Assessment (EA) documents coordination of the action with the standards and guidelines and provides for additional management constraints, if necessary. The appropriate line officer will complete the decision notice.]
- If the planned action is in conflict with standards and guidelines or unsuitable for the area, the manager needs to decide whether to proceed or consider a change in the Forest Plan. [In this case, the manager must consider redesigning or relocating the project. If it is decided to implement the action as originally planned, the District Ranger will prepare an EA documenting the need for and significance of a change to the Carson Forest Plan. If, based on the environmental analysis, the change is determined not to be significant, it may be implemented by the Forest Supervisor following appropriate public notification [36 CFR 219.11(e)].]
- Activities, outputs and standards will be monitored and evaluated according to the Monitoring Plan (see Chapter 5). The Monitoring Plan specifies the criteria for evaluating the need for amendments or revisions to the Plan.
- If any errors are found through this process, they will be documented in writing and sent to the Forest Planner.

MISSIONS

- The ****CARSON MISSION**** lays out in simple terms, the unique purpose or direction of the Carson.

Ultimately, the **** CARSON MISSION **** is . . .



**Caring for the Land ...
...Serving the People.**

- To provide a quality experience for today's and tomorrow's user.
- To best meet all the varying and diverse activities and uses made on a National Forest (Multiple Use).

More specifically, the **** CARSON MISSION **** is . . .

- . . . to **contribute to the quality of people's lives** by providing special attention to:
 - small rural communities with dependence on Forest resources (such as the Vallecitos Federal Sustained Yield Unit),
 - tri-cultural uses (Native American, Spanish and Anglo),
 - personal traditional uses, needs by local residents (such as wood products and grazing associations),
 - wildlife and fish habitat (such as Valle Vidal),
 - environmental education through the Ghost Ranch Living Museum.
- . . to maintain an active partnership with our publics and other agencies.
- . . to create a working environment in which the **Carson employees function at their full potential.**

GOALS

- Economic & Social
- Further social and economic advancement of local residents.
 - The management of the Carson can affect the various lifestyles of local residents through the activities and products it produces. As with National and Regional needs for products and activities, the Forest will be sensitive to these local needs and desires. Specific responses will be documented in the standards and guidelines in this Forest Plan.

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- The Forest will not try to artificially structure or set lifestyles or economic factors. It will follow the lead of the public as expressed through their demands for Forest products and activities. The intent will be to not have quick or massive changes.
- Facilities
 - Develop and maintain transportation system to support resource goals.
 - Develop a long range building betterment program and when needed plan new construction.
 - Develop a long range water and sewage system betterment program.
 - Avoid adverse impacts to the public, Government facilities, and uses in flood plains.
- Fire
 - Provide the fire management support services necessary to sustain resource yields while protecting improvements, investments, and providing for public safety.
- Insects & Disease
 - Protect the Forest resources from destructive insects and diseases using integrated pest management (IPM).
- Law Enforcement
 - Provide safety for Forest visitors through use and enforcement of appropriate laws, closures, or other management techniques.
 - Protect natural resources and Federal property from loss or damage through illegal acts, and protect Forest Service employees while conducting their official duties.
- Lands
 - Acquire through land exchange those lands which are needed for landownership consolidation and more effective National Forest management.
 - Acquire through purchase, those lands needed for developed and dispersed recreation.
 - Acquire the road and trail rights-of-way necessary for administration of the National Forest and production of the resource outputs.
 - Manage all summer homes and organization camps for the overall benefit to the Carsor's user public.
 - Administer all special uses to minimize adverse impacts on other resources and issue new permits when in the best interest of the public.

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- Maintain an up-to-date Forest Plan which states how the Carson will be managed.
- Minerals & Geology - Administer the mineral laws and regulations to minimize surface resource impacts while supporting sound energy and minerals exploration and development.
- Range - Provide forage to the extent benefits are commensurate with costs without impairing land productivity and within the constraints of social needs.
- Provide cooperation with other agencies and private range owners to validate range management systems to reduce impacts of livestock grazing.
- Recreation - Maintain and enhance visual resource values through application of landscape management principles.
- Provide a balanced level of developed and dispersed recreation experiences.
- Help the public enjoy their Forest visit and instill an understanding of the resources and uses of their National Forests.
- Instill an awareness of, and an appreciation for the visual resource at all employee levels.
- Protect and manage the nonrenewable cultural resources.
- Establish a full spectrum of trail opportunities, considering all modes of travel, ranging from opportunities for challenge and adventure to opportunities for the handicapped, and give special emphasis to the protection, development and management of specially designated National Forest System areas and trails.
- Riparian - Minimize conflicting uses and overuse. Improve wildlife habitat. Upgrade developed recreation areas. Reduce road density.
- Soil and Water - Protect and improve the soil resource.
- Maintain a high quality sustained water yield for uses on Forest and downstream.
- Avoid adverse impacts to the public, Government facilities and all uses in flood plains and wetlands.
- Restore acres in unsatisfactory condition.
- Timber - Provide a non-declining sustained yield of timber consistent with land capabilities and other resource values.

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- Establish age class distribution through silvicultural prescribed stand management.
- Improve site productivity through management.
- Provide green and dead fuelwood and other forest products on a sustained yield basis.

Wilderness

- Maintain an enduring high quality wilderness and provide a quality recreational experience.
- Allow wildfire to play a more natural role.
- Protect the current status of air quality related values in wilderness areas.
- Identify and protect areas that contain threatened, endangered and sensitive species of plants.

Wildlife

- Provide habitat for existing and reintroduced native species of wildlife and fish.
- Maintain habitat for viable populations of all wildlife and fish species found on the Forest and improve habitat for selected species. This will be accomplished indirectly through intensive coordination of habitat manipulation with other resource activities, and directly through intensive habitat management.
- Support New Mexico Game and Fish Department in meeting its objectives of the New Mexico Comprehensive Wildlife Plan and in the reintroduction of native wildlife and fish species. Favor native species over new exotic species in stocking and introductions whenever possible.
- Maintain and/or improve habitat for presently listed threatened or endangered species of animals and other species as they are classified as threatened or endangered. Work toward the eventual recovery and delisting of species by the year 2000.

OBJECTIVES

Regional Guide/ Forest Plan

Forest planning occurs within the overall framework of both national and regional planning. Through the national RPA Program, the Regional Guide establishes management standards and guidelines, attempts to resolve regionally significant issues and concerns, and assigns outputs and activities (RPA targets) to the Forests within the Region. Table 16 shows those assigned targets along with the outputs/objectives that would result from this Plan. All costs and returns are shown in fourth quarter 1980 dollars.

Outputs &
Range Of
Implementation

The average annual output levels are presented in Table 16. During the first decade, the annual levels of output are constant from one year to the next. These output levels can be expected to be produced given the assumptions used in the analysis. However there are forces that can affect the production of outputs such as weather, budget appropriations from Congress, local economies, and political decisions. Excluding forces not within control, limits can be set on outputs to indicate the variation that is acceptable such that the plan is still being fully implemented.

Table 16. Comparison of Forest Plan outputs and R-3 Guide targets (annual units).

Item	Forest Plan	R-3 Guide Targets
Developed Recreation (MRVD)		
Period 1	516	424
2	705	414
3	943	420
4	1212	480
5	1464	531
Dispersed Recreation (MRVD)		
Period 1	392	415
2	462	440
3	528	460
4	584	480
5	647	500
Wildlife Habitat Improvement (MAcre-Equivalent)		
Period 1	13.3	7.0
2	13.3	6.2
3	13.3	5.0
4	13.3	3.0
5	8.0	2.8
Grazing Use (MAUM)		
Period 1	120	111
2	124	99
3	126	103
4	132	106
5	127	108

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Table 16. Comparison of Forest Plan outputs and R-3 Guide targets (annual units) (continued).

Item	Forest Plan	R-3 Guide Targets
Timber Volume Offered (Sawtimber) (MMBF)		
Period 1	32.0	33
2	39.7	33
3	37.9	36
4	35.6	44
5	36.8	54
Reforestation (Acres)		
Period 1	1175	2207
2	800	2646
3	800	2931
4	800	3248
5	800	3358
Timber Stand Improvement (Acres)		
Period 1	3400	2161
2	3000	198
3	1000	198
4	1000	277
5	1000	372
Water Meeting Quality Goals (MA-F)		
Period 1	345	301
2	345	310
3	345	339
4	345	339
5	345	339
Mineral Leases & Permits (Oper. Plan)		
Period 1	70	73
2	80	79
3	85	87
4	90	100
5	100	105

Table 16. Comparison of Forest Plan outputs and R-3 Guide targets (annual units) (continued).

Item	Forest Plan	R-3 Guide Targets
Fuelbreaks & Fire Treatment (MAcre)		
Period 1	1	1.2
2	1	1.4
3	1	1.5
4	1	1.8
5	1	2.0
Land Purchase Acquisition (Acres)		
Period 1	175	375
2	10	4
3	10	4
4	10	4
5	10	4
Soil & Water Improvement (Acres)		
Period 1	300	53
2	300	62
3	100	62
4	100	62
5	100	62
Total Funds (MM\$)		
Period 1	6.6	12.3
2	6.7	12.1
3	6.5	11.9
4	6.9	12.0
5	6.9	11.8

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Land
Classification

Table 17 shows how the Forest was classified to develop the acres suitable for timber, (Reference FSH 2409.13, chapter 20).

Table 17. Land classification

<u>Classification</u> ^{1/}	<u>Acres</u>
1. Non-Forest land (includes water)	311,709
2. Forest land	1,179,806
3. Forest land withdrawn from timber production ^{2/}	100,242
4. Unsuitable ^{3/} -Forest land not capable of producing crops of industrial wood -Forest land physically unsuitable: --irreversible damage likely to occur --not restockable within 5 years -Forest land--inadequate information	477,221
5. Tentatively suitable forest land (item 2 minus items 3, and 4)	602,343
6. Forest land not appropriate for timber production ^{4/}	222,343
7. Unsuitable forest land (items 3, 4, and 6)	799,806
8. Total suitable forest land (item 2 minus item 7)	380,000
9. Total national forest land (items 1 and 2)	1,491,515

^{1/} Acreage is for the entire Carson National Forest including Valle Vidal and the Pecos and Chama River Wilderness Areas. Actual management direction for these two wilderness areas is included in the Santa Fe National Forest Plan, acreages are: Pecos, 24,735, Chama River, 2,900.

^{2/} Includes Wilderness, Rio Grande Wild and Scenic River and Columbine/Hondo WSA (pending Congressional disposition).

3/ Subcategories have been combined into one total for this table.

4/ Classed primarily due to a combination of "Multiple-use objectives" and "cost efficiency" as defined in FSH 2409.13.

Vegetative Manipulation & Timber Methods

Both even-aged and uneven-aged harvest cutting methods are appropriate for use in the Southwestern Region. Even-aged management, with its many variations of cutting methods, is the most appropriate for managing the suitable lands where timber production is a primary objective. Uneven-aged management is most appropriate for use in certain special management areas where timber production is subordinate to other resource management objectives. In all cases, the harvest cutting method will be selected to best fit the abiotic, biotic, economic, and management objectives that apply to a particular area. The Regional Guide (Table 3-2) displays the appropriate silvicultural system and cutting methods to be used for each forest type.

Table 18 describes the reasons for the choice of vegetation management practices and gives guidelines for the average annual acres of each practice to be applied to the specific Management Areas. Additional information on these practices may be found in the following references: Regional Guide for the Southwest Region, FSH 2409.26a Cutting Methods, FSM 2471, and Appendix B of the FEIS.

Table 18. Vegetative management practices.

Mngmnt. Prac- tice	Veg Type	Average Annual Acres	Rationale
SHELTER- WOOD			This practice is applied to regenerate timber stands that have reached culmination of mean annual increment. As a regeneration harvest method shelterwood regeneration cuts are most appropriate because:
Regen- eration Cut	Spruce	50	-- they help control dwarf mistletoe infections which are common in stands throughout the forest.
	Mixed Conifer	1050	-- they are used to create single canopy stands
	Ponderosa Pine	900	
		2000	

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Table 18. Vegetative management practices (continued).

Mngmnt. Prac- tice	Veg. Type	Average Annual Acres	Rationale
			<p>resistant to buildup of western spruce budworm.</p> <p>-- they are cost effective: maintaining a partial canopy to provide a natural seed source and a microclimate favorable for establishing seedlings.</p> <p>-- regeneration success has been more favorable than with other regeneration methods.</p>
Removal Cut	Spruce	250	This practice is the final stage in a shelterwood regeneration method. When regeneration is established in the regeneration harvest described above, the remaining overstory trees are removed to provide needed light and moisture for growth of the new stand and to utilize the wood.
	Mixed Conifer	2300	
	Ponderosa Pine	1400	
		3950	
CLEARCUT	Spruce	140	This practice is optimal for: <p>-- creating small openings to obtain habitat diversity for wildlife. Other regeneration harvest methods do not create the edge effect and habitat conditions obtained from small openings.</p> <p>-- regenerating aspen stands to enhance or maintain diversity for wildlife habitat and visual quality or to produce a stand of</p>
	Mixed Conifer	300	
	Ponderosa Pine	10	
	TOTAL	450	
	Aspen (Not App) (MA-6)	320	

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Table 18. Vegetative management practices (continued).

<u>Mngmnt.</u> <u>Prac-</u> <u>tice</u>	<u>Veg. Type</u>	<u>Average</u> <u>Annual</u> <u>Acres</u>	<u>Rationale</u>
			<p>aspen timber when insect or disease conditions would prevent successful regeneration and growth of conifers. Applies to regenerating existing stands dominated by aspen, and to conifer stands with aspen mixed in as a minor component.</p> <p>-- controlling insect and disease conditions when potential seed trees are severely infected with or damaged by insects or disease.</p> <p>-- treating or harvesting stands in areas with potential for windthrow, or where other harvest methods would result in a damaged residual stand.</p>
INTER-	Spruce	50	<p>This practice is applied to create different stand densities for wildlife habitat, improve visual quality, enhance the growth and vigor of the stand, salvage timber that would die before a regeneration harvest is made, and to reduce the potential for loss to insects and disease.</p>
MEDIATE	Mixed Conifer	590	
CUTS	Ponderosa Pine	1300	
(All Types)	TOTAL	1940	
SALVAGE	All Types	Variable	<p>This practice is salvage harvest of unsuitable timber lands, or non-chargeable material on suitable lands, to remove</p>

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Table 18. Vegetative management practices (continued).

<u>Mngmnt. Prac- tice</u>	<u>Veg Type</u>	<u>Average Annual Acres</u>	<u>Rationale</u>
			mortality and anticipated mortality. Harvest will be by individual tree selection.
SELEC- TION/ GROUP	Spruce	150	This practice is applied to regenerate an area while maintaining at least a three story condition. It maintains a continuous high canopy cover when desired for visual quality and as habitat for many wildlife species. Uneven-aged management is not appropriate where there is a problem with dwarf mistletoe or western spruce budworm.
	Mixed Conifer	100	
	Ponderosa Pine	<u>60</u>	
	TOTAL	310	
TIMBER- STAND IMPROVE- MENT	Spruce	200	Primarily thinning and release, this practice is applied to young stands to maintain spacing, and remove insect damaged, diseased and poorly formed trees to enhance the health and quality of the stand. Tree spacing varies to meet one or a combination of objectives related to wildlife habitat, visual quality or maximizing growth on remaining trees.
	Mixed Conifer	1600	
	Ponderosa Pine	<u>1600</u>	
	TOTAL	3400	
REFORE- STATION			Reforestation-artificial, natural.
Artifi- cial	Spruce	230	This practice is applied to establish new timberstands. Site preparation is done for both artificial (planting) and natural reforesta-
	Mixed Conifer	565	
	Ponderosa Pine	<u>380</u>	
	TOTAL	1175	

Table 18. Vegetative management practices (continued).

<u>Mngmnt. Prac- tice</u>	<u>Veg. Type</u>	<u>Average Annual Acres</u>	<u>Rationale</u>
Natural	Spruce	120	tion (establishment from natural seeding). Artificial reforestation is used when the number of natural seedlings is not adequate.
	Mixed Conifer	1030	
	Ponderosa Pine	<u>700</u>	
	TOTAL	1850	
	Aspen (MA-6)	320	This reforestation is not part of the timber management program, but related to projects for wildlife habitat and visual quality maintenance and improvement.
PRESCRI- BED BURNING	Ponderosa Pine	1165	This practice is applied to reduce ground fuels. This reduces the fire hazard, helps prepare a favorable seedbed for natural regeneration, and increases forage production for wildlife and livestock. It reduces some competition for light and moisture between tree seedlings and other plants. Burning is used because it is the most effective and cheapest method of fuel treatment.
GENERAL FIREWOOD HARVEST	Pinon-Juniper	1860	This practice is the harvest of pinon and juniper stands for firewood. The harvest is done using shelterwood silviculture or intermediate harvests. Shelterwood regenerates the stands and is the most cost effective. Intermediate harvests open the stand up so more grass is produced

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Table 18. Vegetative management practices (continued).

<u>Mngmnt.</u> <u>Prac-</u> <u>tice</u>	<u>Veg Type</u>	<u>Average</u> <u>Annual</u> <u>Acres</u>	<u>Rationale</u>
			for forage and watershed protection.
			Follow-up prescribed burning may be used to reduce the ground fuels and stimulate new growth of forbs and browse plants to benefit wildlife and livestock grazing. The fuel reduction decreases the fire hazard. Burning increases grass and forbs because competition from pinon-juniper reproduction is reduced. Burning is the most cost effective method.
			Follow-up seeding on firewood harvest areas with warm and cool season forage species may be done where natural seed sources are inadequate for the benefit of wildlife and livestock grazing. Areas seeded will have a soil rating of moderate or high forage production and be on slopes of 0-15 percent.
WILDLIFE PINON- JUNIPER TREATMENT	Pinon-Juniper	300	Practice utilizes cutting, prescribed burning, mechanical and/or chemical techniques to improve forage and browse conditions on big game winter ranges. Methods are the optimum means to achieving this objective. Standards and guidelines provide for the establishment of a diversity of wildlife

Table 18. Vegetative management practices (continued).

<u>Mngmnt.</u> <u>Prac-</u> <u>tice</u>	<u>Veg Type</u>	<u>Average</u> <u>Annual</u> <u>Acres</u>	<u>Rationale</u>
			forage and cover plants and constraints on the size, dispersion, and duration of vegetative treatments.
OVERSTORY PINON-JUNIPER MODIFICATION		150	Practice is employed on Jicarilla Ranger District to reduce overstory to an open savanna type for the purpose of increasing livestock and wildlife forage and providing firewood. Fifty percent of the acreage is harvested as green personal and commercial use firewood. No more than 20 percent of the acreage is removed by mechanical or chemical means based on species, soil stability and cost effectiveness.
OAK TREATMENT AND REJU- VENATION	Oak/Shrub	300	Practice includes cutting, prescribed burning, and/or chemical treatments to create temporary openings or to rejuvenate gambel oak on big game winter ranges. Methods are considered to be optimum practices to achieving these objectives.
BRUSH TREATMENT	Sage & Low Elevation Grassland	2400	Practice employs mechanical, chemical and prescribed fire methods to reduce brush density to create or maintain a grassland community. The objectives will be to provide conditions favorable for livestock and wildlife forage and cover

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Table 18. Vegetative management practices (continued).

Mngmnt. Prac- tice	Veg Type	Average Annual Acres	Rationale
			and to create a diversity of sagebrush and grassland vegetative types. Treatment methods are proven to be the most economically and environmentally sound techniques for accomplishing this type of vegetative treatment. Standards and guidelines are established for the maximum size, dispersion, and duration of vegetative treatments and the establishment of a diversity of forage and cover vegetation.
BRUSH & WOODLAND TREAT- MENT	Pinon-Juniper & Sagebrush treatment with- in revegetation areas previ- ously treated	2800	Treatment is by prescri- bed burning, mechanical, and/or chemical methods to maintain seral grassland conditions within revegetation areas previously treated. The objective will be to provide forage commensurate with current permitted livestock grazing obligations. Treatment methods are proven to be the most desirable from an economic and environmental standpoint. Standards and guidelines are established for providing a diversity of forage and cover.
RIPARIAN TREATMENT	Riparian	100	Treatment is removal of competing non-riparian vegetation, planting, cutting, fencing, and prescribed burning to

Table 18. Vegetative management practices (continued).

<u>Mngmnt.</u> <u>Prac-</u> <u>tice</u>	<u>Veg Type</u>	<u>Average</u> <u>Annual</u> <u>Acres</u>	<u>Rationale</u>
			improve riparian conditions. Treatment methods are the optimum means to achieving this objective.

Productivity

Table 19 displays the acres of land suitable for timber production by the cubic-foot productivity classes shown. Productivity in this table is based on the potential biological growth of natural stands. It does not consider stocking control or other intensive management practices.

Table 19. Timber productivity classification

<u>Potential Growth</u> (Cubic ft/acre/yr)	<u>Suitable Lands</u> (acres)	<u>Unsuitable Lands 1/</u> (acres)
Less than 20	0	395,565
20-49	161,450	218,291
50-84	211,720	179,150
85-119	6,830	6,800
120-164	0	0

1/ Estimated based on inventory data available for some unsuitable lands and extrapolations for others (such as wilderness).

Allowable Sale Quantity

The average annual allowable sale quantity (ASQ) and timber sale program quantity for the first decade is shown in Table 20. The timber sale program quantity includes the total of: 1) chargeable volume planned for sale from suitable lands (ASQ), and 2) the estimated non-chargeable volume from suitable and unsuitable lands. Harvests of aspen from MA-6 and pinon-juniper firewood are examples on non-chargeable volume.

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Table 20. Allowable sale quantity and timber sale program quantity (annual average for first decade)

<u>Harvest Method</u>	<u>Allowable Sale Quantity 1/</u>	
	<u>Sawtimber</u> MMBF-MMCF	<u>Other Products</u> MMBF - MMCF
REXEIEROTNAI SORLEMT"		
Clearcut	4.5 - 0.9	0.5 - 0.1
Shelterwood		
- Preparatory cut	No. Estimate	N/A
- Seed cut	7.3 - 1.5	N/A
- Removal cut	16.6 - 3.4	N/A
Selection	0.3 - 0.1	0.5 - 0.1
Intermediate harvests:	3.0 - 0.6	2.0 - 0.2
Totals	32.0 - 6.5	3.0 - 0.4

Additional Sales 2/

	<u>Sawtimber</u> MMBF-MMCF	<u>Other Products</u> MMBF - MMCF
Total for all harvest methods	1.6 - 0.3	4.9 - 0.8

Allowable sale quantity 6.9 (MMCF) 35.0 (MMBF) Timber sale program quantity 3/ 8.0 (MMCF) 41.5 (MMBF).

1/ Only includes chargeable volumes from suitable lands.

2/ Only includes nonchargeable volumes from suitable and/or unsuitable lands.

3/ Total of allowable sale quantity and additional sales.

Long Term Sustained Yield Capacity

Table 21 shows the allowable sale quantity and long-term sustained yield capacity expressed in million cubic-feet and projected over 20-decades of the planning horizon. Only figures for the first decade are scheduled for implementation by this Forest Plan. The allowable sale quantity is also shown in million board feet for the first decade and projected for decades 2 through 5. Variations in conversion of the 9.0 MMCF value to 46.0 - 46.9 MMBF result from variations in the size classes of trees available for harvest in a given decade.

Table 21. Display of long-term sustained yield capacity and allowable sale quantity

<u>Decade 1/</u>	Average Annual Allowable Sale Quantity	
	<u>MMCF</u>	<u>MMBF</u>
1	6.9	35.0
2	9.0	46.0
3	9.0	46.2
4	9.0	46.6
5	9.0	46.9
6-10	9.0	--
11-14	9.1	--
15-20	9.8	--This value equals the long-term sustained yield capacity.

1/ Only the figures for decade 1 are scheduled for implementation by this Forest Plan. Figures for decades 2 through 20 are projections only, and the result of computer modeling and analysis of management activities on a 340,000 acre suitable land base.

Conditions

Table 22 describes the present and future condition of the Forest. Most of the figures for present conditions are based on Forest-wide averages from our 1985 inventory. Conditions for the future are based on a combination of 1985 inventory data and modeling of data from the 1976 inventory.

Table 22. Present and future Forest conditions

	<u>Unit of Measure</u>	<u>Suitable Land</u>	<u>Unsuitable Land 4/</u>
Present forest:			
Growing stock 1/	MMCF	716	1197
	MMBF	2542	4249
Live cull 1/	MMCF	39	130
	MMBF	146	488
Salvable dead 1/	MMCF	13	43
	MMBF	42	140
Annual net grow. 1/	MMCF	15	25
	MMBF	62	104

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Table 22. Present and future forest conditions (continued).

	Unit of Measure	Suitable Land	Unsuitable Land 4/
Annual mortality 1/	MMCF	1	6
	MMBF	3	24
Future forest:			
(20th decade)			
Growing stock 2/	MMCF	879	
Annual net growth 2/	MMCF	20	
Rotation age 3/	Years	110 to 130	
	Age Class	Present Forest	Future Forest
Age class distribution (suitable lands)	0 - 21	20,000	48,000
	21 - 40	50,000	48,000
	41 - 60	43,000	48,000
	61 - 80	30,000	48,000
	81 - 100	20,000	48,000
	101 - 120	45,000	48,000
	121 +	172,000	92,000

1/ Based on Forest-wide average from 1985 Inventory

MMCF includes all trees 5.0" DBH +

MMBF includes all trees 9.0" DBH +

2/ Proportionate increase from starting "Inventory" volume using proportion derived from modeled growth.

3/ Average rotation age for regenerated stands on major forest type for lands with timber emphasis.

4/ Figures for unsuitable lands are extrapolations of values for suitable lands.

Timber Sale Schedule

Table 23 displays the 10-year timber sale schedule. The acres displayed in the table are the gross acres in the general sale planning area and do not represent the net acres to be harvested. Ranger sales are small sales and generally do not require any road construction or reconstruction. Several Ranger sales may be offered to form the volumes shown.

The 10-year timber sale program is a plan based on current conditions and information available at the time of Forest Plan development, and if these conditions change or new information

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becomes available, the timber sale program may be modified during implementation of this Forest Plan. The degree of the modification will determine whether or not the Forest Plan needs changes, in accordance with the required processes.

Table 23. Ten year sawtimber offering schedule (*Indicates sale on VFSYU)

FY	Ranger District	Sale Name And General Location	Vol.	Acres	...Miles of Road...		
					Const.	Recon.	Closed
87	Canjilon	<u>Mogote</u> - T26N R6E, Sec 5,8,9,17	2.0	600	1.7	0.5	4.9
	El Rito	<u>La Jara</u> - T26N, R6E, Sec.24,25,26 T26N, R7E, Sec.31; T25N, R6E, Sec.1,11,12,13 T25N, R7E, Sec.6,7,17,18, 19,20,29,30	3.5	3547	0.0	6.0	4.0
		<u>Puente</u> - T27N, R7E, Sec.10,14,15,23,24,25 26,36; T27N, R8E, Sec.29, 30,31,32; T26N, R8E, Sec.4 5,6,8,9,16,17,20,21,28	1.0	434			
		<u>Lower Potrero</u> T26N, R7E, Sec.31,32 T25N, R7E, Sec.5,6	0.5	1403	0.0	0.0	1.5
	Penasco	<u>Picacho</u> T22N, R14E, Sec.21,26,27, 28,32,33,34,35; T21N, R14E, Sec.3,4,5,9,10	6.0	4390	1.0	0.0	1.1
		<u>Dropout</u> T21N, R14E, Sec.8,9, 16,17,18,19,20,21 T21N, R13E, Sec.24	2.3	1100	5.7	0.0	5.5
		<u>Ranger Sales</u>	0.5				
	Taos	<u>Osha</u> T24N, R15E, Sec.1,2,3, 11,12	3.5	1700	0.4	4.7	9.0
		<u>Ranger Sales</u>	1.0				

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Table 23. Ten year sawtimber offering schedule (*indicates sale on VFSYU) (cont.)

FY	Ranger District	Sale Name And General Location	Vol.	Acres	...Miles of Road...		
					Const.	Recon.	Closed
87 cont.	Tres Piedras	<u>Buffalo II</u> T28N,R8E, Sec.31,32 T28N,R7E, Sec.23,24,25 26,36	1.2	1900	0.0	1.5	1.5
		<u>Jawbone</u> T29N,R7E, Sec.20,21,28, 29,30,32	1.5	1800	0.0	0.1	9.2
	Questa	<u>Sawmill</u> T29N,R14E, Sec.13,14,23, 24,25,26	2.0	2400	1.0	0.0	4.0
Total			25.0	19274	9.8	12.8	40.7
88	Canjilon	<u>Del Medio</u> T27N,R5E, Sec.17,19,20 29,30,31; T27N,R4E, Sec.25 36	2.0	1000	0.0	7.9	4.7
	El Rito	<u>Big Rock*</u> T27N,R8E, Sec.14,15,16, 21,22,23,24,25,26,27,28	4.3	4307	0.1	3.8	0.8
		<u>Vallecitos*</u> T26N,R8E, Sec.17,18 T26N,R7E, Sec.13	0.1	200			
		<u>Spring</u> T28N,R7E, Sec.26,27, 36; T28N,R8E, Sec.31,32,33	1.6	1521	0.0	0.0	0.0
	Penasco	<u>Valle</u> T25N,R7E, Sec.2,3,4,10,11	0.5	1420	0.0	0.5	0.0
		<u>Alamitos</u> T21N,R14E, Sec.5,6,7,18 T22N,R14E, Sec.31	4.5	2560	0.0	0.0	8.5
		<u>Ranger Sales</u>	0.5				

Table 23. Ten year sawtimber offering schedule (*Indicates sale on VFSYU) (cont.).

EY	Ranger District	Sale Name And General Location	Vol.	Acres	...Miles of Road...		
					Const.	Recon.	Closed
88 cont.	Taos	<u>Saloz</u> T23N, R13E, Sec. 22, 23, 24 25, 26, 27, 35, 36; T23N, R14E Sec. 30, 31; T22N, R13E, Sec. 1	3.0	3500	0.2	14.5	14.7
		<u>Ranger Sales</u>	1.5				
	Tres Piedras	<u>Loco-Lamy</u> T29N, R8E, Sec. 20, 21, 22, 27, 28, 29, 33, 34; T28N, R8E, Sec. 3, 4; T29N, R8E, Sec. 7, 8; T29N, R7E, Sec. 12	2.0	2350	11.5	5.6	10.0
		<u>Gavilan</u> T29N, R7E, Sec. 17, 18, 19, 20, 21, 22; T29N, R6E, Sec. 12, 13	5.0	3800	8.2	0.0	4.0
	Questa	<u>Anchor 1</u> T29N, R15E, Sec. 3, 4, 8, 9 T30N, R15E, Sec. 33	2.0	1790	3.8	1.3	3.8
Total			27.0	22448	23.8	33.6	46.5
89	Canjilon	<u>Blas</u> T26N, R5E, Sec. 9, 10, 11, 13, 14, 15, 16, 20, 21, 22, 27, 28, 29, 32, 33	2.0	3000	0.2	12.3	12.1
	El Rito	<u>Little Rock*</u> T27N, R8E, Sec. 8, 9, 10, 11, 15, 16, 17, 21	4.7	2905	0.3	4.0	3.8
		<u>Vallecitos II*</u> T26N, R8E, Sec. 17, 18 T26N, R7E, Sec. 13	0.3	500			

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Table 23. Ten year sawtimber offering schedule (*indicates sale on VFSYU) (cont.).

FY	Ranger District	Sale Name And General Location	Vol.	Acres	...Miles of Road...		
					Const.	Recon.	Closed
89 cont.		<u>Troughs</u> T26N,R6E,Sec.13,14, 23,24,26,35;T25N,R6E, Sec.2	3.5	2869	0.0	4.8	4.8
	Penasco	<u>Alamo</u> T22N,R12E,Sec.18,19,20 21,27,28,29,30,32,33,34 T21N,R12E,Sec.3,4,5,9, 10,16	5.5	5440	3.6	4.0	7.6
		<u>Ranger Sales</u>	0.5				
	Taos	<u>Frijoles</u> T24N,R14E,Sec.25,36 T24N,R15E,Sec.28,29 30,31,32,33;T23N,R15E, Sec.5,6;T23N,R14E, Sec.1	3.5	3200	0.0	6.0	12.0
		<u>Ranger Sales</u>	1.5				
	Tres Piedras	<u>Broke-Off</u> T30N,R8E,Sec.7,8,9, 16,17,18,19,20,21,28 29,30,31,32,33;T30N, R7E,Sec.12,13,14,23, 24,25,26,35,36	5.5	3800	0.5	10.0	12.0
		<u>Ranger Sales</u>	0.5				
	Questa	<u>Saddle</u> T29N,R15E,Sec.6,7,8, 17,18	1.0	1700	0.5	0.0	1.0
		<u>Ranger Sales</u>	0.5				
		Total	29.0	23414	5.1	41.1	53.3

Table 23. Ten year sawtimber offering schedule (*indicates sale on VFSYU) (cont.)

EY	Ranger District	Sale Name And General Location	Vol.	Acres	...Miles of Road...		
					Const.	Recon.	Closed
90	Canjilon	<u>Fuertes</u> T27N,R5E, Sec.26,27,33, 34,35;T26N,R5E, Sec.3,4	2.0	1800	0.4	10.9	8.7
	El Rito	<u>Felipito*</u> T27N,R7E, Sec.7,8,9, 17,18,19,30;T27N,R6E, Sec.12,13,14,24,25	5.0	2927	5.0	6.0	9.5
		<u>Bear*</u> T27N,R7E, Sec.30,31 T27N,R6E, Sec.25,26 T26N,R6E, Sec.1	1.0	280	1.0	0.0	1.0
		<u>EJ Rito</u> T25N,R7E, Sec.19,30 T25N,R6E, Sec.14,22, 23,24,25,26,27	3.5	2162	0.5	8.0	6.5
	Penasco	<u>Angostura</u> T21N,R13E, Sec.1,2, 11,12,13;T22N,R13E Sec.35	6.5	5000	5.0	0.0	5.0
		<u>Ranger Sales</u>	0.5				
	Taos	<u>Muchos Ojos</u> T24N,R14E, Sec.14,15, 16,21,22,23,24,26,27	4.0	3100	5.9	2.8	13.2
		<u>Ranger Sales</u>	1.0				
	Tres Piedras	<u>Nutritas</u> T30N,R7E, Sec.11,12, 14,15,20,21,22,28,29 30,31,32;T30N,R6E, Sec.25,35,36;T29N, R6E, Sec.1,2	5.5	4900	4.0	1.2	4.0
	Questa	<u>Foster</u> T28N,R15E, Sec.6,7, 8,17,19,20	2.0	4530	2.0	0.0	3.5
Total			31.0	24699	23.8	28.9	51.4

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Table 23. Ten year sawtimber offering schedule (*indicates sale on VFSYU) (cont.).

EY	Ranger District	Sale Name And General Location	Vol.	Acres	...Miles of Road...		
					Const.	Recon.	Closed
91	Canjilon	<u>Dulce</u> T27N,R5E,Sec.27,28, 29,30,31,32,33	2.0	1500	0.0	3.6	4.5
	El Rito	<u>Borracho*</u> T26N,R8E,Sec.6,7 T26N,R7E,Sec.1,2, 10,11,12,13,14,15, 23	6.0	5701	2.0	4.0	2.0
		<u>Hill*</u> T24N,R7E,Sec.31 T25N,R7E,Sec.5,6 T25N,R6E,Sec.1	1.0	1500	0.0	0.0	2.0
		<u>Sierra</u> T26N,R6E,Sec.27,28 29,33,34	3.5	2766	0.7	3.0	2.5
		<u>Gurule</u> T26N,R6E,Sec.11,12, 13,14	1.5	813	0.0	2.0	0.0
	Penasco	<u>Cueva</u> T22N,R13E,Sec.1,2, 11,12,13,14,24 T22N,R14E,Sec.6,7, 17,18,19	6.0	4250	11.0	0.0	11.0
		<u>Ranger Sales</u>	0.5				
	Taos	<u>Maestas</u> T23N,R13E,Sec.13,14, 15,16,21,23,24 T23N,R14E,Sec.5,7,8, 9,17,18,19	3.5	6630	0.0	3.0	10.0
		<u>Ranger Sales</u>	1.5				
	Tres Piedras	<u>Tanques-Banco</u> T31,R7E,Sec.1,2,7,8,9, 10,11,12,13,14,15,16, 17,18,19,20,21,22,23, 26,27,28,29,30,32,33	5.5	4500	0.3	10.0	15.0

Table 23. Ten year sawtimber offering schedule (*indicates sale on VFSYU) (cont.).

FY	Ranger District	Sale Name And General Location	Vol.	Acres	...Miles of Road...		
					Const.	Recon.	Closed
91 cont.	Questa	<u>Mallette</u> T29N,R15E,Sec.17,18, 19,20;T29N,R14E,Sec. 13,24	2.0	1860	2.0	1.0	3.0
Total			33.0	29520	16.0	26.6	50.0
92	Canjilon	<u>Bano</u> T27N,R5E,Sec.15,21, 22,23,24,26	2.0	1600	0.0	8.5	7.0
	El Rito	<u>Escondida*</u> T27N,R6E,Sec.1,2,10, 11,12,13,14;T27N,R7E, Sec.4,5,6,7,8	7.0	4098	3.0	3.0	6.0
		<u>Hill II*</u> T27N,R7E,Sec.30,31 T27N,R6E,Sec.25,36 T26N,R6E,Sec.1	1.0	1560	0.0	0.0	2.0
		<u>Laguna</u> T25N,R6E,Sec.10,11, 13,14,15	3.5	1760	1.0	3.0	5.0
		<u>Apache</u> T26N,R9E,Sec.7,8,17, 18;T26N,R8E,Sec.12,13	0.5	800	0.0	0.0	1.0
	Penasco	<u>Dinner</u> T21N,R12E,Sec.2,3,10,11 T22N,R12E,Sec.26,27,34, 35,36	6.0	4130	3.9	8.8	12.7
		<u>Ranger Sales</u>	1.5				
	Taos	<u>Capulin</u> T25N,R14E,Sec.11,15,16, 17,18,19,20,21,22,27,28, 29,30;T25N,R13E,Sec.24	3.0	4800	0.0	0.0	15.0

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Table 23. Ten year sawtimber offering schedule (*indicates sale on VFSYU) (cont.).

FY	Ranger District	Sale Name And General Location	Vol.	Acres	...Miles of Road...		
					Const.	Recon.	Closed
92 cont.		<u>Ranger Sales</u>	3.0				
	Tres Piedras	<u>Little Tusas</u> T29N,R7E,Sec.1,2,3,4, 5,6,7,8,9,10,11,12,13, 14,15,16,23,24,25 T29N,R6E,Sec.12 T30N,R7E,Sec.34,35,36	5.5	4500	0.0	10.0	15.0
		<u>Ranger Sales</u>	0.5				
	Questa	<u>Greenie</u> T29N,R14E,Sec.11,12, 13,14;T29N,R15E,Sec. 7,18	1.0	2380	1.5	0.5	2.0
		<u>Ranger Sales</u>	0.5				
		Total	35.0	25628	9.4	33.8	65.7
93	Canjilon	<u>Oso</u> T25N,R5E,Sec.10,11,13, 14,15,23,24;T25N,R6E, Sec.18,19	2.0	2650	0.0	4.0	12.0
	El Rito	<u>Caballos*</u> T26N,R7E,Sec.3,4,5,7, 8,9,10,15,16,17,18	7.0	4142	4.0	3.0	4.0
		<u>Jacques II*</u> T26N,R7E,Sec.1,2,3,4 T27N,R7E,Sec.26,27,28, 33,34,35,36	1.0	4076	0.0	0.0	4.0
		<u>Cholejo</u> T26N,R6E,Sec.34 T25N,R6E,Sec.2,3,4, 10,11	3.5	1465	0.0	1.5	3.5

Table 23. Ten year sawtimber offering schedule (*Indicates sale on VFSYU) (cont.).

FY	Ranger District	Sale Name And General Location	Vol.	Acres	...Miles of Road...		
					Const.	Recon.	Closed
93 cont.	Penasco	<u>Hodges</u> T22N,R12E,Sec.12,13,23, 24,25,26;T22N,R13E,Sec. 7,18,19,30	5.0	3500	2.5	8.5	11.0
		<u>Ranger Sales</u>	2.5				
	Taos	<u>Black</u> T24N,R15E,Sec.12,13, 14,23,24,25,26,33,36	5.5	3300	1.0	1.5	14.0
		<u>Ranger Sales</u>	1.5				
	Tres Piedras	<u>Butterfly</u> T28N,R7E,Sec.1,11,12 13,14;T28N,R8E,Sec. 5,6,7,8,17,18	5.5	2200	0.0	5.5	5.5
	Questa	<u>Anchor II</u> T29N,R15E,Sec.8,9,10, 17,16	1.5	960	1.0	0.5	2.0
Total			35.0	22293	8.5	24.5	56.0
94	Canjilon	<u>Madera</u> T25N,R6E,Sec.9,16,17, 21,22	2.0	950	0.0	6.4	6.4
	El Rito	<u>La Manga*</u> T27N,R7E,Sec.4,5,6 T27N,R6E,Sec.1,2,3 T28N,R7E,Sec.31,32, 33;T28N,R6E,Sec.34, 35,36	9.0	5269	4.0	3.0	5.0
		<u>Burma*</u> T26N,R8E,Sec.2,10,11, 14,15,22,23	0.5	1000			

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Table 23. Ten year sawtimber offering schedule (*indicates sale on VFSYU) (cont.).

FY	Ranger District	Sale Name And General Location	Vol.	Acres	...Miles of Road...		
					Const.	Recon.	Closed
94 cont.		<u>Alamosa II*</u> T27N,R7E,Sec.9,10,15, 16,17,19,20,21,22,23, 26,27,28,29,30	0.5	1480	0.0	0.0	2.0
		<u>Bone</u> T28N,R7E,Sec.19,29,30	1.5	715	0.0	1.0	3.0
	Penasco	<u>Telephone Can.</u> T23N,R12E,Sec.13,14, 15,22,23,24,25,26,27, 34,35,36;T23N,R13E, Sec.19	6.0	4900	2.7	8.0	8.3
		<u>Ranger Sales</u>	1.5				
	Taos	<u>Paradise</u> T24N,R14E,Sec.1,2,8, 9,10,11,12,14,15,16	4.5	3400	0.0	0.5	19.0
		<u>Ranger Sales</u>	2.0				
	Tres Piedras	<u>Olguin S. Antone</u> T30N,R7E,Sec.6,7,8,9, 10,16,17,18,19,20,30 T30N,R6E,Sec.12,13,14, 24,25;T31N,R7E,Sec.31	2.0	1900	0.0	1.5	1.5
		<u>Arkansas</u> T32N,R5E,Sec.29,30, 31,32	2.0	1000	2.5	5.0	5.0
		<u>Tio Grande</u> T30N,R7E,Sec.26,27, 28,31,32,33,34;T29N, R6E,Sec.1,19 T29N,R7E,Sec.4,5,6	1.0	1500	0.5	1.0	1.5
		<u>Banco Julian</u> T31N,R7E,Sec.26,27, 28,30,31,32,33,34,35, 36;T30N,R7E,Sec.1,2,3, 4,5;T31N,R8E,Sec.31 T30N,R8E,Sec.6	0.5	900	0.5	0.0	0.5

Table 23. Ten year sawtimber offering schedule (*indicates sale on VFSYU) (cont.).

EY	Ranger District	Sale Name And General Location	Vol.	Acres	...Miles of Road...		
					Const.	Recon.	Closed
94 cont.	Questa	<u>Van Diest I</u> T29N,R15E,Sec.16,17, 20,21	1.5	1030	2.0	1.0	3.0
		<u>Ranger Sales</u>	0.5				
		Total	35.0	23144	12.2	27.4	55.2
95	Canjilon	<u>Canyon</u> T25N,R5E,Sec.2,3,4, 9,10,17;T26N,R5E,Sec. 35	2.0	2000	0.0	6.2	6.2
	El Rito	<u>Agua*</u> T26N,R7E,Sec.21,22, 23,24,25,26,27,36 T26N,R8E,Sec.19,20,30 31,32	7.5	5418	2.3	7.0	6.8
		<u>McIntyre*</u> T26N,R8E,Sec.27,28 33,34;T27N,R8E,Sec. 2,3,4	1.5	2283	0.0	0.0	2.0
		<u>Palo</u> T25N,R7E,Sec.1,2,11, 12	2.5	1440	0.0	0.0	2.0
	Penasco	<u>Borrego</u> T23N,R12E,Sec.36 T23N,R13E,Sec.29,30, 31,32;T22N,R13E,Sec. 5,6	6.0	4000	3.9	7.4	11.3
		<u>Ranger Sales</u>	1.5				
	Taos	<u>Casita</u> T25N,R14E,Sec.13,14,15, 22,23,24,25,26,T25N,R15E, Sec.18,19,20,29,30	3.0	2750	3.0	0.0	6.0

4. MANAGEMENT DIRECTION

Table 23. Ten year sawtimber offering schedule (*indicates sale on VFSYU) (cont.).

EY	Ranger District	Sale Name And General Location	Vol.	Acres	...Miles of Road...		
					Const.	Recon.	Closed
95 cont.		<u>Ranger Sales</u>	3.0				
	Tres Piedras	<u>Deer Park</u> T28N,R7E,Sec.8,9, 15,16,17,20,21,22, 23,26,27,28,29	5.5	3500	1.5	12.0	12.0
		<u>Ranger Sales</u>	0.5				
	Questa	<u>Bobcat</u> T29N,R15E,Sec.26,27 28,29,30,31,32,33,34	2.0	1885	4.0	1.0	2.0
		Total	35.0	23276	14.7	33.6	48.3
96	Canjilon	<u>Yeso</u> T25N,R5E,Sec.15,16, 21,22,23,26,27,33,34	2.0	1800	0.0	1.9	6.8
	El Rito	<u>Burro*</u> T27N,R7E,Sec.29,30, 31,32;T26N,R7E,Sec.5	5.0	1752	4.0	3.5	7.5
		<u>Pasture II*</u> T27N,R7E,Sec.9,10,15, 16,17,19,20,21,22,23, 26,27,28,29,30	1.5	2535	0.0	0.0	2.0
		<u>Bear II*</u> T27N,R7E,Sec.30,31 T27N,R6E,Sec.25,26 T26N,R6E,Sec.1	0.6	420	0.0	1.5	1.5
		<u>Mountain</u> T27N,R8E,Sec.3,4,5,6	2.4	1897	0.0	0.0	2.0
		<u>Ortega</u> T25N,R8E,Sec.4,5,6,7	2.5	1441	0.0	0.0	2.0

4. MANAGEMENT DIRECTION

Table 23. Ten year sawtimber offering schedule (*indicates sale on VFSYU) (cont.).

FY	Ranger District	Sale Name And General Location	Vol.	Acres	...Miles of Road...		
					Const.	Recon.	Closed
96 cont.	Penasco	<u>Alamitos II</u>	7.0	2500	5.3	0.0	8.8
		<u>Ranger Sales</u>	0.5				
	Taos	<u>Ryan</u> T24N,R14E,Sec.25,26 27,28,29,30,32,33,34, 35;T23N,R14E,Sec.3,4	4.5	4200	0.5	1.5	18.0
		<u>Ranger Sales</u>	1.5				
	Tres Piedras	<u>Willow</u> T29N,R7E,Sec.34,35, 36;T28N,R7E,Sec.3,4, 5,6	3.0	2800	0.0	7.5	7.5
		<u>Cow</u> T28N,R8E,Sec.16,17,18, 19,20,21;T28N,R7E,Sec. 24	2.5	2500	0.0	6.0	6.0
	Questa	<u>Van Diest II</u> T29N,R15E,Sec.15,21, 22	1.5	1780	2.4	0.0	2.4
		<u>Ranger Sales</u>	0.5				
		Total	35.0	23625	12.2	21.9	64.5
		Total for Decade	320.0	237321	135.5	284.2	531.6

Most timber management activity is planned for suitable forest land, but activity also occurs on some land areas in the unsuitable categories. Only chargeable timber volumes from suitable forest land is included in the allowable sale quantity. Timber activities on unsuitable lands may include the following:

1. Salvage or sanitation harvesting of trees or stands substantially damaged by fire, windthrow, or other catastrophe or which are in imminent danger from insect or disease attack.

4. MANAGEMENT DIRECTION

2. Cutting of individual trees or stands to test logging systems, to conduct experiments, or for the purpose of gathering information about tree growth, insect or disease organisms, or the effect of such harvesting on other resources.
3. Cutting of trees to promote the safety of forest users. This includes hazard tree removal in camp and picnic grounds, in administrative sites, and along roads open to the public.
4. Harvesting to meet habitat objectives for threatened or endangered animal or plant species or to maintain or improve habitat for other wildlife or fish management indicator species.
5. Harvesting to improve the scenic resource by opening scenic vistas or by improving visual variety.
6. Harvesting to provide for access, for example road construction.
7. Harvest of convertible products like fuelwood, latillas or fence posts and non-convertible products like wildings and Christmas trees.

Most activity on unsuitable land is related to items 1, 4 and 7. Estimated volume for these activities is included in Table 20. Additional description of activities is included in the Forest-wide and specific Management Area standards and guidelines.

Recreation

Tables 24 and 25 provide ten-year implementation schedules for recreation and trail construction.

Table 24. Schedule for recreation site development and rehabilitation.^{1/}

Ranger District	Capacity Site	(PAOT)
Canjilon	Trout Lakes Trailhead	100
Penasco	La Junta Trailhead	100
	Alamitos Trailhead	100
Taos	Garcia Park Rd	100
	Little Rio Trailhead	100
	La Junta Trailhead	100

4. MANAGEMENT DIRECTION

Table 24. Schedule for recreation site development and rehabilitation 1/ (continued).

Ranger District	Capacity Site	(PAOT)
Tres Piedras	Cruces Trailhead	100
	U.S. 64 Trailhead	100
Questa	Hondo Trailhead	100
	Latir Trailhead	100
	Red River Ski Area	1000
	Expansion	
	Sipapu Ski Area Exp.	600
	Sangre de Cristo Ski Area	5000

1/ All recreation sites in need of work are scheduled for rehabilitation. Construction scheduled at the Ghost Ranch Living Museum using cooperating funds. Forest Service funds are not planned, however, if unexpected funds become available, the designs will be available to make the needed improvements.

Table 25. Trail construction/maintenance for ten years. 1/

Ranger District	Construction
Canjilon	13 miles

1/ All trails will receive needed maintenance or rehabilitation.

Facilities

Tables 26 through 29 provide ten-year implementation schedules for facilities. The land line projects for fiscal years 94 and 95 are not known, because the land line location work is usually planned two years prior to a timber sale and the sale schedule only goes to fiscal year 95.

4. MANAGEMENT DIRECTION

Table 26. Land line location for ten years.

FY	Project Name	Mile	Funct	Dist	Township	Range	Section
87	Bitter Creek	2.0	LLL	D-7	T.29N.	R.15E.	21
	Del Medio	3.5	Timb	D-1	T.27N.	R.4&5E	19,25,30,35&36
	Picacho	3.0	Timb	D-4	T.21&22N.	R.14E.	2,3,26, & 35
	Buffalo II	5.0	Timb	D-6	T.28N.	R8E.	20,22,27,29&34
	Anchor I	2.0	Timb	D-7	T.29.N.	R.15E.	4&5
	Alamo	<u>5.0</u>	Timb	D-4	T.22.N.	R.11&12E.	Llano S.B.Tr
	NW. Dist. Bdry.	5.0	RNG	D-1	T25&26N.	R.2&3E.	13,24,30&31
	Total	25.5					
88	NW. Dist. Bdry.	5.0	RNG	D-1	T.25&26N.	R.2&3E.	---
	Fuertes T.S.	.5	Timb	D-1	T.27N.	R.5E.	26
	Broke-off T.S.	4.0	Timb	D-6	T.30N.	R.8E.	15,17,22,27,&8
	El Rito	9.0	LLL	D-2	T.25N.	R7&8E.	21,25,10&11
	Carson Reservoir	<u>8.0</u>	LLL	D-6	T.25N.	R10E.	1,11,12,13&14
	Total	26.5					
89	El Rito T.S.	1.0	Timb	D-2	T.25N.	R.6E.	19 & 30
	Nutritas T.S.	7.0	Timb	D-6	T.30N.	R.7E.	15,16,20,21 22,27, & 28
	Foster T.S.	4.0	Timb	D-7	T.28N.	R.15E	8,17, & 20
	Sierra T.S.	1.5	Timb	D-2	T.26N.	R.6E.	27 & 34
	San Miguel	3.0	LLL	D-6	T.31&32N.	R.7.E.	1&36(H.E.S.)
	Indian Lake	<u>8.0</u>	RNG	D-6	T.26N.	R.9&10E.	25,30,31,36&14
	Total	23.5					
90	Mallette T.S.	3.5	Timb	D-6	T.29N.	R.15E.	18&19
	Capulin T.S.	3.0	Timb	D-5	T.25N.	R.14E.	16 & 21
	Almagre Canyon	5.0	LLL	D-7	T.28N.	R.13E.	4, 5 & 8
	Fort Burgwin	4.5	LLL	D-5	T.23&24N.	R.13E.	5,29,32&33
	Vallecitos Comm.	5.0	LLL	D-2	T.26N.	R.8E.	8,16,17,20&21
	El Valle Tr.	<u>5.0</u>	LLL	D-4	T.22N.	R.11E.	---
	Total	26.0					
91	Hodges T.S.	4.0	Timb	D-4	T.22N.	R.12E.	People's Land
	Black T.S.	3.0	Timb	D-5	T.24N.	R.15E.	24,25&36
	Anchor II T.S.	1.0	Timb	D-7	T.29N.	R.15E.	9, & 6
	Community of La Madera	15.0	RNG & LLL	D-2	T.25N.	R.8E.	5
	Rancho de Olguin	<u>1.5</u>	RNG	D-2	T.26N.	R.8E.	27
	Total	24.5					

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Table 26. Land line location for ten years (continued).

FY	Project Name	Mile	Func	Dist	Township	Range	Section
92	La Manga T.S.	3.0	Timb	D-2	T.28N.	R.7E.	30 & 31
	Bone T.S.	1.5	Timb	D-2	T.28N.	R.7E.	19&30
	Telephone Canyon T.S.	5.0	Timb & LLL	D-4	T.23N.	R.12E.	27,22,15,10 9 & 8
	Servilleta Plz.	10.0	LLL	D-2	T.25&26N.	R.9E.	---
	Hines	<u>3.0</u>	LLL	D-1	T.25N.	R.3E.	3
	Total	22.5					
93	Deer Park	3.0	Timb	D-6	T.28N.	R.7E.	14,15,17, 19,23&28
	Bob Cat	10.0	Timb	D-7	T.29N.	R.15E.	27,28,29,30, 31,32,33&34
	Cow Sale	4.0	Timb	D-6	T.28N.	R.8E.	20,29,33,31, 32 & 34
	Petaca Grant	<u>9.0</u>	LLL	D-2	T.26&27N.	R.9E.	---
	Total	26.0					
94	Hopewell T.S.	5.0	Timb	D-6	T.28&29N.	R.7E.	1,6&31
	Commales T.S.	2.0	Timb	D-4	T.22N.	R.13E.	4, 9 & 10
	La Paloma T.S.	4.0	Timb	D-2	T.25&26N.	R.9E.	31, 32 & 5
	Serna Grant South Bdry.	3.0	LLL	D-4	T.23N.	R.12E.	---
	Tres Piedras	8.0	Timb	D-6	T.28N.	R.9E.	10,15,16&21
	Las Tablas	<u>4.5</u>	LLL	D-2	T.27N.	R.9E.	19,30,29&32
	Total	26.5					
95	Comanche Canyon	6.0	LLL	D-2	T.25N.	R.9E.	22,23,27,25, 26 & 36
	Exchange Sur. 21	8.0	RNG	D-4	T.21N.	R.11&12E.	16,17,25,26, 19,30,20&29
	Mesa las Viejas	<u>10.0</u>	LLL	D-2	T.25N.	R.3&4E.	25,26,19&30
	Total	24.0					
96	Taos Pueblo Grt.	10.0	LLL	D-5	T.25&26N.	R.13E.	South, East & North Bdry.
	Kiowa Village	6.0	Timb	D-7	T.27N.	R.12&13E.	---
	Exchange Survey 513	8.0	LLL	D-4	T.23N.	R.15E.	1,12,11,10, 15,21,28&32
	Total	24.0					

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Table 27. Rights-of-way for ten years.

Ranger District	Road or Trail	Cases	Miles
Canjilon	FR 131A	1	1.0
	FR 145	2	5.0
	FR 559	2	1.5
	FR 125	1	0.2
	FR 691	1	2.0
El Rito	FR 559	8	8.5
	FR 44	2	0.75
	FR 274	5	2.0
Jicarilla	FR 309	2	0.5
	FR 310	2	0.8
Penasco	FR 29	10	5.8
	Hondo Canyon	2	1.5
	FR 606	2	2.5
	Rio Chiquito	3	.1
Taos	Ojitos Trail	1	0.14
	South Boundary Trail	1	0.25
	FR 70	10	2.0
	Baca Canyon	1	1.5
	Apache Pass	1	.5
Tres Piedras	FR 91B	1	0.5
	FR 556	2	2.0
	FR 551	2	1.0
	FR 118	2	4.0
	FR 83	1	0.3
	FR 93	10	3.0
	FR 87	1	0.25
	FR 418	2	1.5
	Duran Lane	2	0.5
	Tres Orejas	2	2.0
	FR 88A	2	0.3
	FR 133	-	0.1
Questa	FR 134	7	1.7
	FR 1950	3	6.0
	FR 66	1	0.25
	FR 64	1	1.0
	FR 62	1	0.19
	Bobcat North	3	.5

Table 28. Arterial and collector road construction/reconstruction

EY	Proj #	Rd #	Road Name	Mi.	C/R	Typ \$'s	Pri. Res.	Est. (M\$)
87	1	559	Canjilon-El Rito I	1.9	R	CI	GP	260
87	2	76	La Junta-Black Lakes I	3.5	R	PC	T	40
88	3	134	Questa Bypass	1.4	C	CI	T	250
88	4	274	Canon Plaza	3.4	R	CI	T	280
88	5	442	Gallegos Peak	4.0	R	PC	T	120
88	6	125	Trout Lakes II	1.0	R	PC	T	10
89	7	93	Rio Nutritas and	9.5	R	CI	T	630
		87	Lagunitas I	1.4	R			
89	9	438	Pot Creek	9.3	R	PC	T	110
90	10	87	Lagunitas II	7.5	R	CI	GP	370
90	11	44	El Rito-Vallecitos	6.5	R	PC	T	100
90	12	639	Llano	5.0	R	PC	T	80
90	13	133	Tusas San Antone	4.5	R	PC	T	90
90	14	437	Rio Chiquito	9.0	R	PC	T	90
90	15	478	S&H Road	3.0	R	PC	T	50
91	--	---	Rec. Road Rehab.	--	R	CI	R	20
91	16	440	Maestas	2.0	R	PC	T	40
92	17	134	Cabresto	3.5	R	CI	GP	50
93	18	125	Trout Lakes	8.2	R	CI	R	250
94	19	87	Lagunitas III	11.0	R	CI	GP	280
94	20	469	Telephone Canyon	3.0	R	PC	T	30
94	21	437	Lagunita Canyon	2.5	R	PC	T	35
95	22	559	Canjilon-El Rito III	9.0	R	CI	GP	610
95	--	---	Rec. Road Rehab.	--	R	CI	R	20
96	23	559	Canjilon-El Rito II	5.0	R	CI	GP	80
96	24	76	La Junta-Black Lakes II	3.0	R	PC	T	30
--	25	559	Canjilon-El Rito	31.1	R	FH	GP	---
--	26	42	Tusas La Madera	28.2	R	FH	GP	---

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Table 28. Arterial and collector road construction/reconstruction

Pri Res = Primary Resource

PC = Purchaser Credit	C = Construction
CI = Capital Investment	R = Recreation or Reconstruction
FH = Forest Highway	T = Timber
GP = General Purpose	

It is not known when the two Forest Highway projects will be constructed or how much it will cost, since they are funded and administered through the Federal Highway Administration and are not included in the Forest budget. Portions of these projects will also be upgraded to a limited extent with purchaser credit and capital investment dollars.

Note: The location of these projects are shown on the Transportation and Utility Corridor Map by project number.

Table 29 lists those structures that will be constructed or reconstructed during the first ten years with FA&O funds. Due to various interdisciplinary requirements and funding constraints, the model solution for the Plan did not provide sufficient dollars to complete all of these projects. However, if funds become available in the annual budget process, these are the projects to be undertaken.

Table 29. FA&O structures construction/reconstruction.

<u>Prior</u>	<u>Year</u>	<u>Bldg. Facility Type</u>	<u>Cost (M\$)</u>
1	1987	Penasco Sewage System	50
2	1987	Canjilon Ranger Dwelling Addition and Fire Protection	70
3	1989	El Rito Office Addition and Fire Protection	250
4	1988	Tres Piedras Barn	150
5	1990	Kiowa Lookout (Reconst.)	30
6	1991	Questa Office Addition	240
7	1992	Jicarilla Crew Quarters	80
8	1993	Tres Piedras Crew Quarters	115
		TOTAL	985

4. MANAGEMENT DIRECTION FOREST-WIDE

FOREST-WIDE PRESCRIPTIONS

The following standards and guidelines apply to activities which occur in more than one management area on the Forest. The first two sections deal with travel management and waters closed to mechanized prospecting. These are followed by standards and guidelines that apply Forest-wide, listed alphabetically by resource. The resources are listed in the left margin.

FOREST MANAGEMENT EMPHASIS

Manage the Carson National Forest to maintain, and/or improve: wildlife habitat at a moderately high level; watershed condition; and the visual resource. Also provide for high quality recreation opportunities. In conjunction, the suitable timber areas will be managed for a moderate level of timber output and a low level of road development.

TRAVEL MANAGEMENT

Authority for this closure is Secretary of Agriculture Regulations Title 36 Parts 261.12, 261.13, 261.54, 261.55, 261.56 and 295. Wilderness areas are closed to mechanical use under 36 CFR 293.6. Parts of the Rio Grande Wild and Scenic River are closed to motorized use under Executive Order 11644 and 11989 and 83 CFR Part 8340.

Most of the closure areas are closed or restricted in the sense that cross-country vehicle travel is not permitted. Insofar as possible, routes used by jeeps and motorcycles in the past have been left open to provide access through the areas.

The areas restricted or closed will not necessarily remain unchanged in the years to come. The process of regulating use is designed to change and meet new public needs and demands. It will be "fine-tuned" to reflect new information about vehicle impacts on wildlife, watershed, range and timber, as well as effects on other kinds of recreation and changing patterns of use.

Outside of restricted areas, many roads constructed for timber harvesting and other purposes have been "put to bed". Drainage and revegetation measures have been installed to permit these roads to heal and stabilize. These situations can be recognized by physical barriers, such as earth berms, ditches, or signs.

When fire danger is extreme, travel on the Forest may be restricted to certain roads or areas.

4. MANAGEMENT DIRECTION FOREST-WIDE

A map showing the vehicle restrictions or opportunities (type and location) is attached with this Forest plan. The areas include:

- Areas where no motorized use is permitted,
- Areas where motorized vehicles are permitted only on designated roads,
- Areas where wheeled vehicles must stay on designated routes but snowmobiles are unrestricted,
- Areas where snowmobiles are not permitted,
- Areas designated for cross country skiing, hiking or horseback riding.

PROSPECTING IN NEW MEXICO WATERS

The U.S. Corps of Engineers authorizes by permit the discharge of dredged material associated with recreational prospecting in waters of the United States. All waters within the State of New Mexico are open to recreational prospecting with motorized dredges with intake orifices up to three inches in diameter, non-motorized sluice boxes and gold pans under regional 404 permit NM-OYT-0315A. However, the following waters require an individual 404 permit for mechanized suction dredging and mechanized sluicing. Any persons desiring to conduct mechanized dredging or sluicing operation in these waters shall apply for an individual 404 permit to the Corp of Engineers, P.O. Box 1580, Albuquerque, N.M. 87103; Phone: (505) 766-2776. The waters are:

- Mora River: All tributaries above the Town of Mora and all perennial tributaries west of NM Highway 3 (Mora Watershed; Penasco and Taos Ranger Districts).
- Rio Grande: All perennial reaches of its tributaries in Taos and Rio Arriba Counties (all Ranger Districts).
- Red River: Main stem from its mouth upstream to the fence at the downstream boundary of the Red River Fish Hatchery; main stem and its tributaries from a point 1 1/2 miles above the bridge at the Red River Fish Hatchery upstream to its headwaters (Questa Ranger District).
- Rio Chama: Perennial reaches of the main stem; the main stem of El Rito Creek above the town of El Rito (Canjilon and El Rito Ranger Districts).
- Vallecito Creek: Main stem and all its tributaries above Ojo Caliente Creek (El Rito and Tres Piedras Ranger Districts).
- Lakes: Canjilon Lake, Hopewell Lake and Trout Lake (Canjilon and Tres Piedras Ranger Districts) and Cabresto, Goose and Middle Fork Lakes (Questa Ranger District).

4. MANAGEMENT DIRECTION FOREST-WIDE

STANDARDS & GUIDELINES

AIR QUALITY

Management activities will be planned so that air quality will be equal to or better than that required by the applicable Federal, State, and/or local standards or regulations. (36 CFR 219.27 (a) 12, Clean Air Acts as amended 1977, 42 U.S.C. 7401-7642, FSM 2120.)

CULTURAL RESOURCES

The Forest will comply with the provisions of the National Historic Preservations Act of 1966, as amended; Executive Order 11593 and the Archeological Resources Protection Act of 1979. It 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 Archeologist, and in accordance with the negotiated settlement to the Save the Jemez et al./State of New Mexico vs. Forest Service litigation.

A cultural resources overview has been prepared that covers all Forest lands. It is available at the Forest Supervisor's and Regional offices, and at public libraries. A Forest-wide cultural resources management assessment will be prepared, in consultation with the State Historic Preservation Officer (SHPO), by April 1, 1988. The overview will be updated as required by new data and scientific research, by the management situation, and/or by planning needs.

Information from the overview, and from other sources, will be used to develop a framework for the identification, classification, and evaluation of known and predicted properties in the cultural resources management assessment, as provided for in the settlement to the Save the Jemez et al./State of New Mexico vs. Forest Service litigation.

Interactions among cultural and other resources will be considered in detail in the cultural resources management planning assessment due April 1, 1988. These interactions will be analyzed on the basis of management areas by assessing the kind and distribution of cultural resources, and their interaction with other multiple uses, within each management area. The interaction between cultural and other resources for any specific undertaking will be evaluated in project-level analyses.

The following standards will apply:

1. The Forest will comply with the provisions of the National Historic Preservation Act of 1966, as amended; Executive Order 11593; the Archeological Resources Protection Act of

4. MANAGEMENT DIRECTION FOREST-WIDE

1979; and the settlement to the Save the Jemez et al./State of New Mexico litigation.

2. The standards specified in the settlement to the Save Jemez et. al. /State of New Mexico litigation will be followed. Where the settlement document does not specify standards, those in the Forest Service Manual and Handbook will apply.
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. Exceptions may occur in specific cases where consultation with the SHPO indicates that the best use of the resource is data recovery and interpretation.
4. Sites listed in, nominated to, eligible for, or potentially eligible for the National Register will be managed during the conduct of undertakings to achieve a "No Effect" finding, in consultation with the State Historic Preservation Officer and the Advisory Council on Historic Preservation.
5. Where resource management conflicts occur, the desirability of in-place preservation of cultural resources will be weighted 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;
 - where 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.

Where preservation in place is important under these conditions, the Forest will give serious consideration to such options as project redesign, relocation, or cancellation. The procedures specified in 36 CFR 800 will be followed in reaching a management decision, and the minimum management standard will be to achieve a "No Adverse Effect" finding.

4. MANAGEMENT DIRECTION FOREST-WIDE

6. Surface disturbing undertakings will be managed to comply with 36 CFR 800 and the settlement to the Save the Jemez et al./State of New Mexico litigation. All consultation responsibilities to the SHPO, before, during, and after an undertaking, will be followed. The area of an undertaking's potential environmental impact will be surveyed for cultural resources and areas of Native American religious use. Inventory standards will be as specified in the settlement document and in the Forest Service Handbook, and will be determined in consultation with the SHPO. Native American groups will be consulted as appropriate.

Cultural resource management, including the formulation and evaluation of alternatives, will be coordinated to the extent feasible with the State Cultural Resource Plan and planning activities of the State Historic Preservation Officer and State Archeologist, and with other State and Federal agencies. This will be accomplished as follows: (a) consultation and meetings with such parties, (b) sharing of data, reports, plans, interpretations, and other documents, (c) coordination on National Register nominations, and (d) participation in the State cultural resources planning process.

All parts of the Forest not surveyed at the 100% level, and on which there is a likelihood that cultural resources exist, require more intensive inventory. Areas rated as highest priority for survey will be those that either (a) are expected to have high site densities, and/or (b) are important to understanding the historic or prehistoric occupations of the Forest. Such areas will be determined in the cultural resources management planning assessment to be completed by April 1, 1988. At a minimum, survey of such areas will be undertaken in conjunction with annual update training for para-professional archeologists as specified in the settlement to the Save the Jemez et al./State of New Mexico litigation.

The Forest will implement, or seek to develop or participate in the development of, Cultural Resources Allocation Plans. These plans will be available in the Supervisor's and Regional Offices. Data will be collected to implement the plan(s). In consultation with the SHPO, sites will be allocated to management categories and treated accordingly.

The Forest, through the cultural resources management planning assessment to be completed by April 1, 1988, will develop a prioritized list and schedule for nominating eligible properties to the National Register of Historic Places (National Register).

4. MANAGEMENT DIRECTION FOREST-WIDE

In consultation with the SHPO, identified sites will be evaluated for eligibility for the National Register. Sites considered eligible will be assigned a priority for nomination. Sites not yet evaluated will be managed as if eligible, unless consultation with the SHPO indicates otherwise.

The National Register nominating criteria are contained in 36 CFR 60.4. These will be further refined through the cultural resources management planning assessment due April 1, 1988. Nominations will be coordinated with the planning activities of the SHPO and the State Archeologist, and with the Allocation Plan(s). Priorities for nomination will be based on a consideration of these plans and the overall cultural resources program.

The Forest will nominate at least two individual sites per year for every full-time professional employed in the Forest's cultural resources management program. Alternatively, the Forest will submit at least one District, thematic, or multiple property nomination per year, or may cooperate with other Forests in producing such a nomination. A different submission schedule for specific multiple property nominations may be proposed to the SHPO. Any nomination returned by the Keeper of the National Register for reasons of technical inadequacy will be revised and resubmitted within 90 days, weather permitting.

Measures for the protection of cultural resources from vandalism and natural destruction will include regular inspection and, where necessary, electronic monitoring. Sites listed in or nominated to the National Register will be inspected biennially. Sites determined eligible for the National Register will be inspected periodically, unless previous data recovery has fully documented the characteristics that qualify the site for the Register. All other sites, except those formally determined ineligible for the National Register, will be inspected on a need or opportunity basis, as specified in the settlement to the Save the Jemez et al./State of New Mexico litigation. Sites susceptible to rapid deterioration and/or human disturbance will be inspected most frequently.

4. MANAGEMENT DIRECTION FOREST-WIDE

Sites known to have sustained unusual damage, beyond minimal levels that normally occur from natural forces, will be listed in priority order for stabilization. This listing will appear in the cultural resources management planning assessment due April 1, 1988. This list will specify five sites that are the highest priority for stabilization, thirty-five sites (if identifiable) that have sustained severe damage, and up to sixty additional sites that have sustained less severe damage. Criteria for establishing priorities will be those specified in the settlement to the Save the Jemez et al./State of New Mexico litigation.

Rapid natural deterioration, or susceptibility to this, will require planning for appropriate measures, such as stabilization and/or data recovery. Vandalism, collecting, or illicit excavation will require planning for protective measures, such as signing, fencing, administrative closure, remote sensing, increased patrolling, investigations, interpretive signs, District displays, media communications, and stabilization and/or data recovery. Specific sites or areas may be closed to ORV use and withdrawn from mineral entry. Parties known to have damaged cultural resources willfully or through negligence will be held legally and financially liable for the costs of stabilization and repair.

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 one site, and not less than 20% of the sites, designated for protection within each undertaking will be inspected by a cultural resources specialist, sale administrator, contracting officer's representative, or project inspector. All sites listed in, nominated to, or formally determined eligible for the National Register will be inspected. Inspection will occur during the course of the undertaking, or at the close of undertakings with total duration of less than 72 hours. Inspection records will be provided to the SHPO.

Each Forest contract, permit, or lease that has the potential to affect cultural resources will contain a clause specifying site protection responsibilities and liability for damage. If damage to a cultural resource is found, the procedures specified in the settlement to the Save the Jemez et al./State of New Mexico litigation, and in the Forest Service Manual and Handbook, will be followed.

4. MANAGEMENT DIRECTION
FOREST-WIDE

Sites listed in or eligible for the National Register that need maintenance will be described in detail in the cultural resources planning assessment due April 1, 1988. The top priority sites are as follows:

1. AR-03-02-03-250
2. AR-03-02-03-251
3. AR-03-02-03-243
4. AR-03-02-03-45

Stabilization/maintenance plans for these sites will be developed.

The Forest will provide interpretive opportunities, which should be pursued as a high priority when opportunities arise, such as:

1. Cultural resources displays in the Supervisor's Office and in District Offices.
2. Preparation of popular literature, brochures, and films regarding the Forest's cultural resources.
3. Presentation of popular talks regarding the Forest's cultural resources.
4. Professional cultural resource interpretation for presentation at meetings and/or dissemination through professional publications.

By April 1, 1988, the Forest will identify cultural resource interpretation audiences and objectives. This list of interpretive opportunities will be reviewed and updated as appropriate.

Provide \$10,000.00 per year to inventory non-project related areas.

Complete the procedural requirements of 36 CFR 800 prior to approval of mineral operating plans. Employ a strategy of avoidance wherever possible without unreasonably or unnecessarily infringing on the rights of the operator. Require the operator to take appropriate mitigation action if the resources cannot be avoided. If mitigation is not possible, consider mineral withdrawal or mineral contest action.

Employ the strategy of avoidance, whenever possible in the approval of operating plans. Require the operator to take appropriate mitigation action if the resources cannot be avoided.

Wherever possible, mineral material pits and access roads will avoid cultural resources. If it is in the public interest, permits for the disposal may be issued, however the operator will bear the burden of appropriate mitigation action.

4. MANAGEMENT DIRECTION FOREST-WIDE

Minimize activities which might cause accelerated erosion and the development of gullies. Provide strategy for watershed improvements that are not visually offensive or impair the cultural significance of the area when gullies threaten sites.

Special land uses may be allowed which are, or can be made compatible with, emphasized management practices.

Avoid placement of utility corridors through sites when possible.

Consider use by permits for research by recognized archeological/paleontological institutes and professional groups.

ENGINEERING

Local terminal roads shall be drained and closed promptly after the end of resource management activities. Temporary roads shall be drained, obliterated, and revegetated immediately after the timber purchaser has finished using it.

Maintain the transportation system at a cost efficient level in terms of operations, and reconstruction. Road maintenance activities will generally be conducted primarily for protection of forest resources, road investment, user safety, and only secondarily for user comfort. When roads in need of maintenance cannot be serviced, they will be closed if unacceptable resource damage is occurring or if they are unsafe. Guidelines for the existing Forest Development Road System that is actually maintained:

<u>Maintenance Level</u>	<u>Miles</u>
1 (closed)	52
2 (4WD)	594
3 (car)	287
4 (car)	115

Evaluate all travelways to determine if they are needed and should be on the Forest Development Road or Trail System and whether their use is covered under an approved operating plan or special use permit. Half of the unneeded roads will be obliterated utilizing best management practices and returned to resource production and all roads in riparian areas and within two miles of wilderness areas will be treated. Road management plans will be reviewed or developed for all Forest Development Roads every five years and will include updating transportation maps and inventory. Where appropriate, roads will be covered under either a special use permit or operating.

Guidelines for existing travelways:

<u>Maintenance Level</u>	<u>Miles</u>
1 (closed)	150
2 (4WD)	1963
<u>Obliteration</u>	<u>Miles</u>
Forestwide	700

4. MANAGEMENT DIRECTION FOREST-WIDE

Reconstruct roads to a double lane standard only when traffic analysis indicates that a single lane will not safely and economically handle the projected traffic.

Arterial and collector road grades will not normally exceed 10% unless justified from the standpoint of savings and user costs or to protect the investment and adjacent resources. Likewise, local road grades normally will not exceed 12% (Best Management Practices).

Reseed road cut and fill slopes with grasses and forbs which are adapted to the area and provide effective erosion control (Best Management Practices).

Construct local roads to a 12 foot width, except where accessing possible future (next planning period) cable logging areas where the minimum width will be 14 foot.

Transportation investments by individuals, other agencies or the Forest Service will be located and constructed to meet long term needs based on a transportation analysis which considers planned resource objectives.

Do not conduct timber management activities, develop or utilize the road system in elk calving areas from May 1 to July 25. (Management Areas 1-14)

Identify elk migration routes and provide elk cover along ridges, drainages, and transition areas when locating and designing roads. (Management Areas 1-14)

Do not locate arterial, collector, or local service roads through identified elk migration routes unless no feasible alternative exists, as determined by interdisciplinary team review.

Emphasis will be placed on locating new roads outside of the riparian type. If new roads are to be built, then erosion control measures (i.e., buffer zones, sediment catch basins, seasonal road closures, etc.) will be included in the road design criteria and travel management plans. If feasible, relocate or remove existing roads and trails or manage them with seasonal closures to minimize disturbance to wildlife. Align crossings so that the minimum possible area is affected. Do not align roads to pass through the long axis of narrow riparian strips. All necessary erosion control measures will be included as a part of the road construction contract. Schedule construction activities during low water periods. Minimize road clearing widths.

4. MANAGEMENT DIRECTION FOREST-WIDE

Road maintenance activities will be managed such that stream sedimentation and riparian zone disturbance are minimized. Avoid scheduling maintenance activities during extended periods of wet conditions.

Development of all Forest Development Roads which involve perennial stream crossings will provide for fish passage.

Guidelines for administering maintenance on Forest roads, where commercial, private, or other governmental users have responsibility is:

- 92 miles at level 2
- 193 miles at level 3
- 145 miles at level 4

The guideline for construction or reconstruction of arterial/collector roads by capital investment funding is 6.0 miles annually.

Construct new administrative facilities, including the purchase of new trailers.

Complete energy retrofit actions on existing administrative facilities to reduce energy use.

Guideline: 10% per year (per energy retrofit plan)

Maintain existing administrative facilities in a safe condition and prevent disinvestment.

Designate existing communication, power, oil, and gas transmission rights of way as corridors.

Provide for joint use in corridors and combine uses, to the extent possible, in light of technical and environmental constraints.

Guideline:

<u>Corridor Classification</u>	<u>Acres</u>
Avoidance Areas	358,315
Exclusion Areas	84,852
Unclassified Areas	920,342

The design, construction, management, operation and maintenance of wastewater facilities and activities under Forest control will take all necessary actions for the prevention, control and abatement of environmental pollution in full cooperation with State and Local governments.

4. MANAGEMENT DIRECTION FOREST-WIDE

Secure and comply with National Pollution Discharge Elimination System permits for all sewage treatment plants on the Forest including Forest Service facilities and plants under special use permit. Sewage storage and collection facilities will be operated and maintained in an environmentally acceptable manner. Septic tank, holding tank, and sealed vault pumpings will be disposed of only in approved sites.

Management emphasis for aggregate sources, for all analysis areas, except riparian, will be as follows:

- Utilize existing sources, where practical.
- All sites will be rehabilitated to comply with prescribed visual quality objectives.
- Development and rehabilitation plans will be approved prior to utilizing any sources.

Coordinate and monitor the construction of nominated Forest Highways as FHWA funds become available.

Guideline:

FH7/NM110, Canjilon to El Rito, 31.1 miles NM111*, Tusas to La Madera, 28.2 miles

(*These roads have not yet been assigned a Forest Highway #.)

Transportation investments by individuals, other agencies, or the Forest Service will be located and constructed to meet long term needs based on a transportation analysis which considers planned resource objectives.

FIRE

On the Jicarilla District, manage unplanned natural ignitions after July 15 or when the summer rains are fully established.

Constraints:

- No more than 1 1/2 miles to an active perimeter.
- No closer than 1/2 mile to an active gas well.
- No more than 2 fires at one time.

Guideline: Remove slash to provide future protection from wildfire and for seedbed preparation. Unplanned ignitions will be suppressed in seedling and sapling stands.

Provide a 20 person crew in support of planned national fire support.

Smoke management plans will be prepared to coordinate and manage smoke dispersal with other agencies and with meteorological conditions. Burning permits will be obtained from the respective State permitting agencies to ensure conformity with State Implementation Plans for emissions of regulated air pollutants from forest lands or facilities. (42 U.S.C. 7506(c).)

Activity created fuels and natural fuels will be treated to a level that the maximum tolerable loss objective can be met.

4. MANAGEMENT DIRECTION FOREST-WIDE

Fire suppression response will be appropriate for each fire ignition considering the fire environment and suppression forces. Appropriate actions to consider are confinement, containment, surveillance and/or depend upon the specific fire situation. Under no circumstance will attempts be made to use wildfires as prescribed fires, intended to meet resource objectives.

HUMAN RESOURCES

Annually provide the following:

SCSEP	- 31 enrollees
Volunteers	- 25 enrollees

LANDS

Recommend no leasing on lands designated as base-in-exchange.

Review existing withdrawals to insure compliance with FLMPA by 1991 on 17,134 acres.

Investment in structural and non-structural improvements will not be made on lands designated as base-in-exchange, unless there is an overriding public need or a legitimate use that cannot be accommodated elsewhere on the Forest.

Exchange for lands that meet one or more of the following criteria:

- Lands within designated wildernesses.
- Lands that contain vital threatened and endangered species habitat, or vital wildlife habitat (i.e. calving areas).
- Lands needed for developed and dispersed recreation.
- Wetlands, riparian areas, and other water oriented lands.
- Lands that contain unique, natural, or cultural values.
- Lands that will improve public land management, meet specific administrative needs, or benefit other National Forest programs.
- Lands that provide needed access, or protect public lands from fire, or trespass or prevent damage to public land resources.
- Lands that need rehabilitation or stabilization to restore their productivity.
- Lands that are needed to block up public land ownership or meet research needs.
- Lands that are needed to meet programs prescribed or endorsed by acts, or reports of Congress, or the Department of Agriculture.
- Acquire inholdings that contain needed rights-of-way and will contribute to the Forest resource management base.

4. MANAGEMENT DIRECTION FOREST-WIDE

Purchase available lands as funding permits within the following categories:

- Congressionally designated areas.
- Private land within wilderness.
- Land containing threatened and endangered species habitat and critical wildlife habitats.
- Identified private land within recreation acquisition composites.

Encourage counties to designate Forest roads as County roads when private land-owners use exceeds 50%. Execute easements for operation and maintenance responsibilities when roads are designated on both systems.

Survey and mark boundaries to 30.0 miles annually:

- Protect present corners or reference of same when the possibility of disturbance during land use activities exists.
- Locate boundaries near on-going resource projects and special management areas such as wilderness.
- Resolve or prevent encroachments.
- Assist Forest users in identifying their public lands.

Maintain posted property boundaries and corners 20 miles annually. Guideline: 20 miles annually.

Acquire rights-of-ways (94 cases for decade):

- Acquire road and trail ROWs across non-National land in amounts and locations required to implement and support other resource management activities.
- Cooperate with intermingled and adjacent landowners and local governments in developing roads or road systems that serve the needs of all parties.

Process title claims, five cases annually.

The land acquisition classification is:

5,237 acres Desirable class one
27,170 acres Desirable class two
35,888 acres Desirable class three
64,600 acres Undesirable
4,644 acres Base in exchange

LAND MANAGEMENT PLANNING

Develop and maintain a Forest Plan and Forest data base in compliance with NFMA and NEPA.

LAW ENFORCEMENT

Cooperate with Taos and Rio Arriba Counties for law enforcement, 2 agreements annually.

Law enforcement support for seven Ranger Districts, consisting of two level 4 agents.

4. MANAGEMENT DIRECTION FOREST-WIDE

MINERALS

Process lease applications for geothermal, coal and uranium.

Administer and process oil and gas cases, per FSM 2822.41, R-3 Supplement 6, dated August, 1983.

Provide additional protection to surface resources with slopes over 40% (507.1 M Acres), to riparian areas (33.6 M Acres) critical wildlife habitats, and developed and proposed recreation sites (9.3 M Acres) by classifying this acreage as available for leasing but with limited surface occupancy.

Administer and process mineral material cases. Complete pit development plans for all operating pits that address sound development and reclamation procedures. Top soil will be stockpiled. Pit bottoms will be graded to drain and slopes shall be reshaped to 3:1 where practical.

Applications for common variety minerals will be denied on lands designated as base-in-exchange if they fail to meet the test of overriding public need or will significantly diminish the real estate value of the lands. Applications on other lands will be evaluated prior to issuance of a permit and will be denied if other resource impacts can not be mitigated.

Initiate validity contests on mining claims where there is unwarranted occupancy, detrimental surface disturbance, or the lands are needed for another National Forest program.

Administer and process operating plans in compliance with laws and regulations for non-energy locatable mineral claims.

Administer and process mineral material cases.

RANGE

Complete production utilization studies to evaluate effectiveness of management and determine need for improvement or to change current management system. Adjust permitted number based on Production Utilization Studies (P/U).

Production Utilization Studies (P/U) by Allotment Management Intensity Level will be completed as needed:

- Level B Six P/U studies
- Level C Twenty P/U studies
- Level D One P/U study

Complete range re-analysis and update implementation plans as revisions are needed: Levels B through D - 20, Level E - 1.

4. MANAGEMENT DIRECTION FOREST-WIDE

Manage allotments at levels B through D, except allotments managed at level A, for resource protection, will remain at A. Make the changes in the level of management as shown in Table 30.

Table 30. Number of grazing allotments changed from one management level to another, by District

Management Level	Ranger District						
	D-1	D-2	D-3	D-4	D-5	D-6	D-7
From Level B to C	1		2			3	
From Level C to D	2	2	4	3	2	5	2
From Level D to E						1	

Maintain structural and non-structural improvements to achieve project life. Permittees will maintain the structural improvement.

Annually remove excess wildhorse populations to levels outlined in Management Plans when territories were established.

Guideline: 21,246 acres.

Declassify Mesa de las Viejas Territory.

Plan and accomplish structural and nonstructural improvement(s) needed to implement and maintain prescribed management intensity.

RECREATION

Maintain all system trails at a level that corrects unsafe conditions and minimizes unacceptable resource and trail damage. Prepare an annual trail management plan that identifies planned design standards. Provide maintenance to restore the trail to those design standards.

Maintain or enhance the existing visual quality recreation potential and possibilities for a trail along the corridor that has been identified as a possible location for the Continental Divide National Scenic trail on the Tres Piedras, El Rito, and Canjilon Ranger Districts.

4. MANAGEMENT DIRECTION FOREST-WIDE

Maintain the Forest Environment to provide the full range of recreation opportunities. Make public contacts during the peak use season(s) for visitor education and provide for clean-up and public safety at dispersed use sites.

Complete a Recreation Opportunity Guide for each Ranger District.

Provide a Forest Travel Guide and Map for the public.

Install and maintain signing in conjunction with the Forest Travel Management Plan.

During peak use season provide regular patrols to provide public education and law enforcement in travel restriction areas. Provide occasional patrols during other periods of the year.

Provide supervision, training and incidental needs to develop and maintain an active volunteer program in connection with dispersed recreation programs such as trail maintenance, sign installation and maintenance, clean-up, and monitoring of use.

Establish capacities when needed for outfitter guides and limit use to the established capacity.

Encourage applications for outfitter guides to provide needed recreation opportunities, issue permits, monitor activities, make performance evaluations and issue priority use permits when warranted.

Enlist outfitters to exercise responsibility to educate the public they guide and serve about natural resources management and protection.

On most sensitive areas where visual quality objective is foreground retention or partial retention:

- Dispose of all activity slash occurring within the immediate foreground (100 to 300 feet) of all sensitive travel routes, water bodies, and use areas. Visual impact should be reduced to meet partial retention either during operation or immediately after. Retention objectives should be met within one year of project completion.
- On less sensitive areas, dispose of all slash within 100 feet on either side of all sensitive travel routes, water bodies and use areas in retention and partial retention visual quality objectives.

The Forest will develop viewshed corridor plans for all acres with a foreground retention visual quality objective that are scheduled for timber harvest.

4. MANAGEMENT DIRECTION FOREST-WIDE

Manage the visual resources on the Forest according to the Visual Quality Objectives listed on the inventory maps. Utilize forest management activities to increase visual variety. The overall goal is to meet the planned objective, however, this objective may be reduced by one level to meet other resource goals on a case by case basis. Landscape rehabilitation will be used to restore landscapes to a desired visual quality. Enhancement may be used to increase visual variety when other management activities provide opportunities.

Provide the opportunity for the public to obtain a variety of recreation experiences by managing the natural resource setting and the activities that occur within it. Provide a spectrum of opportunities on the Forest from Semi-primitive to Urban, with emphasis on the less developed end of the spectrum. Within the wildernesses, utilize the Wilderness Opportunity Spectrum as outlined in the wilderness prescriptions. For the remainder of the forest, manage according to the following guidelines:

a. Rural and Urban (R and U)

Location - manage areas within 1/4 mile of administrative sites, the Ghost Ranch Living Museum, winter sports sites and other recreation sites adjacent to villages and towns to provide R and U recreation opportunities.

Setting - The natural environment may be substantially modified. Timber harvest and other resource practices should enhance the associated recreation use. Sights and sounds of other users may be readily evident, and human interaction is high. Facilities should be provided for intensified motorized recreational use.

Experiences and Activities - Group and individual interaction are emphasized, as are user conveniences. Controls, regulations and law enforcement are obvious. Associated activities are motorized and mechanical in nature. Developed recreation activities predominate.

b. Roaded Natural (RN)

Location - Manage areas within 1/2 mile of paved highways and Forest all weather and heavily used dirt roads to provide a RN recreation opportunity. This will include most of the recreation sites that are not near villages and towns.

Setting - The environment should be predominantly natural appearing with moderate evidence of human intervention. Resource modification and utilization practices may be evident, but should be in harmony with the natural environment. Interaction between users should be low to moderate, but evidence of other users may be prevalent. Facilities should be designed for conventional motorized use,

4. MANAGEMENT DIRECTION FOREST-WIDE

ranging from travel trailers to passenger cars to moderate clearance two wheel drive trucks.

Experience and Activities - Manage for a high opportunity for interaction with the natural environment, both passive (sightseeing) and active activities. Both motorized and non motorized forms of recreation are possible, and should be accommodated by convenience facilities. Regulations on user behavior is high at recreation sites and along heavy use corridors, but less than in the Rural/Urban class.

c. Semi-primitive Motorized (SPM)

Location - Manage areas within 1/2 mile of lower standard Forest roads and areas where off road vehicles are permitted to provide a SPM recreation opportunity. This includes Forest system roads where use is light and maintenance levels are low. Remote recreation sites where few facilities are provided are also included in this category (Goose Lake and Middle Fork fishing sites, etc.). Areas designated on the Travel Management Map as Area 2 may change from Semi-Primitive Non Motorized (SPN) to SPM during the winter season.

Setting - The areas should be predominately natural appearing. Resource modifications should blend with the surrounding landscape character. User interaction should be low, but evidence of other users may be apparent. On-site controls and restrictions of use may be present but are subtle. Facilities should be designed for four wheel drive and/or high clearance rugged vehicles.

Experiences and Activities - There should be a high opportunity for interaction with the natural environment and a moderate opportunity for isolation from other people. User conveniences should be limited, users should experience self reliance, challenge and risk. Associated activities may be motorized, nonmotorized, including jeep driving, bicycle riding, horseback riding, and foot travel transportation modes. Dispersed recreation activities predominate.

d. Semi-primitive Non Motorized (SPN)

Location - Manage areas for an SPN recreation experience that are farther than 1/2 mile from motorized use roads, trails and areas. These areas are shown on the travel management map. Except for the road corridors, Area 1 on the map should be SPN year round. Except for the road corridors, Area 2 should be SPN in the spring, summer and fall. Snowmobiles are permitted in Area 2. Area 3 is SPN from January 1 to August 15, and SPM the remainder of the year.

4. MANAGEMENT DIRECTION FOREST-WIDE

Setting - The environment should be natural appearing with little or no evidence of human intervention. No resource manipulation projects will occur in Management Area 20. In other areas, resource modification and utilization practices should emphasize recreation and wildlife concerns. Recreation user interaction should be low but there may be evidence of other users. Facilities should be designed for nonmotorized uses, including foot travel, horseback travel and bicycles. On site controls and restrictions of use should be subtle.

Experiences and Activities - There should be a high opportunity for isolation from other people, independence, closeness to nature, tranquility, self reliance, challenge and risk. Activities may be mechanical but must be nonmotorized. Dispersed activities predominate.

e. Primitive (P)

No primitive experiences are provided outside of the wildernesses.

Construct the Canjilon Mountain Loop Trail (13 miles).

SPECIAL USES

Process applications and administer non-recreation permits, and right-of-way grants, 80 permits annually.

Cooperate with local governments in the planning and development of new solid waste sites when needed, and to comply with resource management objectives and all applicable regulations.

Management emphasis for electronic sites (Table 31) will be:

- Encourage formation of user improvement associations and administer sites in cooperation with associations.
- Incorporate site operation technical standards developed by user groups and reviewed and recommended by Forest Supervisor in permits.
- Develop site plans for each electronic site.
- Implement cooperatively developed site management standards for each site to provide for frequency and power separation.
- Manage structural density at electronic sites to meet electronic requirements.
- Interconnecting and cellular systems involving other Forests will be coordinated at the Regional level.
- Electronic uses within the Canon, San Antonio Mountain, Mogote Peak and Sawmill Mountain electronic sites will be limited to microwave, UHF and VHF communications, TV translators and booster stations. The effective radiated power (ERP) for omnidirectional transmission will be limited to 1000 watts. Directional transmission's having greater than 1000 watts ERP will be considered when compatible with existing uses.

4. MANAGEMENT DIRECTION FOREST-WIDE

Table 31. Electronic sites

<u>District</u>	<u>Site Name</u>	<u>Status</u>	<u>Acres</u>
Canjilon	Mogote Peak	proposed	5
	Mesa, Viejas	existing	2
El Rito	Kiowa Peak	Gov't use	1
Jicarilla	Mestanas Mesa	Gov't use	1
Penasco	Picuris Peak	Gov't use	1
Taos	Cerro Vista	Gov't use	1
	Canon	expansion	2
Tres Piedras	San Antonio	existing	7
	(low power)		
	San Antonio	existing	5
Questa	(high power)		
	Cerro Azul	existing	1
	Flag Mountain	Gov't use	1
	Sawmill Mntn.	existing	1
	Taos Ski Valley	existing	1
	Lama	existing	1
	RR Ski Area	existing	1

TIMBER MANAGEMENT

Introduction

Standards and guidelines applicable to all Management Areas or groups of Management Areas are included in this "Forest-wide" section. For emphasis or clarification a few standards and guidelines are repeated in sections for specific Management Areas.

Except as specifically noted within the text or in [brackets] at the end of the text, standards and guidelines listed are applicable to the "suitable" timber land base. Areas within the "suitable" classification include the following Management Areas on general slope areas of 40% gradient or less: MA-1, Spruce; MA-3, Mixed Conifer; and MA-4, Ponderosa Pine.

4. MANAGEMENT DIRECTION FOREST-WIDE

Other groupings are defined below.

[All forested land] applies to all forested lands in all Management Areas.

[Forest-wide] applies to forest areas within the Management Areas classified as "suitable", "not appropriate for timber production" or most other "unsuitable" categories. Management areas not included are: MA-15, Potential Recreation Sites; MA-16, Existing Recreation Sites; MA-17, Wilderness; MA-18, Wild and Scenic River; and MA-19, Special Areas. Standards and guidelines for these are covered under the specific Management Areas. Management Areas 17 and 18 would be technically classed as "withdrawn."

[Not Appropriate and Other Unsuitable] applies to forested lands technically classified as "not appropriate for timber production" or most of the other "unsuitable" categories (FSH 2409.13). These lands may be identified as forested Management Areas or may be included as stringers or patches within non-forested Management Areas. Included are: MA-2, Spruce over 40% slope; MA-5, Mixed Conifer and Ponderosa Pine over 40% slope; MA-6, Aspen; MA-7, Unsuitable Timber; MA-8, Pinon-Juniper; MA-13, Oak; MA-14 Riparian, and MA-20, Semi-Primitive Areas. Also included are the forested patches and stringers within: MA-9, High Elevation grassland; MA-10, Low Elevation Grassland; and MA-12, Sage.

Timber Resource Planning And Inventories

Update the ten-year sale schedule and associated records on an annual basis.

Prior to annual updates and using available Stage-I and Stage-II Inventory data, complete index maps and stand records for sale planning areas associated with the ten-year sale schedule [Forest-wide].

Complete the 1985 Stage-I inventory and use the data to make refinements and minor adjustments to the Ranger District allocation of: suitable timber land, forest cover-type, analysis area acreage, and associated acres of vegetative treatment. [Forest-wide]

Reinventory (Stage-I) the timber resource in 1995. [Forest-wide]

4. MANAGEMENT DIRECTION FOREST-WIDE

Silvicultural Exam And Prescription

Complete silvicultural exams to track site specific Forest conditions and to provide information for project analysis and design. As a guideline complete 38,000 acres/yr on suitable forest land (1/10 of area in each Management Area per year). In coordination with wildlife management complete an inventory of MA-6, Aspen, during the ten year period. Complete 7,000 acres per year on pinon-juniper and other forested areas to meet specific project needs. [Forest-wide]

As further described in the "Wildlife Management" section, develop and prescribe treatments through Integrated Stand Management (ISM). In applying ISM cross-check all resource areas for standards and guidelines. [Forest-wide]

Timber stands will generally be managed under the even-aged system using the clearcutting or shelterwood methods.

As a guideline: the shelterwood method will be a regeneration cut followed in 20 years by one removal cut. Preparatory cuts may be applied to meet specific situations.

Stands may be treated with one precommercial thinning and one or more intermediate harvests designed to meet management objectives. Stocking guidelines are provided in FSH 2409.26a.

To work towards a balanced age class distribution on a Forest-wide basis, complete regeneration harvests on 3 to 15 percent of each forest cover-type (Management Area 1, 2 & 3). As permitted by the existing distribution of stand conditions apply this guideline on a diversity-unit basis.

Within limits established in 36 CFR 219.16, stands may be regenerated at 95% of CMAI as determined by individual stand examination, or earlier for use of sound silvicultural practices to attain multiple use objectives. Examples include improving age-class distribution within a diversity unit or reducing insect or disease problems.

To meet diversity guidelines, 75 percent of the collective perimeter of regenerated stands should be adjacent to stands having more than 30 years difference in age-class from the regenerated stand.

Regeneration harvests will have an objective of creating a new stand. Artificial reforestation will be scheduled for all clearcuts where natural regeneration is inadequate. Except for treatment of insect or disease conditions and/or when planting has been prescribed, final removal harvests will not be made until adequate regeneration is established.

4. MANAGEMENT DIRECTION FOREST-WIDE

Uneven aged management may be applied when it is the best way to meet specific management objectives. Appropriate cutting methods include selection and group selection.

On lands classed as "not appropriate . . .," or other "unsuitable" areas, apply even-aged, uneven-aged, or variations as needed to meet specific resource objectives for the appropriate Management Area. Specific guidelines are included in MA-6, Aspen; and MA-8, Pinon-juniper. [Not appropriate and other unsuitable]

Inventory and manage aspen in all forested areas to improve age class distribution, and to improve the forest-wide distribution of the component. [Forest-wide, on appropriate habitat types.]

****Standards and guidelines for managing aspen within the suitable timber land base are included in this section; they primarily relate to MA-1, Spruce; and MA-3, Mixed Conifer. Aspen is included in these MA's if it is mixed as a component with conifer, or if an aspen dominated overstory has a stocked or nearly stocked conifer understory. Other aspen stands are included in MA-6; (Aspen) and MA-7 (unsuitable); reference these sections for management direction.**

Within a diversity unit, create or maintain aspen stands on a minimum of ten percent of the timbered area that is capable of supporting the aspen-type as a major seral species. This applies to:

- 1) existing aspen with stocked or nearly stocked conifer understories
- 2) conifer stands with the capability to produce aspen if the conifer stand is clearcut.

Determine aspen stand size and location primarily to meet wildlife habitat and visual quality objectives. Consider the aspen distribution in adjacent diversity units when planning treatments.

The guideline will be to create or maintain 200 acres of aspen per year within Management Areas 1 and 3. Created aspen stands will be managed under standards and guidelines for Management Area 6, Aspen. As described in the MA-6 section, clearcutting is the primary harvest method for regenerating a stand of aspen.

On remaining aspen areas with stocked or nearly stocked conifer understories, harvest aspen to release the conifer stand.

In mixed conifer stands that contain aspen, encourage aspen regeneration as a minor stand component (less than 50% of total stocking) through location of skid trails, landings, and temporary roads.

4. MANAGEMENT DIRECTION FOREST-WIDE

Forest Pest Management

Monitor insect and disease conditions on all forested lands.
[All forested land]

Integrate Forest Pest Management Surveys into Silvicultural Exams when practical: primary emphasis is on

- Dwarf Mistletoe surveys
- Western Spruce Budworm Risk Rating
- Spruce Bark Beetle Risk Rating

[Forest-wide]

Utilize integrated pest management (IPM) procedures to evaluate the extent to which insect and disease control measures are needed to meet Management Area objectives. As appropriate consider recommendations made by the IPM-Work Group.

[Forest-wide]

Initiate appropriate control methods in the early stages of potential outbreaks. [Forest-wide]

Most control action on suitable lands will be through timber harvest and other treatments to improve or maintain stand vigor and composition resistant to insect and disease conditions. Prioritize treatment of stands with existing or potential for insect or disease problems. Apply priority to sales within the 10-year sale schedule, and to stands within a given sale planning area.

When consistent with Management Area objectives and objectives for adjacent Areas that might be affected, insect and disease conditions may be managed to play their role in forest succession through their interaction with host organisms and natural predators. [Not appropriate and other unsuitable]

Use pesticides when they are the most biologically sound, environmentally acceptable and most cost efficient means of preventing or suppressing pest outbreaks that threaten the attainment of objectives. This does not preclude the agreement to not use aerial application of chemical pesticides through March, 1989. [Forest-wide]

When pesticides are used for pest control, project plans will contain appropriate monitoring procedures and mitigation measures. [Forest-wide]

Coordinate insect and disease evaluations and control measures with the appropriate State Agencies and other Federal Agencies. [Forest-wide]

Assist individuals in analyzing trees with insect and disease problems and/or refer them to the appropriate agency for technical assistance. [Forest-wide]

4. MANAGEMENT DIRECTION FOREST-WIDE

Integrate the following pest management prescriptions into the cutting prescriptions for stands scheduled for treatment:

Dwarf Mistletoe - Following seed cuts, remove the infected overstory as soon as regeneration is accomplished. Following removal of infected overstories, thin infected understories to densities which will maximize fiber production or meet other management objectives over the length of the rotation. Use yield simulation models as guides. When yield simulation indicates stands will not reach maturity because of mistletoe, eliminate the mistletoe by clearcutting (in conformance with Regional Standards for clearcut size).

In treated stands, girdle or otherwise induce mortality in infected cull trees left to meet wildlife habitat objectives.

Spruce Beetle - Salvage windthrow spruce trees and treat accumulated slash. Schedule high risk stands for harvest first. Treat spruce slash by removing all material over 6" in diameter.

Western Spruce Budworm - In the highly susceptible mixed conifer type, even-aged stands dominated by Douglas-fir, ponderosa pine, and/or aspen will be created. As appropriate for specific habitat-types, this can be accomplished by use of the silvicultural prescription below:

- Patch cutting followed by site preparation, broadcast burning, and planting a mixture of ponderosa pine and Douglas-fir.
- Regeneration cuts which retain a uniformly spaced overstory, composed principally of dominant and co-dominant Douglas-fir or Ponderosa pine. Advance regeneration is destroyed by tractor scarification or underburning. Regeneration is accomplished by planting ponderosa pine and Douglas-fir. The overstory is removed as soon as the regeneration becomes established.
- Regeneration cuts which retain a mixture of species in the overstory. Dominant and co-dominant, mistletoe-free or lightly infested trees are used for seed trees; advance reproduction will be protected during site preparation, and will be supplemented by natural seed fall.
- Removal of all trees larger than sapling size. Advance regeneration to be protected during logging activities. Supplemental planting of ponderosa pine and Douglas-fir on all disturbed understocked areas.

Reforestation

Complete inventory, diagnosis, prescription and monitoring for reforestation projects. Certification of natural and artificial reforestation areas is in accordance with FSM 2470 and 2490.

Natural regeneration will be the preferred stand regeneration procedure.

4. MANAGEMENT DIRECTION FOREST-WIDE

Planting is used where needed to establish a new timber stand. The number of trees planted varies by site according to stocking needs. Satisfactory stocking will be in accordance with standards established in FSM 2472.03, R-3 Supplement.

Lands classified as suitable but currently unstocked or understocked, that may not achieve minimum levels, are evaluated for reforestation potential and are regenerated if environmentally and economically feasible, otherwise, these lands become unsuitable.

Planting needs are estimated at 1200 approximately acres per year for the first decade.

Site preparation by mechanical, prescribed fire, or chemical means will be done as needed following the regeneration cut (seedcut or clearcut). The method to be used will be selected based on situation and economics.

No grass is seeded during the regeneration period unless it is necessary for erosion control.

Slash disposal during the regeneration period will be done as necessary to facilitate site preparation and meet protection standards, but Slash may be left as needed for seedling protection.

Regeneration areas will be adequately protected from domestic livestock grazing to insure establishment of the trees, in accordance with FSM 2470, and FSH 2409.26b. Reforestation projects will include rodent control where needed. Reforestation on other areas may be completed as needed to meet specific Management Area objectives. [Not appropriate and other unsuitable]

Timber Stand Improvement

Timber Stand Improvement Activities will be applied through integrated Stand Management to meet timber, wildlife, visual quality, or other management objectives.

Timber management objectives for precommercial thinning include: improving product size and stand vigor, and reducing insect and disease problems.

Stocking levels are recommended in FSH 2409.26a, Cutting Methods Handbook.

Thinning should not be performed where there is a mistletoe infected overstory of the same species: Chapter 70, FSH 2409.26a.

When accessible, make thinning slash available for firewood or other convertible products.

4. MANAGEMENT DIRECTION FOREST-WIDE

Timber Sale Preparation and Administration

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

Implement integrated stand management in the sale preparation process.

Utilize sale area improvement plans as an opportunity to accomplish resource improvements within the timber sale area.

For commercial sales minimum cut volumes per acre are usually between 300 and 500 board feet of sawtimber and/or 160 cubic feet for products.

Utilization Standards as specified in FSM 2450 are:

Conifer sawtimber: 9-inch + DBH to 6-inch d.i.b. top

Aspen sawtimber: 10-inch + DBH to 8-inch top

Products: 5 to 8.9-inch DBH to 4-inch top

Firewood - variable DBH to 2-inch top.

Where feasible, slash created by timber harvest activities will be made available for fuelwood.

Treat all green spruce slash over 6-inches DIB to make it unsuitable for bark beetle habitat.

Timber harvest will be accomplished by the use of ground skidding equipment, and advanced methods like skyline yarding if needed to meet other management objectives like soil or streamcourse protection.

Timber harvest activities are limited to slopes less than 40 percent gradient with very minor exceptions, these include:

- Minor inclusions or short pitches mixed within general slope areas of 40% gradient or less, that can be operated within acceptable environmental limits.
- Areas within the clearing limits specified for road construction and reconstruction.
- Areas adjacent to roads that can be operated by hand for minor amounts of firewood, vigas, or other convertible or non-convertible products.

[Forest-wide]

When vegetative treatment is needed to meet specific Management Area objectives on lands classed "not appropriate for timber production" and other "unsuitable" areas, consider commercial timber sales for sawtimber and products. To the extent possible, incorporate these treatments with harvests scheduled for surrounding or adjacent "suitable" lands. The harvest volumes will not count towards the allowable sale quantity.

[Not appropriate and other unsuitable]

4. MANAGEMENT DIRECTION FOREST-WIDE

Administer commercial timber sale contracts for sawtimber, products, and non-convertible products. This activity includes accountability, financial management, field inspections, contract interpretation and enforcement. [Forest-wide]

Plan, prepare, sell and administer commercial and personal use permits for smaller quantities of sawtimber, products or non-convertible products. [Forest-wide]

Forest-wide sales for products and non-convertible products will be planned to meet integrated resource goals. [Forest-wide]

Firewood will consist of dead and down, or designated green timber. A permit is required. Reference the wildlife management section for information on snags and down wood.

Priority will be placed on personal-use firewood permits. Commercial permit sales are appropriate to meet any of these conditions:

- Personal use demand has been met.
- The character of the product is not expected to attract personal use demand.
- Accessibility, operability, timing requirements, or other constraints require the material be harvested through a commercial permit or contract.

[Forest-wide]

The free-use program for personal use of dead and down firewood will be reviewed annually. The Forest Supervisor may approve sales for dead and down in accordance with Regional policy. [Forest-wide]

Seed Collection Genetic Forest Tree Improvement Program

Nursery management. Collect sufficient tree seed by species to maintain a 10-year supply by Ranger District and seed zone.

The Forest will work toward participation in the tree improvement program at the following levels:

- Spruce - Level #4
- Douglas fir - Level #4
- Ponderosa Pine - Level #4

4. MANAGEMENT DIRECTION FOREST-WIDE

Vallecitos Federal Sustained Yield Unit

Primary management direction for the Vallecitos Federal Sustained Yield Unit (VFSYU) is provided by standards and guidelines established for the Management Areas. Standards and guidelines listed in this subsection relate more specifically to administration, and are intended in support of existing law and Forest Service policy regarding Federal Sustained Yield Units. Appropriate references include FSM 2410; and as specified there, the following laws:

- Sustained-Yield Act of March 29, 1944 (16 USC 583-583i).
- 36 CFR 223.117, Administration of Cooperative or Federal Sustained-Yield Units.
- 36 CFR 221.3, Disposal of National Forest Timber According to Management Plans.

While it is appropriate to incorporate the VFSYU Policy Statement into the Forest Plan, and to review and revise both on a 10-year time frame; the intent of the Forest Plan is to establish the Policy Statement (and related standards and guidelines) within the framework of authorities defined in the aforementioned references. As prescribed, additional reviews and subsequent changes to the Policy Statement may be made by the appropriate authority; these will not constitute a major amendment or revision to the Forest Plan.

Introduction

The Vallecitos Federal Sustained Yield Unit was established on January 1, 1948 on the El Rito Ranger District in accordance with section 3 of the Sustained Yield Forest Management Act of March 29, 1944. The Unit includes about 73,400 acres of National Forest, of which about 61,400 acres is classed as suitable timber land.

In addition to providing Multiple-Use benefits as derived from the National Forest as a whole, the purpose of the unit is to maintain a stable community or communities where such maintenance is primarily dependent upon the sale of timber or other forest products from federally owned or administered lands. To help maintain community support through a stable timber industry, exceptions to competitive bidding may be authorized within the VFSYU; timber is then sold at appraised value. Additional support is provided by requirements specifying primary manufacturing be performed with the Unit, and by specifying most employees be local residents.

4. MANAGEMENT DIRECTION FOREST-WIDE

policy statement
(standards &
guidelines)

The following standards and guidelines form the Policy Statement for the continuation of the VFSYU.

Provisions For Community Support.

The primary purpose for establishment of the Vallecitos Federal Sustained Yield Unit is to provide the maximum feasible, permanent support to the Vallecitos community and nearby areas from forest products industries obtaining a wood products supply from the national Forest Lands of the Unit. Wood products from the Unit will, therefore, be sold under conditions designed to promote the following objectives:

- Provide local residents with an opportunity to establish a wood products business.
- Maintenance of steady employment opportunities in the Vallecitos community and nearby areas both within each year and from year to year.
- Employment of local resident work force.
- Opportunity for those living within and near the Unit to obtain lumber for their local requirements.
- Efficient operation and maintenance of plant facilities; and, as supported by the economics of the Unit and Northern New Mexico area, additions to plant facilities to keep them in step with technical advances in forest products utilization and manufacture.

Individual timber sale agreements will contain such provisions as are deemed advisable by the Regional Forester to attain these objectives. The Chief may designate an approved responsible operator or operators to whom wood products may be sold without competition and may, within his discretion, rescind such designation or designations.

Harvest Level

The harvest level for the VFSYU is defined as part of the Forest-wide allowable sale quantity and has been set at an average 7.6 MMBF/YR. The intent is to split this into 6.5 MMBF/YR sawtimber and 1.1 MMBF/YR products. Allocation to approved responsible operators is defined in subsequent paragraphs. The harvest level is based on a suitable timber land base of approximately 61,400 acres.

Harvest levels for the next decade will be made following a forest wide inventory and in conjunction with revision of the Forest Plan.

Employment Requirements

The following standards and guidelines relate to employment of persons engaged in harvesting, transporting material to manufacturing sites, and manufacturing material from the VFSYU.

Employment areas shown are generally defined as follows:

- Area "A" includes areas around the communities of Vallecitos, La Petaca, Las Tablas, La Madera, Canon Plaza, and Servilleta Plaza.
- Area "B" reaches out farther and includes communities of El Rito, Ojo Caliente, Canjilon and Tres Piedras.
- Outside - All areas not included in areas A and B.

These employment areas are more specifically defined on a map on file in the Carson National Forest Supervisor's Office and at the El Rito District Ranger's Office.

Provided qualified applicants are available and except as specifically noted in subsequent paragraphs the following employment requirements apply to all responsible operators on the VFSYU.

Percent of Employees That Must Be Residents of the Employment Area	Employment Area
66%	A
95%	A & B
5%	Outside

A resident of the employment Areas A and B shall be defined as a person who actually resides in this area for nine (9) months of any calendar year.

Exceptions to the employment requirements include:

- Specialists employed temporarily for not more than two weeks.
- Owners and supervisory positions approved as exempt by the Forest Service.
- Non-residents, if local applicants are not available as described in subsequent paragraphs. These cases must be fully supported by documentation.

Supervisory positions approved as exempt for the present single approved responsible operator (5.5 MMBF/YR) include:

Mill Yard Foreman	Logging Manager
Millwright	Logging Superintendent
Shop Foreman or Sawyer	Log Cutting Foreman
Sales Manager	Skidding and Road Construction Foreman

4. MANAGEMENT DIRECTION FOREST-WIDE

To facilitate determination of compliance with local labor requirements the Forest Supervisor may designate a work-group of local citizens.

The determination of whether qualified applicants are available shall be made by the Employment Security Commission (ESC).

Approved responsible operators will use the services of the ESC to obtain qualified local employees if needed to meet employment requirements.

When required by sale contract or permit provisions, approved responsible operators will submit to the Forest Supervisor, the Chairman of the Local Work-Group and the Office of the Employment Security Commission, a list of employees on his payroll on the last working day of the prior month, with their resident addresses.

Utilization Standards

Utilization standards for the VFSYU are the same as defined for the Forest as a whole and specified in FSM 2450.

Sawtimber

Conifer: 9.0" - DBH to a 6" - d.i.b. top

Aspen: 10.0" - DBH to an 8" - d.i.b. top

Products: 5.0 to 8.9" - DBH to a 4" - d.i.b. top

Other Convertible <5" - DBH to a usable top diameter

Products [2" top dib for green firewood]

Allocation of the Harvest Level, Pricing Determination, Primary Manufacturing Requirements, and Approval of Responsible Operators

The following standards and guidelines define the harvest allocation to approved responsible operators, specification of competitive or non competitive pricing, location requirements for primary manufacturing facilities, and authority responsible for approving responsible operators (same authority for rescinding designation).

4. MANAGEMENT DIRECTION FOREST-WIDE

5.5 MMBF/YR sawtimber will be allocated on a non-competitive basis to a single approved responsible operator maintaining primary manufacturing facilities within a 1-mile radius of the community of Vallecitos. Primary manufacturing means production of lumber. A planer facility is not required but appraisal will be based on finished lumber. The operator must agree to permit those people living within or near the Vallecitos Federal Sustained Yield Unit to purchase lumber from the sawmill, at a fair price, in any amount necessary to meet their personal requirement, but not for resale. The operator must also agree not to restrict such local purchases to specific sizes or grades of lumber. People living within and near the Vallecitos Federal Sustained Yield Unit are defined as those people who are residents of the area designated as Area A or B and who actually reside in that area for nine (9) months of any calendar year. As approved by the Chief, the present operator, Duke City Lumber Company Inc., will be continued as the approved responsible operator for the 5.5 MMBF/YR of sawtimber.

1.0 MMBF/YR sawtimber will be allocated on a non-competitive basis in individual quantities ranging from 50 to 500 MMBF/YR to new approved responsible operators, approved by the Chief of the Forest Service or through delegation to the Forest Supervisor. These new responsible operators must establish and maintain primary manufacturing facilities within employment area "A". Primary manufacturing means production of lumber. A planer facility is not required but appraisal will be based on finished lumber. This allocation of sawtimber will be exclusively for smaller-scale operations.

Non-convertible products and 1.1 MMBF of products (trees 5 to 8.9"DBH) will be allocated on a competitive basis to new responsible operators approved by the Forest Supervisor. Approval will be based on meeting "provisions for community support", "employment requirements" and specific manufacturing requirements. Manufacturing requirements for this material are:

- No facility is required for sales that produce a product directly in the woods, but employment requirements must still be met. Examples might be Christmas trees, wildings, and in some cases firewood or vigas.
- A facility within employment area "A" is required for sale of material that may require a woodyard for splitting, viga peeling plant, or similar plant facility.

The following materials may be sold or otherwise provided, on an equal basis, to the public for their personal use:

- small amounts of the 1.0 MMBF/YR sawtimber and 1.1 MMBF/YR products,
- convertible products from trees less than 5-inch DBH,
- non-convertible products,
- green firewood from non-commercial species, and
- dead/dry firewood.

4. MANAGEMENT DIRECTION FOREST-WIDE

Exceptions for salvage unanticipated timber losses, National emergencies or other significant factors.

The Regional Forester can provide exception to manufacturing requirements and associated employment requirements for salvage material which cannot be given primary manufacture within the unit before the material deteriorates.

The harvest level for the unit may be changed at any time due to unanticipated timber losses, National emergencies or other significant factors upon recommendation of the Regional Forester and approval of the Chief.

Other Standards and Guidelines

All new road construction will be local-terminal and designed for closure after harvest, treatments (TSI and Reforestation) and firewood slash cleanup are completed.

Forest Rds. 244 and 44 (existing) will be improved to single lane with turnouts commensurate with user safety, resource protection and efficient maintenance.

WATERSHED

Complete watershed condition inventory on all watersheds by end of first decade.
Complete two watersheds annually.

Conduct terrestrial ecosystem survey where detailed site specific information is required.

Mitigate the adverse effects of planned activities on the water and soil resources through the use of best management practices (BMP).

Upgrade those watersheds in unsatisfactory condition to satisfactory by 2020. Watersheds in optimal condition will be maintained in that condition. Treat 300 acres annually of unsatisfactory watershed condition with direct measures.

Maintain soil and water improvement projects, treat 300 acres annually.

Cooperate with U.S. Geological Survey on maintaining streamgages.

Participate in State water right adjudications.

File for water rights on water developments. File on 10 developments annually.

Conduct snow surveys as per agreement with Soil Conservation Service.

Obliterate or close all roads not on the State, County, or Forest Development Systems, or authorized by permits, lease, or easement. Obliterate 70 miles annually. (This includes roads in riparian).

WILDLIFE

Threatened,
Endangered, and
Sensitive Species

Inventory, evaluate, and prepare implementation plans for proposed, threatened and endangered (T&E), and sensitive plant and animal species in the first decade or as species are proposed. Monitor approved plans and effects of management activities within threatened, endangered, sensitive species habitats.

Evaluate potential resource impacts on T&E and sensitive species habitat on projects and activities through a biological assessment (FSM 2670) and conduct appropriate consultation (FSM 2670) when necessary.

Habitat locations for listed plant and animal species remain confidential, as necessary, to prevent unnecessary disturbances, theft, or mortality.

Provide appropriate enforcement to protect habitat for listed species.

Improve T&E and sensitive species habitat. Improvement projects give priority to recovery of threatened and endangered species. Conform to approved recovery plans.

Continue to identify habitats necessary to the conservation and recovery of the peregrine falcon. Complete inventories and habitat management plans for those breeding habitats identified as necessary to the recovery of the species. Monitor management practices within designated habitats and evaluate the effects of management.

4. MANAGEMENT DIRECTION FOREST-WIDE

Activities likely to cause disturbance, including public use will be prohibited in the vicinity of suitable peregrine falcon nesting habitat between March 1st and August 15th, unless a biological evaluation and determination of "no effect" has been made. Should peregrines remain attached to nesting habitat after August 15th, this period may be extended; or should young peregrines disperse earlier than August 15th this period may be shortened. Seasonal restrictions will apply to all suitable nesting habitat unless the biological evaluation determines that the proposed activity will have no effect after May 15th. Activities likely to cause disturbance may include but are not limited to; human presence within 3/4 mile, light trucks, passenger vehicles, ATV's, and trailbikes within one mile, and heavier motorized equipment including aircraft, within two miles. In addition, land-use practices and development which significantly alter or eliminate the character of suitable peregrine falcon hunting habitat or prey base (generally within six miles of nest site) will be prohibited. All activities proposed within six miles of suitable nesting habitat will be evaluated for potential short-term impacts and long-term cumulative effects.

Monitor management practices within occupied and potential Threatened or Endangered species habitat and evaluate impacts.

Proposed control and other activities which may disturb the integrity of prairie dog towns must be fully evaluated and managed to perpetuate the species. All such activities will be preceeded by approved inventory procedures to determine the occurrence of the black-footed ferret.

Establish current baseline for T&E, and sensitive indicator species habitats and monitor trends at established intervals. Cooperate with New Mexico Department of Game and Fish and U.S. Fish and Wildlife Service in monitoring indicator species populations.

Identify forest portions of recovery objectives in conjunction with the New Mexico Department of Game and Fish and U.S. Fish and Wildlife Service for listed threatened or endangered species. Refine habitat requirements and identify specific habitat projects needed to achieve recovery objectives for individual species habitats.

Accomplish recovery projects included in approved recovery plans. Projects will be coordinated through integrated resource management practices.

4. MANAGEMENT DIRECTION FOREST-WIDE

Develop habitat management plans for wintering bald eagle habitats as specified in approved recovery plans. Maintain bald eagle winter roost and perch trees. Accomplish riparian and fisheries improvements to maintain and enhance prey base for wintering bald eagles.

Continue activities to improve Rio Grande Cutthroat habitat with the objective of securing the species. Develop Rio Grande Cutthroat trout fisheries within selected areas identified in conjunction with the New Mexico Department of Game and Fish.

Manage threatened, endangered, and sensitive animal, fish and plant habitats to achieve delisting in a manner consistent with the goals established with the U.S. Fish and Wildlife Service and the New Mexico Department of Game and Fish in compliance with approved recovery plans.

Consult and cooperate with New Mexico Natural Heritage Program to achieve management objectives for threatened, endangered, and sensitive flora.

Studies will be conducted to ascertain suitability for reintroduction of endangered, threatened, proposed, and state listed native species into suitable habitats. This will be accomplished in conjunction with development and approval of recovery plans.

Monitor management practices within occupied and potential habitat for plants listed as threatened, endangered, or on the Regional Forester's sensitive plant list. Manage sensitive species to sustain viability and prevent the need for listing as threatened or endangered. Recovery activities will be pursued where pertinent. If a species is proposed for listing, monitor actions to determine effect of management practices on habitat and the need for conference with U.S. Fish and Wildlife Service.

Review all planned, funded, executed, or permitted programs and activities to determine needs for consultation or conference with the Fish and Wildlife Service and the New Mexico Department of Game and Fish. Consultation will be initiated for situations where listed or proposed listed species may be affected.

Identify areas where spotted owls occur and protect occupied nesting territory. Complete Forest-wide surveys.

- Identify a 300-acre core area in occupied nesting territory.
- Maintain existing old-growth and dead and down material in each core area.
- Whenever possible areas managed for old-growth dependent species and spotted owls will be the same.

4. MANAGEMENT DIRECTION FOREST-WIDE

Cooperate with the Nature Conservancy to achieve management objectives for threatened, endangered and sensitive species.

Identify areas where pine marten occur and manage to maintain or enhance habitat in occupied territory.
Complete Forest-wide surveys.

Stand Management/Wildlife Integration

Establish and maintain stand diversity through integrated stand management to maintain and improve wildlife habitat diversity and specific habitat components in lands suitable for timber and fuelwood production. Selected cutting units will average 10-100 acres except as needed to accomplish specific wildlife habitat improvement objectives.

Apply stand management principles to commercial timber sales, reforestation, timber stand improvement, firewood and fuels management, and other resource activities which result in vegetative management of timberlands.

Combine timber compartments, and wherever possible, big game seasonal ranges, to form an identifiable diversity unit averaging 8000-12000 acres.

Standards and guidelines are applied to, and monitored on, a diversity unit basis rather than on an individual project basis.

Wildlife habitat objectives for each diversity unit are evaluated on an individual stand basis. This means that in designing timber sales and other projects the size, shape, juxtaposition, age, and crown closure of each stand will be evaluated against the wildlife habitat objectives established for the diversity unit.

Minimum management requirements may be exceeded where it is good management to do so, such as potential snags adjacent to meadows, riparian areas, and other water sources.

On big game summer ranges manage suitable timberlands to achieve a diversity of vegetative conditions by balancing timber age and canopy cover classes.

4. MANAGEMENT DIRECTION FOREST-WIDE

The objective will be to achieve the following conditions (Table 32) on 70 percent of the suitable timberlands by the end of the 20th decade. (To be monitored by each Diversity Unit)

Table 32. Percent condition on suitable timberlands

<u>Age and Canopy Cover Class (CC)</u>	<u>% of Suitable Timber- lands Managed For Balanced Age and Cover Class</u>
Grass/Forb	10-13
Shrub/seedling	10-13
Sapling/Pole<40% CC	10-13
Sapling/Pole 40-70% CC	10-13
Sapling/Pole>70% CC	10-13
Mature <40% CC	10-13
Mature 40-70% CC	10-13
Mature >70% CC	10-13
Old Growth	6.00

On primary big game winter ranges and primary calving and fawning areas manage to achieve identified cover requirements to meet big game population goals and objectives. The remaining suitable timberlands will be managed to provide habitat diversity.

Maintain at least a medium amount of edge contrast between stands and cutting units created by even-age management. This means that cutting units prescribing regeneration cuts shall be placed at least 75 percent of the time adjacent to stands which will result in at least two age class difference after treatments, unless stands are being regenerated to manage aspen or to correct insect and disease or other natural catastrophies.

Cover/Openings

A natural opening is an area with less than 10 percent crown cover that has never supported a higher tree density, for example, a meadow, rock slide, or swamp.

A created opening is a contiguous area greater than two acres in size that was created by vegetative manipulation and that does not meet tree height and stocking requirements. When an opening results from a natural occurrence, such as wildfire or windstorm, the opening will be treated as a created opening.

4. MANAGEMENT DIRECTION FOREST-WIDE

A created opening will no longer be considered an opening when the following conditions are met:

Table 33. Conditions when created openings are no longer openings. ^{1/}

Forest Type	Avg. Tree Height (feet)	Trees Per Acre	Crown Cover (%)	Residual Trees Per Acre	Trees ^{2/} d.b.h. (inches)
Aspen	15	500	25	N/A	
Spruce-Fir	10	200	25	10 30>6 but	11 <11
Mixed Conifer	10	175	25	10 30	11 >6 but <11
Ponderosa Pine	5	150	35	5 10	11 >6 but <11

^{1/} The criteria for the definition of when an area would no longer be classified as an opening were based on the reduction in forage and initiation of hiding cover for wildlife along with the watershed considerations of snow distribution and melt. Hiding cover is defined as vegetation capable of hiding 90 percent of an adult elk from view at a distance of 200 feet.

^{2/} Other trees present in the stand (with or without regeneration present) that would prevent classification of an area as an opening.

^{3/} A canopy cover percentage used to determine if an area is still an opening when a variety of tree sizes are present. When only sapling size trees are present, the specifications referred to under residual trees will prevail.

An area is no longer considered an opening in the pinon-juniper type if one of the following conditions is met:

- There are at least 35 trees per acre that are 10 feet or taller
- There are at least 80 trees per acre that are 6 feet or taller

The minimum distance between newly created openings will be 660 feet in the pinon-juniper type.

4. MANAGEMENT DIRECTION FOREST-WIDE

Clearcuts may not be larger than 40 acres without Regional Forester approval. The standards shown in table 34 also apply, except in the following situations:

- In the harvest of salvageable wood in areas subjected to catastrophic conditions, such as fire, insect and disease attack, or windstorm.
- In the harvest of dwarf-mistletoe-infested overstory trees that threaten the established regeneration. A biological evaluation by Regional forest pest management experts is required.

Table 34. Forested Land Permitted In Created Openings

Forest Type	Maximum Opening Sizes (acres)	Maximum Percent of Acres in Openings 1/	Minimum Spacing Between Openings (Feet)
As	40	35	330
SF	40	35	330
MC	40	35	330
PP	40	40	330

1/ Percent of forested land within a diversity unit which is permitted to be in created openings at any point in time.

For nontimber species, such as the pinon-juniper, oak and sagebrush, standards and guidelines are established for the maximum size, dispersal, and duration of created openings. These standards and guidelines are designed to address concerns for wildlife and plant species.

- In the pinon-juniper type, created openings in areas that have been identified as big-game winter range will be designed so that an animal will be no more than 600 feet from hiding cover at any location within the opening.
- Limitations in the above table apply to newly created openings in the pinon-juniper type. Improve the interspersion of vegetated areas in existing openings.
- Limitations in the above table apply to newly created permanent openings in the oak and sagebrush types. A permanent opening is an area that is maintained with no more than 50 percent of the potential natural crown cover.

Newly created openings will be designed so they have a diversity edge index of at least 1.41. (41 percent greater circumference than a circle of equal size)

4. MANAGEMENT DIRECTION FOREST-WIDE

Diversity units dominated by forested vegetation types, including pinon-juniper will be managed so that no less than 40 percent summer big game cover will be maintained over time.

Diversity units dominated by non-forested vegetation types will be managed to minimize impacts to summer big game cover. The standards in Table 35 will apply.

Table 35. Forage Cover Ratios

<u>Percent of Unit with Forest Vegetation</u>	<u>Percent of Forest- ed Area in Cover</u>
35 - 50%	At least 60%
20 - 34%	At least 75%
Less than 20%	At least 90%

On suitable timberlands manage for no less than 10 percent summer big game thermal cover within each diversity unit. The allocation of thermal cover will be stands of at least 30 acres in the sapling-pole stage or older, with canopy closures of 70 percent or greater. Stands on north-facing aspects should receive priority in the allocation of thermal cover.

Manage suitable timberlands, and pinon-juniper, so that no less than 10 percent hiding cover is maintained on big game summer ranges that occur within each diversity unit. Stands allocated for cover should have at least a 450 foot radius from the stand center to any point on the exterior perimeter (approximately 20 acres).

In forested management areas, including pinon-juniper, the objective will be to maintain summer big game hiding cover on 60 percent or more of the perimeter of all natural and created openings, and along at least 75 percent of the edge of arterial and collector roads.

4. MANAGEMENT DIRECTION FOREST-WIDE

Summer big game hiding cover will be maintained or improved adjacent to special features (seeps, springs, wet meadows, wallows, salt licks, water developments). The following standards will apply:

- Timber cutting within a minimum radius of 300 feet of the feature will be accomplished only if big game cover can be maintained or improved.
- Cutting unit boundaries will be designed so that at least one third of the perimeter around the feature is contiguous to adjacent forest cover.
- Permanent roads will not be constructed within 200 feet of special features unless there is no feasible alternative to build the road in another location.
- Temporary roads will not be constructed within 100 feet of special features.
- Skidding equipment will be authorized to within 75 feet of the feature and logging debris removed from all trails leading to the feature.

Forested areas, including pinon-juniper, within at least 1200 feet of primary big game winter and calving and fawning forage areas will be managed to maintain or improve the integrity of hiding and thermal cover. All other summer range cover standards and guidelines will apply to winter ranges and big game calving and fawning areas.

Big game cover requirements may be reduced temporarily during periods when stands are being regenerated to meet cover standards, to correct tree disease, to rejuvenate aspen stands, or where windthrow or wildfire has occurred.

4. MANAGEMENT DIRECTION FOREST-WIDE

In planning for the cover requirements of big game on each diversity unit utilize table 36 in conjunction with available timber stand data. Refinement of the stand conditions suitable to meeting cover requirements will be made as a result of field verification on an individual stand basis. As specific information is developed on the Forest this table may be modified if needed to reflect the appropriate range of cover conditions.

Table 36. Big game hiding and thermal cover levels in ponderosa pine (pipo), mixed conifer (mc) and Spruce-Fir (sf).

Species	Size Class	Minimum	Acceptable	Optimum
Pipo Hiding	1-5" dbh	120 GSL	150 GSL	170 GSL
	5-9" dbh	120 GSL	150 GSL	180 GSL
	8-12" dbh	140 BA	160 BA	200 BA
	Area Size	10 Acres	15 Acres	25 Acres
MC, SF Hiding	1-5" dbh	60 GSL	80 GSL	100 GSL
	5-9" dbh	80 GSL	100 GSL	120 GSL
	8-12" dbh	80 GSL	100 BA	120 BA
	Area Size	10 Acres	15 Acres	25 Acres
Pipo Thermal	5-9" dbh	120 GSL	180 GSL	200 GSL
	9-12" dbh	140 BA	180 BA	210 BA
	12-15" dbh	160 BA	200 BA	*220-240 BA
	Area Size	10 Acres	30 Acres	40+ Acres
MC, SF Thermal	5-9" dbh	120 GSL	140 GSL	160 GSL
	9-12" dbh	120 BA	140 BA	160 BA
	12-15" dbh	120 BA	160 BA	180 BA
	Area Size	10 Acres	30 Acres	40+ Acres

*BA in more than one size class, presence of Gambel Oak preferable.

Old Growth

Manage forested management areas, including pinon-juniper, so that no less than 18 percent true old growth will be provided for over time. On suitable timberlands manage for no less than six percent old growth within contiguous diversity units to provide for proper distribution of old growth. The minimum allocation of stands to provide old growth will be 100 acres. As specific information is developed on the Forest table 37 may be modified to reflect the appropriate range of old growth characteristics.

Table 37. Minimum old growth characteristics per acre for major vegetative types.

		PP ^{1/}	PP ^{2/}	MC	S-F	P-J
Large	No.	14	14	16	25	30
Trees	DBH	20	14	20	14	9 ^{3/}
	B.A.	30	15	36	27	
Snags	No.	1.8	1.8	3	3	1
	DBH	14	14	20	14	9
	Hght (ft)	15	15	15	15	10
Small						
Trees	B.A.	60	60	100	140	
Down	No.	2	2	4	5	2
	Dia.					
Logs	(in.)	12	12	12	12	9
	Lgth (ft)	16	16	16	16	10
Age		120	120	120	120	

^{1/}Site index 55 or higher (MINOR)

^{2/}Site index 55 or less (MINOR)

^{3/}Diameter at Root Crown (DRC)

In stands managed for old growth, thinning is permitted until the stand is mature (Age 120) and then no treatments until the stand is replaced, generally at no less than age 240 years.

Snags & Down Logs

Snags will not be felled on major sales as a fire protection measure. Manage for at least 300 snags/100 acres on 60 percent of suitable timberlands not determined by interdisciplinary team review to be highly vulnerable to fuelwood collection. The guideline is:

- Conifers: 12 inch DBH and 15 feet tall.
- Aspen: 10 inch DBH and 12 feet tall.

4. MANAGEMENT DIRECTION FOREST-WIDE

During stand treatment retain for snag recruitment disease-free cull or poor form trees within at least 100 feet of ponds, lakes, springs, seeps, wet meadows, and openings for snag replacement. Trees may be girdled or otherwise treated if needed to achieve future stand condition objectives. Stands that are biologically incapable of producing this quantity of snags, or are highly vulnerable to fuelwood cutting, are excluded as determined by interdisciplinary team review. The guideline is to retain at least three culls per acre (100 feet x 440 feet) around the perimeter of the feature.

Retain sufficient size and length per 100 acres of down logs (where biologically feasible) on 75 percent of suitable timberlands not determined to be highly vulnerable to fuelwood collection. The guideline includes:

- Conifers: 12 inch minimum diameter and 5000 linear feet per 100 acres.
- Aspen: 10 inch minimum diameter and 3300 linear feet per 100 acres.

Timing, Size and Period of Timber Management Activities

Minimizing the displacement of big game and other sensitive wildlife, and providing sufficient security areas will be emphasized in the planning and implementation of the Forestwide timber sale program.

The objective will be to arrange timber sales over time and space so that concurrent activities do not occur adjacent to one another. Manage adjacent areas at least as large as the affected area of activity for wildlife security habitat.

When designing timber sales attempt to keep activity perimeters within one major drainage at a time. Utilize subdivision design and contract stipulations (such as requiring the completion of a block before beginning activities in another area of the sale), as necessary to minimize impacts on security habitat.

Timber sales will be designed so that activity time frames will minimize displacement of wildlife. A primary objective will be to limit logging disturbance in an activity area to no more than three years whenever possible on each timber sale.

On big game summer ranges where winter logging operations are environmentally and economically feasible encourage operations during this period.

On primary big game winter ranges timber management activities, including timber sale preparation, logging, timber stand improvement, and brush disposal will be authorized only during the period April 15 - December 15.

4. MANAGEMENT DIRECTION FOREST-WIDE

Within identified turkey nesting areas timber management activities will not be authorized during the period April 15 - June 30.

Within primary big game calving and fawning areas timber management activities will not be authorized during the period May 1 - July 25.

Turkey Habitat

Within actual or potential turkey nesting areas (Ponderosa pine and mixed conifer) develop over time 200 slash piles or unlopped tree tops per 100 acres within one-half mile of dependable waters. Piles should be approximately three feet high and 10 feet in diameter and preferably loosely piled by hand.

Retain and/or develop an average of two turkey roost tree groups per section in actual or potential summer turkey habitat (8-11 trees of at least one-tenth acre in size).

Retain and/or develop an average of four turkey roost tree groups per section in actual or potential winter turkey habitat.

Raptor Habitat

Protect active raptor nest tree groups and maintain inventory of nest locations. Nest group consists of nest tree and adjacent trees and is maintained as follows:

- Goshawk: 20 acres of uncut area around active nests.
- Coopers hawk: 15 acres of uncut area around active nests.
- Other raptors: 10 acres of uncut area around active nests.

Adequate perch and roost trees for raptors will be managed adjacent to cliffs, major ridges, and openings. Trees should be open-crowned, either living or dead, and be maintained over time.

Protect rock talus as a unique habitat component and because it provides a major prey base for raptors and other predators. Requests for rock from these locations will receive interdisciplinary team review.

Squirrel Habitat

By creating a diversity of stand conditions and providing juxtaposition of stands over time and space, suitable habitat components of Abert and red squirrels will be maintained over time. During the intensive reconnaissance phase of integrated stand management State and Federal biologists should identify those stands where squirrel activity is especially high and recommend deferment of cutting during the entry.

Road Management/ Wildlife Integration

Emphasize road management and resource/wildlife protection as a primary Forest policy. Focus media attention on road management at least biannually, especially management to provide wildlife security and reduce impacts to soil, water and fisheries.

4. MANAGEMENT DIRECTION FOREST-WIDE

Do not construct permanent roads across major big game migration routes unless no feasible alternative exists, as determined by interdisciplinary team review.

Road management will provide for an environment relatively free from human disturbances to wildlife. Manage over time to achieve the following guidelines for maintaining or improving effective big game habitat:

- Summer big game range: 60% habitat effectiveness (approximately 1.0 mile/square mile of roads open to public use).
- Winter big game range: 75% habitat effectiveness (approximately .5 mile/square mile of roads open to public use during the period December 15 - April 15).
- Primary winter big game forage and associated cover areas: 90% habitat effectiveness (approximately .1 mile/square mile of roads open to public use during the period December 15 - April 15).

Whenever possible, design roads so they can be easily and effectively closed (either permanently or temporarily) at a low cost.

Permanent roads will be designed to avoid saddles, meadows, ridge tops, and riparian areas whenever economically and physically possible.

Install gates or other effective closure methods at onset of road building activity when the objective is to prevent human use patterns from becoming established. Closures will be implemented during any period of inactivity exceeding 24 hours. During big game hunting seasons closures will be implemented full-time if necessary to provide additional wildlife security areas.

Include signs where appropriate on gates and other closure devices indicating the reasons for and dates of all road closures.

All local terminal roads will be completely closed to public use by no later than two years following completion of a timber sale contract. All other temporary roads will be closed and/or obliterated upon completion of the activity.

On big game winter ranges authorize new permanent road construction only if needed to meet priority objectives outside the winter range, as determined by interdisciplinary team review. Minimize impacts by locating roads outside of identified primary forage and cover areas.

4. MANAGEMENT DIRECTION
FOREST-WIDE

Locate new arterial, collector and local service roads outside of primary big game calving and fawning areas. Close other roads as needed during periods of calving and fawning activity May 1 - July 25.

Travel Management/
Wildlife
Integration

The following wildlife-related criteria will be used to evaluate the need for future travel closures and restrictions including over-the-snow vehicles:

- Habitat for threatened, endangered, or sensitive species is threatened.
- Meadows and other forage areas likely to be, or being damaged.
- Key wildlife areas being threatened or damaged.
- Areas important to wildlife reproduction, such as calving and nesting areas, where disturbance is causing, or likely to cause, significant stress and/or reduction of reproductive success.
- Important seasonal security areas, such as big game winter ranges, where disturbance would result in significant displacement and/or loss of habitat values.
- Riparian areas which are being threatened or damaged.

Range/Wildlife
Integration

Design range management systems and plans with input from State and Federal wildlife biologists to minimize conflicts with fish and wildlife. Whenever possible design grazing systems to minimize domestic livestock impacts on important seasonal wildlife ranges such as primary calving and fawning areas, winter ranges, and primary turkey nesting areas.

Do not construct new net wire fences on identified pronghorn ranges and modify existing fences as needed to provide for seasonal movement of pronghorn.

Livestock salt shall not be placed in or adjacent to any riparian area or other identified key wildlife area where degradation of wildlife habitat would be likely to occur.

Wildlife will be allocated forage on the basis of mutually agreed-upon population goals and objectives of the Forest Service and New Mexico Department of Game and Fish.

During summer months, where free water has been identified as limiting desired wildlife population levels, maintain water in livestock troughs for wildlife use after domestic animals have been removed from the grazing unit. In winter months on identified primary big game winter ranges, provide water where freezing will not damage existing facilities, or install bubblers or other devices to prevent freezing.

4. MANAGEMENT DIRECTION FOREST-WIDE

Install let down fences, top-rail fences, barbless bottom wire, or elk jumps wherever necessary to reduce wildlife/fence conflicts. On newly constructed fences the bottom wire will be at least 18 inches above the ground, and the top wire will be at least 38 inches but no more than 42 inches above the ground.

On open storage tanks and drinkers provide entry and escape ramps for wildlife.

On wet meadows and other riparian areas, favor the establishment of woody riparian vegetation as defined in FSH 2509.23. Control livestock and wildlife grazing through management and/or fencing to allow for adequate establishment of vegetation and the elimination of overuse.

Vegetative treatments which require seeding will utilize a mix of plant species which will result in increased plant cover and improved quality and diversity of forage for both wildlife and livestock.

Other Resources/ Wildlife Integration

Integrate the seasonal and yearlong habitat needs of fish and wildlife into the planning and implementation of other resource activities and uses. Minimize or eliminate adverse impacts and cumulative effects, and determine opportunities to improve habitat conditions through the management of these other activities. Some examples include:

- Utilize oil and gas exploration holes as water wells where wildlife waters are determined desirable, and establish wildlife forage and cover plants on disturbed areas.
- Build campgrounds and other developed recreation sites in areas not identified as important habitat.
- Locate recreation trails outside of important habitats.
- Build trailhead facilities in heavy use big game hunting areas and provide other facilities for wildlife and fish oriented recreational use.
- Coordinate with, and use watershed improvement funds, to close and obliterate roads in important wildlife habitats, and in the restoration and protection of riparian areas.
- Coordinate with the land adjustment and acquisition programs to exchange for or purchase identified important wildlife habitats.
- Utilize other resource personnel in collecting information on wildlife species, numbers, locations, habitat use and other information useful to wildlife and fish management.
- Utilize market demand for wood products to achieve desired wildlife conditions in forested management areas.
- Coordinate with range management in locating range water improvements in areas where wildlife waters are limited.

4. MANAGEMENT DIRECTION FOREST-WIDE

Cooperation with Other Agencies & Organizations

Consult and cooperate with the New Mexico Department of Game and Fish (NMDG&F) to achieve goals and objectives specified in the New Mexico Wildlife and Fisheries Comprehensive Plan. Cooperate with the U.S. Fish and Wildlife Service and other agencies and organizations as necessary. Cooperate with NMDG&F in evaluating proposals for reintroducing extirpated species into suitable habitat and on fish stocking and public access for fishing.

Establish current baseline information for management indicator species habitats in conjunction with the NMDG&F and monitor trends at agreed upon intervals. Cooperate with NMDG&F and other agencies and organizations in monitoring indicator species populations and habitats.

Manage in cooperation with NMDG&F for indigenous fauna. Exotic species will not be introduced. Unapproved exotics which become established on National Forest System Lands will be managed toward the goal of elimination.

Cooperate with NMDG&F and other agencies to maintain wildlife and fish populations within identified habitat capabilities.

Manage animal damage in cooperation with other agencies to prevent or reduce damage to other resources. Direct control efforts toward preventing damage or removing only the offending animals as necessary to meet land management objectives.

Provide sufficient patrol personnel during hunting seasons, including weekends, and cooperate fully with the NMDG&F in the enforcement of State and Federal regulations.

Evaluate each proposed activity to determine public involvement needs. Agressively pursue public input and cooperation in the achievement of wildlife and fish habitat management goals and objectives. Enlist the support of interested groups or individuals who are willing to help inform and involve the public.

Provide timely public information on proposed management activities, such as road and area closures and other activities which achieve the maintenance or improvement of wildlife and fish habitats.

Cooperate fully with the NMDG&F in determining mutually agreeable wildlife population goals and objectives, and in the identification of important wildlife habitats.

Cooperate with NMDG&F and provide commensurate funding where necessary, in obtaining reliable big game population estimates, winter range use, and other seasonal use patterns.

4. MANAGEMENT DIRECTION FOREST-WIDE

Other Wildlife and Fish Planning and Habitat Improvement

Inventory, evaluate, and improve areas of streams, lakes, and wetlands for cold water fish, especially the Rio Grande cutthroat trout.

Increase carrying capacity for put-and-take wild trout fisheries through the installation of stream improvement structures, including the use of beaver to build and maintain beaver dams.

Inventory riparian vegetation conditions and manage to achieve acceptable riparian standards. Direct habitat improvements may include planting, seeding, fencing, and rejuvenation of woody vegetation through selective cutting and burning.

Plan for, and include game/nongame wildlife and fish habitat improvement projects in sale area improvement plans for all timber sale areas including pinon-juniper, where there is a potential to improve wildlife and fish habitat conditions.

Identify and maintain records of important wildlife and fish habitats and integrate wildlife and fish requirements through interdisciplinary team review of all planned programs and activities occurring on National Forest System Lands.

Provide wildlife and fish objectives and expected outputs throughout the integrated resource management process for commercial timber sales and other proposed management activities. Identify, on a diversity unit or herd unit basis, wildlife and fish habitats necessary to meeting identified objectives, as stated throughout Forestwide and management area standards and guidelines.

Monitor and document the affects of management activities on management indicator species habitat.

Inventory and manage browse (oak, mountain mahogany, willow and other palatable species) to maintain or improve browse conditions, especially on big game winter ranges.

- During 10 year period inventory browse component Forestwide.
- Identify priority areas needing improvement.
- Treat browse stands only where they can reasonably be protected from the detrimental effects of livestock and big game overuse.
- Treat no more than 25 percent of browse acres within each diversity unit every 10 years unless it has been determined necessary to maintain the browse component and/or to meet desired big game population goals.

4. MANAGEMENT DIRECTION FOREST-WIDE

Inventory and manage aspen in all forested management areas to improve age class distribution and to increase the aspen component Forestwide. When the treatment objective is wildlife habitat improvement the following guidelines apply:

- During 10 year period inventory aspen component and stand conditions.
- Older, decadent stands with little or no reproduction, that will respond to patchcutting, will receive priority treatment.
- Stands in which conifers are threatening the vigor and viability of aspen will receive next priority.
- Treat individual clones by patchcutting the entire clone, and remove all conifers during treatment.
- Salvage treated down aspen only if reproduction can be protected from the detrimental effects of livestock and big game browsing.
- Treat no more than 20 percent of inventoried aspen acres within each diversity unit every 10 years unless it has been determined necessary to maintain the aspen component.

Identify areas of the Forest where the lack of dependable water is a limiting factor. Determine priority areas and schedule wildlife water improvements including, but not limited to, spring developments, trick tanks, verticle and horizontal water wells, and earthen tanks. Wildlife water developments will be fenced if needed to exclude livestock and wild horse use. Top-rail fences will be installed to minimize wildlife injuries and to reduce the need for yearly maintenance.

Improve forage and cover conditions through seeding and establishment of forage and browse species desirable to wildlife.

Improve forage conditions by using prescribed fire where environmental analysis shows beneficial effects and in accordance with approved burning plans.

Install structures, such as gates or barriers, necessary to manage roads to limit or restrict vehicular access into important wildlife habitats.

Install and/or create nesting, roosting and cover structures for wildlife to improve habitat conditions. Sign trees and snags which are susceptible to removal for fuelwood and other wood products.

Plan for and provide necessary maintenance of all structural wildlife and fish habitat improvements. Give priority to maintenance of structures for threatened, endangered, and sensitive species.

4. MANAGEMENT DIRECTION FOREST-WIDE

Program and develop improvements on the basis of a management area concept (diversity unit, big game winter range, turkey nesting area, etc.). Prioritize improvements based on habitat conditions which studies have indicated are the greatest limiting factors to desired wildlife and fish populations.

MANAGEMENT AREA 1 - SPRUCE UNDER 40% SLOPE

Acres	Ranger District	Acres
	Canjilon	9,326
	El Rito	2,763
	Jicarilla	238
	Penasco	16,184
	Taos	12,155
	Tres Piedras	23,300
	Questa	5,065
	TOTAL	69,031

Description	<p>Tree canopies are normally dense resulting in sparse understory vegetation for big game and domestic livestock.</p> <p>Spruce bark beetles are endemic to this area and epidemic populations may result from improperly treated logging residues and blowdown.</p> <p>This area has short growing seasons and large volumes of timber per acre. Harvest techniques are often restricted to clear cut because of blowdown problems associated with other methods of harvest.</p> <p>Natural mortality and residue from logging operations have resulted in fuel accumulations of 20 to 100 tons per acre. High elevation and precipitation make the spruce vegetative type an unlikely candidate for large catastrophic fires. Fire records indicate the spruce vegetative type has fewer fires than other forested management areas on the Carson. The "meadows" located within this area are in management area 9. Many of the meadows and the mosaic of even-aged stands of spruce-true fir are a result of an active fire history prior to the period of modern fire protection.</p>
Highlights	<ul style="list-style-type: none"> - Emphasize visual quality objectives of partial retention and modification. - Manage for these indicator species: Elk (early succession) Hairy Woodpecker (late succession)

4. MANAGEMENT DIRECTION

Mgt. Area 1 - Spruce Under 40% Slope

Land
Classification

Table 38. Land classification - Management Area 1

<u>Classification</u> ^{1/}	<u>Acres</u>
1. Non-Forest land (includes water)	0
2. Forest land	69,031
3. Forest land, withdrawn from timber production ^{1/}	0
4. Unsuitable ^{2/}	0
-Forest land not capable of producing crops of industrial wood	
-Forest land physically unsuitable:	
--irreversible damage likely to occur	
--not restockable within 5 years	
-Forest land--Inadequate information	
5. Tentatively suitable forest land (item 2 minus items 3, and 4)	69,031
6. Forest land, not appropriate for timber production ^{3/}	15,031
7. Unsuitable forest land (items 3, 4, and 6)	15,031
8. Total suitable forest land (item 2 minus item 7)	54,000
9. Total national forest land (items 1 and 2)	69,031

^{1/}Includes Wilderness, Rio Grande Wild and Scenic River and Columbine/Hondo WSA (pending Congressional disposition).

^{2/}Subcategories have been combined into one total for this table.

^{3/}Classed primarily due to a combination of "Multiple-use objectives" and "cost efficiency" as defined in FSH 2409.13.

4. MANAGEMENT DIRECTION
Mgt. Area 1 - Spruce Under 40% Slope

Treatment

Table 39. Treatment - Management Area 1

<u>Management Practice</u>	<u>Average Annual Acres</u>
Shelterwood Seed Cuts	50
Removal Cuts	250
Clearcuts	140
Intermediate Cuts	50
Salvage	Variable
Selection/Group Selection	150
Timber Stand Improvement	200
Reforestation - Natural	120
Artificial	230

STANDARDS & GUIDELINES

ENGINEERING

Construct roads for timber sales utilizing Best Management Practices with the following guidelines:
3.1 miles per square mile for construction first entry;
0.9 miles per square mile for reconstruction first entry;
4.0 miles per square mile for reconstruction second entry.

FIRE

When manning class is 3+, 4 or 5, the objective in this vegetative type will be to suppress all fires within two miles of lands of another ownership at 40 acres or less by the most economical means to protect life and property. In other areas or when the manning class is 3 or less the objective will be to suppress all wildfires at 160 acres or less by the most economical means.
The objective will be that the total burned area will not exceed 80 acres per year when the manning class is 3+, 4 or 5.

4. MANAGEMENT DIRECTION

Mgt. Area 1 - Spruce Under 40% Slope

RANGE

Manage allotments at management intensity level B through D. Manage for an 80% change in the number of full capacity acres from management level B to level C and a 41% change of level C acres to level D.

Manage for the following acres by management intensity level:

1,592 acres level B

18,949 acres level C

10,108 acres level D

Manage to attain fair and good range condition.

Condition class of full capacity range acreage is estimated to change as follows:

<u>Condition</u>	<u>Acres</u>
Satisfactory	24,901
Unsatisfactory	5,748

Full capacity rangeland in unsatisfactory condition will be treated through development of improved allotment management plans. Treatment identified will include:

1. Structural and non-structural range improvement needed to implement prescribed intensity level.
2. Adjustment in stocking as required.

Construction and replacement of structural range improvements will be to standards identified in R-3 Range Structural Handbook. Replacement of structural improvements will be planned in a 25-30 year interval and will take priority over new structures if needed for prescribed management intensity.

RECREATION

Dispose of all slash within 100 feet on either side of all sensitive travel routes, water bodies, and use areas in retention and partial retention visual quality level zones.

TIMBER

All timber management standards and guidelines are included under the Forest-wide prescriptions.

WILDLIFE

Manage for these indicator species:

Elk (early succession)

Hairy Woodpecker (late succession)

MANAGEMENT AREA 2 - SPRUCE OVER 40% SLOPE

<u>Acres</u>	<u>Ranger District</u>	<u>Acres</u>
	Canjilon	0
	El Rito	68
	Jicarilla	0
	Penasco	893
	Taos	1,099
	Tres Piedras	137
	Questa	4,676
	TOTAL	6,873

Description Very little logging has taken place within the spruce over 40%.

The steep slopes tend to have rocky thin soils which support smaller trees.

On-site recreation use usually occurs only on trails passing through the unit because of the steep slopes and amount of downfall on the ground. In addition, portions of these steep slopes serve as primary scenic backdrops for sensitive recreation viewpoint off-site.

Natural mortality is the cause for fuel accumulations of 20 to 60 tons per acre. Refer to last paragraph of management area 1 and Forestwide description for fire discussion.

- Highlights
- Emphasize visual quality objectives of retention and partial retention.
 - Manage for these indicator species:
Elk
Hairy Woodpecker

Land
Classification

Table 40. Land classification - Management Area 2

<u>Classification</u>	<u>Acres</u>
1. Non-Forest land (includes water)	0
2. Forest land	6,873
3. Forest land withdrawn from timber production ^{1/}	0
4. Unsuitable ^{2/} -Forest land not capable of producing crops of industrial wood	0

4. MANAGEMENT DIRECTION
Mgt. Area 2 - Spruce Over 40% Slope

Land
Classification

Table 40. Land classification - Management Area 2 (continued).

<u>Classification</u>	<u>Acres</u>
-Forest land physically unsuitable: --irreversible damage likely to occur --not restockable within 5 years	
-Forest land--inadequate information	
5. Tentatively suitable forest land (item 2 minus items 3, and 4)	6,873
6. Forest land ^{3/} not appropriate for timber production	6,873
7. Unsuitable forest land (items 3, 4, and 6)	6,873
8. Total suitable forest land (item 2 minus item 7)	0
9. Total national forest land (items 1 and 2)	6,873

^{1/} Includes Wilderness, Rio Grande Wild and Scenic River and Columbine/Hondo WSA (pending Congressional disposition).

^{2/} Subcategories have been combined into one total for this table.

^{3/} Classed primarily due to a combination of "Multiple-use objectives" and "cost efficiency" as defined in FSH 2409.13.

STANDARDS &
GUIDELINES

ENGINEERING

Construct roads for timber sales utilizing Best Management Practices with guidelines as follows:
3.9 miles per square mile for construction first entry; 1.1 miles to square mile for reconstruction first entry; 5.0 miles per square mile for reconstruction second entry;

FIRE

When manning class is 3+, 4 or 5, the objective in this vegetative type will be to suppress all fires within two miles of lands of another ownership at 40 acres or less by the most economical means to protect life and property. In other areas

4. MANAGEMENT DIRECTION
Mgt. Area 2 - Spruce Over 40% Slope

or when the manning class is 3 or less the objective will be to suppress all wildfires at 160 acres or less by the most economical means.
The objective will be that the total burned area will not exceed 40 acres per year when the manning class is 3+, 4 or 5.

RANGE

Manage full capacity rangelands at management intensity levels B through D. Allotment management intensity will be maintained at or above existing levels.

Full capacity rangeland in unsatisfactory condition will be treated through development of improved allotment management plans. Treatment identified will include:

1. Structural and non-structural range improvement needed to implement prescribed intensity level.
2. Adjustment in stocking as required.

Condition class of full capacity range acreage is estimated to change as follows:

<u>Condition</u>	<u>Acres</u>
Satisfactory	1,099
Unsatisfactory	78

Construction and replacement of structural range improvements will be to standards identified in R3 Range Structural Handbook. Replacement of structural improvements will be planned in a 25-30 year cycle and will take priority over new structures if needed for prescribed management intensity. Maintenance will be programmed in annual operating plans and accomplished by the permittees.

RECREATION

Cuts, blocks, patches, or strips will meet retention or partial retention visual quality objectives.

RESEARCH
NATURAL AREA

Locate a representative area for designation as a Research Natural Area (Regional Guide), one area, 300 acres in size.

TIMBER

All timber management standards and guidelines are included under the Forest-wide prescriptions.

WILDLIFE

Manage for these indicator species:
Elk
Hairy Woodpecker

4. MANAGEMENT DIRECTION

Mgt. Area 3 - Mixed Conifer Under 40% Slope

MANAGEMENT AREA 3 - MIXED CONIFER UNDER 40% SLOPE

Acres	Ranger District	Acres
	Canjilon	6,129
	El Rito	37,371
	Jicarilla	510
	Penasco	25,472
	Taos	45,144
	Tres Piedras	42,682
	Questa	7,987
	TOTAL	165,295

Description

Recreation, timber harvest, and wildlife are the major uses of this area. There is approximately one mile of road for each square mile of land. Dry and wet meadows are interspersed throughout the area and provide an important source of food for wildlife and domestic livestock. Douglas-fir mistletoe and spruce budworm are prevalent and are responsible for many small concentrations of snags.

The size and distribution of aspen patches (management area 6 or aspen overstories with stocked understories of conifer - management areas 1, 2, 3, 4, 5) provide a living map of fire history or other catastrophies. Wildfires have played an important role in the history of this area. Man has been controlling wildfire for approximately 70 years and natural mortality has resulted in fuel loading of 10 tons to 50 tons per acre. Logging and precommercial thinning have created concentrations of fuel that vary between 20 tons and 80 tons per acre. Grasses and forbs are quick to take over a burned area and vegetative succession begins again.

The woody vegetative composition of this unit is variable and consists of overstories and understories of ponderosa pine, Douglas-fir, white fir, Engelmann spruce and aspen in a wide variety of mixtures. The lower elevational range borders the pure ponderosa pine type (management area 4 and 5) and the upper range borders the spruce/true fir type (management areas 1 and 2). This area is capable, suitable, and available for timber production and harvest.

Highlights

- Maintain the Forest environment to provide opportunities for recreation.
- Manage for these indicator species:
 - Hairy Woodpecker
 - Elk
 - Red Squirrel
 - Turkey

4. MANAGEMENT DIRECTION
Mgt. Area 3 - Mixed Conifer Under 40% Slope

Land
Classification

Table 41. Land classification - Management Area 3

<u>Classification</u>	<u>Acres</u>
1. Non-Forest land (includes water)	0
2. Forest land	165,295
3. Forest land withdrawn from timber production ^{1/}	0
4. Unsuitable ^{2/}	0
-Forest land not capable of producing crops of industrial wood	
-Forest land physically unsuitable: --irreversible damage likely to occur --not restockable within 5 years	
-Forest land--inadequate information	
5. Tentatively suitable forest land (item 2 minus items 3, and 4)	165,295
6. Forest land not appropriate for timber production ^{3/}	32,089
7. Unsuitable forest land (items 3, 4, and 6)	32,089
8. Total suitable forest land (item 2 minus item 7)	133,206
9. Total national forest land (items 1 and 2)	165,295

^{1/} Includes Wilderness, Rio Grande Wild and Scenic River and Columbine/Hondo WSA (pending Congressional disposition).

^{2/} Subcategories have been combined into one total for this table.

^{3/} Classed primarily due to a combination of "Multiple-use objectives" and "cost efficiency" as defined in FSH 2409.13.

4. MANAGEMENT DIRECTION

Mgt. Area 3 - Mixed Conifer Under 40% Slope

Treatment

Table 42. Treatment - Management Area 3

<u>Management Practice</u>	<u>Average Annual Acres</u>
Shelterwood Seed Cuts	1050
Removal Cuts	2300
Clearcuts	300
Intermediate Cuts	590
Salvage	Variable
Selection/Group Selection	100
Timber Stand Improvement	1600
Reforestation - Natural	1030
Artificial	565

STANDARDS & GUIDELINES

ENGINEERING

Construct roads for timber sales with the following guideline: 2.3 miles per square mile for construction first entry; 1.7 miles per square mile for reconstruction first entry; 4.0 miles per square mile for reconstruction second entry.

FIRE

Pile and burn designated corridors and fuelbreaks.

When manning class is 3+, 4 or 5, the objective in this vegetative type will be to suppress fires managed within two miles of lands of another ownership at 40 acres or less by the most economical means to protect life and property. In other areas, or when the manning class is 3 or less, the objective will be to suppress all wildfires at 160 acres or less by the most economical means. The objective will be that the total burned area will not exceed 170 acres per year when the manning class is 3+, 4 or 5.

4. MANAGEMENT DIRECTION
Mgt. Area 3 - Mixed Conifer Under 40% Slope

RANGE

Manage full capacity range lands at management intensity levels B through D. Manage for a change of 80% of Level B acres to Level C and a 33% change of Level C acres to Level D management intensity. Manage for the following acres by management intensity levels:

4,110 acres level B
32,006 acres level C
39,578 acres level D

Full capacity rangeland in unsatisfactory condition will be treated through development of improved allotment management plans. Treatment identified will include: 1) Structural and non-structural range improvement needed to implement prescribed intensity, level. 2) Adjustment in stocking as required.

Condition class of full capacity range is estimated to change as follows:

<u>Condition</u>	<u>Acres</u>
Satisfactory	55,699
Unsatisfactory	19,995

Construction and replacement of structural range improvements will be to standards identified in R3 Range Structural Handbook. Replacement of structural improvements will be planned in a 20-50 year cycle and will take priority over new structures if needed for prescribed management intensity. Maintenance will be programmed in annual operating plans and accomplished by the permittee.

TIMBER

All timber management standards and guidelines are included under the Forest-wide prescriptions.

WILDLIFE

Manage for these indicator species:

Hairy Woodpecker
Elk
Red Squirrel
Turkey

4. MANAGEMENT DIRECTION

Mgt. Area 4 - Ponderosa Pine Under 40% Slope

MANAGEMENT AREA 4 - PONDEROSA PINE UNDER 40% SLOPE

<u>Acres</u>	<u>Ranger District</u>	<u>Acres</u>
	Canjilon	18,946
	El Rito	66,478
	Jicarilla	26,654
	Penasco	21,680
	Taos	6,646
	Tres Piedras	50,406
	Questa	1,984
	TOTAL	192,794

Description

The ponderosa pine vegetative type is the largest of the Carson's commercial forest zone. There are two general stand conditions that occur in this management area:

- Ponderosa pine with a gambel oak understory occurs on a wide variety of elevational and climatic ranges, however, it is most commonly found on warm dry slopes. The oak usually comes in after a site disturbance, such as fire or logging.
- Ponderosa pine with a ponderosa pine understory is characterized by relatively pure stands of ponderosa pine regeneration with inclusions of Douglas-fir, white fir, gambel oak, pinon pine, and juniper. The ponderosa pine regeneration is dominant and occupies more than 75% of the site.

Logging, grazing, fuelwood gathering and recreation are historic uses of this management area. There are numerous two track non-system roads. The area provides crucial and key habitat for many species of wildlife because of diversity of cover and food production, i.e., deer, elk and turkey winter range and songbird nesting habitat.

Ponderosa pine is often called a fire dependent species. The thick bark of the ponderosa provides more protection from fire than bark of other species. This results in ponderosa being found in transition zones between pinon-juniper, Douglas-fir and white-fir. With fire protection the range of the ponderosa often shrinks to a fairly narrow elevational band. Ponderosa is most productive in the transition zone with Douglas-fir (management areas 3 and 5) and can be maintained through harvesting and use of fire.

4. MANAGEMENT DIRECTION
Mgt. Area 4 - Ponderosa Pine Under 40% Slope

Natural fuel accumulations are fairly light, 5 tons to 15 tons per acre, and fire occurrence is the highest on the forest (see fire element discussion). Logging and precommercial thinning residues can add 10 to 30 tons per acre. These accumulations can produce sufficient heat (B.T.U.'s) and flame length to kill residual trees during periods of high or extreme fire danger. Dispersed recreation use is heavy and risk of man-caused fires is high.

Highlights

- Emphasize visual quality objectives of partial retention and modification.
- Manage for the following indicator species:
 - Turkey
 - Abert's Squirrel
 - Elk
 - Hairy Woodpecker
- Improve wildlife habitat.

4. MANAGEMENT DIRECTION

Mgt. Area 4 - Ponderosa Pine Under 40% Slope

Land
Classification

Table 43. Land classification - Management Area 4

<u>Classification</u>	<u>Acres</u>
1. Non-Forest land (includes water)	0
2. Forest land	192,794
3. Forest land withdrawn from timber production ^{1/}	0
4. Unsuitable ^{2/}	0
-Forest land not capable of producing crops of industrial wood	
-Forest land physically unsuitable: --irreversible damage likely to occur --not restockable within 5 years	
-Forest land--inadequate information	
5. Tentatively suitable forest land (item 2 minus items 3, and 4)	192,794
6. Forest land not appropriate for timber production ^{3/}	0
7. Unsuitable forest land (items 3, 4, and 6)	0
8. Total suitable forest land (item 2 minus item 7)	192,794
9. Total national forest land (items 1 and 2)	192,794

^{1/} Includes Wilderness, Rio Grande Wild and Scenic River and Columbine/Hondo WSA (pending Congressional disposition).

^{2/} Subcategories have been combined into one total for this table.

^{3/} Classed primarily due to a combination of "Multiple-use objectives" and "cost efficiency" as defined in FSH 2409.13.

Treatment

Table 44. Treatment - Management Area 4

<u>Management Practice</u>	<u>Average Annual Acres</u>
Shelterwood Seed Cuts	900
Removal Cuts	1400
Clearcuts	10
Intermediate Cuts	1300
Salvage	Variable
Selection/Group Selection	60
Timber Stand Improvement	1600
Reforestation - Natural	700
Artificial	380
Prescribed Burning	1165

STANDARDS & GUIDELINES

ENGINEERING

Construct roads for timber sales utilizing Best Management Practices. Guidelines are 2.0 miles per square mile for construction first entry; 2.0 miles per square mile for reconstruction first entry; 4.0 miles per square mile for reconstruction 167 second entry.

Improve drainage and surfacing on existing roads that will not be closed to improve riparian areas and reduce stream sedimentation with a guideline of 3.0 miles annually.

FIRE

When manning class is 3+, 4 or 5, the objective in this vegetative type will be to suppress all fires within two miles of lands of another ownership at 40 acres or less by the most economical means to protect life and property. In other areas, or when the manning class is 3 or less the objective will be to suppress all wildfires at 160 acres or less by the most economical means. The objective will be that the total burned area will not exceed 190 acres per year when the manning class is 3+, 4, or 5.

4. MANAGEMENT DIRECTION

Mgt. Area 4 - Ponderosa Pine Under 40% Slope

Manage unplanned ignitions after July 15, or when the summer monsoons are fully established. The objectives will be to improve wildlife habitat by promoting sprouting in oak and to remove slash which impedes wildlife movement.

Prescribed broadcast fire will be used in this area to:

- Reduce fuel loading:
- Fire proof adjacent private lands.
- Promote wildlife food and cover values.
- Increase livestock forage productivity.

1,000 acres of prescribed broadcast fire annually are proposed as a guideline.

RANGE

Manage full capacity rangelands at management intensity Levels B through D. Manage for a 75% change in the number of Level B acres to Level C and a 33% change in the number of Level C acres to Level D management intensity.

Manage for the following acres by management intensity levels:

15,843 acres level B

66,830 acres level C

78,093 acres level D

Manage for good to excellent range condition.

Full capacity rangeland in unsatisfactory condition will be treated through development of improved allotment management plans. Treatment identified will include:

- Structural and non-structural range improvement needed to implement prescribed intensity level.
- Adjustment in stocking as required.

Condition class of full capacity range acreage is estimated to change as follows:

<u>Condition</u>	<u>Acres</u>
Satisfactory	108,113
Unsatisfactory	52,653

Construction and replacement of structural range improvements will be to standards identified in R3 Range Structural Handbook. Replacement of structural improvements will be planned in a 30-40 year cycle and will take priority over new structures if needed for prescribed management intensity. Maintenance will be programmed in annual operating plans and accomplished by the permittees.

All new and reconstructed fences crossing deer and elk migration corridors will be designed with a rail on top.

4. MANAGEMENT DIRECTION

Mgt. Area 4 - Ponderosa Pine Under 40% Slope

RECREATION

Lands which have the Visual Quality Objective of foreground retention and are located within the immediate foreground (100 to 300 feet) of a sensitive travel route, use area, or water body will be managed for the following:

- Entry Period will equal 20 yrs.
- 30 inch diameter pines with yellow, deep fissured bark.
- Stand age at replacement will be 240 years.

Maintain a mosaic of stand diversity along visual corridors. Include all stand conditions and basal area levels to the maximum possible for the site condition.

TIMBER

All timber management standards and guidelines are included under the Forest-wide prescriptions.

4. MANAGEMENT DIRECTION

Mgt. Area 5 - Mixed Conifer and Ponderosa Pine Over 40% slope

MANAGEMENT AREA 5 - MIXED CONIFER AND PONDEROSA PINE OVER 40% SLOPE

Acres	Ranger District	Acres
	Canjilon	50
	El Rito	2,047
	Jicarilla	1,437
	Penasco	6,467
	Taos	8,797
	Tres Piedras	459
	Questa	11,222
	TOTAL	30,479

Description Mixed Conifer: The vegetative composition (which includes aspen overtopping or mixed with young conifer), fire history and natural fuels are similar to management area 3. This area has had little to no logging activity, and road building has been minimal.

Soils and watershed restrictions on management activities will be more stringent than on management area 3. See timber element policies and prescriptions for slopes over 40%.

The area's value to wildlife is much greater than to domestic livestock because of steep slopes and the amount of large inaccessible areas.

On-site dispersed recreation use usually occurs only on trails passing through the area because of the steep slopes serve as primary scenic backdrops for sensitive recreation viewpoints off-site.

Ponderosa Pine: Many of these areas have been logged in the past with horses, but old stumps are the only remaining evidence. With the advent of machine skidding, logging was discontinued on these slopes because of machine limitations and watershed damage. With skyline yarding, these areas can be harvested without watershed damage but may remain uneconomical for this type of logging because of low volumes of existing timber.

Most of the remaining overmature trees and large snags within the pine type are on these steep slopes. The snags are important to snag dependent species of wildlife, especially where snags are rare in adjacent areas as in most of management area 4.

Because of steep slopes this area contributes very little to the range resource. However, the south facing slopes do provide a major portion of the big game winter habitat on the Carson.

4. MANAGEMENT DIRECTION

Mgt. Area 5 - Mixed Conifer and Ponderosa Pine Over 40% Slope

On-site dispersed recreation use usually occurs only on trails passing through the area because of the steep slopes and amount of downfall on the ground. In addition, portions of these steep slopes serve as primary scenic backdrops for sensitive recreation viewpoints off-site.

Highlights

- Maintain the Forest environment to provide opportunities for dispersed recreation at an increased maintenance standard.
- Emphasize visual quality objectives of retention and partial retention.
- Manage for these indicator species:

	PP	MC
Hairy Woodpecker	X	X
Turkey	X	X
Elk	X	X
Red Squirrel		X
Abert's Squirrel	X	

Land
Classification

Table 45. Land classification Management Area 5

<u>Classification</u>	<u>Acres</u>
1. Non-Forest land (includes water)	0
2. Forest land	30,479
3. Forest land ₁ withdrawn from timber production	0
4. Unsuitable ^{2/}	0
-Forest land not capable of producing crops of industrial wood	
-Forest land physically unsuitable:	
--irreversible damage likely to occur	
--not restockable within 5 years	
-Forest land--inadequate information	
5. Tentatively suitable forest land (item 2 minus items 3, and 4)	30,479
6. Forest land ₃ not appropriate for timber production	30,479

4. MANAGEMENT DIRECTION

Mgt. Area 5 - Mixed Conifer and Ponderosa Pine Over 40% slope

Table 45. Land classification Management Area 5 (continued).

7. Unsuitable forest land (items 3, 4, and 6)	30,479
8. Total suitable forest land (item 2 minus item 7)	0
9. Total national forest land (items 1 and 2)	30,479

^{1/} Includes Wilderness, Rio Grande Wild and Scenic River and Columbine/Hondo WSA (pending Congressional disposition).

^{2/} Subcategories have been combined into one total for this table.

^{3/} Classed primarily due to a combination of "Multiple-use objectives" and "cost efficiency" as defined in FSH 2409.13.

STANDARDS & GUIDELINES

ENGINEERING

Construct roads for timber sales utilizing Best Management Practices with the following guidelines:
3.9 miles per square mile for construction and 1.1 miles per square mile for reconstruction for first entry; 5.0 miles per square mile for reconstruction second entry.

FIRE

When manning class is 3+, 4, or 5, the objective in this vegetative type will be to suppress all fires within two miles of lands of another ownership at 40 acres or less by the most economical means to protect life and property. In other areas when the manning class is 3 or less the objective will be to suppress all wildfires at 160 acres or less by the most economical means.

The total burned area will not exceed 40 acres per year when the manning class is 3+, 4, or 5.

In ponderosa pine type, manage unplanned ignitions after July 15 or when the summer rains are established. The objective will be to open stands to provide more viewing area and to remove accumulations of litter to improve scenic beauty, with no more than 1 1/2 miles of open fire perimeter, and no more than 3 fires at one time.

4. MANAGEMENT DIRECTION

Mgt. Area 5 - Mixed Conifer and Ponderosa Pine Over 40% Slope

RANGE

Manage full capacity rangelands at management levels B through D. Manage for change of 82% of level B acres to Level C, change 23% of Level C acres to Level D.

Manage the following acres by management intensity level:

649 acres in level B
1,302 acres in level C
2,488 acres in level D

Full capacity rangeland in unsatisfactory condition will be treated through development of improved allotment management plans. Treatment identified will include:

1. Structural and non-structural range improvement needed to implement prescribed intensity level.
2. Adjustment in stocking as required.

Condition class of full capacity range acreage is estimated to change as follows:

<u>Condition</u>	<u>Acres</u>
Satisfactory	2,512
Unsatisfactory	1,927

Construction and replacement of structural range improvements will be to standards identified in R3 Range Structural Handbook. Replacement of structural improvements will be planned in a 25-30 year cycle and will take priority over new structures if needed for prescribed management intensity. Maintenance will be programmed in annual operating plans and accomplished by the permittees.

RECREATION

Ponderosa pine lands which have the Visual Objective of foreground retention and are located within the immediate foreground (100 to 300 feet on the average main depending on tree density) of a sensitive trail route, use area or water body will be managed for the following:

- Entry Cycle = 20 yrs.
- 30" diameter pines with yellow, deep fissured bark.
- Stand age at replacement = 240 years.

TIMBER

All timber management standards and guidelines are included under the Forest-wide prescriptions.

WILDLIFE

Manage for these indicator species:

	<u>PP</u>	<u>MC</u>
Hairy Woodpecker	X	X
Turkey	X	X
Elk	X	X
Red Squirrel	X	
Abert's Squirrel	X	

4. MANAGEMENT DIRECTION

Mgt. Area 6 - Aspen

MANAGEMENT AREA 6 - ASPEN

<u>Acres</u>	<u>Ranger District</u>	<u>Acres</u>
	Canjilon	279
	El Rito	890
	Jicarilla	0
	Penasco	1,018
	Taos	864
	Tres Piedras	1,267
	Questa	1,261
	TOTAL	5,579

Description The area has an overstory of aspen with an understory ranging from forbs and grass to sparse conifer reproduction, usually white fir, corkbark fir, or spruce. Acres of aspen stands with stocked conifer understories are included in Management areas 1 through 5 and 7. Without treatment, those stands with conifer understories or grass will convert to conifer or grass type as the aspen overstories die, thus losing the aspen component.

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

Aspen stands are important aesthetically because of the color contrast they provide with surrounding conifers. Their leaves are a light green in summer and turn yellow in the fall and their white trunks provide further accents.

There is a history of tent caterpillar and aspen tortrix epidemics in the aspen type which have caused considerable mortality. This and other natural mortality has resulted in a large accumulation of down and dead aspen.

The commercial market for aspen wood products includes chips for particle board, firewood, excelsior, pallet material and high grade paneling. In the past, the demand has been relatively low compared to coniferous species and this has hampered aspen management as it requires fire or harvesting, primarily by clearcutting, for regeneration. The existing aspen stands are a direct result of past wildfires. Forest Service fire control efforts have limited the establishment of new stands and the total acreage decreases yearly. Increasing demand for chips and firewood may increase the role of timber harvest in maintaining the aspen component and reverse the present guideline.

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

4. MANAGEMENT DIRECTION
Mgt. Area 6 - Aspen

Highlights

- Emphasize visual quality objectives retention and partial retention.
- Manage for these indicator species:
Hairy Woodpecker
Turkey
Elk
- Harvest aspen in small patch clearcuts to increase diversity and encourage sprouting.

4. MANAGEMENT DIRECTION
Mgt. Area 6 - Aspen

Land
Classification

Table 46. Land classification - Management Area 6

<u>Classification</u>	<u>Acres</u>
1. Non-Forest land (includes water)	0
2. Forest land	5,579
3. Forest land withdrawn from timber production ^{1/}	0
4. Unsuitable ^{2/}	0
-Forest land not capable of producing crops of industrial wood	
-Forest land physically unsuitable: --irreversible damage likely to occur --not restockable within 5 years	
-Forest land--inadequate information	
5. Tentatively suitable forest land (item 2 minus items 3, and 4)	5,579
6. Forest land not appropriate for timber production ^{3/}	5,579
7. Unsuitable forest land (items 3, 4, and 6)	5,579
8. Total suitable forest land (item 2 minus item 7)	0
9. Total national forest land (items 1 and 2)	5,579

^{1/} Includes Wilderness, Rio Grande Wild and Scenic River and Columbine/Hondo WSA (pending Congressional disposition).

^{2/} Subcategories have been combined into one total for this table.

^{3/} Classed primarily due to a combination of "Multiple-use objectives" and "cost efficiency" as defined in FSH 2409.13.

Treatment

Table 47. Treatment - Management Area 6

<u>Management Practice</u>	<u>Average Annual Acres</u>
Clearcuts	320
Salvage	Variable
Reforestation - Natural	320

STANDARDS & GUIDELINES

ENGINEERING

Construct roads for timber sales, utilizing Best Management Practices with the following guidelines: 0.9 mile per square mile for construction first entry; 3.1 miles per square mile for reconstruction first entry; 4.0 miles per square mile for reconstruction second entry.

Withdraw the San Antonio high power (5 acres) from mineral location.

FIRE

When manning class is 3+, 4 or 5, the objective in this vegetative type will be to suppress all fires within two miles of lands of another ownership at 80 acres or less by the most economical means to protect life and property. In other areas or when the manning class is 3 or less the objective will be to suppress all wildfires at 160 acres or less by the most economical means, to protect life and property. The objective will be that the total burned area will not exceed 80 acres per year when the manning class is 3+, 4 or 5.

RANGE

Manage allotments at management intensity levels B through D and increase the number of allotments under a more intensive level of management. Manage for a 100% change of Level B acres to Level C and a 33% change in the number of level C acres to level D.

Manage for the following acres by management intensity level:
523 acres level B
2973 acres level C
762 acres level D

4. MANAGEMENT DIRECTION

Mgt. Area 6 - Aspen

Manage for good range condition.

Full capacity rangeland in unsatisfactory condition will be treated through development of improved allotment management plans. Treatment identified will include:

1. Structural range improvement needed to implement prescribed intensity level.
2. Adjustment in stocking as required.

Condition class of full capacity range acreage is estimated to change as follows:

<u>Condition</u>	<u>Acres</u>
Satisfactory	3,766
Unsatisfactory	492

Construction and replacement of structural range improvements will be to standards identified in R3 Range Structural Handbook. Replacement of structural improvements will be planned in a 25-30 year cycle and will take priority over new structures if needed for prescribed management intensity. Maintenance will be programmed in annual operating plans and accomplished by the permittees.

RECREATION

Cut blocks, patches, or strips will meet retention visual quality objectives.

Within 200 feet of paved road projects involving reseeding with grasses or forbs include some wildflower seed mix.

Rejuvenation of aspen will be used primarily to maintain scenic quality. Leave material on the ground as needed to protect sprouting.

TIMBER MANAGEMENT

Management Area 6 includes pure aspen stands that do not have a stocked or nearly stocked conifer understory.

[Reference Forest-wide standards and guidelines for inventory and stand exam.]

Establish and maintain stand diversity through integrated stand management to improve age class distribution, provide suitable habitat for wildlife, to maintain or enhance visual quality, and to maintain or enhance firewood and other wood product production.

Regeneration is planned to occur naturally by sprouting.

Manage regenerated areas and assign no grazing capacity until seedlings are established. Leave felled trees and/or slash as needed to restrict access to animals.

Silvicultural Prescription

The aspen type is maintained where it exists and managed for sustained yield of firewood, and other resource objectives. Retain the type for wildlife habitat, visual quality. Stands are managed by clearcutting or heavy selection of at least 95 percent of the basal area, cutting all stems greater than 5 inches d.b.h. Snags greater than 12 inches d.b.h. are left and nest trees are retained.

Harvest using 40 acres or less clearcuts, usually through personal use firewood sales, or commercial sales where public access is not reasonable, to increase diversity and achieve regeneration through sprouting. Wildlife and livestock have heavily browsed small clearcuts in the past. Emphasis is to cut enough area to prevent overbrowsing through a series of small clearcuts rather than one 40-acre unit.

Rotation length is a minimum of 50 years or a minimum diameter of 6 inches.

Manage for an interspersion of conifer groups when present. Limit conifer groups to one acre groups per 10 acres of aspen.

Intermediate harvests are applied to improve wildlife forage in the understory, improve visual quality or to meet other specific resource objectives.

When appropriate timber harvests in aspen stands should be incorporated into surrounding sales on suitable land, otherwise treat as a separate project.

When they are consistent with objectives for this Management Area, apply sale preparation and administration standards and guidelines listed for suitable lands in the Forest-wide section.

WILDLIFE

Manage for these indicator species:

- Hairy Woodpecker
- Turkey
- Elk

Rejuvenate aspen in small patch clearcuts to increase wildlife habitat diversity and encourage sprouting, 210 acres of treatment annually (minimum).

4. MANAGEMENT DIRECTION
Mgt. Area 7 - Unsuitable Timber

MANAGEMENT AREA 7 - UNSUITABLE TIMBER

Acres	Ranger District	Acres
	Canjilon	4,080
	El Rito	8,311
	Jicarilla	1,737
	Penasco	17,385
	Taos	10,214
	Tres Piedras	10,954
	Questa	12,509
	TOTAL	65,190

Description This includes the ponderosa pine, mixed conifer, spruce, and aspen vegetation types. These areas are classed unsuitable for timber harvest, for one of the following reasons (as described in FSH 2409.13, chapter 20):

1. Forest land incapable of producing industrial wood. Oak and pinon-juniper are generally put in this category.
2. Forest land physically unsuitable because:
 - a. an ID team determines that, using available technology, activities involved with timber production could not be completed without causing irreversible resource damage to soil productivity or watershed.
 - b. based on existing technology there is not reasonable assurance that it is possible to restock the remaining forest lands within 5-years of final harvest [as defined in 36 CFR 219.27(c)(3)].
3. Forest land with inadequate response information, based on current research and experience, to project responses to timber management practices.

- Highlights
- Maintain the Forest environment to provide opportunities for dispersed recreation at an increased maintenance standard.
 - Emphasize visual quality objectives under retention and partial retention.
 - Manage for these indicator species:

A	PP	MC	SP	
x	x	x	x	Hairy Woodpecker
x	x	x	x	Elk
x	x	x	x	Turkey
		x		Red Squirrel
	x			Abert's Squirrel

Land
Classification

Table 48. Land classification - Management Area 7

<u>Classification</u>	<u>Acres</u>
1. Non-Forest land (includes water)	0
2. Forest land	65,190
3. Forest land ^{1/} withdrawn from timber production	0
4. Unsuitable ^{2/} -Forest land not capable of producing crops of industrial wood -Forest land physically unsuitable: --irreversible damage likely to occur --not restockable within 5 years -Forest land--inadequate information	65,190
5. Tentatively suitable forest land (item 2 minus items 3, and 4)	0
6. Forest land ^{3/} not appropriate for timber production	0
7. Unsuitable forest land (items 3, 4, and 6)	65,190
8. Total suitable forest land (item 2 minus item 7)	0
9. Total national forest land (items 1 and 2)	65,190

^{1/} Includes Wilderness, Rio Grande Wild and Scenic River and Columbine/Hondo WSA (pending Congressional disposition).

^{2/} Subcategories have been combined into one total for this table.

^{3/} Classed primarily due to a combination of "Multiple-use objectives" and "cost efficiency" as defined in FSH 2409.13.

4. MANAGEMENT DIRECTION
Mgt. Area 7 - Unsuitable Timber

STANDARDS &
GUIDELINES

FIRE When manning class is 3+, 4 or 5, the objective in this vegetative type will be to suppress all fires within two miles of lands of another ownership at 80 acres or less by the most economical means to protect life and property. In other areas or when the manning class is 3 or less the objective will be to suppress all wildfires at 160 acres or less by the most economical means, to protect life and property. The objective will be that the total burned area will not exceed 160 acres per year when the manning class is 3+, 4 or 5.

RANGE Manage full capacity rangelands at management intensity levels B through D. Range condition will not be allowed to decrease below existing level. Manage for a change of 86% level B acres to level C and 35% change in level C acres to level D. Manage for the following acres by management intensity level:
2,179 acres level B
14,171 acres level C
8,877 acres level D

Full capacity rangeland in unsatisfactory condition will be treated through development of improved allotment management plans. Treatment identified will include:
1. Structural range improvement needed to implement prescribed intensity level.
2. Adjustment in stocking as required.

Condition class of full capacity range acreage is estimated to change as follows:

<u>Condition</u>	<u>Acres</u>
Satisfactory	18,598
Unsatisfactory	6,629

Construction and replacement of structural range improvements will be to standards identified in R3 Range Structural Handbook. Replacement of structural improvements will be planned in a 20-25 year cycle and will take priority over new structures if needed for prescribed management intensity. Maintenance will be programmed in annual operating plans and accomplished by the permittees.

TIMBER MANAGEMENT Stands may be treated, and sawtimber and products may be harvested to meet specific management area objectives. Volume does not contribute to the Forest Allowable Sale Quantity (ASQ).

Salvage timber when compatible with Management Area objectives or when needed to prevent or reduce insect and disease conditions within the Management Area or adjacent Management Areas.

4. MANAGEMENT DIRECTION
Mgt. Area 7 - Unsuitable Timber

Prepare and Administer permits for non-convertible products when compatible with Management Area objectives.

Prepare and administer sale permits or free-use permits for dead and down firewood.

4. MANAGEMENT DIRECTION
Mgt. Area 8 - Pinon Juniper

MANAGEMENT AREA 8 - PINON-JUNIPER

Acres	Ranger District	Acres
	Canjilon	32,920
	El Rito	86,713
	Jicarilla	98,440
	Penasco	26,347
	Taos	20,320
	Tres Piedras	53,817
	Questa	18,004
	TOTAL	336,561

- Description There are two conditions that exist in this management area:
- Pinon pine, Utah-seed juniper and Rocky Mountain juniper comprising the tree canopy with a wide variety of grass, forbs and shrubs in the understory.
 - The transition zone where the pinon-juniper woodland type joins the ponderosa pine. This is characterized by dry, warm climatic conditions and poor ponderosa site productivity classes (site index less than 55).

The area has provided fuelwood since man arrived. Many people prefer pinon as fuelwood over all other species. The east side of the Carson and the Tres Piedras Ranger District have been extensively cutover for fuelwood, and average size classes are three inches to five inches in diameter at ground level. Other traditional uses have included hunting, pinon nut gathering, Christmas tree and juniper post cutting, big game winter range and grazing. There are numerous two track nonsystem roads that provide access into the area.

Fire occurrence is low and potential for large fires is extremely low. Ground fuels are light, less than five tons per acre, except in stands that have been harvested for fuelwood.

- Highlights - Manage for habitat diversity

Land
Classification

Table 49. Land classification - Management Area 8

Classification

1. Non-Forest land (includes water)	0
2. Forest land	336,561
3. Forest land, withdrawn from timber production ^{1/}	0
4. Unsuitable ^{2/}	336,561
-Forest land not capable of producing crops of industrial wood	
-Forest land physically unsuitable:	
--irreversible damage likely to occur	
--not restockable within 5 years	
-Forest land--inadequate information	
5. Tentatively suitable forest land (item 2 minus items 3, and 4)	0
6. Forest land, not appropriate for timber production ^{3/}	0
7. Unsuitable forest land (items 3, 4, and 6)	336,561
8. Total suitable forest land (item 2 minus item 7)	0
9. Total national forest land (items 1 and 2)	336,561

^{1/} Includes Wilderness, Rio Grande Wild and Scenic River and Columbine/Hondo WSA (pending Congressional disposition).

^{2/} Subcategories have been combined into one total for this table.

^{3/} Classified primarily due to a combination of "Multiple-use objectives" and "cost efficiency" as defined in FSH 2409.13.

4. MANAGEMENT DIRECTION
Mgt. Area 8 - Pinon Juniper

Treatment

Table 50. Treatment - Management Area 8

<u>Management Practice</u>	<u>Average Annual Acres</u>
General Firewood Harvest	1860
Wildlife Pinon-Juniper Treatment	300
Overstory Modification	150

STANDARDS & GUIDELINES

FIRE

The suppression objective is to suppress all fires at less than one acre during all periods when the managed age class consists of seedlings, saplings or poles. In other age classes when the manning class is 3+, 4 or 5, the objective is to suppress all fires at 10 acres or less. When the manning class is 3 or less the objective will be to suppress fires in these age classes at 40 acres or less by the most economical means. The objective will be that the total burned area will not exceed 370 acres per year when the manning class is 3+, 4 or 5.

LAW ENFORCEMENT

Patrols are conducted during fuelwood cutting season (normally May through November) to help reduce illegal fuelwood removal with an average of 5 patrols per week.

RANGE

Manage allotments at level A through D. Manage for a 75% change in the number of Level B acres to Level C and a 52% change of Level C acres to Level D. Manage for the following acres by management intensity levels:

35,051 acres level B
89,295 acres level C
110,848 acres level D

Full capacity rangeland in unsatisfactory condition will be treated through development of improved allotment management plans. Treatment identified will include:

1. Structural and non-structural range improvement needed to implement prescribed intensity level.
2. Adjustment in stocking as required.

4. MANAGEMENT DIRECTION
Mgt. Area 8 - Pinon Juniper

Condition class of full capacity range acreage is estimated to change as follows:

<u>Condition</u>	<u>Acres</u>
Satisfactory	165,078
Unsatisfactory	70,116

Do not treat pinon-juniper stands for range management purposes except on Jicarilla District on Level D or E management allotments. Retreat previously revegetated stands where and as needed to maintain the AUM capacity established.

Construction and replacement of structural range improvements will be to standards identified in R3 Range Structural Handbook. Replacement of structural improvements will be planned in a 30-40 year cycle and will take priority over new structures if needed for prescribed management intensity. Maintenance will be programmed in annual operating plans and accomplished by the permittees.

File for water rights on water developments.

TIMBER MANAGEMENT

Using integrated stand management to meet wildlife and other resource objectives, harvest pinon-juniper firewood from slopes 15 percent gradient or less.

Pinon-juniper harvests will be primarily under a shelterwood system with intermediate cuts used to improve growth and meet other management objectives. Standard rotation age is 180 years.

Uneven-aged management may be used when it is the best way to meet specific objectives.

Manage stands to maintain juniper and other species as a component when they are present in pinon stands.

Priority will be given to personal-use sales. Commercial sales may be made to meet objectives when:

- 1) The Ranger District ASQ exceeds personal-use demand.
- 2) Access is limited to commercial yarding equipment.
- 3) Species mix or product size does not attract personal-use.

Reference standards and guidelines in the Forest-wide section related to planning, inventory, silvicultural exam, and sale preparation and administration.

WILDLIFE

Strive to maintain an average of 50% or more of pinon acres in a balanced age class distribution.

4. MANAGEMENT DIRECTION

Mgt. Area 8 - Pinon Juniper

Manage for these indicator species:

- Plain Titmouse
- Elk

Do not harvest ponderosa pine, unless the objective is to improve big game cover and other wildlife habitat components over the long term.

Treat pinon-juniper stands on big game winter ranges as per forestwide standards and guidelines.

Unless other management objectives are determined to have priority, as determined by interdisciplinary team review, manage the juniper (Rocky Mountain and Utah) components to provide for habitat diversity. The following guidelines will be used on those areas where juniper diversity is to be maintained:

- In areas where juniper comprise less than 10 trees/acre retain all live juniper trees.
- In areas where juniper comprise more than 10 trees/acre retain at least 10 of the largest live juniper trees. Trees retained should have greater than 25 percent living crown.

MANAGEMENT AREA 9 - HIGH ELEVATION GRASSLAND

<u>Acres</u>	<u>Ranger District</u>	<u>Acres</u>
	Canjilon	8,273
	El Rito	5,124
	Jicarilla	0
	Penasco	7,572
	Taos	1,251
	Tres Piedras	41,793
	Questa	2,290
	TOTAL	66,303

Description The major portion of the mountain grassland type was created by fires in the late 1800's and early 1900's. The area is most commonly found in association with spruce - true fir and spruce - Douglas-fir coniferous vegetative types. It is fairly safe to assume that most of the area would revert to coniferous vegetation without man's continued influence.

This area consists of a wide variety of species of grasses and forbs in varying stages of plant succession. Sizes of individual meadows vary from less than one-eighth acre to over 500 acres. The vegetation makeup varies according to successional state.

The amount of time required for succession to conifers depends on size of meadow, distance to conifer seed source, severity of burn, condition of soil, and man's activities.

This area supports the bulk of the Carson's domestic livestock grazing program. It is also extremely important to game and nongame species of wildlife. The meadows varying size provide the vegetation diversity required by many of the wildlife species found on the Carson. This diversity is also required for the scenic values associated with this area.

Reduction in size, through natural vegetative succession or artificial reforestation projects, will ultimately reduce the amount of forage produced for wildlife and domestic livestock.

The size of the area and importance to grazing, wildlife, water production, visual quality, recreation, and potential wood fiber production make the mountain meadow and alpine one of the most important management areas on the Carson.

4. MANAGEMENT DIRECTION

Mgt. Area 9 - High Elevation Grassland

Topography of the higher alpine areas is steep at the lower elevations, giving way to broad, rounded summits and ridges. The terrain is characterized by rock escarpments, deposits of stone and boulder glacial till, rockslides, rockstreams and alpine turf soils. Overstory vegetation consists of a few dwarfed Engelmann spruce and bristlecone pine at the lower elevations. Ground cover includes alpine sedges, forbs and grasses where there is adequate soil. A short growing season and heavy snowfall characterizes the alpine heights. This is one of the highest water producing areas in the state.

Historically, alpine areas have been summer domestic sheep range and much of it has been severely damaged. It is also summer range for deer, elk and bighorn sheep. Other wildlife found here include the yellow-belly marmot and pika. Blue grouse are common in the lower elevations. Southern white-tailed ptarmigan occur in several areas.

Highlights

- Close areas to off-road vehicles except snowmobiles when the size of the individual area makes it feasible.
- Maintain grassland acreage at present levels.
- Manage timber inclusions for snag retention, wildlife cover, escape routes and general habitat diversity.
- Manage for these indicator species:
 - Ptarmigan
 - Bighorn sheep
 - Elk
- Manage allotments at level B through E.

Land
Classification

Table 51. Land classification - Management Area 9

<u>Classification</u>	<u>Acres</u>
1. Non-Forest land (includes water)	66,303
2. Forest land	0
3. Forest land ^{1/} withdrawn from timber production	0
4. Unsuitable ^{2/} -Forest land not capable of producing crops of industrial wood -Forest land physically unsuitable: --irreversible damage likely to occur --not restockable within 5 years -Forest land--inadequate information	0
5. Tentatively suitable forest land (item 2 minus items 3, and 4)	0
6. Forest land ^{3/} not appropriate for timber production	0
7. Unsuitable forest land (items 3, 4, and 6)	0
8. Total suitable forest land (item 2 minus item 7)	0
9. Total national forest land (items 1 and 2)	66,303

^{1/} Includes Wilderness, Rio Grande Wild and Scenic River and Columbine/Hondo WSA (pending Congressional disposition).

^{2/} Subcategories have been combined into one total for this table.

^{3/} Classed primarily due to a combination of "Multiple-use objectives" and "cost efficiency" as defined in FSH 2409.13.

4. MANAGEMENT DIRECTION

Mgt. Area 9 - High Elevation Grassland

STANDARDS & GUIDELINES

FIRE

The objective is to suppress all fires at 640 acres by the most economical means while protecting life and property. The objective will that the total burned area will not exceed 4,000 acres per year when the manning class is 3+, 4 or 5.

INSECT AND DISEASE

Insect and disease outbreaks will be managed using the concepts of Integrated Pest Management (IPM), which is a systematic decision making process and resultant actions developed after considering the pest - host systems and resource management objectives. Management may include "no action" to a combination of biological, chemical and other preventative and remedial measures. Special consideration in method of control will be given around waters, highways and populations centers.

RANGE

Manage full capacity range lands at management intensity levels B through E. Manage for a change of 90% of level B acres to level C, 38% change in level C acres to level D. Manage for the following acres by management intensity level:

5,518 acres level B
23,322 acres level C
42,740 acres level D
2,197 acres level E

Full capacity rangeland in unsatisfactory condition will be treated through development of improved allotment management plans. Treatment identified will include:

1. Structural and non-structural range improvement needed to implement prescribed intensity level.
2. Adjustment in stocking as required.

Condition class of full capacity range acreage is estimated to change as follows:

<u>Condition</u>	<u>. Acres</u>
Satisfactory	64,667
Unsatisfactory	9,110

4. MANAGEMENT DIRECTION
Mgt. Area 9 - High Elevation Grassland

On allotments designated for level D to E management, maintain grassland acreage to present levels. Stop woody species encroachment. Reseed areas where herbaceous ground cover prior to treatment is less than or equal to 30%. Treatment Method: Burn: When fire will not threaten adjacent timber stands, herbaceous fuel is adequate to carry fire to kill at least 60% of species to be eradicated (herbaceous fuel is at least 600 lbs./acre), when encroaching trees are at most 4 feet tall and tree distribution is even. Herbicides: When conditions are not suitable for burning and encroaching trees are less than or equal to 4 feet tall. Handcut: When encroaching trees are at most 50/acre and at most 8 feet tall. Other: Encourage public to cut Christmas trees and remove wildlings.

Construction and replacement of structural range improvements will be standards identified in R3 Range Structural Handbook. Replacement of structural improvements will be planned in a 20-35 year cycle and will take priority over new structures if needed for prescribed management intensity. Maintenance will be programmed in annual operating plans and accomplished by the permittees.

TIMBER MANAGEMENT

The following standards and guidelines apply to patches and stringers included within the Management Area:

Stands may be treated, and sawtimber and products may be harvested to meet specific Management Area objectives. Volume does not contribute to the Forest Allowable Sale Quantity (ASQ).

Salvage timber when compatible with Management Area objectives or when needed to prevent or reduce insect and disease conditions within the Management Area or adjacent Management Areas.

Prepare and Administer permits for non-convertible products when compatible with Management Area objectives.

Prepare and Administer sale permits or free-use permits for dead and down firewood.

WILDLIFE

Timber inclusions will be managed for snag retention, wildlife cover, and general habitat diversity.

Manage for these indicator species:

- Ptarmigan
- Bighorn sheep
- Elk

Maintain present acreage of willow in ptarmigan range at a height of at least 0.5 meter.

Control road system impacts, as per forestwide guidelines.

4. MANAGEMENT DIRECTION

Mgt. Area 10 - Low Elevation Grassland

MANAGEMENT AREA 10 - LOW ELEVATION GRASSLAND

Acres	<u>Ranger District</u>	<u>Acres</u>
	Canjilon	4,559
	El Rito	9,022
	Jicarilla	186
	Penasco	983
	Taos	462
	Tres Piedras	32,505
	Questa	427
	TOTAL	48,144

Description These are the grasslands at the lower elevations of the Forest. They occur below the pinon-juniper, and consist of various warm season grasses. They are adjacent to management area 11, revegetation.

Highlights - Manage for the visual quality objectives of partial retention and modification.

 - Manage timber inclusions for snag retention, wildlife cover, escape routes and general habitat diversity.

 - Manage allotments at level B through D.

 - Manage for fair to good range condition.

Land
Classification

Table 52. Land classification - Management Area 10

<u>Classification</u>	<u>Acres</u>
1. Non-Forest land (includes water)	48,144
2. Forest land	0
3. Forest land, withdrawn from timber production ^{1/}	0
4. Unsuitable ^{2/}	0
-Forest land not capable of producing crops of industrial wood	
-Forest land physically unsuitable:	
--irreversible damage likely to occur	
--not restockable within 5 years	
-Forest land--inadequate information	
5. Tentatively suitable forest land (item 2 minus items 3, and 4)	0
6. Forest land, not appropriate for timber production ^{3/}	0
7. Unsuitable forest land (items 3, 4, and 6)	0
8. Total suitable forest land (item 2 minus item 7)	0
9. Total national forest land (items 1 and 2)	48,144

^{1/} Includes Wilderness, Rio Grande Wild and Scenic River and Columbine/Hondo WSA (pending Congressional disposition).

^{2/} Subcategories have been combined into one total for this table.

^{3/} Classified primarily due to a combination of "Multiple-use objectives" and "cost efficiency" as defined in FSH 2409.13.

4. MANAGEMENT DIRECTION

Mgt. Area 10 - Low Elevation Grassland

Treatment

Table 53. Treatment - Management Area 10

<u>Management Practice</u>	<u>Average Annual Acres</u>
Brush Treatments	400

STANDARDS & GUIDELINES

FIRE

The objective is to suppress all fires at 640 acres by the most economical means while protecting life and property. The objective will be that the total burned area will not exceed 2,500 acres per year when the manning class is 3+, 4 or 5.

RANGE

Manage allotments at level B through D. Manage for a change of 86% of level B acres to level C and a 45% change in level C acres to level D.

Manage for the following acres by management intensity level:

1,351 acres level B
26,371 acres level C
21,576 acres level D

Full capacity rangeland in unsatisfactory condition will be treated through development of improved allotment management plans. Treatment identified will include:

1. Structural and non-structural range improvement needed to implement prescribed intensity level.
2. Adjustment in stocking as required.

Condition class of full capacity range acreage is estimated to change as follows:

<u>Condition</u>	<u>Acres</u>
Satisfactory	35,631
Unsatisfactory	13,667

4. MANAGEMENT DIRECTION
Mgt. Area 10 - Low Elevation Grassland

On allotments designated for level D management and primary big game winter range, maintain grassland and acreage to present levels when cost effective. Treat areas where woody species ground cover exceeds 10%. Reseed areas where herbaceous ground cover prior to treatment is at most 30%.

Treatment Methods:

Burn: When herbaceous fuel is adequate to carry fire to kill greater than 60% of invader species to be eradicated (herbaceous fuel greater than 600 lbs./acre), when encroaching trees are less than 4 ft. tall and tree distribution is even, and/or when sagebrush cover is greater than 20%.

Herbicides: When conditions aren't suitable for burning, encroaching trees are less than 4 feet tall, and sagebrush cover is less than 20%.

Construction and replacement of structural range improvements will be to standards identified in R3 Range Structural Handbook. Replacement of structural improvements will be planned in a 30-40 year cycle and will take priority over new structures if needed for prescribed management intensity. Maintenance will be programmed in annual operating plans and accomplished by the permittees.

TIMBER MANAGEMENT

The following standards and guidelines apply to patches and stringers included within the Management Area.

Stands may be treated, and sawtimber and products may be harvested to meet specific Management Area objectives. Volume does not contribute to the Forest ASQ.

Salvage timber when compatible with Management Area objectives or when needed to prevent or reduce insect and disease conditions within the Management Area or adjacent Management Areas.

Prepare and Administer permits for non-convertible products when compatible with Management Area objectives.

Prepare and Administer sale permits or free-use permits for dead or down firewood.

WILDLIFE

Manage timber inclusions for snag retention, wildlife cover, escape routes and general habitat diversity.

4. MANAGEMENT DIRECTION
Mgt. Area 11 - Revegetation Area

MANAGEMENT AREA 11 - REVEGETATION AREA

Acres	Ranger District	Acres
	Canjilon	14,788
	El Rito	15,793
	Jicarilla	5,489
	Penasco	2,398
	Taos	0
	Tres Piedras	39,365
	Questa	5,309
	TOTAL	83,142

Description The Carson has converted stands of pinon and juniper and big sagebrush to production of native and introduced species of grass. These conversions were accomplished by plowing, chaining, dozer piling, tree crushing and hand clearing with chainsaws and seeding to grass, primarily crested wheat. The projects began in the late 1940's, and are continuing at this time. The terrain is flat to gently rolling, and there are many two track roads that are not on the Forest road system, nor are they maintained. Most of the converted areas provide valuable habitat for many species of wildlife. Many of them are classed as key elk and deer winter range. The primary purpose for these vegetative type conversions was to increase forage for grazing.

These areas have been separated from management areas 8 and 12 because:

- man has created a seral grassland that is in various stages of reverting to its natural state,
- the Carson invested time and money (capital investment) into the original type conversion,
- the areas are needed if the Carson is to maintain its grazing commitment,
- most of the areas will require maintenance to keep them in a seral grass type.

Highlights - Manage for the visual quality objectives of partial retention and modification.

 - Allotments will be managed towards levels C and D.

Land
Classification

Table 54. Land classification - Management Area 11

<u>Classification</u>	<u>Acres</u>
1. Non-Forest land (includes water)	83,142
2. Forest land	0
3. Forest land, withdrawn from timber production ^{1/}	0
4. Unsuitable ^{2/} -Forest land not capable of producing crops of industrial wood -Forest land physically unsuitable: --irreversible damage likely to occur --not restockable within 5 years -Forest land--inadequate information	0
5. Tentatively suitable forest land (item 2 minus items 3, and 4)	0
6. Forest land, not appropriate for timber production ^{3/}	0
7. Unsuitable forest land (items 3, 4, and 6)	0
8. Total suitable forest land (item 2 minus item 7)	0
9. Total national forest land (items 1 and 2)	83,142

^{1/} Includes Wilderness, Rio Grande Wild and Scenic River and Columbine/Hondo WSA (pending Congressional disposition).

^{2/} Subcategories have been combined into one total for this table.

^{3/} Classed primarily due to a combination of "Multiple-use objectives" and "cost efficiency" as defined in FSH 2409.13.

4. MANAGEMENT DIRECTION
Mgt. Area 11 - Revegetation Area

Treatment	Table 55. Treatment - Management Area 11	
	Management Practice	Average Annual Acres
	Brush and Woodland Treatment	2700

STANDARDS & GUIDELINES

<u>FIRE</u>	The objective is to suppress all wildfires at 320 acres by the most economical means while protecting life and property. The objective will be that the total burned area will not exceed 3,000 acres per year when the manning class is 3+, 4 or 5.						
<u>INSECT AND DISEASE</u>	Insect and disease outbreaks will be managed using the concepts of Integrated Pest Management (IPM), which is a systematic decision making process and resultant actions developed after considering the pest - host systems and resource management objectives. Management may include "no action" to a combination of biological, chemical and other preventative and remedial measures. Special consideration in method of control will be given around waters, highways and populations centers.						
<u>RANGE</u>	<p>Manage full capacity rangelands towards level D. Manage for change of 83% of level B acres to level C, change 80% of level C acres to level D.</p> <p>Manage for the following acres by management intensity level:</p> <ul style="list-style-type: none"> 3,323 acres in level B 18,221 acres in level C 61,598 acres in level D <p>Full capacity rangeland in unsatisfactory condition will be treated through development of improved allotment management plans. Treatment identified will include:</p> <ol style="list-style-type: none"> 1. Structural and non-structural range improvement needed to implement prescribed intensity level. 2. Adjustment in stocking as required. <p>Condition class of full capacity range acreage is estimated to change as follows:</p> <table> <tr> <th>Condition</th><th>Acres</th></tr> <tr> <td>Satisfactory</td><td>53,589</td></tr> <tr> <td>Unsatisfactory</td><td>29,553</td></tr> </table> <p>On allotments designated for level C or D management, maintain revegetated sites to grass. Retreat areas where sagebrush</p>	Condition	Acres	Satisfactory	53,589	Unsatisfactory	29,553
Condition	Acres						
Satisfactory	53,589						
Unsatisfactory	29,553						

4. MANAGEMENT DIRECTION
Mgt. Area 11 - Revegetation Area

and/or pinon-juniper crown cover in the area exceeds 10%.
Reseed areas where herbaceous ground cover prior to treatment is at most 30%.

Treatment Methods:

P-J sites - Individual plant treatment when trees are less than six feet high and density is between 30 and 50 trees per acre.

Sagebrush sites: Maintain revegetation sites in grassland communities by initiating the following treatments:

Burn: When P-J or sagebrush cover reaches 15 - 20% of the total plant cover and Herbicide: Apply when production is at least 600 lb. per acre. Mechanical: When neither burning nor herbicides are feasible.

The size and width of new treatments will conform to forestwide standards and guidelines.

Construction and replacement of structural range improvements will be to standards identified in R3 Range Structural Handbook. Replacement of structural improvements will be planned in a 30-40 year cycle and will take priority over new structures if needed for prescribed management intensity. Maintenance will be programmed in annual operating plans and accomplished by the permittees.

WILDLIFE

Manage for these indicator species:

- Elk
- Turkey

Control road system impacts, per Forestwide standards and guidelines.

4. MANAGEMENT DIRECTION
Mgt. Area 12 - Sagebrush

MANAGEMENT AREA 12 - SAGEBRUSH

Acres	Ranger District	Acres
	Canjilon	8,508
	El Rito	7,376
	Jicarilla	6,307
	Penasco	948
	Taos	26
	Tres Piedras	19,241
	Questa	268
	Total	42,674

Description Big Sagebrush, Artemisia tridentata, is the climax species. However, it exists in a seral stage on a portion of this area. The old seral stage is a result of overgrazing and topsoil loss in the late 1800's and early 1900's. The more recent seral stage is occupying sites that are rated medium to high in grass production.

The area is valuable for livestock grazing and big game winter range and year long habitat for many species of small game.

Two track unmaintained roads are numerous and useable only during dry periods of the year.

Dry arroyos are common and sediment production is extreme during high intensity summer rain storms. Erosion is a serious threat to soil productivity.

Black sagebrush, Artemesia nova, occupies sites with shallow, rocky soils that are derived from basalt. The slopes are relatively flat and rolling.

Sheet erosion is apparent on many sites.

Other vegetation is sparse, but western wheatgrass, snakeweed and blue grama grass are found. Ponderosa pine, pinon pine and juniper can be found scattered throughout the area.

The primary use of the area is by wintering big game animals and livestock grazing.

Highlights

- Manage for the visual quality objectives of retention and modification.
- Manage for these indicator species:
 - Elk
 - Brewer's Sparrow
- On allotments designated for level D management and primary big game winter ranges treat sagebrush to create a seral grassland.
- Manage allotments at levels A through D.

4. MANAGEMENT DIRECTION
Mgt. Area 12 - Sagebrush

Land
Classification

Table 56. Land classification - Management Area 12

<u>Classification</u>	<u>Acres</u>
1. Non-Forest land (includes water)	42,674
2. Forest land	0
3. Forest land, withdrawn from timber production ^{1/}	0
4. Unsuitable ^{2/}	0
-Forest land not capable of producing crops of industrial wood	
-Forest land physically unsuitable: --irreversible damage likely to occur --not restockable within 5 years	
-Forest land--inadequate information	
5. Tentatively suitable forest land (item 2 minus items 3, and 4)	602,343
6. Forest land, not appropriate for timber production ^{3/}	0
7. Unsuitable forest land (items 3, 4, and 6)	0
8. Total suitable forest land (item 2 minus item 7)	0
9. Total national forest land (items 1 and 2)	42,674

^{1/} Includes Wilderness, Rio Grande Wild and Scenic River and Columbine/Hondo WSA (pending Congressional disposition).

^{2/} Subcategories have been combined into one total for this table.

^{3/} Classed primarily due to a combination of "Multiple-use objectives" and "cost efficiency" as defined in FSH 2409.13.

Treatment

Table 57. Treatment - Management Area 12

<u>Management Practice</u>	<u>Average Annual Acres</u>
Brush Treatments	2100

STANDARDS & GUIDELINES

FIRE

The objective is to suppress all fires at 360 acres by the most economical means while protecting life and property. The objective will be that the total burned area will not exceed 2,500 acres per year when the manning class is 3+, 4 or 5.

RANGE

Manage allotments at levels A through D. Manage for an 83% change of the level B acres to level C and a 60% change of level C acres to level D. Manage for the following acreage by management intensity level:
11,359 acres level B
16,851 acres level C
9,877 acres level D

Manage for fair to good range condition.

Full capacity rangeland in unsatisfactory condition will be treated through development of improved allotment management plans. Treatment identified will include:

1. Structural and non-structural range improvement needed to implement prescribed intensity level.
2. Adjustment in stocking as required.

Condition class of full capacity range acreage is estimated to change as follows:

<u>Condition</u>	<u>Acres</u>
Satisfactory	21,758
Unsatisfactory	16,329

Construction and replacement of structural range improvements will be to standards identified in R3 Range Structural Handbook. Replacement of structural improvements will be planned in a 30-40 year cycle and will take priority over new structures if needed for prescribed management intensity. Maintenance will be programmed in annual operating plans and accomplished by the permittees.

4. MANAGEMENT DIRECTION

Mgt. Area 12 - Sagebrush

On allotments designated for level D management, and big game winter ranges treat sagebrush to reduce density and create a seral grassland community. Reseed if ground cover prior to treatment is less than 30%. Do not treat black sagebrush (*Artemisia nova*). Treatment Methods: Burn: When sagebrush cover is at least 20% density (herbaceous fuel is at least 600 lbs. per acre).

Herbicides: When conditions aren't suitable for burning.

Mechanical: When neither burning nor herbicides are feasible.

The size and width of treatments will conform to Forestwide standards and guidelines.

WILDLIFE

Manage for these indicator species:

- Elk
- Brewer's Sparrow

Maximum width and size of vegetative treatments will follow Forest-wide standards and guidelines.

MANAGEMENT AREA 13 - OAK

<u>Acres</u>	<u>Ranger District</u>	<u>Acres</u>
	Canjilon	16,311
	El Rito	2,395
	Jicarilla	4,408
	Penasco	3,713
	Taos	4,482
	Tres Piedras	1,958
	Questa	1,269
	Total	34,536

Description Shallow rocky soils, steep slopes and south to west exposures are typical of this area. Primary uses are big game winter feeding and scenic viewing. Many of the areas are considered as primary big game winter habitat.

Natural fires have played an important role in maintaining this vegetative type. Portions of the area could eventually return to ponderosa pine or Douglas-fir if fire or other site disturbances were eliminated. Prescribed fire for management purposes is difficult to achieve due to a lack of ground fuels. Fire, either natural or man caused, is a desired occurrence in this management area.

Gambel oak, like aspen, is a result of fire killing other species of trees and stimulating sprouting of the oak and aspen. Large sections of the Carson were burned in the 1880's, and relatively pure stands of oak remain today. These stands have had few fires since the 1880's due to a lack of fuels, and if maintained in oak will serve as natural fire breaks during periods of low and medium fire danger.

Gambel oak exists in other management areas (4 and 5) but is usually an understory or co-dominant species.

The oak in this management area is dominant to an understory of primarily forbs and grasses. Climax vegetation would probably be Ponderosa pine, Douglas-fir, white fir, or Engelmann spruce.

This area provides food and cover for a wide variety of wildlife.

Oak has the highest energy content of all the tree species found on the Carson. It produces approximately 30 percent more heat than pinon and Douglas-fir.

Highlights - Manage for the visual quality objectives of partial retention and modification.

4. MANAGEMENT DIRECTION

Mgt. Area 13 - Oak

- Manage for these indicator species:
- Elk
- Turkey

Land
Classification

Table 58. Land classification - Management Area 13

<u>Classification</u>	<u>Acres</u>
1. Non-Forest land (includes water)	0
2. Forest land	34,536
3. Forest land ^{1/} withdrawn from timber production	0
4. Unsuitable ^{2/}	34,536
-Forest land not capable of producing crops of industrial wood	
-Forest land physically unsuitable:	
--irreversible damage likely to occur	
--not restockable within 5 years	
-Forest land--inadequate information	
5. Tentatively suitable forest land (item 2 minus items 3, and 4)	0
6. Forest land ^{3/} not appropriate for timber production	0
7. Unsuitable forest land (items 3, 4, and 6)	34,536
8. Total suitable forest land (item 2 minus item 7)	0
9. Total national forest land (items 1 and 2)	34,536

^{1/} Includes Wilderness, Rio Grande Wild and Scenic River and Columbine/Hondo WSA (pending Congressional disposition).

^{2/} Subcategories have been combined into one total for this table.

^{3/} Classed primarily due to a combination of "Multiple-use objectives" and "cost efficiency" as defined in FSH 2409.13.

Treatment

Table 59. Treatment - Management Area 13

<u>Management Practice</u>	<u>Average Annual Acres</u>
Oak Treatment and Regeneration	300

STANDARDS & GUIDELINES

FIRE

Suppress wildfires at 320 acres by the most economical means while protecting life and property. The objective will be that the total burned area will not exceed 1,800 acres per year when the manning class is 3+, 4 or 5.

RANGE

Manage allotments at level B through D. Manage for a change of 80% of level B acres to level C and a 44% change of level C acres to level D.

Manage for the following acreage by management intensity level:

1,262 acres level B
7,772 acres level C
14,960 acres level D

Full capacity rangeland in unsatisfactory condition will be treated through development of improved allotment management plans. Treatment identified will include:

1. Structural and non-structural range improvement needed to implement prescribed intensity level.
2. Adjustment in stocking as required.

Condition class of full capacity range acreage is estimated to change as follows:

<u>Condition</u>	<u>Acres</u>
Satisfactory	15,609
Unsatisfactory	8,385

Construction and replacement of structural range improvements will be to standards identified in R3 Range Structural Handbook. Replacement of structural improvements will be planned in a 30-40 year cycle and will take priority over new structures if needed for prescribed management intensity. Maintenance will be programmed in annual operating plans and accomplished by the permittees.

TIMBER MANAGEMENT

Stands may be treated, and sawtimber and products may be harvested to meet specific Management Area objectives. Volume does not contribute to the Forest ASQ.

4. MANAGEMENT DIRECTION

Mgt. Area 13 - Oak

Salvage timber when compatible with Management Area objectives or when needed to prevent or reduce insect and disease conditions within the Management Area or adjacent Management Areas.

Prepare and Administer permits for non-convertible products when compatible with Management Area objectives.

Prepare and Administer sale permits or free-use permits for dead and down firewood.

WILDLIFE

Timber inclusions will be managed for snag retention, wildlife over and escape routes and general habitat diversity.

Manage for these indicator species:

- Elk
- Turkey

Maximum width and size of vegetative treatments will follow Forestwide standards and guidelines.

MANAGEMENT AREA 14 - RIPARIAN AREAS

<u>Acres</u>	<u>Ranger District</u>	<u>Acres</u>
	Canjilon	190
	El Rito	1,870
	Jicarilla	346
	Penasco	7,395
	Taos	9,637
	Tres Piedras	5,405
	Questa	4,437
	Total	29,280

Description Riparian ecosystems are wetland ecosystems which have a high water table because of their proximity to an aquatic ecosystem or subsurface water. Riparian ecosystems usually occur as an ecotone (transition) between aquatic and upland ecosystems, but have distinct vegetation and soil characteristics.

These zones are extremely variable due to potential combinations of types of water bodies (lakes, streams, ponds) and the attributes of the areas in which they occur, such as: gradient, topography, soil type, elevation, and plant community.

There are eight types of riparian areas on the Carson:

- Intermittent streams
- Perennial streams
- Wet meadows
- Bogs
- Seeps
- Rivers
- Ponds
- Lakes

Each different type has associated vegetation that is characteristic of that type. For example: the wet meadow riparian may include bluegrass, carex, timothy, brome, and forbs while the perennial streams, rivers or ponds may include aspen, narrowleaf cottonwood, boxelder, alder, chokecherry, and willow.

All of the Ranger Districts on the Carson contain one or more of the eight riparian types, and they are often small inclusions in a larger vegetational zone.

This is probably the single most critical management area on the Carson for multiple use management because:

- They are generally more productive per acre of biomass, plant and animal, than the remainder of the Forest.

4. MANAGEMENT DIRECTION

Mgt. Area 14 - Riparian Areas

- The linear shape of streams and drainages and the related riparian areas provide large amounts of edge. This adds significantly to the diversity of an ecosystem.
- Greater plant structural diversity (different species and age classes) provides greater vertical edge for wildlife species.
- The three basic requirements of wildlife habitat (food, cover and water) are often met in this area.
- The cold water fisheries resource of the Carson (approximately 350 miles) is associated with this area.
- Gentle topography, high productivity, easy availability, and the presence of water are characteristics that concentrate livestock into these areas, which are often highly sensitive to overuse.
- Scenic values are very high.
- Most of the Carson's developed campgrounds and picnic areas are in or directly adjacent to the riparian area. Other dispersed recreationists concentrate because of existing water.
- Gentle topography provides for less expensive road construction, yet is also used as wildlife travel corridors. These uses are often in direct conflict.
- These areas total 2.5 percent of the total Forest land base.

In brief, riparian zones are important to many users.

The riparian standards apply to riparian areas even though the sites may not have been large enough to be mapped as a discrete unit. Definition: Riparian ecosystems are distinguished by the presence of free water within the common rooting depth of native perennial plants at least 10 percent of the time. Riparian ecosystems are normally associated with seeps, springs, streams, marshes, ponds, or lakes. They commonly comprise a mixture of water (aquatic) and land (phreatic) ecosystems (FSH 2509.23).

Highlights

- Conduct riparian survey and develop management strategies.
- Manage for visual quality objectives of partial retention, modification and maximum modification.
- Manage for these indicator species:
 - Resident Trout
 - Hairy Woodpecker
 - Aquatic Macroinvertebrates
 - Elk
- No timber harvest will occur except to accomplish wildlife habitat improvement.
- Use cable yarding to remove trees harvested for wildlife habitat improvement when it has been determined that other yarding techniques would unnecessarily disturb fish and wildlife.

Land
Classification

Table 60. Land classification - Management Area 14

<u>Classification</u>	<u>Acres</u>
1. Non-Forest land (includes water)	4,400
2. Forest land	24,880
3. Forest land, ^{1/} withdrawn from timber production	0
4. Unsuitable ^{2/} -Forest land not capable of producing crops of industrial wood -Forest land physically unsuitable: --irreversible damage likely to occur --not restockable within 5 years -Forest land--inadequate information	0
5. Tentatively suitable forest land (item 2 minus items 3, and 4)	24,880
6. Forest land, ^{3/} not appropriate for timber production	24,880
7. Unsuitable forest land (items 3, 4, and 6)	24,880
8. Total suitable forest land (item 2 minus item 7)	0
9. Total national forest land (items 1 and 2)	29,280

^{1/} Includes Wilderness, Rio Grande Wild and Scenic River and Columbine/Hondo WSA (pending Congressional disposition).

^{2/} Subcategories have been combined into one total for this table.

^{3/} Classified primarily due to a combination of "Multiple-use objectives" and "cost efficiency" as defined in FSH 2409.13.

4. MANAGEMENT DIRECTION
Mgt. Area 14 - Riparian Areas

Treatment

Table 61. Treatment - Management Area 14

<u>Management Practice</u>	<u>Average Annual Acres</u>
Riparian Treatment	100

STANDARDS & GUIDELINES

ENGINEERING

Locate new roads outside of the riparian type. If new roads are to be built, then erosion control measures utilizing Best Management Practices (i.e. buffer zones, sediment catch basins, seasonal road closures, etc.) will be included in the road design criteria, management plan and construction contracts. If feasible, relocate or remove existing roads and trails or manage them with seasonal closures to minimize disturbance to wildlife. Align crossings so that the minimum possible area is affected. Do not align roads to pass through the long axis of narrow riparian strips. Schedule construction activities during low water periods. Minimize road clearing widths.

Do not locate arterial, collector, or local service roads through identified elk migration routes.

Evaluate all travelways to determine if they are needed and should be on the Forest Development Road or Trail System or Special Use Permit. All unneeded roads will be obliterated utilizing Best Management Practices and returned to resource production. Road management plans will be developed for all Forest Development Roads every five years and will include updating transportation maps and inventory. Where appropriate, roads will be covered under either a special use permit or operating plan, as soon as possible. Roads needed solely for management purposes will be closed. The guideline is to obliterate 200 miles.

Road maintenance activities will be managed such that stream sedimentation and riparian zone disturbance are minimized. Avoid scheduling maintenance activities during extended periods of wet conditions.

FIRE

The objective is to suppress all fires at 40 acres by the most economical means while protecting life and property. The objective will be that the total burned area will not exceed 40 acres per year when the manning class is 3+, 4 or 5.

MINERALS

New borrow pits or long term road material storage areas will not be permitted.

RANGE

Manage allotments at levels A through D. (Allotments at level A for resource protection will remain at A.) Increase the number of allotments under a more intensive level of management. Manage for a change of 100% of level B acres to level C acres and a 33% change of level C acres to level D. Manage for the following acreage by management intensity level:

60 acres level A
1,189 acres level B
10,121 acres level C
2,522 acres level D

Full capacity rangeland in unsatisfactory condition will be treated through development of improved allotment management plans. Treatment identified will include:

1. Structural and non-structural range improvement needed to implement prescribed intensity level.
2. Adjustment in stocking as required.

Condition class of full capacity range acreage is estimated to change as follows:

<u>Condition</u>	<u>Acres</u>
Satisfactory	12,955
Unsatisfactory	937

Construction and replacement of structural range improvements will be to standards identified in R3 Range Structural Handbook. Replacement of structural improvements will be planned in a 25-35 year cycle and will take priority over new structures if needed for prescribed management intensity. Maintenance will be programmed in annual operating plans and accomplished by the permittees.

RECREATION

Within 200 ft. of paved roads, projects involving reseeding with grasses or forbs will include some wildflower seed in the mix.

Lands which have the Visual Quality Objective of foreground retention and are located within the immediate foreground (100 to 300 feet) of a sensitive travel route, use area, or water body will be managed for the following:

- Entry period will equal 20 yrs.
- 30 inch diameter pines with yellow, deep fissured bark.
- Stand age at replacement will be at least 240 years.

Maintain a mosaic of stand diversity along usual corridors to include all stand conditions and basal area levels (up to the maximum possible for the site condition).

TIMBER MANAGEMENT

Stands may be treated, and sawtimber and products may be harvested to meet specific Management Area objectives. Volume does not contribute to the Forest ASQ.

4. MANAGEMENT DIRECTION

Mgt. Area 14 - Riparian Areas

Salvage timber when compatible with Management Area objectives or when needed to prevent or reduce insect and disease conditions within the Management Area or adjacent Management Areas.

Prepare and Administer permits for non-convertible products when compatible with Management Area objectives.

Prepare and Administer sale permits or free-use permits for dead and down firewood.

WATERSHED

For aquatic resource:

- Maintain at least 80% of natural shade over water surfaces.
- Maintain at least 80% of natural bank protection.
- No more than 15% of stream substrate should be covered by inorganic sediment.

For vegetative resource: Where site is capable of supporting woody plants:

- Maintain at least 60% of the woody plant composition in three or more riparian species.
- Maintain at least three age classes of riparian woody plants, with at least 10% of the woody plant cover in sprouts, seedlings and saplings of riparian species.
- Maintain at least 60% of natural shrub and tree crown cover.

For wildlife resource: Maintain at least 60% of natural shade over land surfaces (Regional Guide).

Conduct riparian surveys and develop management strategies.

At least 25% of the area will be in satisfactory condition by year 2000 (Regional Guide).

Allotment management plans shall include such terms or conditions as are necessary to maintain protect, restore, or improve riparian values pursuant to the land use.

The objective is to manage all existing perennial streams to secure favorable conditions of flows for instream and downstream uses.

On lands supporting sizeable stream channels, a flood analysis survey will be conducted where the mean 100 year flood plain width is 200 feet or more, and the drainage area above the parcel is greater than 1 square mile. A land exchange will be withheld unless the community is covered by the Federal Flood Insurance Program or an environmental analysis meeting proper standards is approved.

Activities that generate sediment will be avoided during fish spawning.

Conduct riparian surveys and develop management strategies.

4. MANAGEMENT DIRECTION
Mgt. Area 14 - Riparian Areas

Manage travelways utilizing Best Management Practices.

Guideline:

Maintain 293.5 miles at level 2.

Obliterate 20 miles annually.

WILDLIFE

Utilize cable yarding to remove trees harvested for wildlife habitat improvement, when it has been determined that other yarding methods would unnecessarily disturb wildlife and fish habitat.

4. MANAGEMENT DIRECTION

Mgt. Area 15 - Potential Recreation Sites

MANAGEMENT AREA 15 - POTENTIAL RECREATION SITES

Acres	<u>Ranger District</u>	<u>Acres</u>
	Canjilon	0
	El Rito	210
	Jicarilla	0
	Penasco	1,067
	Taos	2,492
	Tres Piedras	9
	Questa	3,485
	Total	7,263

Description This management area is comprised of sites which will be developed as recreation facilities. These sites include potential campgrounds, trailhead parking areas and nordic and alpine ski areas. Most of the potential campgrounds are water oriented, and are needed to relieve pressure on existing, over-used and under-developed, recreation sites.

All of the areas require feasibility studies and site development plans.

- Highlights
- Manage for the visual quality objective of retention.
 - Allocate land for the Sangre De Cristo Ski Area.
 - Construct 10 trailhead parking areas for dispersed recreation use with a capacity of 20 cars/trucks each.
 - Monitor proposed expansion of 2 existing ski areas.
 - When demand exists issue prospectuses for 2 ski touring centers. Follow up with evaluation and permits and monitor development and operations.

Land
Classification

Table 62. Land classification - Management Area 15

<u>Classification</u>	<u>Acres</u>
1. Non-Forest land (includes water)	0
2. Forest land	7,263
3. Forest land, withdrawn from timber production ^{1/}	0
4. Unsuitable ^{2/} -Forest land not capable of producing crops of industrial wood -Forest land physically unsuitable: --irreversible damage likely to occur --not restockable within 5 years -Forest land--inadequate information	0
5. Tentatively suitable forest land (item 2 minus items 3, and 4)	7,263
6. Forest land, not appropriate for timber production ^{3/}	7,263
7. Unsuitable forest land (items 3, 4, and 6)	7,263
8. Total suitable forest land (item 2 minus item 7)	0
9. Total national forest land (items 1 and 2)	7,263

^{1/} Includes Wilderness, Rio Grande Wild and Scenic River and Columbine/Hondo WSA (pending Congressional disposition).

^{2/} Subcategories have been combined into one total for this table.

^{3/} Classed primarily due to a combination of "Multiple-use objectives" and "cost efficiency" as defined in FSH 2409.13.

4. MANAGEMENT DIRECTION
Mgt. Area 15 - Potential Recreation Sites

**STANDARDS &
GUIDELINES**

ENGINEERING

Construct roads for timber sales utilizing Best Management Practices with a guideline of 2.1 miles per square mile for construction first entry, 1.9 miles per square mile for reconstruction first entry, 4.0 miles per square mile for reconstruction second entry.

FIRE

Suppress wildfires at 40 acres during manning class 3+, 4 and 5. During other periods suppress at 120 acres by the most economical means while protecting life and property. The objective will be that the total burned area will not exceed 40 acres per year when the manning class is 3+, 4 or 5.

LANDS

Withdraw the following recreation sites from mineral location:

Mallette Campground (D7)	25 acres
Alamitos Trailhead (D4)	15 acres
La Junta Trailhead (D4)	15 acres
Ski Touring Center (East Side)	30 acres
Red River Ski Area Expansion (D7)	923 acres
Sipapu Ski Area Expansion (D4)	1,067 acres
La Junta Trailhead (D-7)	15 acres
Ski Touring Center (West Side)	30 acres
Latir Trailhead (D7)	15 acres
US 64 Trailhead (D6)	
Cruces Basin Trailhead (D-6)	15 acres
Garcia Park Road Trailhead (D-5)	15 acres
Trout Lakes Trailhead (D-1)	15 acres
Little Rio Grande Trailhead (D-5)	15 acres
Hondo Trailhead (D-7)	5 acres

(Note: Sangre de Cristo Ski Area is already withdrawn)

RANGE

Manage full capacity rangelands at management levels B through D. Manage for change of 100% of level B acres to level C, change 11% of level C acres to level D.

Manage for the following acres by management intensity level:

29 acres in level B
1,516 acres in level C
1,281 acres in level D

Full capacity rangeland in unsatisfactory condition will be treated through development of improved allotment management plans. Treatment identified will include:

1. Structural and non-structural range improvement needed to implement prescribed intensity level.
2. Adjustment in stocking as required.

4. MANAGEMENT DIRECTION
Mgt. Area 15 - Potential Recreation Sites

Condition class of full capacity range acreage is estimated to change as follows:

<u>Condition</u>	<u>Acres</u>
Satisfactory	2,709
Unsatisfactory	117

RECREATION

Construct 10 trailhead parking areas for dispersed recreation use with a capacity of 20 cars/trucks each. When constructed trailhead facilities will be maintained at reduced service condition class I.

- Alamitos (D-4) and La Junta (D-4)
- Latir Wilderness (D-7) and La Junta (D-5)
- Cruces Wilderness (D-6) and Garcia Park Road (D-5)
- Trout Lakes (D-1) and Little Rio Grande (D-5)
- US 64 Trailhead (D-6) and Hondo Trailhead (D-7)

Approve and monitor proposed expansion of 2 existing ski areas (Red River and Sipapu).

Evaluate special use applications received for the Sangre De Cristo Ski Area and if feasible issue permit for development.

No improvements will be constructed within potential recreation sites which will detract from the future value of those sites for recreational development.

Issue Propectus for concessionaire construction and management of two ski touring centers, when demand dictates.

TIMBER
MANAGEMENT

Slash disposal is carried out in accordance as the fuel treatment plan. No special treatment for these areas.

Timber harvesting will be done to maintain stand condition and prepare for future site development. Harvest prescriptions will be prepared jointly by the Forest silviculturalist and recreation specialist.

4. MANAGEMENT DIRECTION

Mgt. Area 16 - Existing Recreation Sites

MANAGEMENT AREA 16 - EXISTING RECREATION SITES

Acres	<u>Ranger District</u>	<u>Acres</u>
	Canjilon	109
	El Rito	28
	Jicarilla	3
	Penasco	420
	Taos	55
	Tres Piedras	163
	Questa	2,097
	TOTAL	2,875

Description These are areas of concentrated recreation use. People have been and will continue to be attracted to these areas because:

- there is a scarcity of water in the Southwest and thus people are attracted to water environments,
- the areas provide climatic relief and a high degree of scenic quality,
- campgrounds attract and roads provide access.

This area is comprised of strips of land, of varying widths along the bottoms of major canyons and around lakes and steep ski slopes. It is further characterized by being adjacent to perennial streams, major and secondary highways, and Forest roads.

Vegetation consists of typical riparian species, plus aspen, spruce, fir and ponderosa pine. This area contains the recreation developments on the Forest and receives the majority of recreation use. Recreation developments vary from severely overused "throw-down" sites immediately adjacent to streams, to highly developed sites such as Santa Barbara, Columbine, and Fawn Lakes Campgrounds.

The Sipapu Ski Area is located adjacent to State Highway 3 approximately five miles east of the junction with State Highway 75. The majority of the facilities are located on private land with the exception of the lifts, associated buildings and the ski trails which are within the permitted areas. Sipapu caters to the beginning and intermediate skier.

Taos Ski Valley began in 1956 at the old mining location of Twining. Taos Ski Valley has become a nationally known ski area. It predominately serves the intermediate to advanced skier.

The Red River Ski Area is closely associated with the town of Red River. Since its start in 1958 the area has served a clientele coming largely from west Texas. Most users are beginner to intermediate in skill.

4. MANAGEMENT DIRECTION
Mgt. Area 16 - Existing Recreation Sites

Summer homes on National Forest land occur by one of two methods:

- In the past the Carson granted long term permits to private individuals for summer home construction. This practice was stopped in the 1950's.
- the Carson acquired lands through exchange that had existing commitments for summer homes.

The Penasco Ranger District has three summer homes areas; Angostura, Tres Ritos and La Junta. The La Junta summer homes are located on a bench overlooking La Junta Creek just above Upper La Junta Campground. There are nine developed sites within the area.

The Angostura group is located along the Rito Angostura above the Angostura Campground. There are 15 developed sites within this group. The Angostura summer home group is currently involved in a land exchange proposal.

The Tres Ritos unit is located near the junction of La Junta Canyon and Rio Pueblo on State Highway 3. Most of the buildings were built by the Santa Barbara Tie and Pole Company and were not required to be removed at the time the Government acquired the Santa Barbara Land Grant. There are nine permits issued within the unit.

Also under Special Use Permit, is an area immediately adjacent to the Angostura Campground, just off State Highway 3. This area is under permit to the South Plains Boy Scout Council.

The Questa Ranger District has twenty-two summer homes located in the Bitter Creek Summer Home Area. This area is a long established summer home group and is quite heavily used during the summer season. It is located approximately one quarter mile from the town of Red River on a gravel road.

Highlights

- Manage 42 campgrounds and picnic areas as developed sites.
- Manage for visual quality objective of retention or partial retention.
- Maintain trails to level 2.
- Operate Ghost Ranch Visitor Center. Add additional interpretive services and reconstruct facilities.

4. MANAGEMENT DIRECTION

Mgt. Area 16 - Existing Recreation Sites

Land Classification	Table 63. Land classification - Management Area 16	
	<u>Classification</u>	<u>Acres</u>
	1. Non-Forest land (includes water)	0
	2. Forest land	2,875
	3. Forest land ^{1/} withdrawn from timber production	0
	4. Unsuitable ^{2/}	0
	-Forest land not capable of producing crops of industrial wood	
	-Forest land physically unsuitable: --irreversible damage likely to occur --not restockable within 5 years	
	-Forest land--inadequate information	
	5. Tentatively suitable forest land (item 2 minus items 3, and 4)	2,875
	6. Forest land ^{3/} not appropriate for timber production	2,875
	7. Unsuitable forest land (items 3, 4, and 6)	2,875
	8. Total suitable forest land (item 2 minus item 7)	0
	9. Total national forest land (items 1 and 2)	2,875
	^{1/} Includes Wilderness, Rio Grande Wild and Scenic River and Columbine/Hondo WSA (pending Congressional disposition).	
	^{2/} Subcategories have been combined into one total for this table.	
	^{3/} Classed primarily due to a combination of "Multiple-use objectives" and "cost efficiency" as defined in FSH 2409.13.	

STANDARDS &
GUIDELINES

ENGINEERING

Maintain roads in full service developed recreation and visitor sites with a guideline of 4.7 miles at level 4.

Maintain roads in reduced service sites with a guideline of 6.6 miles at level 3.

FIRE

Suppress all wildfires at the lowest acreage possible. The objective will be that the total burned area will not exceed 3 acres per year when the manning class is 3+, 4 or 5.

RECREATION

Vehicle use in 42 developed sites is restricted to hardened areas through the use of barriers and surfacing.

Manage for the visual quality objective of retention or partial retention for developed site plan perimeter using a definition of characteristic landscape which includes manmade features. Extend perimeter to five chains around developed recreation sites.

Expand Ghost Ranch Visitor Center. Provide for user safety and annual maintenance of improvements. Add additional interpretive services. Reconstruct outdated facilities when funds are available.

Hazard inspections will be made on developed sites each spring. Serious hazards which hinder public safety will be corrected immediately. Other hazards will be corrected prior to opening the site to the public.

Provide a campground host where feasible at camping areas. Provide training, supervision and incidental expenses.

Develop 6 existing sites to meet fee criteria by adding water. These sites are Upper La Junta (D-4), Capulin (D-5), Hopewell Lake (D-6), Elephant Rock (D-7) Agua Piedra and Junebug (D-7). All sites will be full service. Maintain facilities at condition Class 1.

Provide 12 existing trailhead parking areas for dispersed recreation users with an average daily use of 120 cars.

Apply Pack-in, Pack-out trash policy where feasible.

Administer three existing ski areas with 2 snow rangers.

4. MANAGEMENT DIRECTION

Mgt. Area 16 - Existing Recreation Sites

Update Recreation Residence Use Continuance Report for Tres Ritos summer home group by 12/30/90. If needed for other recreation uses exists, permits for Tres Ritos will terminate as scheduled on 12/31/2001. Permits for Tres Ritos will be re-issued for 10 years if area is not needed for other recreational uses. Consummate land exchange for Angustura group. Administer Bitter Creek and La Junta summer home areas per the terms of their permit.

Convert Goat Hill Campground to a picnic area.

Close and restore Italianos Campground.

Continue concessionaire management of the Red River complex campgrounds.

Operate fee campgrounds at full service and all others at reduced service. Maintain all facilities at condition class I.

Rehabilitate campgrounds and picnic areas to correct public safety problems, replace sub-standard improvements and bring soil loss and vegetative damage to an acceptable level.

WATERSHED

Plan and monitor watershed treatments and conditions on 3 existing ski areas.

Conduct administrative studies relating to watershed management on ski areas.

MANAGEMENT AREA 17 - WILDERNESS

Acres

Table 64. Wildernesses located on the Forest and acreages in the Plan.

<u>Name</u>	<u>Total Acres</u>	<u>Acres in this Plan</u>
Columbine-Hondo WSA	30,500 ^{3/}	30,500
Chama River	2,900 ^{2/}	0
Cruces Basin	18,902 ^{1/}	18,902 ^{1/}
Latir Peak	20,506 ^{1/}	20,506 ^{1/}
Pecos	24,735 ^{2/}	0
Wheeler Peak	19,150 ^{1/}	19,150 ^{1/}
TOTAL	116,693	89,058

^{1/} These acreages are based on final wilderness descriptions approved in 1986.

^{2/} Acres on the Carson; management direction in the Santa Fe Forest Plan

^{3/} Balance of WSA acres put in management area 20 (12,776 acres)

Description

All or portions of the wildernesses listed in Table 64 are located on the Forest. The management outlined in the Santa Fe Forest Plan will also apply to the Carson portion of the Pecos and Chama River Wildernesses. Prescriptions for other wildernesses on the Carson are part of this Forest Plan.

Highlights

- Provide high quality wilderness recreation opportunities and improved range and watershed conditions.
- Reconstruct and maintain trails.
- Provide user contacts.
- Increase volunteer programs.

Land
Classification

Table 65. Land classification - Management Area 17

<u>Classification</u> ^{1/}	<u>Acres</u>
1. Non-Forest land (includes water)	26,424
2. Forest land	90,269

4. MANAGEMENT DIRECTION
Mgt. Area 17 - Wilderness

Land Classification Table 65. Land classification - Management Area 17 (continued).

<u>Classification</u> ^{1/}	<u>Acres</u>
3. Forest land ^{2/} withdrawn from timber production	90,269
4. Unsuitable ^{3/} -Forest land not capable of producing crops of Industrial wood -Forest land physically unsuitable: --irreversible damage likely to occur --not restockable within 5 years -Forest land--inadequate information	0
5. Tentatively suitable forest land (item 2 minus items 3, and 4)	0
6. Forest land ^{4/} not appropriate for timber production	0
7. Unsuitable forest land (items 3, 4, and 6)	90,269
8. Total suitable forest land (item 2 minus item 7)	0
9. Total national forest land (items 1 and 2)	116,693

^{1/} Acreage is for the entire Carson National Forest including the Pecos and Chama River Wilderness Areas. Actual management direction for these two wilderness areas is included in the Santa Fe National Forest Plan, acreages are: Pecos, 24,735, Chama River, 2,900.

^{2/} Includes Wilderness, Rio Grande Wild and Scenic River and Columbine/Hondo WSA (pending Congressional disposition).

^{3/} Subcategories have been combined into one total for this table.

^{4/} Classed primarily due to a combination of "Multiple-use objectives" and "cost efficiency" as defined in FSH 2409.13.

**STANDARDS &
GUIDELINES**

FIRE

When manning class is 3+, 4 or 5, the objective in this management area will be to suppress all fires at 320 acres or less in Columbine Hondo and 640 acres or less in all other wildernesses by the most economical means to protect life and property. When the manning class is 3 or less the objective will be to utilize prescribed fire to achieve wilderness objectives. No more than 3 fires larger than 10 acres will be managed at one time. Active perimeter will not exceed 2 miles/fire. The objective will be that the total burned area will not exceed 2,000 acres per year when the manning class is 3+, 4 or 5.

Helicopters may be used for initial attack when the manning class is 3+, 4 or 5 with approval by the District Ranger. Restrict use of portable power tools to standards in Region 3 Supplement No. 50, FSM 2326.11. Restrict use of bulldozers to extreme conditions and only upon approval of the Regional Forester or the designated acting.

**INSECT AND
DISEASE**

Monitor and report insect and disease conditions on a continuous basis. Chemical or biological control of epidemic populations will only be recommended if a thorough analysis shows that wilderness values are directly threatened or if resource values adjacent to wilderness will be severely impacted.

LANDS

Classify the private inholdings in Columbine Hondo as priority 1 for acquisition.

MINERALS

Mineral leasing and location is prohibited within designated wildernesses.

RANGE

Specific congressional direction for Cruces Basin states that; "The designation of this area as wilderness shall not interfere with the construction of additional fencing authorized by the grazing allotment management plan for the area, and shall not be cause to require reductions in existing potential animal unit months under the applicable grazing allotment management plan for TSE OREO# "(HR8298 N.M. Wilderness Act).

Only allow maintenance, construction, and reconstruction of structural range improvement and facilities which harmonize with the wilderness character of the area.

Manage full capacity range lands at management intensity levels A through D. Manage for a change of 85% of level B acres to level C and a 63% change of level C acres to level D management intensity. Manage for the following acreage by management intensity level:
1,804 acres level A

4. MANAGEMENT DIRECTION
Mgt. Area 17 - Wilderness

5,778 acres level B
5,847 acres level C
5,718 acres level D

Full capacity rangeland in unsatisfactory condition will be treated through development of improved allotment management plans. Treatment identified will include:

1. Structural range improvement needed to implement prescribed intensity level.
2. Adjustment in stocking as required.

Condition class of full capacity range acreage is estimated to change as follows:

<u>Condition</u>	<u>Acres</u>
Satisfactory	18,051
Unsatisfactory	1,096

Construction and replacement of structural range improvements will harmonize with the wilderness character and be to standards identified in R3 Range Structural Handbook. Replacement of structural improvements will be planned in a 20-35 year cycle and will take priority over new structures if needed for prescribed management intensity. Maintenance will be programmed in annual operating plans and accomplished by the permittees. All new and reconstructed fences in deer and elk corridors will be designed to allow passage of big game.

RECREATION

Manage use at capacity by Wilderness Opportunity Spectrum (WOS) classification.

Manage WOS capacity by utilizing visitor information techniques and minimizing regulatory requirements. Encourage "No Trace" use techniques through:

- volunteer or contracted Wilderness Information Specialist Programs
- local community outreach presentations
- audio visual material
- brochures and signs.

Provide for user contacts, education and capacity management through annual work plans.

Maintain area closed to motorized and mechanical use as required by the Wilderness Act. Motorized or mechanical administrative uses restricted to standards in FSM.

Manage for a visual quality objective of Preservation.

4. MANAGEMENT DIRECTION
Mgt. Area 17 - Wilderness

Permit only stove fires around Williams, Horseshoe and Lost Lakes in the Wheeler Peak Wilderness. Designate areas on official maps and on site. Increased administrative personnel presence will be provided on site. Additional closures will be made as needed to maintain wilderness values in accordance with limits of acceptable change.

Manage all areas for a maximum group size of 15 people or 15 stock animals. Enforcement and user contact provided.

Maintain posted wilderness boundary at major entry points and problem areas where motor vehicle entry could occur.

Permit only processed horse feed to be used.

Horseshoe, Williams, and Lost Lakes may be stocked with fish by helicopters.

In the Class I air quality areas in the Wheeler Peak Wilderness maintain high quality visual conditions. The form, line, texture, and color of characteristic landscapes will be clearly distinguishable when viewed as middle ground. Cultural resources and ecosystems will remain unmodified by air pollutants. Determine baseline information and the background condition of the above air quality related values and specify limits of acceptable change that will affirmatively protect these values in Class I areas. Recent additions to the Wheeler Peak, Cruces and Latir Wildernesses are Class II areas.

Perform Prevention of Significant Deterioration (PSD) Permit Application Reviews to determine the potential effect increased emissions sources will have on air quality related values (AQRV) of Class I area. Impact of air pollution generating activities will be predicted using current modeling techniques. Manage the Columbine Hondo WSA as a Class II air quality area.

Actively recruit volunteer wilderness information specialists, wilderness rangers and trail maintenance help (adopt-a-trail). Provide for necessary training, supervision and incidental expenses.

Schedule outfitter/guide activities to minimize impacts/conflicts with other wilderness users.

Establish capacities/seasons of use for outfitter guides using animals operating in Wheeler Peak. Establish capacities in other areas when conflicts with other users or impacts on wilderness values warrant.

WATERSHED

Obliterate and revegetate 2 miles of travelways in the Columbine Hondo Wilderness in the first time period.

4. MANAGEMENT DIRECTION
Mgt. Area 17 - Wilderness

WILDLIFE

Cooperate with New Mexico Game and Fish in stabilizing the Rocky Mountain bighorn sheep and ptarmigan grouse populations to goals established in the New Mexico Game and Fish Department Comprehensive Plan. Bighorn sheep and ptarmigan occur only in portions of Wheeler Peak and Latir Wildernesses.

When essential habitat for threatened and endangered species is identified, coordinate activities for species concerned.

MANAGEMENT AREA 18 - RIO GRANDE WILD AND SCENIC RIVER

Acres	<u>Ranger District</u>	<u>Acres</u>
	Canjilon	0
	El Rito	0
	Jicarilla	0
	Penasco	0
	Taos	0
	Tres Piedras	0
	Questa	2065
	TOTAL	2065

Description This area includes that portion of the Questa District which was classified under the Wild and Scenic Rivers Act. The entire length of the Rio Grande along the Carson National Forest boundary, a distance of approximately five miles, and the lower 3.25 miles of Red River along the Forest boundary are classified, designated and administered as part of a Wild River. The upper portion of this area on Red River is classified, designated and administered as part of a recreational river. This portion is .75 miles long, including .25 miles which crosses private land.

Both of these rivers flow through deep gorges and the view is spectacular from any vantage point on the gorge rim.

Water quality is acceptable under standards established by the Wild and Scenic Rivers Act. The rivers contain trout, and raptors are common in the canyons.

The Wild and Scenic Rivers Act authorized the Secretary of the Interior to administer the entire designated area. The Bureau of Land Management (BLM) produced the Rio Grande Wild and Scenic River Recreation Area Management Plan in 1983. This plan is available for review in the BLM office in Taos, NM.

Land
Classification

Table 66. Land classification - Management Area 18

<u>Classification</u>	<u>Acres</u>
1. Non-Forest land (includes water)	300
2. Forest land	1,765
3. Forest land, withdrawn from timber production ¹	1,765

4. MANAGEMENT DIRECTION

Mgt. Area 18 - Rio Grande Wild and Scenic River

Land
Classification

Table 66. Land classification - Management Area 18 (continued).

<u>Classification</u>	<u>Acres</u>
4. Unsuitable ^{2/} -Forest land not capable of producing crops of industrial wood -Forest land physically unsuitable: --irreversible damage likely to occur --not restockable within 5 years -Forest land--inadequate information	0
5. Tentatively suitable forest land (item 2 minus items 3, and 4)	0
6. Forest land ^{3/} not appropriate for timber production	0
7. Unsuitable forest land (items 3, 4, and 6)	1,765
8. Total suitable forest land (item 2 minus item 7)	0
9. Total national forest land (items 1 and 2)	2,065

^{1/} Includes Wilderness, Rio Grande Wild and Scenic River and
Columbine/Hondo WSA (pending Congressional disposition).

^{2/} Subcategories have been combined into one total for this
table.

^{3/} Classified primarily due to a combination of "Multiple-use
objectives" and "cost efficiency" as defined in FSH 2409.13.

STANDARDS & GUIDELINES

Manage under the BLM Wild River Management Plan.

MANAGEMENT AREA 19 - SPECIAL AREAS

Acres	<u>Ranger District</u>	<u>Acres</u>
	Canjilon	0
	El Rito	0
	Jicarilla	0
	Penasco	620
	Taos	0
	Tres Piedras	60
	Questa	1
	TOTAL	681 ^{1/}

^{1/} The acre table does not include acres for other potential research natural areas.

Description This area includes four Special Areas, 1) the proposed Arellano Canyon Research Natural Area; 2) the Tres Piedras Haplopappus microcephalus Botanical Area; 3) the Middle Fork Lake/Sangre de Cristo Pea Clam Zoological Area and 4) other potential research natural areas.

Highlights - Preserve in unmodified condition for research and education.
- Develop rare species management plan

4. MANAGEMENT DIRECTION
Mgt. Area 19 - Special Areas

Land
Classification

Table 67. Land classification - Management Area 19

<u>Classification</u>	<u>Acres</u>
1. Non-Forest land (includes water)	1
2. Forest land	680
3. Forest land, withdrawn from timber production ^{1/}	0
4. Unsuitable ^{2/} -Forest land not capable of producing crops of industrial wood -Forest land physically unsuitable: --irreversible damage likely to occur --not restockable within 5 years -Forest land--inadequate information	60
5. Tentatively suitable forest land (item 2 minus items 3, and 4)	620
6. Forest land, not appropriate for timber production ^{3/}	620
7. Unsuitable forest land (items 3, 4, and 6)	680
8. Total suitable forest land (item 2 minus item 7)	0
9. Total national forest land (items 1 and 2)	681

^{1/} Includes Wilderness, Rio Grande Wild and Scenic River and Columbine/Hondo WSA (pending Congressional disposition).

^{2/} Subcategories have been combined into one total for this table.

^{3/} Classed primarily due to a combination of "Multiple-use objectives" and "cost efficiency" as defined in FSH 2409.13.

STANDARDS &
GUIDELINES

ARELLANO CANYON
RESEARCH NATURAL
AREA

The 620-acre Arellano Canyon Area will be studied for possible designation as a Research Natural Area. This area represents the following vegetative types: blue spruce streamside, and white fir - Douglas-fir - aspen. Additional potential research natural areas may be identified to meet national and regional needs. The studies and possible RNA designation will be completed within 10 years. The following standards will apply until a decision is made about this RNA. Any activities will consider these standards in the area:

Engineering

Prohibit new utility corridors.
Allow no new road construction.

Fire

Allow prescribed natural fires within the study areas unless they threaten persons or property outside the area or the uniqueness of the RNA.

Unplanned ignitions will receive appropriate suppression action.

Limit fire suppression action to the use of hand tools and prohibit fire retardant chemical unless necessary to protect life and property outside the study areas.

Wildfires burning outside which threaten the area will be suppressed.

Minerals

Process withdrawal action for the withdrawal of the Research Natural Area from Mineral Location and leasing (620 acres).

Range

Prohibit livestock grazing. Maintain existing fence surrounding study areas.

Recreation

Allow nonmotorized dispersed recreation activities provided they do not modify the area or threaten or impair the research or educational value of the study areas.

Prohibit recreation use if degradation results.

Require recreation users to pack out all their trash.

Prohibit all off-road vehicle travel within study area.

No open campfires will be permitted within the study area. Only butane or gasoline stoves may be used for cooking purposes.

Prohibit recreation signs or marking within the area.

The Visual Quality Objective for the study area will be maintained as classified in the inventory.

4. MANAGEMENT DIRECTION

Mgt. Area 19 - Special Areas

Emphasize natural processes, protect natural features, and preserve examples of naturally occurring ecosystems in an unmodified condition for research and educational purposes.

All other research activities will be approved on a case by case basis.

Special Uses Issue no special use permits within areas which would effect RNA status.

Timber Allow vegetation manipulation only when necessary to preserve the vegetation for which the area is being studied.

Prohibit all firewood activities within the study areas.

Watershed Do not allow watershed treatment activities within the areas until studies and determination are completed.

HAPLOPAPPUS MICROCEPHALUS BOTANICAL AREA

Haplopappus microcephalus is a small-headed goldenweed that is on the State Endangered Plant list that is known only to occur on the massive granite outcrops northeast and northwest of Tres Piedras. The portion located on the National Forest is the largest of the outcrops and a 60 acre tract is included in this Management Area. Management includes:

Management includes:

Develop a rare species management plan.

Do not allow any activities that will alter the current management of the area or that will impact the plant.

Consider fencing or restrictions on use only if necessary to further protect the plant.

PEA CLAM ZOOLOGICAL AREA

The Pea Clam, Pisidium, sp., undescribed, is on the State's Group 1 Endangered List and is known only from Middle Fork Lake. The lake, its shoreline and immediate surrounding drainage is within the management Area. Management includes:

Develop a rare species management plan.

Educate users on the importance of protection of this site.

Do not allow any activity that could cause pollution or change in water chemistry of the lake.

4. MANAGEMENT DIRECTION
Mgt. Area 19 - Special Areas

Do not allow vehicles in or adjacent to the lake when they could cause negative impacts on the water chemistry.

POTENTIAL
RESEARCH
NATURAL AREAS

Potential Research Natural Areas have been evaluated or suggested. They include Cerro Mojino (pinon-juniper) which was evaluated but not recommended in this plan and several that have been proposed by the New Mexico Natural History Institute. They are areas for *Pinus edulis* - *Juniperus scopulorum* woodland (Tres Piedras or Mesa de Los Viejos). *Agropyron smithii* - *Artemisia tridentata* shrub steppe (between Chino Lake and Los Pinos River northwest of San Antonio Mountain) and spruce-fir forest (Osier Mesa). These areas have not been included on the map since specific sites are not known at this time. Management includes:

Continue to explore and evaluate potential areas through the life of this plan.

Recognize potential areas when evaluating projects (NEPA process) that may fall within these areas and provide proper evaluation before they are changed or altered.
Provide necessary protection for areas that are identified in the future as having RNA potential.

4. MANAGEMENT DIRECTION

Mgt. Area 20 - Semi Primitive Areas

MANAGEMENT AREA 20 - SEMI PRIMITIVE AREAS

Acres	Ranger District	Acres
	Canjilon	
	Bull Canyon	13,846
	Canjilon Mountain	8,772
	Chama	1,172
	El Rito	
	Canjilon Mountain	4,970
	Sierra Negra	10,020
	Jicarilla	0
	Penasco	
	Pecos Addition	20,058
	Taos	0
	Tres Piedras	
	Osier Mesa	10,176
	Questa	
	Columbine-Hondo	12,776
	Latir Peak	2,473
	Total	84,263
Description	This management area is made up of former Rare II or New Mexico Wilderness Study Committee recommended areas. The specific areas included are listed in the acre section above.	
Highlights	- Preserve present characteristics	

Land
Classification

Table 68. Land classification - Management Area 20

<u>Classification</u>	<u>Acres</u>
1. Non-Forest land (includes water)	18,886
2. Forest land	65,377
3. Forest land, withdrawn from timber production ^{1/}	8,208
4. Unsuitable ^{2/} -Forest land not capable of producing crops of industrial wood -Forest land physically unsuitable: --irreversible damage likely to occur --not restockable within 5 years -Forest land--inadequate information	30,515
5. Tentatively suitable forest land (item 2 minus items 3, and 4)	26,654
6. Forest land, not appropriate for timber production ^{3/}	26,654
7. Unsuitable forest land (items 3, 4, and 6)	65,377
8. Total suitable forest land (item 2 minus item 7)	0
9. Total national forest land (items 1 and 2)	84,263

^{1/} Includes Wilderness, Rio Grande Wild and Scenic River and Columbine/Hondo WSA (pending Congressional disposition).

^{2/} Subcategories have been combined into one total for this table.

^{3/} Classed primarily due to a combination of "Multiple-use objectives" and "cost efficiency" as defined in FSH 2409.13.

4. MANAGEMENT DIRECTION
Mgt. Area 20 - Semi Primitive Areas

STANDARDS &
GUIDELINES

- FIRE When manning class is 3+, 4 or 5, the objective in this vegetative type will be to suppress all fires at 320 acres or less in Columbine Hondo and 640 acres or less in all other wildernesses by the most economical means to protect life and property. When the manning class is 3 or less the objective will be to utilize prescribed fire to achieve wilderness objectives. No more than 3 fires larger than 10 acres will be managed at one time. Active perimeter will not exceed 2 miles/fire.
The objective will be that the total burned area will not exceed 2,000 acres per year when the manning class is 3+, 4 or 5.
- RANGE Manage full capacity rangelands at management intensity level C through D. Allotment management intensity will be maintained at or above existing levels.

Full capacity rangeland in unsatisfactory condition will be treated through development of improvement allotment management plans. Treatment identified will include:
1. Structural and non-structural range improvement needed to implement the prescribed management intensity level.
2. Adjustment in stocking as required.
- RECREATION Allow only those activities or uses that will preserve the present characteristics of the areas. Timber sales are not planned.
Manage Bull Canyon, Sierra Negra, Latir Peak and Columbine-Hondo for semi primitive non-motorized recreation opportunities , with the exception that snowmobiles are permitted in the Latir Peak area.
Manage Canjilon Mountain, Osier Mesa and the Pecos addition for semi-primitive motorized and non-motorized activities. Travel by wheeled vehicles is restricted to those roads or trails that are designated open on the Forest Travel Management Plan.

4. MANAGEMENT DIRECTION
Mgt. Area 20 - Semi Primitive Areas

TIMBER MANAGEMENT

Salvage timber when compatible with Management Area objectives or when needed to prevent or reduce insect and disease conditions within the Management Area or adjacent management areas.

Prepare and administer permits for convertible and non-convertible products when compatible with management area objectives and within capabilities of existing roads.

Prepare and administer sale permits or free-use permits for dead and down firewood if they meet management areas objectives.

4. MANAGEMENT DIRECTION
Mgt. Area 21 - Valle Vidal

MANAGEMENT AREA 21 - VALLE VIDAL

<u>Acres</u>	<u>Ranger District</u>	<u>Acres</u>
	Canjilon	0
	El Rito	0
	Jicarilla	0
	Penasco	0
	Taos	0
	Tres Piedras	0
	Questa	101,794
	TOTAL	101,794

Description In early 1982, the Pennzoil Company of Houston, Texas, donated 101,794 acres of its 492,560-acre Vermejo Ranch in northeastern New Mexico to the people of the United States through the Forest Service, U.S. Department of Agriculture. It is now administered by the Carson National Forest.

As part of the Carson National Forest, the area is known as the Valle Vidal Unit (formerly called the Vermejo Unit) and is administered for all its many resource values. Mineral, timber, grazing, and wildlife activities will continue. Outstanding scenic and recreation values will be available for public enjoyment. Outdoor recreation opportunities include camping, hiking, fishing, hunting, cross-country skiing, and birdwatching.

An (Multiple Use) Area Guide was prepared to provide overall direction to the unit, using the following as source or umbrella documents:

- FSH 2109.21 R3 Multiple Use Area Guide Southwestern Region.
- FSH 2109.32 R3 Carson National Forest Multiple Use Area Guide, Supplement 2, October 1976.
- Decision Notice and Finding of No Significant Impact (FONSI) pertaining to the Pennzoil Corporation's donation of portions of the Vermejo Ranch signed by M.J. Hassell August 11, 1981, and the accompanying environmental assessment (EA).
- FSM 2611.1--18 R3 Supplement 27 Memorandum of Understanding between USDA Forest Service, Region 3, New Mexico Department of Game and Fish, and the Vermejo Park Corporation signed February 13, 1982.
- Livestock Grazing Policy for the Vermejo Addition (Valle Vidal) approved by M.J. Hassell February 1, 1982.

4. MANAGEMENT DIRECTION
Mgt. Area 21 - Valle Vidal

- Indenture Agreement between Kaiser Steel Corporation and Vermejo Park Corporation concerning removal of the coal resource owned by Kaiser, signed June 28, 1977.
- Abstracts and record deeds transferring title of the 100,000 acre Valle Vidal Management Unit to the United States of America.

Highlights

Being developed.

4. MANAGEMENT DIRECTION
Mgt. Area 21 - Valle Vidal

Land
Classification

Table 69. Land classification - Management Area 21

<u>Classification</u>	<u>Acres</u>
1. Non-Forest land (includes water)	21,435
2. Forest land	80,359
3. Forest land, withdrawn from timber production ^{1/}	0
4. Unsuitable ^{2/} -Forest land not capable of producing crops of industrial wood -Forest land physically unsuitable: --irreversible damage likely to occur --not restockable within 5 years -Forest land--inadequate information	10,359
5. Tentatively suitable forest land (item 2 minus items 3, and 4)	70,000
6. Forest land, not appropriate for timber production ^{3/}	70,000
7. Unsuitable forest land (items 3, 4, and 6)	70,000
8. Total suitable forest land (item 2 minus item 7)	80,359
9. Total national forest land (items 1 and 2)	101,794

^{1/} Includes Wilderness, Rio Grande Wild and Scenic River and Columbine/Hondo WSA (pending Congressional disposition).

^{2/} Subcategories have been combined into one total for this table.

^{3/} Classed primarily due to a combination of "Multiple-use objectives" and "cost efficiency" as defined in FSH 2409.13.

Treatment

To be determined.

Standards &
Guidelines

Because there was a lack of resource inventory information and the planning process was so far along at the time of acquisition, standards and guidelines for the Valle Vidal Unit are not yet included in the Plan.

A Multiple Use Area Guide was developed to guide management of the Unit and approved April 7, 1983. The Decision Notice directs that the management of Valle Vidal be "multiple use management of the Land for its unique combination of wildland resources, primarily public outdoor recreation, continued timber production, forage for livestock and wildlife, unique wildlife habitat and watershed."

Management of the Valle Vidal unit will be governed by its Multiple Use Area Guide until the Valle Vidal addendum to the Forest Plan is completed. That addendum is in the process of being developed with full public involvement, following NEPA guidelines. When it is completed it will be added in this section.

Interim implementation plans have been prepared for site specific management of the various resources on the Valle Vidal unit, such as: forage allocation, recreation management, major access, etc. The implementation plans use the coordinating requirements in the multiple use area guide to ensure integration of other resource needs. All implementation plans and other documents involving assignments of lands and/or resources to uses or activities will be approved by the Regional Forester.

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, and person-days required 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.

5. MONITORING PLAN

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 decisions 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 Forester for his consideration.

The Forest Plan's monitoring requirements follow. For each activity, practice, or effect to be monitored, one or more measurement techniques and the expected future condition to be met are specified. A frequency for measuring and reporting the monitored item is established, and the expected precision and reliability of that measurement is stated. (Precision is the exactness or accuracy with which the data will be collected; reliability is the degree to which the monitoring accurately reflects the total Forest's situation.) The Forest Plan provides funding for all monitoring items, no matter what the budget level, out of regular appropriations.

OUTPUTS

1. ITEM MONITORED:

Management attainment report items.

2. PURPOSE:

Verify achievement of output targets.

3. EXPECTED FUTURE CONDITION:

Output targets will be attained in accordance with the Forest Plan.

4. MONITORING METHOD:

Management Attainment Report

5. FREQUENCY:

Once per year.

6. EXPECTED PRECISION/RELIABILITY:

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

7. TIME FOR REPORTING:

End of fiscal 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.

WILDLIFE

1. Items Monitored:

A) Population and habitat trends of management indicator species.

B) Population and habitat trends of State and Federally listed plants and animals and sensitive species.

5. MONITORING PLAN

2. Purpose:

- A) Federal and State Regulations
- B) Forest issue related
- C) Meet Statewide wildlife and fish comprehensive plan objectives.
- D) Provide regularly scheduled automatic feedback to determine if wildlife and fish population habitat objectives are being met.

3. Expected Future Conditions:

- A) Merriam's turkey, squirrel, elk, and resident trout populations are expected to increase because of improved habitat condition.
- B) Ptarmigan and bighorn sheep habitat will be maintained or improved to at least provide habitat for minimum viable populations.
- C) Threatened and endangered species populations and habitat will be protected and improved as necessary to aid in the recovery of the species.
- D) Hairy woodpecker, plain titmouse and Brewer's sparrow populations may decrease over time in specific areas impacted by management activities, but populations will be maintained at levels greatly exceeding minimum viable populations.
- E) Habitat conditions for state listed species not included as indicator species will be maintained or improved as needed to keep them from being placed on Federal lists.
- F) Sensitive plants, and plants nominated for Federal protection will be monitored and protected as needed to keep them from being placed on Federal lists.

4. Monitoring Methods:

A) Nongame Animals:

1. Point-counting method developed by Reynolds et al.

(Reynolds, R. T., J. M. Scott, and R. A. Nussabaum. 1980. A variable circular-plot method for estimating bird numbers. Condor 82:309-313.)

2. Monitor management guilds as developed by Short and Burnham, and modified by Verner.

(Short, H. L., and K. P. Burnham. 1982. Technique for structuring wildlife guilds to evaluate impacts on wildlife communities. USDI Fish and Wildlife Service, Special Sci. Report-Wildlife 2244.33 pp.)(Verner, J. In press. The guild concept applied to management of bird populations. Environ. Manage.)

3. Single-season monitoring by Verner.

(Verner, J. 1980a. Birds of California oak habitats-management implications. Pages 246-264 in T. R. Plumb, tech. coord. Proceedings of symposium on the ecology, management, and utilization of California oaks. USDA Forest Service, Gen. Tech. Report PSW-44. Pacific Southwest Forest and Range Exp. Sta., Berkeley, Ca 368 pp. Verner, J. 1980b. Bird communities of mixed-conifer forests of the Sierra Nevada. Pages 198-223 in R. M. DeGraaf, tech. coord. Workshop proceedings: management of western forest and grasslands for nongame birds. USDA Forest Service, Gen. Tech. Report INT-86. Intermountain Forest and Range Exp. Sta., Ogden, Ut.)

4. Monitor trends in habitat by Thomas et al.

(Thomas, J. W., R. J. Miller, C. Master, R. G. Anderson, and B. E. Carter. 1979. Plant communities and successional stages. Pages 22-39 in J. W. Thomas, tech. ed. Wildlife habitats in managed forests: the Blue Mountains of Oregon and Washington. Agric. Handbook No. 553 USDA Forest Service, Washington, D.C. 512 pp.)

5. MONITORING PLAN

5. Other cooperative studies in conjunction with New Mexico Department of Game and Fish (NMDG&F).

B) Game Animals:

1. New Mexico Department of Game and Fish and Forest Service census techniques and resultant data.
2. Monitor trends in habitat

C) Threatened and Endangered Species:

1. Single-season monitoring
2. Monitor trends in habitat

D) State listed species.

1. Direct counts and other cooperative studies with NMDG&F.
2. Monitor trends in habitat

E) Sensitive Plants:

1. Direct counts
2. Monitor trends in habitat

F) Fish and Aquatic Invertebrates

1. New Mexico Department of Game and Fish and Forest Service census techniques and resultant data.
2. Monitor trends in habitat annually.

5. FREQUENCY - Baseline Data Collection Program:

- A) Five years of inventories to provide baseline data for use in evaluating results of monitoring activities.

6. FREQUENCY - Monitoring Program:

A) Nongame species:

1. Monitor every two years, of management guilds of birds in habitat especially vulnerable to management actions - late

5. MONITORING PLAN

successional mixed conifer and ponderosa pine forests, riparian habitats, and at meadow edges, pinon-juniper and sagebrush.

2. Monitor other habitats and species using appropriate methods every five years.
3. Monitor trends in habitat diversity every five years.
4. Monitor compliance with Regional and Forest standards and policies related to maintenance and/or improvement of nongame species habitat annually.

B) Game Animals:

1. Analyze State Game and Fish data and monitor trends in populations through cooperative studies with NMDG&F annually.
2. Monitor trends in habitat diversity every five years.
3. Monitor compliance with Regional and Forest standards and policies related to maintenance and/or improvement of game animal habitat annually.

C) Threatened and Endangered Species:

1. Monitor annually during breeding and rearing seasons.
2. Monitor trends in habitat annually.
3. Monitor compliance with Regional and Forest standards and policies related to maintenance and/or improvement of listed species habitat annually.

D) State Listed Species:

1. Analyze State Game and Fish data as available and monitor population trends through cooperative studies with NMDG&F annually.
2. Monitor trends in habitat annually

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3. Monitor compliance with Regional and Forest standards and policies related to maintenance and/or improvement of listed species habitat annually.

E) Sensitive Plants

1. Monitor annually
2. Monitor trends in habitat annually

6. EXPECTED PRECISION/RELIABILITY:

- A) Nongame species - $\pm 10\%/\pm 80\%$ (Birds and variable other species)
- B) Game Animal Data - Variable by species
- C) Threatened and Endangered Species - Statistical analysis may not be necessary because total known population is monitored.
- D) State listed species - $\pm 20\%/\pm 80\%$ (Amphibians and variable other species)
- E) Sensitive Plants - same as C
- F) Fish and Aquatic Macroinvertebrates - Same as B.

7. TIME FOR REPORTING:

A) Nongame animals:

1. Baseline Data - Yearly, 1-5 of first decade.
2. Monitor populations - years 6, 8, 10 of first decade.
3. Monitor habitat - Yearly, years 1-10.

B) Game Animals:

1. Analyze State Game and Fish data and establish baseline data - yearly,
2. Monitor habitat - yearly.

C) Threatened and Endangered Species:

1. Monitor populations - yearly,
2. Monitor habitat - yearly.

D) State listed Species:

1. Monitor populations and establish baseline data - yearly,
2. Monitor habitat - yearly.

E) Sensitive Plants:

1. Monitor populations - yearly,
2. Monitor habitat - yearly.

F) Fish and Aquatic Macroinvertebrates.

1. Monitor populations - yearly
2. Monitor habitat - yearly

8. EVALUATION

The start-up cost of the Plan will involve pre-monitoring inventories of management indicator species, State and Federal threatened and endangered species, and sensitive plants to design a cost-effective monitoring program for these species. Before monitoring of management guilds can begin, a sufficient number of counting points must be located in each of the selected vulnerable habitats. The goal is 200 points in each habitat, and selection of the points must conform to constraints of statistical analysis.

The monitoring system includes Wildlife and Fish Operation and Maintenance costs of management, analysis, and interpretation of the data obtained from monitoring. Some costs may be reduced by cooperatively undertaking the monitoring of individual species and management guilds with adjacent National Forests. The proposal has an integrated system involving three levels of monitoring: (1) Species-only those management indicator species as required by

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law; (2) management 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 Carson's wildlife resources.

FACILITIES 1

1. ITEM MONITORED

Amount and distribution of use on the Forest transportation system and the total miles in the system.

2. PURPOSE

Forest issue related.

3. EXPECTED FUTURE CONDITION:

The Forest currently has 4,306 miles of arterial, collector, local, and travelway roads. The plan would produce a net increase of 234 miles or 5.4 percent by the first decade.

New road construction will amount to 139 miles, while 1,828 miles will be reconstructed.

There are currently 2,818 miles of travelway on the Forest of which 1,250 miles (44%) would be obliterated during the first five decades.

4. MONITORING METHOD:

District Rangers will provide the Forest Engineer by January 1 with a list of local terminal roads open and the planned date of closure, and a map showing what unneeded travelways were obliterated in that fiscal year in order to update and monitor the status of the road closures and obliterations.

The Forest will maintain and update all data with regard to closures and obliterations of Forest Roads in the Transportation Information System.

5. FREQUENCY:

Annual

6. EXPECTED PRECISION/RELIABILITY:

a) $\pm 10\%$ $\pm 10\%$

7. TIME FOR REPORTING:

Annual

8. EVALUATION:

Yearly evaluation will indicate the effectiveness of road management and obliteration activities. Differences in the miles of closed roads on the Forest Development Road System or miles of obliteration of unneeded roads exceeding $\pm 15\%$ of standards and guidelines will require evaluation by the ID Team and the recommendation of corrective measures to the Forest Supervisor.

FACILITIES 2

1. ITEM MONITORED:

Forest road development.

2. PURPOSE:

Forest issue related.

5. MONITORING PLAN

3. EXPECTED FUTURE CONDITION:

The Forest currently has 4,306 miles of roads, 1400 miles of which are not needed for resource management and 700 miles should be obliterated in the first 10 years. New construction of Forest Development Roads, primarily for timber sales, will amount to 139 miles in the first decade. Approximately, 70% of these roads should be local terminal functional classification and should be closed promptly after timber management activities have ended. An additional 280 miles will be reconstructed during the same period, resulting in a substantial improvement in the cost efficiency and ease of maintenance of the transportation system.

4. MONITORING METHOD:

The Transportation Development Engineer will provide to the Forest Engineer by January 1 all necessary data with regard to the past fiscal year's accomplishments for road construction and reconstruction in order to update and monitor the status of the Transportation Information System and development unit cost.

The Forest will maintain and update all data with regard to improvements to the Forest Development Road System in the Transportation Information System.

5. FREQUENCY:

Annual

6. EXPECTED PRECISION/RELIABILITY:

a) $\pm 10\%$ $\pm 10\%$

7. TIME FOR REPORTING

Annual

8. EVALUATION:

Yearly evaluation will indicate the level and cost of road development activities. Changes in the size or costs in the various functional classifications of the Forest Development Road System exceeding $\pm 15\%$ of EIS will require evaluation by the ID Team and the recommendation of corrective measures to the Forest Supervisor.

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. EXPECTED FUTURE CONDITION:

Demand for dispersed recreation will be within capacity. Quality of experience will increase due to more intensive management.

4. MONITORING METHOD:

- A) Recreation Information Management Report (RIM, based on District Ranger estimates).
- B) Inspection of heavily used dispersed areas, including evaluation of vegetative deterioration and soil erosion.
- C) Review to determine if Recreation Opportunity Guides are prepared and updated on a regular basis.

5. FREQUENCY:

Annual

6. EXPECTED PRECISION/RELIABILITY:

RIM Level 5 for all dispersed areas.

7. TIME FOR REPORTING:

Years 3, 6 and 9.

5. MONITORING PLAN

8. EVALUATION:

Compare actual use records for a five year time period to project use by Recreation Opportunity Spectrum (ROS) setting. If use exceeds 30% of projected use or 15% of areas deteriorate to condition class 3, 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. EXPECTED FUTURE CONDITION:

Future demands will meet projections made in the Plan.

4. 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).

5. FREQUENCY:

Annual

6. EXPECTED PRECISION/RELIABILITY:

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

7. TIME FOR REPORTING:

Years 3, 6 and 9.

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 Plan modification may be necessary.

RECREATION 3

1. ITEM MONITORED

Wildlife recreation use by recreation opportunity system class or wilderness opportunity spectrum class.

2. PURPOSE:

Federal regulation, sample output.
Forest issue related.

3. EXPECTED FUTURE CONDITION:

Wildlife recreation use will increase by 183 percent by the end of the planning period. This, however, is within capacity for this type of use.

4. MONITORING METHOD:

Recreation Information Management Report, Visitor Use Report, (based on District Ranger field observation).

5. FREQUENCY:

Annual

6. EXPECTED PRECISION/RELIABILITY:

RIM Level 5

7. TIME FOR REPORTING:

Years 1, 5 and 8.

8. EVALUATION:

Compare actual use record for time period (1-3; 4-6; and 7-9) to projected use. If use exceeds 50% of the total projected use, evaluate.

RECREATION 4

1. ITEM MONITORED

Condition of developed sites in the public sector.

2. PURPOSE:

Prevent damage and deterioration and meet health and safety requirements.

5. MONITORING PLAN

3. EXPECTED FUTURE CONDITION:

All sites will be improved to condition class I during the period of the Plan.

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. Reliability and precision should be $\pm 10/\pm 10\%$.

7. TIME FOR REPORTING:

Years 4 and 9.

8. 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.

RECREATION 5

1. ITEM MONITORED

Compliance with Travel Management Plan. User conflicts, public safety problems or resource damage associated with motorized or non-motorized recreation activities. Signing, enforcement, public education efforts.

2. PURPOSE

To prevent unacceptable resource damage or user conflicts and meet provisions of Forest Travel Plan.

3. EXPECTED FUTURE CONDITION

Resource damage caused by vehicles will be minimized. A wide spectrum of recreation opportunities will be provided.

4. MONITORING METHOD

- A. Inspection to determine impacts on resources caused by various modes of travel.
Inspection to see if user conflicts or public safety problems exist.
- B. Inspection to determine if travel management signing is in place and maintained.
- C. Review of enforcement program and restriction violation records.
- D. Inspections will be made during summer and winter seasons.

5. FREQUENCY

Bi-annually

6. TIME FOR REPORTING

Each year

7. EVALUATION

When use or damage conflicts with management goals or lowers visual quality below objective level or if resource damage, public safety or user conflicts are present, the ID Team will make recommendations for revisions in the Travel Management Plan.

RECREATION 6

1. ITEM MONITORED

Activities or uses in Management Area 20.

2. PURPOSE

Maintain present land characteristics and semi-primitive non-motorized or motorized recreation opportunities at the Plan level.

5. MONITORING PLAN

3. EXPECTED FUTURE CONDITION

Potential wilderness characteristics will be maintained in order that the areas can be considered for multiple use or wilderness recommendation when a new plan is prepared in 10 - 15 years.

4. MONITORING METHOD

Each in-service or out-service proposal will be evaluated to insure that approval is not given to "modify" the area.

5. FREQUENCY

Project by project.

6. TIME FOR REPORTING

NEPA documents prepared for projects within or adjoining the area will be the means of reporting.

7. EVALUATION

ID Teams will evaluate projects through the NEPA process.

RECREATION 7

1. ITEM MONITORED

Trail construction, reconstruction and maintenance.

2. PURPOSE

Determine if Plan standards and guidelines are being met.

3. EXPECTED FUTURE CONDITION

Trails will be reconstructed and maintained at a level that provides public safety and travel and resource protection. Thirteen miles of new trail will be built.

4. MONITORING METHOD

Review, inspection to determine effectiveness of Trail Management Program.

5. FREQUENCY

Sample 5% annually.

6. EXPECTED PRECISION/RELIABILITY

90/90

7. TIME FOR REPORTING

Years 3, 6 and 9.

8. EVALUATION

>10% of system trails drop one condition class level.

WILDERNESS 1

1. ITEM MONITORED

Wilderness use by Wilderness Opportunity Spectrum (WOS) Class. Environmental and Social indicators for monitoring changes within each WOS class will be developed using the Limits of Acceptable Change (LAC) framework.

2. PURPOSE:

Federal Regulation, measure prescriptions and effects. Forest issue related.

3. EXPECTED FUTURE CONDITION:

Wilderness use is expected to be less than capacity on a Forestwide basis. Current use level within the transition zone (WOS) of the Wheeler Peak Wilderness is already at or near capacity while all other areas could increase use especially Columbine Hondo.

4. MONITORING METHOD:

Recreation Information Management Report, Visitor Use Report, (based on District Ranger estimates).

5. FREQUENCY:

Annual

6. EXPECTED PRECISION/RELIABILITY:

+20%/+20%

5. MONITORING PLAN

7. TIME FOR REPORTING:

3rd, 6th and 9th year

8. EVALUATION:

Compare actual use record for a 5 year time period to projected use for each wilderness (4). If use exceeds 30% of total projected use or limits of acceptable change exceed tolerance levels, ID Team will evaluate and make recommendations on restrictions of use or Plan modification.

WILDERNESS 2

1. ITEM MONITORED

Miles of wilderness trail reconstruction and maintenance.

2. PURPOSE:

Federal Regulations, measure prescriptions and effects. Forest issue related.

3. EXPECTED FUTURE CONDITIONS:

Wilderness use is expected to be less than capacity at 2030 on a Forestwide basis. An improved trail system within the Columbine Hondo Wilderness through reconstruction and maintenance is expected to provide a better distribution of visitor use and improve wilderness opportunities.

4. MONITORING METHOD:

Work Accomplishment Reports.

5. FREQUENCY:

Annually

6. EXPECTED PRECISION/RELIABILITY:

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

7. TIME FOR REPORTING:

3rd, 6th and 9th years

8. EVALUATION:

Evaluation by the ID Team will be made at the third and sixth years during the decade to insure that cumulative deviation for the decade does not vary by °25%. Plan modification may be necessary if °25% is exceeded.

SPECIAL AREAS 1

1. ITEM MONITORED

Activities or uses in Management Area 19.

2. PURPOSE

Maintain areas in accordance with the Plan.

3. EXPECTED FUTURE CONDITION

The proposed Research Natural Area (RNA) and other Special Areas will be maintained and protected.

4. MONITORING METHOD

A. Each in-service or out-service project will be evaluated to insure that the area is not adversely impacted.

B. Field investigations will be conducted to insure that uses or activities are not causing adverse impacts.

5. FREQUENCY

Project by project and annually.

6. TIME FOR REPORTING

Reporting will be in the form of NEPA documents prepared for projects within or adjoining the area and annual reports on the effects uses are having on the areas.

7. EVALUATION

ID Teams will evaluate projects through the NEPA process. ID Teams will recommend restrictions or corrective actions if inspections reveal adverse impacts on the potential RNA or endangered plants or animals.

5. MONITORING PLAN

LANDS

1. MONITORED

The completion of planned land exchanges, processing of title claims, purchases, donations, administration of special uses, memorandums of understanding, etc., processing of withdrawal reviews, property boundary location program and the acquisition of needed rights-of-ways.

2. PURPOSE:

To meet other program output needs (timber sales, range projects, recreation operations etc.) and to meet the needs of other agencies, private parties and corporations.

3. EXPECTED FUTURE CONDITION:

The conditions to be monitored will be dictated by individual projects, applications, annual programs etc.

4. MONITORING METHOD:

The lands programs will be monitored through a combination of the following: A) the MAR system, B) the quality control systems implemented for the individual projects, C) Periodic field examinations by Forest Staff personnel, and D) the Activity Review System.

5. FREQUENCY:

The monitoring program will be a continuing program with annual data collection for the individual components being dictated by the established systems or the individual project quality control plans.

6. EXPECTED PRECISION/RELIABILITY:

Many of the established systems will monitor the results of the program with a high degree of precision while the precision for other items such as special use administration, are unquantifiable. Reliability is estimated 95%.

7. TIME FOR REPORTING:

Every 5 years.

8. EVALUATION:

The ID Team will evaluate the reports in the 5th year to determine need for changes.

SOIL & WATER 1

1. ITEM MONITORED

Productivity of the land as represented by watershed condition inventory.

2. PURPOSE:

Federal regulation, measure effects of management.

3. EXPECTED FUTURE CONDITION:

Direct and indirect methods to improve unsatisfactory watershed conditions on 25,000 acres by 2020. As a result of this change, productivity of the land is expected to improve.

4. MONITORING METHOD:

Sampling of percent ground cover as specified in Terrestrial Ecosystem Survey Handbook, chapter 8. 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.

5. FREQUENCY:

Three times per decade 3rd, 6th and 9th years of second decade.

6. EXPECTED PRECISION/RELIABILITY:

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

7. TIME FOR REPORTING:

At the end of the 3rd, 6th, and 9th years beginning with the second decade.

5. MONITORING PLAN

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.

SOIL & WATER 2

1. ITEM MONITORED

Water quality standard.

2. PURPOSE:

To assure compliance with New Mexico State water quality standards.

3. EXPECTED FUTURE CONDITION:

Production of water from forest lands will meet State water quality standards.

4. MONITORING METHOD:

Established Best Management Practices (i.e., seeding disturbed areas, water barring roads, etc.) will be checked for implementation on the ground by designated qualified personnel.

5. FREQUENCY:

Annually, one project will be monitored.

6. EXPECTED PRECISION/RELIABILITY:

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

7. TIME FOR REPORTING:

At the end of each year.

8. EVALUATION:

Failure to implement 100% of the required best management practices in a timely manner will require evaluation by the ID Team.

SOIL & WATER 3

1. ITEM MONITORED

Road design, construction, maintenance and density.

2. PURPOSE

To assure that Best Management Practices (BMP's, see definition in EIS glossary) are implemented in all phases of road design, construction, and maintenance to minimize erosion and maintain on-site productivity and water quality. Also to assure that density is not exceeded.

3. EXPECTED FUTURE CONDITION

A more environmentally acceptable road system.

4. MONITORING METHOD

Forest hydrologist or soil scientist will be involved in the review of one or more road projects each year including plan-in-hand, final inspection, and maintenance plans for monitoring of implementation of BMP's in all phases of the life of a road.

5. FREQUENCY

Annually, one road construction/reconstruction project will be monitored and one road maintenance project would be reviewed.

6. EXPECTED RELIABILITY

$\pm 20\%$

7. TIME FOR REPORTING

At the end of year, annually.

8. EVALUATION

If after evaluation reasonable BMP's are being omitted from road construction/reconstruction projects then the reviewer will recommend corrective action. This may warrant changes in design and construction standards for this project and similar proposed projects in the future. Additional standards and guidelines in the plan may need to be added or revised.

5. MONITORING PLAN

RIPARIAN 1

1. ITEM MONITORED

Attainment condition of riparian areas with respect to the standards and guidelines for Management Area 14. (Guidelines for aquatic resource decision variable 080, activity C01). This is to be done after condition is established in first decade, probably the first year of the decade.

2. PURPOSE

The purpose of monitoring the riparian area are two fold (1) to determine the response in riparian condition resulting from the implementation of the standards and guidelines (2) Monitor the activities and uses to insure they are within the Standards and Guidelines.

3. EXPECTED FUTURE

Condition of riparian areas is expected to improve through direct treatment and improved resource management. This will indirectly benefit fish and wildlife habitat diversity, water quality, and water oriented dispersed recreation.

4. MONITORING METHOD

Review all activities during the year that took place within riparian management area. In the third and eighth years of the second decade an inventory will be conducted on 10% of those areas that were determined to be in unsatisfactory condition and 10% of those areas that were determined to be in satisfactory condition from the inventory conducted in the first decade. The intent is to determine what the effects of heavy use and management are on the riparian.

5. FREQUENCY

Annually, review all activities that took place in the riparian zone and in third and eighth years of second decade conduct an inventory on 10% of those areas that were in unsatisfactory condition and 10% of those areas in satisfactory condition.

6. EXPECTED PRECISION/RELIABILITY

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

7. TIME FOR REPORTING

Annually, report all activities that took place in the riparian management area. In the third and eighth years inventory and prepare report on 10% of unsatisfactory areas and 10% of satisfactory areas.

8. EVALUATION

What is the trend in the amount of activities and what is the impact on the condition of the riparian. Are unsatisfactory areas improving? If not what changes in management need to be made. Are satisfactory areas remaining so. If not, why not. Are changes in management necessary?

PROTECTION 1

1. MONITORED"

Compliance with state health and sanitation codes to protect public health. All potable water systems open to public use will be monitored.

2. PURPOSE:

Federal regulation, sample service.

3. EXPECTED FUTURE CONDITION:

All public potable water supplies will be in compliance with the Safe Drinking Water Act and applicable state laws. Waste water treatment will comply with state laws.

4. MONITORING METHOD:

Standard bacteriological sample taken on each site by District personnel with a licensed lab doing the analysis.

5. FREQUENCY:

Varies according to site use. Frequency is specified by FSM 7400, by State law, and Federal regulation.

5. MONITORING PLAN

6. EXPECTED PRECISION/RELIABILITY:

$\pm 2\%/\pm 5\%$

7. TIME FOR REPORTING:

Annually

8. EVALUATION:

Compare compliance in terms of acceptable reports and system shutdowns with projected trend. If variance exceeds $\pm 20\%$, the ID Team will make an evaluation.

PROTECTION 2

1. ITEM MONITORED:

Fire suppression effectiveness.

2. PURPOSE:

Federal regulation, measure prescription and effects.

3. EXPECTED FUTURE CONDITION:

Fire risk will increase if the projected increase in population is realized. This coupled with the fact that protection and suppression costs are held constant during the planning period (to 2030), increases the potential for catastrophic fires.

4. 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.

5. FREQUENCY:

Periodic as needed.

6. EXPECTED RELIABILITY:

Visual observation $\approx 40\%$

7. TIME FOR REPORTING:

Fifth year

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 applied on 90% of fires.

PROTECTION 3

1. ITEM MONITORED

Growth reduction and mortality caused by insect and disease infestations.

2. PURPOSE:

Meet Federal regulation, ensure destructive insect and disease organisms do not increase to potentially damaging levels following management activities.

3. EXPECTED FUTURE CONDITION:

Timber management activities are not expected to result in introduction of new insect or disease problems or spread of existing endemic condition. Insect populations on the grasslands are cyclic and can be controlled as needed. Monitoring of insect and disease levels will provide information necessary to determine future impacts.

4. MONITORING METHOD:

Integrated Pest Management aerial observation by R.O. entomologists, compartment exam, project inspections and reviews.

5. FREQUENCY:

Annually.

6. EXPECTED PRECISION RELIABILITY:

±40%, ±30%

7. TIME FOR REPORTING:

Annual

5. MONITORING PLAN

8. EVALUATION:

Data will be evaluated to determine if insect and disease problems resulted from management practices. An evaluation of significance will be made by the ID Team. If potentially damaging, the ID Team will modify management prescriptions.

PROTECTION 4

1. ITEM MONITORED

Law enforcement effectiveness.

2. PURPOSE:

Forest issue related.

3. EXPECTED FUTURE CONDITION:

Law enforcement efforts by the Forest Service, and aided by cooperative agreements with local sheriffs' departments, are adequate and commensurate with the goods and services produced on the Forest and Grasslands.

4. MONITORING METHOD:

Professional evaluation of trend based on a review of case loads, solution rates and public compliants. The evaluation will be based specifically on a review of 1) protection of cultural resources; 2) changes in ORV damage; 3) changes in fuelwood theft; 4) changes in the dollar cost of vandalism; 5) trends in user protection; and 6) recurrent law enforcement problems at developed recreation sites.

5. FREQUENCY:

The LEMAR System is updated monthly.

6. EXPECTED RELIABILITY:

±15%

7. TIME FOR REPORTING:

Every 3 years.

8. EVALUATION:

The Forest Law Enforcement Coordinator will review the data and form a professional opinion about how effectiveness is changing. Any increase in violations of 40% or more in a specific area of concern will require an evaluation.

Data in the LEMAR System will be reviewed and used as a data base for formulation of a professional opinion.

PROTECTION 5

1. ITEM MONITORED:

Project generated fuel treatment.

2. PURPOSE:

Federal regulation, measure prescriptions and effects.

3. EXPECTED FUTURE CONDITION:

Fuel treatment will follow the various timber activities as a means of reducing fire hazard and insect and disease potential.

4. MONITORING METHOD:

District will maintain a fuel treatment atlas and record areas treated. Data is generated from field personnel who monitor and/or direct fuel treatment by Forest Service crews, logging companies, contractors, etc.

5. FREQUENCY:

Annual

6. EXPECTED RELIABILITY:

±15%

7. EVALUATION:

Evaluation will be made if 80% of fuels are not being treated within 2 years of creation.

5. MONITORING PLAN

PROTECTION 6

1. ITEM MONITORED

Visibility conditions in Class I area wilderness areas -- Wheeler Peak.

2. PURPOSE:

Determine baseline condition of visibility and determine if any visibility degradation is occurring in the Class I areas.

3. EXPECTED FUTURE CONDITION:

Class I areas will retain good visibility to meet Class I standards. Visibility will be retained in form, line, texture and color of characteristic landscapes.

4. MONITORING METHOD:

Automated camera system and additional particulate sampling.

5. FREQUENCY:

Slides taken 3 times daily per monitoring site. Particulate data collected on opportunity basis.

6. EXPECTED RELIABILITY:

$\pm 10\%$

7. TIME FOR REPORTING:

Annually.

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 on the severity of degradation. The limit of acceptable change will be documented.

TIMBER 1

1. ITEM MONITORED:

Silvicultural assumptions and practices.

2. PURPOSE:

Federal regulation;

Ensure that:

- rotation age and CMAI assumptions are correct,
- silvicultural prescriptions follow management areas standards,
- silvicultural prescriptions precede vegetative treatments,
- silvicultural prescriptions are practical and achieve desired results.

3. EXPECTED FUTURE CONDITION:

Achieve a more balanced age class distribution, appropriate growing stock levels, appropriate rotations, and provide wildlife habitat and other resource needs.

4. MONITORING METHOD:

Stand data base reports;
Timber Management Information system;
silvicultural prescriptions; EA's; Staff field reviews of 5% of treatment projects.

5. FREQUENCY:

Annual.

6. EXPECTED RELIABILITY:

±10%

7. TIME FOR REPORTING:

Every 5 years (years 5 and 10)

8. EVALUATION:

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

5. MONITORING PLAN

TIMBER 2

1. ITEM MONITORED:

Timber assumptions: volume, productivity,
Management Area descriptions, acres harvested.

2. PURPOSE:

Ensure that:

- board foot/cubic foot ratios are correct,
- Volume/acre yield is correct;
- Management area descriptions are correct,
- schedule of acres harvested is correct,

3. EXPECTED FUTURE CONDITION:

Timber plans and projections support a
sustained yield of forest products and
achievement of multiple-resource objectives.

4. MONITORING METHOD:

Sale review, EA's, cruise summaries, TMIS,
compartment exams, stand data base, (Use the
same conversion ratios as used in Plan
calculations).

5. FREQUENCY:

Annual.

6. EXPECTED PRECISION/RELIABILITY:

±20%

7. TIME FOR REPORTING:

Annual reports will be evaluated 5th & 10th
years.

8. EVALUATION:

If treatments or measured outputs vary from
projections/assumptions by more than ± 25% the
I.D. team will evaluate the effect on Forest
Plan objectives and the need for Plan
modification.

TIMBER 3

1. ITEM MONITORED

Net sawtimber and products offered.

2. PURPOSE:

Meet Federal regulation, measure output; assure allowable sale quantity is not exceeded.

3. EXPECTED FUTURE CONDITION:

Annual sale offerings will be made on a sustained yield basis.

4. MONITORING METHOD:

PAMARS or other annual reporting systems and programmed harvest reports.

5. FREQUENCY:

Annually.

6. EXPECTED PRECISION/RELIABILITY:

±10%

7. TIME FOR REPORTING:

Annually.

8. EVALUATION:

Evaluations will be made at 3rd and 6th years of the decade to insure that cumulative deviation for the decade does not exceed the allowable sale quantity or fall below 90% of the ASQ. Noncompliance will require evaluation by the ID Team.

TIMBER 4

1. ITEM MONITORED:

Cords of fuelwood made available.

2. PURPOSE:

Federal regulation, measure output of a Forest related issue.

5. MONITORING PLAN

3. EXPECTED FUTURE CONDITION

Green wood sales will continue on a sustained yield basis. Dead/dry firewood will continue to be available through timber-sale residue and natural mortality.

4. MONITORING METHOD:

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

5. FREQUENCY:

Annual

6. EXPECTED RELIABILITY:

±25%

7. TIME FOR REPORTING:

Annual reporting, evaluation after 5th year.

8. EVALUATION:

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

TIMBER 5

1. ITEM MONITORED

Size of openings and other harvest areas.

2. PURPOSE:

Federal regulation; compliance with Regional Guide; and to insure stand size of other harvest areas is appropriate.

3. EXPECTED FUTURE CONDITION:

Wildlife habitat will be improved through timber harvest by manipulation of stand sizes, methods of cut, and juxtaposition of stands.

4. MONITORING METHOD:

EA's presale and administrative reviews, and postsale reviews/Project area.

5. FREQUENCY:

Annually.

6. EXPECTED PRECISION/RELIABILITY:

$\pm 10\%$

7. TIME FOR REPORTING:

Years 3, 5 and 7.

8. EVALUATION:

Size limits will be reevaluated if unacceptable results were found by an I.D. Team Review.

TIMBER 6

1. ITEM MONITORED

Practices and assumptions.

2. PURPOSE:

Federal regulation to ensure that:
Regeneration is obtained within 5 years after final harvest cut, and scheduled planting is accomplished.

3. EXPECTED FUTURE CONDITION:

All lands harvested for timber production as part of the allowable sale quantity are adequately restocked within 5 years after final harvest.

4. MONITORING METHOD:

Annual Reforestation/TSI needs report, plantation survival surveys, silvicultural prescriptions, postsale administrative review, Timber Management Information System (TMIS), Stand Data Base/Acres.

5. FREQUENCY:

Annually. Plantation survival surveys are completed after the 1st and 3rd growing seasons, stocking surveys after the 3rd and 5th growing seasons, or as scheduled.

5. MONITORING PLAN

6. EXPECTED PRECISION/RELIABILITY:

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

7. TIME FOR REPORTING:

Annual

8. EVALUATION:

If planned accomplishment varies 25% from schedule at 8-year intervals, the ID Team will evaluate.

TIMBER 7

1. ITEM MONITORED

Re-evaluation of unsuitable timber lands

2. PURPOSE:

Evaluate the accuracy of suitable timberlands classification. Meet Federal regulations to periodically re-examine lands identified as not suited for timber production to determine if they have become suited and could be returned to timber production.

3. EXPECTED FUTURE CONDITION:

Land classification will be appropriate.

4. MONITORING METHOD:

- 1) Review new or updated soil survey data.
- 2) Review development of better technology for regeneration establishment.
- 3) Stand exams
- 4) Timber inventory and planning results.

5. FREQUENCY:

Approximately 1/10th of the Forest reviewed each year with final review and determination made when the Plan is revised.

6. EXPECTED PRECISION/RELIABILITY:

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

7. TIME FOR REPORTING:

As part of revised Forest Plan, or the tenth year of the decade.

8. EVALUATION:

The data monitored will be used as the basis for an evaluation to determine which lands are suited to timber production.

MINERALS

1. ITEM MONITORED

Management of the minerals activities: Environmental Assessments, bonds, bond justifications, response times for applications and plans of operations, quality of resource coordination, field checks for compliance of the terms of the operating plans, reasonableness of resource protection requirements, mineral sales program, pit plans, accountability, documentation, and reclamation.

2. PURPOSE:

To meet the requirements of the law, regulations, contract obligations, fiscal accountability, protection of surface resources, and successful reclamation.

3. EXPECTED FUTURE CONDITION:

The expected future conditions should be specified in the documentation of the approval of the activity, project, lease, sale, etc.

4. MONITORING METHOD:

The mineral program will be monitored through a combination of the MAR data reporting system, systems designed for individual project quality control, field examinations by Forest Staff personnel and the Activity review system.

5. FREQUENCY:

The monitoring program will be a continuing program with the annual frequency established by existing systems, project quality control plans and the Forest Review schedule.

5. MONITORING PLAN

6. EXPECTED PRECISION/RELIABILITY:

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

7. TIME FOR REPORTING:

4th year of each decade

8. EVALUATION:

Examine one project annually. The ID Team will evaluate the report in the 4th year to determine need for change in direction.

RANGE 1

1. ITEM MONITORED:

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

2. PURPOSE:

Federal regulation.
Forest issue related.

3. EXPECTED FUTURE CONDITION:

Increasing management intensity levels,
constructing structural range improvements,
adding nonstructural range improvements.

4. MONITORING METHOD:

Grazing Statistical Report as updated from
allotment analysis data.

5. FREQUENCY:

Annual

6. EXPECTED PRECISION/RELIABILITY:

$\pm 10\%/\pm 25\%$

7. TIME FOR REPORTING:

10 years

8. EVALUATION:

If the number of acres in satisfactory condition is not within $\pm 40\%$ 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. EXPECTED FUTURE CONDITION:

Range conditions will be improved at 2030 by decreasing unsatisfactory range to 68,883 acres; and increasing satisfactory range 753,244 acres.

4. MONITORING METHOD:

Range Analysis conducted per R-3 standards by qualified Range Conservationists.

5. FREQUENCY:

Annual

6. EXPECTED PRECISION/RELIABILITY:

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

7. TIME FOR REPORTING:

Year 10.

8. EVALUATION:

If the number of acres with satisfactory condition and upward or stable trend is not within $\pm 40\%$ of that scheduled, the ID Team will evaluate.

5. MONITORING PLAN

RANGE 3

1. MONITORING METHOD:

New or revised range management plans

2. PURPOSE:

Forest issue related

3. EXPECTED FUTURE CONDITION:

Prepare or update grazing allotment or unit management plans on 75 percent of the National Forest allotments.

4. MONITORING METHOD:

PAMARS

5. FREQUENCY:

Annual

6. EXPECTED PRECISION/RELIABILITY:

±5%/±5%

7. TIME FOR REPORTING:

Every 5 years (years 5 and 10)

8. EVALUATION:

If the number of updated plans is 30% 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. EXPECTED FUTURE CONDITION:

In order to move toward balancing range use with capacity the structural and nonstructural improvements will be added or reconstructed based on the allotment management plans and funding levels.

4. MONITORING METHOD:

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

5. FREQUENCY:

Annual

6. EXPECTED RELIABILITY:

±10%

7. TIME FOR REPORTING:

Every 5 years (years 5 and 10)

8. EVALUATION:

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

RANGE 5

1. ITEM MONITORED:

Permitted use

2. PURPOSE:

Federal regulation, sample output.
Forest issue related.

3. EXPECTED FUTURE CONDITION:

Through increased management and additional structural and nonstructural range improvements, range capacity is expected to increase from the present 119,000 AUM's to 136,000 AUM's in the fifth decade.

5. MONITORING PLAN

4. MONITORING METHOD:

Data generated from grazing permits and displayed in Grazing Statistical Report.

5. FREQUENCY:

Annual

6. EXPECTED PRECISION/RELIABILITY:

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

7. TIME FOR REPORTING:

Every 5 years (years 5 and 10)

8. EVALUATION:

Evaluate at 5 year intervals. 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. EXPECTED FUTURE CONDITION:

Grazing capacity is expected to exceed permitted use through the fifth decade.

4. MONITORING METHOD:

Annual grazing statistical report, which is updated with new analysis data.

5. FREQUENCY:

Annual

6. EXPECTED PRECISION/RELIABILITY:

$\pm 5\%/\pm 20\%$

7. TIME FOR REPORTING:

Every 5 years (years 5 and 10)

8. EVALUATION:

Evaluate at 5 year intervals to determine rate in meeting expected capacity. Evaluate by the ID Team if 20% below anticipated capacity.

UNIT COSTS

1. ITEM MONITORED:

Unit costs

2. PURPOSE

Federal regulation

3. EXPECTED FUTURE CONDITION:

4. MONITORING METHOD:

Annual PAMARS reporting system

5. FREQUENCY:

At end of each fiscal year.

6. EXPECTED PRECISION/RELIABILITY:

$\pm 20\%$

7. TIME FOR REPORTING:

Annual at close of each fiscal year.

8. EVALUATION:

$\pm 50\%$, an evaluation will be made.

CULTURAL RESOURCES 1

1. ITEM MONITORED:

Degree of protection of cultural resources

2. PURPOSE:

Protection of cultural resources

5. MONITORING PLAN

3. EXPECTED FUTURE CONDITION:

All National Register eligible resources protected from project-derived ground-disturbing activities and from willfull or negligent damage, including vandalism and recreation.

4. MONITORING METHOD::

Conduct sample inspections of project areas for ten percent of all in-service projects, ten percent of all out-service projects under 100 acres in size and all out-service projects over 100 acres in size.

Identify recreation impacts to cultural properties and establish test sites and inspection schedules to monitor site conditions.

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

5. FREQUENCY:

A professional cultural resources specialist will visually inspect every significant cultural resource identified on the Forest a minimum of once a year. District personnel will monitor more frequently, as opportunities present themselves.

6. 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 archeological site. It is much more difficult to accurately estimate the loss of or damage to cultural resources by natural or human agents - moderate reliability.

7. TIME FOR REPORTING:

Project by project.

8. EVALUATION:

No ground disturbing resource activities will be permitted until an archeological clearance survey is completed and mitigating requirements developed. Protective actions will be undertaken if vandalism or recreational activities threaten site integrity.

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:

4th and 9th year

5. EXPECTED PRECISION/RELIABILITY:

±10%/±10%

6. TIME FOR REPORTING:

4th and 9th year

7. EVALUATION:

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

VISUAL QUALITY 2

1. ITEM MONITORED

Visual quality levels.

2. PURPOSE

Ensure Forest standards and guidelines for visual management are met.

5. MONITORING PLAN

3. EXPECTED FUTURE CONDITION

Visual Quality levels will be maintained or enhanced.

4. MONITORING METHOD

Projects involving vegetative treatment or manipulation, road or trail construction and major development will be evaluated through the NEPA process to enhance or maintain visual quality levels.

5. FREQUENCY

Project by project.

6. EXPECTED PRECISION/RELIABILITY

80/80

7. TIME FOR REPORTING

NEPA documents will make up the reports.

8. EVALUATION

Projects that reduce visual quality levels will require Landscape Architect evaluation.

FOREST PLAN IMPLEMENTATION

1. ITEM MONITORED

Forest Plan mission, goals, objectives, and standards and guidelines.

2. PURPOSE

To assure compliance with and implementation of the Carson Forest Plan in accordance with its stated mission, goals, objectives, and standards and guidelines. This will be done enlght of funding or any other constraints.

3. EXPECTED FUTURE CONDITION

Completion of Forest Plan objectives at the quality level specified by the standards and guidelines. All done under the general guidance of the mission and goals.

4. MONITORING/EVALUATION

A monitoring action program will be prepared each year.

5. FREQUENCY

Annually.

6. EXPECTED PRECISION/RELIABILITY

+1-15%

7. TIME FOR REPORTING

Years 1-10

-- A --

ASQ	See Allowable Sale Quantity.
ACQUISITION OF LAND	Obtaining full ownership rights by donation, purchase, exchange or condemnation.
ACRE EQUIVALENT	The total area affected by improvements such as a stock tank. The stock tank may occupy one-fourth of an acre, but may affect the surrounding 640 acres.
ACRE FOOT	A water volume measurement equal to the amount of water that would cover one acre to a depth of one foot (43,560 cubic feet or 325,850 gallons).
ACRES OF FINAL REMOVAL (FREM)	A constraint used in FORPLAN to specify the minimum or maximum acres of suitable timber to be harvested by analysis area or forest-wide during any time period to insure lands to be regenerated do not exceed the Forest's manpower or budget abilities to restock the area within 5 years of final harvest.
ACTIVITY	Actions, measures, or treatments that are undertaken which directly or indirectly produce, enhance, or maintain forest and rangeland outputs or achieve administrative or environmental objectives.
ADMINISTRATION	Execution of an organizational policy to reach predetermined objectives.
ADMINISTRATIVELY DESIGNATED AREAS	Areas which merit special attention and management, such as scenic or geological areas, and which are designated by the Secretary of Agriculture, the Chief of the Forest Service, or the Regional Forester under 36 CFR.
ADMINISTRATIVE UNIT	All the National Forest System lands for which the Forest Supervisor has responsibility.
AESTHETICS	Pertaining to the quality of human perception of natural beauty (including sight, sound, smell, touch, taste, and movement.)
AFFECTED ENVIRONMENT	The natural and physical environment and the relationship of people to that environment that will or may be changed by actions proposed.
AGE CLASS	Interval of years, commonly 20, into which trees are grouped for management, for example 1-20 years, 21-40 years.
AIR POLLUTION	Any substance or energy form (heat, light, noise, etc.) which alters the state of the air from what would naturally occur.

6. GLOSSARY

AIRSHED	Basic units in which air quality is managed. Class I Airshed, as applied to the National Forests by the Clean Air Act, amended August 1977, covers all wildernesses larger than 5000 acres that were in existence as of August 1977.
ALLOCATION	The assignment of a land area to a particular use or uses to achieve management goals and objectives.
ALLOCATION MODEL	See Resource allocation model.
ALLOTMENT	See Range allotment.
ALLOWABLE SALE QUANTITY (ASQ)	"The quantity of timber that may be sold from the area of suitable land by the forest plan for a time period specified by the plan. This quantity is usually expressed on an annual basis as the "average annual allowable sale quantity." (36 CFR 219.3)
ALTERNATIVE	One of several policies, plans, or projects proposed for decision making.
AMENITY	The pleasurable, educational, or aesthetic features of the land or resources.
ANALYSIS	In mathematics and computer science, it pertains to solving problems.
ANALYSIS AREA	The basic land unit of analysis which is used to allocate and schedule management prescriptions. Each analysis area is considered to be homogeneous in terms of input requirements and output response to management practices.
ANALYSIS OF THE MANAGEMENT SITUATION	A determination of the ability of the planning area to supply goods and services in response to society's demand for those goods and services.
ANIMAL UNIT MONTH (AUM)	The amount of feed or forage required by one mature (1,000 lb.) cow or equivalent for 1 month.
ARTERIAL ROADS	Primary travel routes that provide service to a large land area and which usually connect with public highways or other Forest Service arterial roads.
ASSESSMENT	The Forest and Rangeland Renewable Resource Assessment required by RPA.
AVAILABLE LANDS	Those portions of the Forest not administratively excluded from use for timber harvest or livestock grazing.
AVOIDANCE AREA	An area having one or more physical, environmental, institutional or statutory impediments to corridor designation.

-- B --

BA	See Basal Area.
BLM	Bureau of Land Management, U.S. Department of the Interior.
BMP	See Best Management Practice.
BACKLOG	Resource jobs needing completion as directed by the deadlines in the Resource Planning Act (RPA). Includes reforestation, thinning and landline location.
BACKLOG REFORESTATION	Areas needing reestablishment of tree cover due to failure of natural regeneration as a result of site conditions or lack of seed trees.
BACKLOG THINNING	Those areas that had not previously been thinned and were in need of a precom- mercial thinning as of 1965.
BANKHEAD-JONES FARM TENANT ACT	Authorizes the Secretary of Agriculture to develop a program of land conservation and utilization in order to correct maladjustments in land use, and to assist in controlling soil erosion; promoting reforestation; preserving natural resources; protecting fish and wildlife; developing and protecting recreational facilities; mitigating floods; preventing impairment of dams and reservoirs; conserving surface and subsurface moisture; protecting the watersheds of navigable streams, and protecting the public's health, safety, and welfare.
BASAL AREA (BA)	The area of the cross section of a tree stem near it's base, generally at breast height (4.5 ft. from ground level). Often used as a measurement of how much of a site is occupied by trees and expressed as the collective basal area of trees on a per-acre basis.
BASE AREA	That portion of a ski area that excludes lifts and trails. This includes but is not limited to parking areas, lift ticket sales areas, equipment rental and repair shops, lodges and restaurants.
BASE-IN-EXCHANGE	Base-in-exchange lands are National Forest lands that have lost their wildland character. They are usually near communities and interspersed with private lands. These "base" lands are used to trade for isolated tracts of undeveloped private land that is usually surrounded by National Forest land.

6. GLOSSARY

BASE SALE SCHEDULE	"A timber sale schedule formulated on the basis that the quantity of timber planned for sale and harvest for any future decade is equal to or greater than the planned sale and harvest for the preceding decade, and this planned sale and harvest for any decade is not greater than the long-term sustained yield capacity." [36 CFR 219.3]
BENCHMARK	A category of Forest planning alternatives used to establish standards by which to compare alternatives considered in detail. Benchmark alternatives include minimum level, minimum acceptable level, maximum resource levels, and maximum present net value levels.
BENEFIT/COST ANALYSIS	An analytical approach to solving problems of choice. Benefit-cost analysis identifies for each objective that alternative which yields the greatest benefit for a given cost or that alternative which produces the required level of benefits for the lowest cost.
BENEFIT/COST RATIO	Total discounted benefits of an activity divided by total discounted costs.
BEST MANAGEMENT PRACTICE (BMP)	Application of the best available demonstrated control technology, processes, measures and operating methods that are socially, economically and technically feasible for controlling soil loss or improving water quality.
BIG GAME	Those species of large mammals normally managed as a sport hunting resource.
BIOLOGICAL GROWTH-POTENTIAL	"The average net growth attainable in a fully stocked natural forest stand." [36 CFR 219.3]
BOARD FOOT	Measure of an amount of timber equivalent to a piece 12"x12"x1".
BROADCAST BURN	A controlled fire which burns a designated area within well-defined boundaries for reduction of fuel hazard, as a silvicultural treatment, or both.
-- C --	
CEQ	See Council on Environmental Quality.
CFR	Code of Federal Regulation. A set of regulations that have been published in the Federal Register, and are used to govern Forest Service activities.
CMAI	See Mean Annual Increment.

CABLE LOGGING	A term that refers to skyline logging and a number of other logging systems that involve transport of logs from stump to collecting points by means of steel cables. See "skyline logging".
CALVING AREAS (ELK)	The areas, usually on spring range, where elk cows give birth to calves and tend them during their first few days or weeks. For planning purposes, areas of land where 75 percent of the female individuals in a population can be expected to be found during average spring and early summer conditions from May 1 through July 25.
CANOPY	The more or less continuous cover of branches and foliage formed collectively by the crown of adjacent trees and other woody growth.
CAPABILITY	"The potential of an area of land to produce resources, supply goods and services, and allow resource uses under an assumed set of management practices at a given level of management intensity. Capability depends upon current conditions and site conditions such as climate, slope, landform, soils and geology, as well as the application of management practices, such as silviculture or protection from fire, insects, and disease." [36 CFR 219.3]
CARRYING CAPACITY (Range or Wildlife)	The maximum stocking rate possible without inducing damage to vegetation or related resources. It may vary from year to year on the same area due to fluctuating forage production.
CARSON NATIONAL FOREST	The administrative title of the National Forest System lands administered by the Forest Service in Taos, New Mexico.
CAVITY NESTERS	Wildlife species that utilize tree cavities. Primary cavity nesters excavate their own hole. Secondary cavity nesters use natural cavities or cavities created by primary cavity nesters.
CLEARCUT	As defined under "clearcutting method," removal of the entire standing crop of trees from an area at one time. Also the opening that results from clearcutting.
CLEARCUTTING METHOD	Any regeneration cutting that removes the entire standing crop of trees from an area at one time. A regeneration cutting is intended to assist regeneration already present or to make regeneration possible to establish a new stand of trees. With the clearcut method regeneration will be even-aged.
CLIMAX	The culminating stage in plants succession for a given site; where the vegetation has reached a highly stable condition.
CLOSURE	An administrative order restricting either the location, timing, or type of use in a specific area.

6. GLOSSARY

COLD-WATER FISHERY	Stream and lake waters which support predominantly cold-water species of game or food fishes (e.g., trout, salmon), which have maximum, sustained water temperature tolerances of about 70 degrees Fahrenheit in the summer.
COLLECTOR ROADS	Roads which serve small land areas and are usually connected to a forest arterial or public highway. They collect traffic from forest local roads or terminal facilities.
COMMERCIAL FOREST LAND	Forest land that is producing or is capable of producing crops of industrial wood and (a) has not been withdrawn by Congress, the Secretary, or the Chief; (b) existing technology and knowledge is available to ensure timber production without irreversible damage to soils productivity, or watershed conditions; and (c) existing technology and knowledge, as reflected in current research and experience, provides reasonable assurance that adequate restocking can be attained within 5 years after final harvesting.
COMMERCIAL THINNING	See "Thinning".
COMPARTMENT	A subdivision of land area used to gather information and plan future timber harvest. Its boundaries often correspond with topographic features.
CONCERN	See Management concern.
CONGRESSIONALLY CLASSIFIED AND DESIGNATED AREAS	Areas which require Congressional enactment for their establishment, such as National Wildernesses, National Wild and Scenic Rivers, and National Recreation Areas.
CONIFER	A tree, usually an evergreen, that produces cones. Examples are: pinon pine, ponderosa pine, Douglas-fir, white fir, juniper, spruce and bristlecone pine.
CONSUMPTIVE USE	Those uses of a resource that reduce the supply.
CONTIGUOUS ANALYSIS AREA	An analysis area confined within a single geographic area that is associated with a single issue, problem or management concern.
CONTROLLED BURN	A deliberate application of fire to an area where control is exercised. See prescribed fire.
CONVENTIONAL LOGGING	This term refers to the "tractor and rubber-tired skidder logging system" which is the customary system used in Northern New Mexico for logging on slopes of 40-percent gradient or less. With this system logs are skidded (transported) from stump to collection points by dragging the logs behind tractors or skidders.

CORD	A pile of stacked wood containing 128 cubic feet. The standard dimensions are 4' by 4' by 8 feet. Generally contains 75-80 cubic feet of solid wood.
CORRIDOR	<p>"A linear strip of land identified for the present or future location of transportation or utility rights-of-way within its boundaries." [36 CFR 219.3]</p> <p>Designated Corridor -- Any existing or planned corridor whose need has been identified through environmental analysis or a land and resource management planning process, which may be capable of accommodating additional rights-of-way for the upgrading of existing systems.</p> <p>Planning Corridors -- An area between two windows not closed to corridor use.</p>
COST EFFICIENCY	"The usefulness of specified inputs (costs) to produce specified outputs (benefits). In measuring cost efficiency, some outputs, including environmental, economic, or social impacts, are not assigned monetary values but are achieved at specified levels in the least cost manner. Cost efficiency is usually measured using present net value, although use of benefit-cost ratios and rates-of-return may be appropriate." [36 CFR 219.3]
COUNCIL ON ENVIRONMENTAL QUALITY (CEQ)	An advisory council to the President established by the National Environmental Policy Act of 1969. It reviews federal programs for their effects on the environment, conducts environmental studies, and advises the President on environmental matters.
COVER	See "Thermal Cover" and "Hiding Cover".
CRITERIA	Predetermined factors for comparing alternatives to facilitate and expedite the decisionmaking process.
CRITICAL HABITAT	Any air, land or water area that is necessary for the survival of an individual animal or a population of animals.
CUBIC FOOT	In timber management a volume measured as a 1 foot cube of solid wood.
CULMINATION OF MEAN ANNUAL INCREMENT	See "Mean Annual Increment".
CULTURAL RESOURCES	The physical remains (artifacts, ruins, burial mounds, petroglyphs, etc.) which represent former human cultures.
CULTURE	The complex whole which includes knowledge, beliefs, art, morals, customs, and any other capabilities and habits peculiar to a society.

6. GLOSSARY

CURRENT DIRECTION	The program level now used to implement various Forest Service projects to meet the RPA Program targets.
CUTTING CYCLE	The planned, recurring period of time between successive cuttings in an uneven-aged stand.
CURRENT SOIL LOSS	The rate of soil loss occurring under existing conditions of ground cover.
-- D --	
DBH	Diameter at breast height. The diameter of a tree measured four feet, six inches from the ground level.
DE FORPLAN	Acronym for Direct Entry Forest Plan. A linear programming computer model used for developing and analyzing alternatives.
DEIS	See Draft Environmental Impact Statement.
DATA	Any recorded measurements, facts, evidence, or observations reduced to written, graphical, tabular, or computer form.
DECISION UNIT	The smallest component of an alternative in which input costs, outputs and benefits are identified and used for analysis and decisionmaking.
DEMAND	The quantity of a good or service called for by society at a given price.
DEMONSTRATED FAVORABLE	A geologic environment that has yielded in the past, or is currently yielding, mineral production in a regional context.
DEPARTURE	A sale schedule that deviates from the principle of nondeclining flow by exhibiting a planned decrease in the sale schedule at any time during the planning horizon. A departure is characterized by a temporary increase, usually in the beginning decade(s) of the planning horizon, over the base sale schedule originally established. This increase does not impair the future attainment of the long-term sustained yield capacity.
DEVELOPED RECREATION	Recreation use that occurs in constructed facilities (developed sites), such as campgrounds, observation sites and ski areas.
DEVELOPED RECREATION SITE	A distinctly defined area where facilities are provided for concentrated public use, e.g., campgrounds, picnic areas, swimming area.
DIRECTION	See Management direction.

DISCOUNT RATE	The interest rate used in plan formulation and evaluation for discounting future benefits and computing costs, or otherwise converting benefits to a common time basis.
DISPERSED RECREATION	Recreation use which occurs outside of developed sites and requires few, if any, improvements other than roads and trails. Representative activities are hiking, backpacking, driving for pleasure, viewing scenery, snowmobiling, cross-country skiing, hunting, off-road vehicle use, berry picking, etc.
DISTANCE ZONES	One of three factors used in the Visual Management System to determine Visual Quality Objectives. Distance zones are based on the degree of detail and texture perceptible. The three distance zones and their general ranges are as follows: Foreground, 0 to 1/4 mile; Middleground, 1/4 to 4-5 miles and Background, 4-5 miles to infinity.
DISTRICT	See Ranger district.
DIVERSITY	"The distribution and abundance of different plant and animal communities and species within the area covered by a land and resource management plan." [36 CFR 219.3]
DRAFT ENVIRONMENTAL IMPACT STATEMENT (DEIS)	The version of the statement of environmental effects required for major Federal actions under Section 102 of the National Environmental Policy Act (NEPA) and released to the public and other agencies for review and comment. It is a formal document which must follow the requirements of NEPA, the Council on Environmental Quality (CEQ) Guidelines, and directives of the agency responsible for the project proposal.
DUAL USE	Grazing by domestic sheep and cattle on the same area.
-- E --	
ECOSIM	ECOSIM is a system of models used to simulate multiresource outputs from southwestern forests and woodlands under alternative management regimes.
ECOSYSTEM	A complete interacting system of organisms considered together with their environment.
EDGE	The area of land where plant communities or successional stages meet.
EFFECTS	Results expected to be achieved from implementation of the alternatives relative to physical, biological, and social (cultural and economic) factors. Examples of effects are tons of sediment, pounds of forage, person-years of employment, income, etc. There are direct effects, indirect effects, and cumulative effects.

6. GLOSSARY

ELK WALLOWS	Shallow pools of water and mud normally located in boggy areas or water seeps on flat areas. Wallows are an important habitat component for bull elk.
ENDANGERED SPECIES	Plant or animal species identified by the Secretary of Interior as endangered in accordance with the Endangered Species Act of 1973.
ENDEMIC ORGANISM	A taxonomic category (e.g. genus, species, variety) whose natural occurrence is confined to a certain region and whose distribution is relatively limited.
ENVIRONMENT	All the conditions, circumstances and influences surrounding and affecting the development of an organism or group of organisms.
ENVIRONMENTAL ANALYSIS	An analysis of alternative actions and their predictable short and long term environmental effects which include physical, biological, economic, social, and environmental design arts and their interactions.
ENVIRONMENTAL ASSESSMENT	A document which displays a comparison of the effects of a proposed project and alternatives to it on the environment.
ENVIRONMENTAL STATEMENT	See Draft Environmental Impact Statement and Final Environmental Impact Statement.
EROSION	The processes whereby earthy or rocky material is worn away, loosened, dissolved and removed from any part of the earth's surface.
EVAPOTRANSPIRATION	Process by which water moves from the soil to the atmosphere by evaporation from the soil or transpiration through plants.
EVEN-AGED MANAGEMENT	"The application of a combination of actions that results in the creation of stands in which trees of essentially the same age grow together. Managed even-aged forests are characterized by a distribution of stands of varying ages (and, therefore, tree sizes) throughout the forest area. The difference in age between trees forming the main canopy level of a stand usually does not exceed 20 percent of the age of the stand at harvest rotation age. Regeneration in a particular stand is obtained during short periods at or near the time that a stand has reached the desired age or size for regeneration and is harvested. Clearcut, shelterwood, or seed tree cutting methods produce even-aged stands." [36 CFR 219.3]
EXCLUSION AREA	An area having a statutory prohibition to right-of-way for lineal facilities or corridor designation.

-- F --

FEIS	See Final Environmental Impact Statement.
FREM	See acres of final removal.
FSH	Forest Service Handbook
FSM	Forest Service Manual
FACILITIES	Transportation planning, road management and operation, fleet equipment and engineering services (e.g., administrative buildings, water and sanitation systems, sanitary landfills, dams, bridges, and communication systems).
FEASIBILITY	The relative advantage of managing or improving a land unit, considering its capability and suitability for specific use under the existing or projected socioeconomic climate.
FINAL ENVIRONMENTAL IMPACT STATEMENT (FEIS)	The final version of the statement of environmental effects required for major Federal actions under NEPA. It is a revision of the DEIS to include public and agency responses to the draft.
FISHERIES HABITAT	Streams, lakes, and reservoirs that support fish.
FLOOD PLAIN	Land adjacent to a channel which is covered with water when the stream overflows its banks.
FORAGE	Forage refers specifically to all plants that are available to livestock or game animals and used for grazing or harvested for feeding.
FOREST AND RANGELAND RENEWABLE RESOURCES PLANNING ACT OF 1974 (RPA)	An Act requiring the preparation of a program for the management of the National Forests' renewable resources and of land and resource management plans for units of the National Forest System. It also requires a continuing inventory of all of all forest and rangelands and renewable resources nationwide.
FOREST DEVELOPMENT ROADS	All existing and planned roads needed for the protection, administration, and utilization of National Forest lands, or for the development and use of resources upon which communities within or adjacent to the National Forest are dependent.
FOREST LAND	"Land at least 10 percent occupied by forest trees of any size or formerly having had such tree cover and not currently developed for non-forest use. Lands developed for non-forest use include areas for crops, improved pasture, residential, or administrative areas, improved roads of any width, and adjoining road clearing and powerline clearing of any width." [36 CFR 219.3]

6. GLOSSARY

FORPLAN	See DE FORPLAN
FOREST PLAN	See National Forest land and resource management plan.
FOREST STANDARD	A performance criterion indicating acceptable norms or specifications that actions must meet to maintain the minimum conditions for a particular resource. This type of standard applies to all areas of the Forest regardless of the other management area direction applied.
FOREST SUPERVISOR	The official responsible for administering the National Forest System lands in a Forest Service administrative unit. He or she reports to the Regional Forester.
FUELBREAK	Any natural or constructed barrier used to segregate, stop, and control the spread of fire or to provide a control line from which to work.
FUELS	Anything within the Forest that will burn, usually live and dead woody vegetation, e.g., grass, shrubs, trees.
FUEL TREATMENT	The rearrangement or disposal of fuels to reduce the fire hazard. Fuels are defined as both living and dead vegetative materials consumable by fire.
FUELWOOD	Wood, either round, split or sawed, and burned primarily for heating purposes.
FULL CAPACITY (FC)	Land which is presently stable because effective ground cover is holding soil loss to an acceptable level. This land is used to compute estimated grazing capacity.
FULL SERVICE MANAGEMENT	Management of developed sites, wilderness and dispersed areas to provide optimum service.
-- G --	
GAME SPECIES	Any species of wildlife or fish normally harvested by hunters, trappers, and fishermen under state or federal laws.
GOAL	"A concise statement that describes a desired condition to be achieved sometime in the future. It is normally expressed in broad, general terms and is timeless in that it has no specific date by which it is to be completed. Goal statements form the principal basis from which objectives are developed." [36 CFR 219.3]
GOODS AND SERVICES	"The various outputs, including on-site uses, produced from forest and rangeland resources." [36 CFR 219.3]

GRAZING	Consumption of range or pasture forage by animals.
GRAZING ALLOTMENT	An area designated for the use of a prescribed number and kind of livestock under one plan of management.
GRAZING ASSOCIATION	A group of grazing permittees that work with the Forest Service as a group rather than individually.
GRAZING CAPACITY	The maximum stocking rate possible without inducing damage to vegetation or related resources.
GRAZING PERMITTEE	An individual who has been granted written permission to graze a specified number, kind and class of livestock for a specific period on a range allotment.
GRAZING SEASON	A period of grazing to obtain optimum use of the forage resource or on public lands an established period for which grazing permits are issued.
GRAZING SYSTEM	A specialization of grazing management which defines systematically recurring periods of grazing and deferment for two or more pastures or management units.
GROUND WATER	Water in a saturated zone of a geologic stratum.
GUIDELINE	An indication or outline of policy conduct.
-- H --	
HABITAT DIVERSITY	See Wildlife Habitat Diversity.
HABITAT TYPE	A habitat type is the basis of a forest ecosystem classification system. It is an aggregation of all land areas potentially capable of producing similar plant communities at climax. Habitat types are usually named for the most shade tolerant tree species that will grow on the site and an understory plant that is represented with a high degree of constancy. White fir/gambel oak is an example of a habitat type found on the Carson N.F.
HERBAGE	Herbs taken collectively, usually used in the same sense as forage, except that it may include material not palatable to grazing or browsing animals.
HIDING COVER	Vegetation which will hide 90 percent of an elk from the view of a human at a distance of 200 feet or less. The distance at which the animal is essentially hidden is called a sight distance.

6. GLOSSARY

HORIZONTAL DIVERSITY	The diversity in a stand that results from the number of plant communities or successional stages or both; the greater their number the greater the horizontal diversity; also, the greater the amount of edge the higher the degree of horizontal diversity.
-- --	
ISM	See Integrated Stand Management.
IMMATURE SAWTIMBER	Trees that are nine inches in diameter and larger at breast height (dbh), but have not reached full development.
IMPROVEMENT	Manmade developments such as roads, trails, fences, stock tanks, pipelines, power and telephone lines, survey monuments, and ditches.
INDICATOR SPECIES	A wildlife species whose presence in a certain location or situation at a given population level indicates a particular environmental condition. Population changes are believed to indicate effects of management activities on a number of other wildlife species.
INFORMATION NOTICE	A letter attached to a mineral lease advising the applicant that constraints in addition to standard stipulations in the lease may be added once a drilling plan is submitted.
INPUT/OUTPUT ANALYSIS	A systematic technique for qualitatively analyzing the interdependence of producing and consuming units in an economy. It studies the interrelationship between products offered in the market place. It is a useful tool for separating the component parts of an economy to determine the influence of each on the other for short run forecasting and policy guidance.
INSTREAM FLOWS	A prescribed level(s) of stream flow, usually expressed as a stipulation in a permit authorizing a dam or water diversion, to meet NFS management objectives.
INTEGRATED PEST MANAGEMENT	"A process for selecting strategies to regulate forest pests in which all aspects of a pest-host system are studied and weighed. The information considered in selecting appropriate strategies includes the impact of the unregulated pest population on various resources values, alternative regulatory tactics and strategies, and benefit/cost estimates for these alternative strategies. Regulatory strategies are based on sound silvicultural practices and ecology of the pest-host system and consist of a combination of tactics such as timber stand improvement plus selective use of pesticides. A basic principle in the choice of strategy is that it be ecologically compatible or acceptable." [36 CFR 219.3]

INTEGRATED RESOURCE MANAGEMENT	Land management philosophy based on the premise that all resources are interconnected through a complex service of relationships which causes any management activity to have an effect on all associated resources. A process of land management planning whereby each management activity must have clearly stated objectives so that resources involved can be identified, the relationships defined, and the effects or impacts reasonably predicted.
INTEGRATED STAND MANAGEMENT (ISM)	The application of Integrated Resource Management on a project planning level, particularly the planning for individual timber sales. It can, and should, be applied to most vegetative treatment projects.
INTERDISCIPLINARY TEAM	An environmental assessment involves skills of different disciplines. An interdisciplinary team is assembled because no single scientific discipline is sufficient to adequately identify and resolve issues and problems. Team member interaction provides necessary insight to all stages of the assessment.
INTERMEDIATE CUTTING METHOD	The removal of trees from a stand between the time of its formation and the regeneration cut. Intermediate cutting methods include weeding, cleaning, liberation, improvement cuttings, thinnings, salvage, and sanitation.
INTERPRETIVE SERVICES	Information services designed to present inspirational, educational, and recreational values to Forest visitors to provide the utmost in understanding, appreciation and enjoyment from their Forest experience.
IRRETRIEVABLE RESOURCE COMMITMENT	Allocation decision causing loss of production or use of a renewable resource.
IRREVERSIBLE RESOURCE COMMITMENT	Allocation decision affecting nonrenewable resources (soil, minerals and cultural resources) causing permanent loss of these resources.
ISSUE	See Public issue.
-- L --	
LAND EXCHANGE	The conveyance of non-Federal land or interest in the land to the United States in exchange for National Forest System land or interest in the land.
LAND LINE LOCATION	Location of Forest property boundaries.

6. GLOSSARY

LIFESTYLE	A characteristic way of living which may be an individual variant within the cultural mainstream or may be an individual expression of a subculture. Lifestyles are generally expressed through the means of economic sustenance, dwelling site and type, group associations, and social practices such as family form, religious practices, sexual mores, style of dress and type of diet.
LIMITED SURFACE OCCUPANCY	Stipulation(s) added to standard mineral leases specifying limitation(s) on specific area(s).
LIMITS OF ACCEPTABLE CHANGE	A framework for identifying environmental and social indicators for maintaining wilderness settings and providing standards for maximum thresholds of change.
LISTED SPECIES	Any species which occurs on a State or Federal (as specified in context) threatened or endangered species list.
LITTER	This is one component of ground cover consisting of dead plant materials. In the Forest this can be needles from conifers, leaves from deciduous trees and dead parts of grass plants that are no longer attached to the plant.
LOCAL ROADS	These roads connect terminal facilities, such as boat ramps and docks, trailheads and air fields, with Forest collector or Forest arterial roads, or public highways.
LOGGING RESIDUES	The unused portions of pole timber and saw timber trees after logging.
LONG-TERM EFFECTS	Those effects which will be significant beyond the RPA planning horizon of 50 years.
LONG-TERM SUSTAINED YIELD CAPACITY (LTSYC)	"The highest uniform wood yield from lands being managed for timber production that may be sustained under a specified management intensity consistent with multiple-use objectives." [36 CFR 219.3]
-- M --	
M	Abbreviation for a thousand units.
MM	Abbreviation for a million units.
MANAGEMENT AREA STANDARDS AND GUIDELINES	Management practices selected and scheduled for application in a specific area to attain multiple use and other goals and objectives.
MANAGEMENT CONCERN	"An issue, problem, or a condition which constrains the range of management practices identified by the Forest Service in the planning process." [36 CFR 219.3]

MANAGEMENT DIRECTION	"A statement of multiple-use and other goals and objectives, the associated management prescriptions, and standards and guidelines for attaining them." [36 CFR 219.3]
MANAGEMENT INDICATOR SPECIES	Those species selected in the planning process to monitor the effects of planned management activities on viable populations of all wildlife and fish species, including those species that are socially or economically important.
MANAGEMENT INTENSITY	"A management practice or combination of management practices and associated costs designed to obtain different levels of goods and services." [36 CFR 219.3]
MANAGEMENT OPPORTUNITY	A statement of general actions, measures, or treatments that address a public issue or management concern in a favorable way.
MANAGEMENT PRACTICE	"A specific activity, measure, course of action, or treatment." [36 CFR 219.37]
MANAGEMENT PRESCRIPTION	"Management practices and intensity selected and scheduled for application on a specific area to attain multiple-use and other goals and objectives." [36 CFR 219.3]
MANAGEMENT SITUATION	A comprehensive statement of the planning area resources, its history, past and present uses, and a review of the public's concerns with the area.
MANAGEMENT STANDARDS AND GUIDELINES	See Standard and Guidelines.
MARKING PRESCRIPTION	Directions for designating trees to be removed or harvested from a stand.
MATURE SAWTIMBER	Trees that have attained full development, and the growth rate has leveled off. Maturity is different for each tree species and also varies with the quality of site on which the tree is growing.
MAXIMUM POTENTIAL	The maximum potential output level that can be attained.
MEAN ANNUAL INCREMENT	The total increment of volume growth per acre, up to a given age, divided by that age. Culmination of mean annual increment is the stand age where the mean annual increment of growth is greatest or reaches its highest point.
MIDDENS	A storage spot where red squirrels cache cones for their winter food supply.
MIGRATION ROUTES	Those travel routes used traditionally by the majority of big game animals in their seasonal movement from one range to the other. Such routes are mapable where they are restricted by topographical features such as canyons and saddles.

6. GLOSSARY

MINERALS, COMMON VARIETY	Deposits which, although they may have value for use in trade, manufacture, the sciences, or in the mechanical or ornamental arts, do not possess a distinct, special economic value. May include sand, stone, gravel, pumicite, cinders, pumice (except that occurring in pieces of two inches on a side), clay, and petrified wood.
MINERAL DEVELOPMENT	The activities and facilities associated with extracting a proven mineral deposit.
MINERAL ENTRY	The filing of a mining claim on public land to obtain the right to mine minerals.
MINERAL EXPLORATION	The search for valuable minerals on lands open to mineral entry.
MINERALS, LEASABLE	Coal, oil, gas, phosphate, sodium, potassium, oil shale, sulphur (in Louisiana and New Mexico), and geothermal steam.
MINERALS, LOCATABLE	Those hard rock minerals which are mined and processed for the recovery of metals. May include certain nonmetallic minerals and uncommon varieties of mineral materials such as valuable and distinctive deposits of limestone or silica. May include any solid, natural inorganic substance occurring in the crust of the earth, except for the common varieties of mineral materials and leasable minerals.
MINERAL PRODUCTION	Extraction of mineral deposits.
MINERAL WITHDRAWAL	Public lands withdrawn from mineral entry under the General Mining Laws and the mineral leasing laws. Lands withdrawn usually have unique features which are highly valued by the public or are needed for administrative purposes.
MINING CLAIM	That portion of the public estate held for mining purposes in which the right of exclusive possession of locatable mineral deposits is vested in the locator of a deposit.
MINING CLAIM, PATENTED	A mining claim to which a patent has been secured from the Government by compliance with the laws relating to such claims.
MINING PATENT	The patent is a legal document which conveys the title to the ground (i.e., ownership) to the claim's owner.

MISTLETOE	Mistletoes are parasitic plants that cause injury to their woody plant hosts. The two types of mistletoe found in New Mexico are dwarf mistletoes and true mistletoes. Dwarf mistletoes live on conifers only, while true mistletoes occur on conifer and hardwood trees and shrubs. Dwarf mistletoes can seriously retard growth and sometimes result in death of the host tree.
MULTIPLE USE	"The management of all the various renewable surface resources of the National Forest System so that they are utilized in the combination that will best meet the needs of the American people; making the most judicious use of the land for some or all of these resources or related services over areas large enough to provide sufficient latitude for periodic adjustments in use to conform to changing needs and conditions; that some lands will be used for less than all of the resources; and harmonious and coordinated management of the various resources, each with the other, without impairment of the productivity of the land, with consideration being given to the relative values of the various resources, and not necessarily the combination of uses that will give the greatest dollar return or the greatest unit output." [36 CFR 219.37]
-- N --	
NEPA	National Environmental Policy Act of 1969 - An Act to declare a National policy which will encourage productive and enjoyable harmony between man and his environment, to promote efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man, to enrich the understanding of the ecological systems and natural resources important to the Nation and to establish the Council on Environmental Quality (CEQ).
NFMA	See National Forest Management Act.
NATIONAL FOREST LAND AND RESOURCE MANAGEMENT PLAN	A plan developed to meet the requirements of the Forest and Rangeland Renewable Resources Planning Act of 1974, as amended, that guides all resource management activities and establishes management standards and guidelines for the National Forest System lands of a given National Forest. A Forest Plan.
NATIONAL FOREST MANAGEMENT ACT (NFMA)	A law passed in 1976 that amends the Forest and Rangeland Renewable Resources Planning Act and requires the preparation of Forest plans.
NATIONAL FOREST SYSTEM LAND	National Forests, National Grasslands, and other related lands for which the Forest Service is assigned administrative responsibility.

6. GLOSSARY

NATIONAL REGISTER OF HISTORIC PLACES	A list (maintained by the National Park Service) of areas which have been designated as being of historical significance. The Register includes places of local and state significance as well as those of value to the nation.
NATIONAL WILD AND SCENIC RIVER SYSTEM	Rivers with outstanding scenic, recreational, geological, fish and wildlife, historic, cultural, or other similar values designated by Congress under the Wild and Scenic Rivers Act for preservation of their free-flowing condition.
NATIONAL WILDERNESS PRESERVATION SYSTEM	Pristine Federal lands designated by the Wilderness Act of 1964 and subsequent wilderness legislation. Generally, these lands are untouched by "works of man."
NATURAL PRESCRIBED FIRE	See Prescribed Fire.
NEST AND ESCAPE TREES	A group of six to nine trees usually 14 inches dbh or larger with interlocking branches. The escape trees provide a means of escape for Abert and red squirrels.
NATURAL SOIL LOSS	The rate of soil loss that would occur under conditions associated with a climax vegetation class.
NET PUBLIC BENEFITS	"An expression used to signify the overall long-term value to the nation of all outputs and positive effects (benefits) less all associated inputs and negative effects (costs) whether they can be quantitatively valued or not. Net public benefits are measured by both quantitative and qualitative criteria rather than a single measure or index. The maximization of net public benefits to be derived from management of units of the National Forest System is consistent with the principles of multiple use and sustained yield." [36 CFR 219.37]
NET VOLUME IN BOARD FEET	The gross board-foot volume of trees less deductions for rot and other defect affecting use for lumber. Volume is computed for the central stem from a one-foot stump to a specified top diameter.
NET VOLUME IN CUBIC FEET	Gross volume in cubic feet less deductions for rot, roughness, and poor form. Volume is computed for the central stem from a one-foot stump to a specified top diameter.
NO ACTION ALTERNATIVE	The most likely condition expected to exist in the future if current management direction would continue unchanged.
NO CAPACITY (NC)	Land which is incapable of being grazed by domestic livestock on a sustained yield basis under reasonable management goals.

NO SURFACE OCCUPANCY	Stipulation added to standard mineral lease permitting extraction but prohibiting occupancy of the surface of the lease.
NONCONSUMPTIVE USE	Those uses of resources that do not reduce the supply. For example: nonconsumptive uses of water include hydroelectric power generation, boating, swimming, fishing, and etc.
NONCONTIGUOUS ANALYSIS AREA	An analysis area consisting of many parcels of biologically homogeneous land scattered throughout the Forest.
NONDECLINING FLOW	See "Base Sale Schedule", which defines the principle of nondeclining flow.
NONGAME WILDLIFE	Species of animals which are not managed as a sport hunting resource.
NON-MOTORIZED RECREATION	A recreational opportunity provided without the use of any motorized vehicle accomplished through the use of foot, ski, snowshoe or horseback travel.
NONSTRUCTURAL RANGE IMPROVEMENT	Practices and treatments undertaken to improve range not involving construction of improvements.
-- 0 --	
ORV	See Off-Road Vehicles.
OBJECTIVE	"A concise, time-specific statement of measurable planned results that respond to pre-established goals. An objective forms the basis for further planning to define the precise steps to be taken and the resources to be used in achieving identified goals." [36 CFR 219.3]
OBLITERATE	The action needed to close an unneeded road and return the land to production.
OCCUPANCY TRESPASS	The illegal occupation or possession of National Forest land or property.
OFF-ROAD VEHICLES (ORV)	Vehicles such as motorcycles, all-terrain vehicles, fourwheel drives, and snowmobiles.
OLD GROWTH	A stand of trees that is past full maturity and showing decadence; the last stage in forest succession.
ON SITE SOIL LOSS	The movement of soil from the point at which it was formed to another location.
OPPORTUNITY	See Management Opportunity.

6. GLOSSARY

ORV CLOSURE	An administration order closing a land area to specified types of off-road vehicle travel yearlong.
ORV RESTRICTION	An administrative order restricting a land area to specified types of off-road vehicle travel during specific seasons or conditions.
OUTPUTS	The goods, services and products which are measurable and capable of being used to determine the effectiveness of programs and activities in meeting objectives. Also goods, end products, or services that are purchased, consumed, or utilized directly by people. A broad term for describing any result, product, or service that process or activity actually produces.
OVERMATURE SAWTIMBER	Trees that are past the age of full development. The age that this occurs depends on the species of tree and the quality of site on which it is growing.
OVERSTORY	The uppermost canopy (tree tops) in a stand of trees.
-- P --	
PAOT	Persons-at-one-time. Used to define recreation capacity.
PARTICULATES	Small particles which are suspended in the air and generally are considered pollutants.
PATCHCUT	A clearcutting technique that creates small openings within a stand, generally not exceeding 10-acres in size. See definition of "Clearcutting Method."
PASTURE	An area, generally enclosed, providing grass and other growing herbage suitable as food for grazing animals.
PATENTED LAND	Public lands conveyed to private ownership most commonly by homestead, mining or land exchange laws.
PERCENT SLOPE (GRADIENT)	A measurement of the steepness of a slope determined by dividing the vertical increase by the horizontal distance traveled. Therefore, one hundred percent slope is equal to a forty-five degree rise and a forty percent slope is equal to a twenty-two degree rise. The latter is the cut-off point where the skyline logging system is required in order to harvest timber.
PERENNIAL INTERRUPTED STREAM	A water course containing occasional perennial surface water due to ground water interception with intervening intermittent reaches exhibiting a saturated moisture regime beneath the channel bed.
PERMITTED GRAZING	Use of a National Forest range allotment under the terms of a grazing permit.

PERSONAL USE	Normally used to describe the type of permit issued for removal of wood products (fuelwood, posts, poles, latillas and Christmas trees) from National Forest land when the product is for home use and not to be resold for profit.
PESTICIDE	Any organic or inorganic preparation used to control populations of injurious organisms, plant or animal.
PLANNING AREA	"The area of the National Forest System area covered by a regional guide or forest plan." [36 CFR 219.3]
PLANNING CRITERIA	Standards, tests, rules and guidelines by which the planning process is conducted and upon which judgments and decisions are based.
PLANNING HORIZON	"The overall time period considered in the planning process that spans all activities covered in the analysis or plan and all future conditions and effects of proposed actions which would influence the planning decisions." [36 CFR 219.3]
PLANNING PERIOD	"One decade. The time interval within the planning horizon that is used to show incremental changes in yields, costs, effects, and benefits." [36 CFR 219.3]
PLANNING RECORDS	A system that records decisions and activities that result from the process of developing a forest plan, revision, or significant amendment.
POLE TIMBER	A tree, usually five to nine inches in diameter at breast height (dbh).
POTENTIAL CAPACITY (PC)	Land which is presently eroding because there is not sufficient ground cover to protect the soil. This land has the potential to recover and eventually support livestock grazing.
POTENTIAL NATURAL VEGETATION	Vegetation that would exist today if man were removed from the scene and if resulting plant succession were telescoped into a single moment.
PRACTICAL POTENTIAL	The greatest amount of annual recreation use that can be expected in an area or site, based on physical characteristics (or design capacity), length of use season, duration of use (in one day), and the pattern of weekday to weekend use.
PRACTICE	See Management Practice.
PRECOMMERCIAL THINNING	See "Thinning".
PREFERRED ALTERNATIVE	The alternative recommended for implementation as the Forest Plan based on the evaluation completed in the planning process. (See Proposed Action).

6. GLOSSARY

PREPARATORY CUT	See "Shelterwood Method".
PRESCRIBED FIRE	The intentional application of fire to wildland fuels in either their natural or modified state under such conditions as to allow the fire to be confined to a predetermined area and, at the same time, to produce the intensity of heat and rate of spread required to further certain planned objectives of silviculture, wildlife management, etc.
PRESENT NET VALUE	The difference in net benefits and net costs, each discounted to the present.
PRESENT VALUE OF BENEFITS (PVB)	Cumulative discounted benefits of all outputs to which monetary values or established market prices are assigned.
PRESENT VALUE OF COSTS (PVC)	Cumulative discounted costs of managing the planning area.
PRESUPPRESSION	Activities in advance of fire occurrence to assure effective suppression action.
PRIMARY WINTER RANGE	Areas of land within winter ranges where concentrations of animals can be found during average winter (snowfall and temperature) conditions from December 15 to April 15. During severe weather conditions these areas often contain over 90 percent of the wintering population and are essential for the maintenance and welfare of the herd. Habitat components include foraging areas, and adjacent security and thermal cover.
PRIMARY BIG GAME BIRTHING AREAS	Areas of land within big game calving and fawning ranges where concentrations of female animals in a population can be expected to be found during May 1 to July 25. Areas are essential for the maintenance and production of the herd. Habitat components include foraging areas, security and thermal cover, and water.
PROPOSED ACTION	Specified in the National Environmental Policy Act as the project, activity, or decision that a Federal agency intends to implement or undertake which is the subject of an environmental impact statement.
PUBLIC	The people of an area, state, or nation that can be grouped together by a commonality of interests, values, beliefs, or lifestyles.
PUBLIC ACCESS	Usually refers to a road or trail route over which a public agency claims a right-of-way available for public use.
PUBLIC ISSUE	"A subject or question of widespread public interest relating to management of the National Forest System." [36 CFR 219.3]

-- R --

RARE II	See Roadless Area Review and Evaluation II.
RPA	The Forest and Rangeland Renewable Resources Planning Act of 1974. Also refers to the national assessment and recommended program developed to fulfill the requirements of the act. The most recent recommended program was done in 1980.
RPA PROGRAM	The recommended direction for long range management of renewable resources of National Forest System lands. This direction serves as the basis for the Regional targets assigned to the Forest. The development of this direction is required by the Forest and Rangeland Renewable Resource Planning Act.
RMULD	Acronym for Rocky Mountain Yield, a computer program used to simulate timber growth based on site index, basal area, species, mortality, mistletoe and silvicultural objectives.
RVD	See Recreation Visitor Day.
RANGE	Land producing native forage for animal consumption and lands that are revegetated naturally or artificially to provide a forage cover that is managed like native vegetation.
RANGE ALLOTMENT	A designated area available for livestock grazing upon which a specified number, kind of livestock and season of use may be grazed under a term grazing permit. The basic land unit used to facilitate management of the range resource on National Forest System and associated lands administered by the Forest Service.
RANGE CONDITION	The current productivity of a range relative to what that range is naturally capable of producing.
RANGE IMPROVEMENT	Any structure or nonstructural improvement to facilitate management of rangelands or livestock.
RANGELAND	Land on which the native vegetation (climax or natural potential) is predominately grasses, grass-like plants, forbs or shrubs suitable for grazing or browsing use. Includes lands revegetated naturally or artificially to provide a forage cover that is managed like native vegetation.
RANGELAND MODEL	Computer model developed by Region 3 to estimate available forage for livestock based on plant physiology, range condition class and overstory crown cover.
RANGE MANAGEMENT	The art and science of planning and directing range use to obtain sustained maximum animal production, consistent with perpetuation of the natural resource.

6. GLOSSARY

RANGE MANAGEMENT INTENSITY LEVELS	Level A = Currently unstocked Forest allotments. Level B = Allotments that are currently stocked, are estimated to be not more than 20 percent overstocked, and have minimal levels of management currently being applied. These allotments need additional intensity of management applied. Level C = Currently stocked allotments are estimated to be no more than 20 percent overstocked, if any, and have management systems being applied on the ground which should lead to resource improvement. Some stocking adjustments may still be needed upon evaluation of systems and followup production and utilization studies. Level D = Currently stocked allotments, are not overstocked more than 20 percent, if any, and have intensive management systems being applied on the ground to correct resource problems. Stocking level may still need verification by production and utilization studies. Level E = Livestock use permitted by grazing permit, permitted use does not exceed forage production, full development and management for livestock production using cost effective techniques to maximize AUM output without regard for other multiple use constraints, i.e., full range of vegetative type conversion. Level X = Currently stocked allotments which are either more than 20 percent overstocked, have significant resource deterioration continuing, and will require major adjustments in stocking or greatly improved and intensified management systems or both stocking adjustment and improved management.
RANGER DISTRICT	Administrative subdivisions of the Forest supervised by a District Ranger who reports to the Forest Supervisor.
REAL DOLLAR VALUE	A monetary value which compensates for the effects of inflation." [36 CFR 219.3]
RECEIPT SHARES	"The portion of receipts derived from Forest Service resource management that is distributed to State and county governments, such as the Forest Service 25 percent fund payments." [36 CFR 219.3]
RECONSTRUCTION	Road or trail construction activities which take place on an existing road or trail and raise the standard of the road or trail. This can include relocation of the facility in a completely new location.
RECORD OF DECISION	A document, separate from but associated with an environmental impact statement, that publicly and officially discloses the responsible official's decision on which alternative assessed in the EIS will be implemented.

RECREATION OPPORTUNITY SPECTRUM (ROS)	Land delineations which identify a variety of recreation opportunities in six classes along a continuum from primitive to urban. Each class is defined in terms of the degree to which it satisfies certain recreation needs based on area size, the extent to which the natural environment has been modified, the type of facilities developed and the degree of outdoor skills needed to enjoy the area.
RECREATION SITE MAINTENANCE	<p>Reduced Service Level: A level of developed recreation site maintenance where facilities meet minimum health and safety requirements. Facilities are generally clean and free of hazards. Accelerated resource deterioration not occurring.</p> <p>Full Service Level: A level of developed recreation site maintenance where facilities exceed minimum health and safety requirements. Facilities are maintained at a more frequent interval than at reduced service level and at a satisfactory condition for maintaining investments. These standards are necessary to ensure a pleasant recreation experience for the visitors.</p>
RECREATION VISITOR DAY (RVD)	One visitor day equals 12 hours of recreation (one person for 12 hours, or 12 people for 1 hour, or any combination thereof). An MRVD equals 1000 RVD's.
REDUCED SERVICE MANAGEMENT	Management of developed sites and wilderness and dispersed acres to provide service below established standards and objectives.
REFORESTATION	The natural or artificial restocking of an area usually to produce timber and other wood products, but also to protect watersheds, prevent soil erosion, and improve wildlife, recreation and other natural resources. Natural reforestation includes site preparation to reduce competing vegetation and provide a mineral seed bed for seed provided by seed trees. Artificial reforestation is the planting of seedlings, cuttings or seeds by hand or mechanical means and may include site preparation.
REFORESTATION BACKLOG	See backlog reforestation.
REGENERATION	This term can be used in two ways, the actual seedlings and saplings existing in a stand, or the act of establishing the young trees.
REGENERATION CUTTING METHOD	Any removal of trees intended for the purpose of assisting regeneration already present or to make regeneration possible to establish a new stand of trees.
REGION	For planning purposes, the standard administrative unit of the Forest Service administered by a Regional Forester.

6. GLOSSARY

REGION 3	The Southwest Region. A Forest Service organizational unit consisting of all National Forests in New Mexico and Arizona plus four National Grasslands in Texas, Oklahoma and New Mexico.
REGIONAL FORESTER	The official responsible for administering a single Region and preparing a Regional Guide.
REGIONAL GUIDE	The plan developed to meet the requirements of the Forest and Rangeland Renewable Resources Planning Act of 1974, as amended, that guides all natural resource management activities and establishes management standards and guidelines for the National Forest System lands of a given region. It also disaggregates the RPA objectives assigned to the Region to the Forests within that region.
REMOVAL CUT	See "Shelterwood Method".
RESEARCH NATURAL AREA (RNA)	Designated areas of land, usually over 300 acres in size, with characteristics of scientific or educational interest about the ecological processes which will be of value for observation and research on plant and animal succession, habitat requirements of species, insect and fungus deprivations, soil microbiology, phenology, and related phenomena.
RESOURCE	An aspect of human environment which renders possible or facilitates the satisfaction of human wants and the attainment of social objectives.
RESOURCE ALLOCATION MODEL	A mathematical model using linear programming which will allocate land to prescriptions and schedule implementation of those prescriptions simultaneously. The end purpose of the model is to find a schedule and allocation that meets the goals of the Forest and optimizes some objective function.
RESPONSIBLE LINE OFFICER	"The Forest Service employee who has the authority to select and/or carry out a specific planning action." [36 CFR 219.3]
REVEGETATION	The reestablishment and development of a plant cover. This may take place naturally through the reproductive processes of the existing flora or artificially through the direct action of man (reforestation or range reseeding).
RIGHT-OF-WAY	The right to pass through another person's land as obtained by condemnation or purchase.

RIPARIAN AREA	<p>Land areas which are directly influenced by water. They usually have visible vegetative or physical characteristics showing this water influence. Streamsides, lake borders, or marshes are typical riparian areas.</p> <p>Dependent Resource - Certain plant and animal species or site specific soils that are dependent on the riparian type for their existence. Examples are cottonwood, willow, fish, and amphibians.</p> <p>Nondependent Resource - Resources that are not dependent on the riparian type for an existence. Examples are humans, domestic livestock, evergreen tree and most big game animals.</p>
ROAD MAINTENANCE LEVELS	<p>Forest roads receive varying degrees of maintenance depending on their designated maintenance levels.</p> <p>The maintenance levels are defined as follows:</p> <p>Level 1: Provides basic custodial care as required to protect the road investment and to see that damage to adjacent land and resources is held to a minimum. Roads are usually closed, except during periodic management activities.</p> <p>Level 2: Used where management requires that the road be opened for limited passage of high clearance vehicles. Traffic is normally minor and roads are usually unimproved.</p> <p>Level 3: Used on roads which are opened for low volumes of public travel. The road is maintained for safe and moderately convenient travel suitable for passenger cars. Roads in this classification are improved, but not necessarily surfaced.</p> <p>Level 4: Consideration is given to the user comfort and higher traffic volume. Roads are frequently surfaced.</p> <p>Level 5: Includes high standard paved and aggregate surfaces. Safety, comfort, and high traffic volumes are important considerations.</p>
ROADLESS AREA REVIEW EVALUATION (RARE II)	<p>The assessment of unroaded areas within the National Forests as potential wilderness areas. Rare II refers to the second review which was begun in 1977 AND (RARE II) and documented in a final environmental impact statement, January 1979.</p>
ROAD DENSITY	<p>The number of miles per square mile in a land area.</p>
ROAD OBLITERATION	<p>The act of putting a road back into resource production. This entails ripping areas of soil compaction, providing for drainage, revegetating with grass, and closing to vehicular use.</p>

6. GLOSSARY

ROTATION	The number of years required to establish (including the regeneration period) and grow timber crops to a specified condition or maturity for regeneration harvest. Selected management prescriptions in the forest plan provide the basis for the rotation age.
-- S --	
SALT	Acronym for Strata Analysis Level and Timing option, a computer program used to develop DE-FORPLAN timber yield tables from RMYLD simulation.
SAOT	Skiers at one time. Used in reference to capacity at a downhill ski area.
SCORP	See State Comprehensive Outdoor Recreation Plan.
SALABLES	See Minerals, common variety.
SALE SCHEDULE	"The quantity of timber planned for sale by time period from an area of suitable land covered by a forest plan. The first period, usually a decade, of the selected sale schedule provides the allowable sale quantity. Future periods are shown to establish that long-term sustained yield will be achieved and maintained." [36 CFR 219.3]
SALVAGE CUTTING	An intermediate cutting to remove trees that are dead, dying or deteriorating (eg. because overmature or materially damaged by fire, wind, insects, fungi, or other injurious agencies) before their timber becomes worthless. Often combined with "sanitation cutting".
SANITATION CUTTING	An intermediate cutting to remove dead, damaged or susceptible trees to prevent the spread of pests or pathogens and so promote forest hygiene.
SAPLING	A small, young tree one inch to five inches in DBH and ten to twenty years old.
SATISFACTORY RANGE ALLOTMENTS	Allotments with management intensities A - D. Stocking is at capacity or in no case more than 20 percent overstocked. Range and watershed conditions are stable or improving.
SATISFACTORY RANGE MANAGEMENT	The planned, systematic use of the range resource to achieve optimum utilization of forage for sustained maximum animal production consistent with perpetuation of all natural resources. Factors considered in achieving satisfactory management include the kind, breed and class of livestock, type of ranch operation, permitted numbers, season of use, grazing capacity and natural features which limit optimum distribution.

SAWTIMBER	Trees that are 9.0 inches DBH or larger and can be made into lumber.
SCOPING	Determination of the significant issues to be addressed in an environmental analysis.
SECONDARY MODERN DEVELOPMENT LEVEL	A level of modification for developed recreation sites. Modification is heavy with facilities provided strictly for comfort and convenience of users. Construction may use synthetic materials and vehicle traffic controls are usually obvious. Artificial surfacing of roads and trails is extensive. Development density is three to five family units per acre. Forest environment is pleasing and attractive but not necessarily natural.
SEDIMENT	Solid material, both mineral and organic, that is in suspension, is being transported, or has been moved from its site of origin by air, water, gravity, or ice and has come to rest on the earth's surface either above or below sea level.
SEED CUT	See "Shelterwood Method".
SEEDLING	A young, newly established (regenerated) tree less than ten years old.
SELECTION CUTTING METHOD	<p>The annual or periodic removal of trees, individually or in a small group from an uneven-aged forest to achieve the balance among the diameter classes needed for sustained yield and to establish a new crop. The two selection cutting methods are called single-tree and group-selection cutting methods. These cutting methods perpetuate an uneven-aged stand.</p> <p><u>Group-Selection Cutting Method.</u> The removal of small groups of trees to meet a predetermined goal of size distribution and species in the remaining stand. The distance across an opening created by removal of a group of trees is usually no more than one to two times the distance of surrounding tree height with a maximum size limit of 2-acres.</p> <p><u>Single-Tree Selection Cutting Method.</u> The removal of selected trees from specified size or age classes over the entire stand area in order to meet a predetermined goal of size or age distribution and species composition in the remaining stand.</p>

6. GLOSSARY

SENSITIVITY LEVEL	<p>One of three factors used to determine Visual Quality Objectives. Sensitivity levels are a measure of people's concern for the scenic quality of the National Forest. Sensitivity levels are determined for land areas viewed by those traveling through the Forest on developed roads and trails and using developed recreation sites and water bodies. All roads, trails, use areas, and water bodies are assigned one of three sensitivity levels based on the concern of the user:</p> <ul style="list-style-type: none">- Level 1: Highest Sensitivity- Level 2: Average- Level 3: Lowest
SERIAL	<p>A plant and animal community which is transitional in stage of succession, being either short or long-term. If left alone, the seral stage will pass, and another plant and animal community will replace it. Aspen represents a seral stage that would eventually be replaced by conifers such as spruce.</p>
SHELTERWOOD CUTTING METHOD	<p>Any regeneration cutting in a more or less mature stand, designed to establish a new crop under the protection of the old. The resultant crop will be even-aged. There are three steps to the method: preparatory cut, seed cut, and removal cut. In most managed stands only the seed cut and removal cuts are essential to establish natural regeneration.</p> <p><u>Preparatory Step.</u> Recognized silvicultural objectives for this step include developing windfirm leave trees, developing good quality seed-bearing leave trees, and/or accelerate breakdown of deep duff layers. In stands that have had intermediate cuts or have reached old age, this step often serves no silvicultural purpose.</p> <p><u>Seed Step.</u> This cutting is the removal of trees in a mature stand so as to effect permanent opening of its canopy and to provide conditions for securing regeneration from the seed of trees retained for that purpose. In addition, enough trees are retained to provide at least some modification of the exposed microclimate that would result from clearcut or seed tree methods.</p> <p><u>Removal Step.</u> All cuttings of mature trees after establishment of the new stand are removal cuts. The objective of the removals is to provide improved growing conditions for the new stand and to harvest remaining mature trees. More than one removal can be scheduled for a stand. The last removal cutting is called the final removal.</p>
SHORT-TERM EFFECTS	<p>Those effects which will not be significant beyond the RPA planning horizon of 50 years.</p>
SILVICULTURE	<p>The science and art of growing and tending stands of forest trees to meet specified management objectives.</p>

SILVICULTURAL SYSTEM	"A management process whereby forests are tended, harvested, and replaced, resulting in a forest of distinctive form. Systems are classified according to the method of carrying out the fellings that remove the mature crop and provide for regeneration and according to the type of forest thereby produced." [36 CFR 219.3]
SITE CLASS	A measure of the relative productive capacity of a site for the crop or stand, based on volume or height that is attained or attainable at a given age. Measure is expressed as Site Class I (site index of 75 or greater), Site Class II (site index 55 to 74), and Site Class III (site index of less than 55).
SITE INDEX	A particular measure of site class, based on the height of the dominant trees in a stand at an arbitrarily chosen age (age 100 for western ponderosa pine). Measure is usually between 0 and 100, where site index of 100 equals a tree that is 100 years old and 100 feet tall.
SITE PREPARATION	A general term for removing unwanted vegetation, slash, and sometimes roots and stones, from a site before reforestation. Can be associated with either artificial or natural reforestation.
SITE PRODUCTIVITY	Production capability of specific areas of land.
SIZE CLASS	For the purposes of Forest planning, size class refers to the intervals of tree stem diameter used for classification of timber in the Forest Plan data base: <ul style="list-style-type: none"> - less than five-inch diameter = seedling/sapling - five to nine-inch diameter = pole timber - greater than nine-inch diameter = sawtimber.
SKYLINE LOGGING	A skyline logging system is generally used to remove timber from slopes greater than 40% gradient; although it may also be used on lesser slopes. With this system a cable, or "skyline," is suspended between a crane-like tower set at the top of a slope and a tree trunk or other suitable "tailhold" at the bottom of the slope. A carriage suspended on pulley wheels runs up and down the skyline; it is controlled by a second cable called a "mainline." Logs are attached to the carriage by short cables called chokers, than the mainline is pulled in and the logs are brought up the slope to the loading area. The tension in the line is controlled so that the skyline, carriage, and one end of each log is kept suspended above the ground. In some cases the logs are completely suspended above the ground. Since the front end of the log doesn't plow along the ground and part of the log weight is supported by the skyline cable, there is very little soil disturbance or damage to remaining vegetation.

6. GLOSSARY

SLASH	Debris left after logging, pruning, thinning or brush cutting, and large accumulations of debris after wind or fire damage. Slash includes logs, bark, branches, and stumps.
SMALL GAME	Birds and small mammals normally hunted or trapped.
SNAG	A standing dead tree larger than six inches in diameter at breast height.
SNAG RECRUITMENT	Reservation of suitable live trees near death for replacement of snags in the future or killing trees to create new snags.
SOCIAL ANALYSIS	An analysis of the social (as distinct from the economic and environmental) effects of a given plan or proposal for action. Social analysis includes identification and evaluation of all pertinent desirable and undesirable consequences to all segments of society, stated in some comparable quantitative terms. It also includes a subjective analysis of social factors not expressible in quantitative terms.
SOIL EROSION	The detachment and movement of soil from the land surface by wind, water or gravity.
SOIL PRODUCTIVITY	The capacity of a soil, in its normal environment, to produce a specific plant or sequence of plants under a specific system of management.
SOIL SURVEY	See Terrestrial Ecosystem Inventory.
SOUTHWESTERN REGION	See Region 3.
SPECIAL USE PERMITS	Permits and granting of easements (excluding road permits and highway easements) authorizing the occupancy and use of land.
SPECIAL USES	Special use permits.
SPECIFIED ROAD	A road for which standards and locations are specified in the timber sale contract. Location, specifications, and construction standards are set up in detail in the timber sale contract for these roads. As defined in the contract, specified roads are roads for which the timber purchaser shall be given purchaser credit when constructed. Roads that are needed beyond the period of the sale for fire protection, slash disposal, planting, future timber management, or other resource activities made necessary by the sale, are included as specified roads and designated as Forest development roads. Specified roads are planned to be retained on the forest development road system at the close of the sale and are also referred to as system roads. The Forest Supervisor is responsible for coordination of all land management activities and must approve layout, location, and design of these roads.

SPRUCE BARK BEETLE	This beetle (<u>Dendroctonus rufipennis</u>) is widespread throughout western North America. The beetle's ability to rapidly kill spruce trees over large areas is well documented.
STAND	<p>A community of trees or other vegetation possessing sufficient uniformity as regards composition, constitution, age, spatial arrangement, or condition, to be distinguishable from adjacent communities, so forming a silvicultural management entity.</p> <p>Further, such a plant community should be characterized by occupying a topographic position so unique in soils, aspect, slope, precipitation, and solar isolation as to affect species composition tree growth, maturity, and regeneration to a constant degree.</p>
STANDARD	A principle requiring a specific level of attainment; a rule to measure against.
STANDARD STIPULATIONS	Constraints added to all mineral leases to protect resource from unnecessary disturbance. Fire, erosion control, payment for damages, cattleguards, pollution, camp construction, Plan of Operation, environmental analysis, protection of threatened and endangered species and cultural resources are covered.
STATE COMPREHENSIVE OUTDOOR RECREATION PLAN (SCORP)	The plan prepared by the State which identifies recreation supply and demand and recommends future development actions.
STOCKING LEVEL	Timber management usage. Refers to the basal area or number of trees per acre in a stand. Stocking levels can be prescribed to meet management objectives such as improving forage habitat for wildlife, or improving growth rates of trees.
STOCKING RATE	Range management usage. The actual number of animals, expressed in either animal units or animal unit months, on a specific area at a specific time.
STRINGER	A strip of vegetation different from surrounding vegetation.
STRUCTURAL RANGE IMPROVEMENT	Improvement requiring construction or installation to improve the range, facilitate management, or control distribution and movement of livestock.
SUITABILITY	"The appropriateness of applying certain resource management practices to a particular area of land, as determined by an analysis of the economic and environmental consequences and the alternative uses foregone. A unit of land may be suitable for a variety of individual or combined management practices." [36 CFR 219.3]

6. GLOSSARY

SUITABLE FOREST LAND	Land to be managed for timber production on a regulated basis; this does not preclude management for other resource objectives as well. The process for identifying suitable forest land is defined in FSH 2409.13 and 36 CFR 219.14.
SUITABLE LANDS	Lands which are appropriate for the application of certain resource management practices as determined by an analysis of the economic and environmental consequences and the alternative uses foregone.
SUPPLY POTENTIAL	The output production possible from available resources.
SUPPRESSION	All the work of extinguishing or confining a fire, beginning with its discovery.
SUSTAINED-YIELD OF PRODUCTS AND SERVICES	"The achievement and maintenance in perpetuity of a high-level annual or regular periodic output of the various renewable resources of the National Forest System without impairment of the productivity of the land." [36 CFR 219.3]
SYSTEM ROAD	A road that is part of the permanent transportation system for the forest and periodically receives maintenance.
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TSI	See Timber Stand Management.
TARGET	A quantifiable output.
TALUS	An accumulation of broken rocks at the base of cliffs or steep slopes.
TECHNICAL REPORT	Documentation of the planning process that relates to specific areas such as minimum management requirements, timber analysis, or inventory data.
TEMPORARY ROAD	A nonspecified road needed for a particular reason within a timber sale area. Temporary roads are often referred to as spur roads or nonsystem roads because they are not formally made a part of the forest developed road system. These roads are usually one-quarter mile or less in length and are obliterated when no longer needed by the sale operator. The intent is to allow the land occupied by the road to be returned to resource production, minimize erosion and preclude further use of the road. The timber sale administrator is responsible for location, construction, maintenance, and return to production.

TERRESTRIAL ECOSYSTEM INVENTORY	A systematic inventory based on the concept that within the landscape there are naturally occurring ecosystems with unique sets of properties. These terrestrial ecosystems form a continuum and can be recognized at different levels in classification systems. The soils component of the ecosystem is inventoried through the use of "Soil Taxonomy," USDA Soil Conservation Service Handbook #436, and the "Terrestrial Ecosystem Vadose and Phreatic Survey Procedure," a Forest Service handbook. The vegetation component of the ecosystem is inventoried through the use of the International Classification and Mapping of Vegetation, UNESCO, and the above mentioned Forest Service handbook. The terrestrial ecosystem inventory is sometimes referred to as "soil survey" in the planning documents.
THEORETICALLY	Geologic conditions are similar to those of a producing area, or may be inferred similar through indirect evidence.
THERMAL COVER	Vegetative cover that provides protection for animals from heat and cold. The term is normally used when describing habitat requirements for elk and deer.
THINNING	An intermediate cutting made in the favored species to accelerate diameter growth and to improve the form of the remaining trees without permanently breaking the canopy. A thinning can be either a commercial or precommercial thinning depending upon the tree size (product) and economical value, if any. Precommercial thinning is normally a cost charged against the future stand value.
THREATENED SPECIES	Those plant or animal species identified by the Secretary of Interior as threatened in accordance with the Endangered Species Act of 1973.
TIERING	Refers to the coverage of general matter in broad environmental impact statements (such as national program or policy statements) with subsequent narrower statements or environmental analyses (such as regional or basin wide program statements or ultimately site-specified statements), incorporating by reference the general discussions and concentrating solely on the issues specific to the statement in question.
TIMBER PRODUCTION	The purposeful growing, tending, harvesting, and regeneration of regulated crops of trees for cutting into logs, bolts, or other round sections for industrial or consumer use. For purposes of forest planning, timber production does not include firewood or harvests from unsuitable lands (FSM 1900).
TIMBER STAND IMPROVEMENT (TSI)	A loose term comprising all intermediate cuttings made to improve composition, constitution, condition and increment in a timber stand. As applied in this Plan TSI usually means pre-commercial thinning.

6. GLOSSARY

TOLERANCE SOIL LOSS	The maximum rate of soil loss that can occur while sustaining inherent site productivity.
TOPOGRAPHY	The configuration of a land surface including its relief, elevation and the position of its natural and man-made features.
TRAIL MAINTENANCE LEVELS	<p>The extent of maintenance done on trails will vary with the maintenance level assigned to that trail.</p> <p>Trail maintenance levels are defined as follows:</p> <p>Level I: This level is basic protection work to keep damage to the adjacent land to a minimum and provide for user safety.</p> <p>Level II: This level is preservation maintenance used on long term trails to perpetuate the pathway in its present location but cannot or should not budget sufficient maintenance funds to provide for user convenience.</p> <p>Level III: This is the highest level of trail maintenance and the full spectrum of service to meet management objectives for the trail type is met in this level.</p>
TRAILHEAD	The parking, signing, and other facilities available at the terminus of a trail.
TRANSPORTATION SYSTEM	All existing and planned roads, trails, airfields, railroads or waterways utilized for transportation.
TRAVEL MANAGEMENT	Surveillance, analysis, and planning for future traffic needs on the transportation system and all cross-country motorized and nonmotorized travel.
TRAVELWAY	An unconstructed two-track road resulting from repeated cross-county travel.
TREE OPENING	An opening in the forest cover created by the application of even-aged silvicultural practices.
TRICK TANK	A livestock or wildlife watering facility that collects precipitation and drains it into a storage tank. The water is then transferred by pipeline to a drinking tub.
TURKEY ROOST TREES	Turkeys prefer to roost in tall, mature, or overmature flat top ponderosa pine trees (16"-42" DBH) on easterly and southerly exposures. Trees with relatively open crowns and large horizontal branches 20-30 feet from the ground receive the heaviest use. The roost site is a small group of trees, averaging 13 per acre with the above characteristics and sparse ground cover.

TURKEY NESTING AREAS	Areas of land normally associated with ponderosa pine, mixed conifer and adjacent meadow and riparian vegetation where concentrations of incubating hen turkey occur. Areas are essential for the maintenance and production of the flock.
TYPE CONVERSION	Relating to vegetative cover, the conversion of one vegetative cover to another, either by man or nature.
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US F&WLS	U.S. Fish and Wildlife Service, Department of Interior.
USLE	See Universal Soil Loss Equation.
UNCLASSIFIED AREA	Refers to the classification of lands for the purpose of establishing utility corridors. It is that land area not previously classified as an exclusion area, avoidance area, window or corridor.
UNDERSTORY	The trees occupying the lower level of a stand that has at least two size and age classes. The understory lies beneath the overstory.
UNEVEN-AGED MANAGEMENT	"The application of a combination of actions needed to simultaneously maintain continuous high-forest cover, recurring regeneration of desirable species, and the orderly growth and development of trees through a range of diameter or age classes to provide a sustained yield of forest products. Cutting is usually regulated by specifying the number or proportion of trees of particular sizes to retain within each area, thereby maintaining a planned distribution of size classes. Cutting methods that develop and maintain uneven-aged stands are single-tree selection and group selection." [36 CFR 219.3]
UNPALATABLE SPECIES	In range management usage, plant species that are not readily eaten by animals.
UNIVERSAL SOIL LOSS EQUATION (USLE)	Empirical erosion model that computes long-term average soil losses from sheet and rill erosion under specified conditions.
UNSATISFACTORY RANGE ALLOTMENTS	Allotments with management intensity of X. Stocking is at least 20 percent overstocked. Range and watershed conditions are deteriorating at a rate which will cause significant management changes and/or investments to correct.
UTILIZATION STANDARDS	Standards guiding the use and removal of timber. They are measured in terms of diameter at breast height (DBH), diameter at the top of the tree inside the bark (top DIB), and percent "soundness" of the wood.

6. GLOSSARY

UNSATISFACTORY
WATERSHED
CONDITION The situation where the ground cover is less than what is
necessary to maintain soil capability and runoff conditions.

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VALLECITOS
FEDERAL SUSTAINED
YIELD UNIT
(VFSYU) A Federal sustained yield unit is an area of federally owned or
administered land under the jurisdiction of the Forest Service
which is established as a sustained-yield unit under Section 3
of the Act of March 29, 1944. The first of five such units was
established in 1948 on the El Rito Ranger District at
Vallecitos. The purpose of the unit is to maintain a stable
community or communities where such maintenance is primarily
dependent upon the sale of timber or other forest products from
federally owned or administered lands.

VARIETY CLASS One of three factors to determine Visual Quality Objectives.
Variety classes are evaluated on the premise that all landscapes
have some value, but those with the most variety or diversity
have the greatest potential for high scenic value. There are
three variety classes which identify the scenic quality of the
natural landscape:

- Class A - Distinctive
- Class B - Common
- Class C - Minimal

VIABLE POPULATION The number of individuals sufficient to perpetuate their
long-term existence in natural, self-sustaining populations
adequately distributed throughout their region.

VISUAL QUALITY OBJECTIVES (VQO)	<p>Measurable standards for the visual management for the landscape. Refers to degree of acceptable alterations of the characteristic landscape based on users' expectations and visual perceptions. Objectives used in the Forest Plan are:</p> <p>Preservation (P): Provides for ecological change only.</p> <p>Retention (R): In general, man's activities are not evident to the casual Forest visitor.</p> <p>Partial Retention (PR): In general, man's activities may be evident, but must remain subordinate to the characteristic landscape.</p> <p>Modification (M): Man's activity may dominate the characteristic landscape, but must at the same time, utilize naturally established form, line, color, and texture so completely and at such a scale that its visual characteristics are those of natural occurrences within the surrounding area.</p> <p>Maximum Modification (MM): Man's activity may dominate the characteristic landscape, but should appear as a natural occurrence when viewed as background.</p> <p>Rehabilitation: A short-term management alternative used to restore landscapes containing undesirable visual impacts to a desired visual quality.</p> <p>Enhancement: A short-term management alternative which is done with the express purpose of increasing positive visual variety where little variety now exists.</p>
VISUAL RESOURCE	<p>The composite of basic terrain, geologic features, water features, vegetative patterns, and land use effects that typify a land unit and influence the visual appeal the unit may have for visitors.</p>
VISUAL VARIETY CLASS	<p>A classification system for establishing visual landscape categories according to the relative importance of the visual features.</p>
-- W --	
WFUD	<p>See Wildlife and Fish User Day.</p>
WOS	<p>See Wilderness Opportunity Spectrum.</p>
WATERSHED	<p>The entire area that contributes water to a drainage or stream.</p>
WATERSHED CONDITION	<p>Is the health of the watershed with respect to erosion and runoff conditions of the land based on ground cover conditions.</p>

6. GLOSSARY

WATER YIELD	That portion of the annual precipitation which contributes to stream flow and recharge of the ground water table.
WEEKS ACT	Passed in 1911, it set up the National Forest Reservation Commission and authorized the Secretary of Agriculture to purchase land for addition to the National Forest System, provided that such purchases were approved by the Commission and by the states in which they were made.
WESTERN SPRUCE BUDWORM	One of the primary insect pests on the Carson N.F., the western spruce budworm has caused significant defoliation, growth loss and mortality. Host trees for this insect include white fir, corkbark fir, Douglas-fir and spruce.
WETLANDS	Any area that is more or less regularly wet or flooded. Where the water table stands at or above the land surface for at least part of the year.
WILD AND SCENIC RIVERS ACT	Declares that it is a policy of the United States that certain selected rivers which, with their immediate environments, possess outstanding scenic, recreational, geologic, fish and wildlife, historic, cultural, or other similar values, shall be preserved for the benefit and enjoyment of present and future generations.
WILD RIVER	<p>A free flowing and essentially unspoiled river with its natural surroundings preserved and enhanced. Wild rivers "possess remarkable: scenic, recreational, geologic, fish and wildlife, historic and cultural values" (1968 Wild and Scenic Rivers Act).</p> <p>Forty-eight miles of the Rio Grande from the Colorado border south, and the lower four miles of the Red River, all in New Mexico, were among the first to be protected by the Act.</p>
WILDHORSE TERRITORY	The area historically used by a wildhorse herd as identified at the time of the passage of the 1971 Wild and Free-roaming Horse and Burro Act.

WILDERNESS	<p>Under the Wilderness Act of 1964, wilderness is undeveloped Federal land retaining its primeval character and influence without permanent improvements or human habitation. A wilderness is protected and managed so as to preserve its natural conditions, which appear to have been affected primarily by the forces of nature, with the imprint of man's activity substantially unnoticeable. A wilderness also:</p> <ul style="list-style-type: none"> - has outstanding opportunities for solitude and a primitive and confined type of recreation - has at least 5,000 acres or is of sufficient size to make practical its preservation, enjoyment, and use in an unimpaired condition - may contain features of scientific, educational, scenic, or historical value as well as ecologic and geologic interest.
WILDERNESS ACT	<p>Establishes a National Wilderness Preservation system to be composed of Federally-owned areas designated by Congress, administered for use and enjoyment as wilderness, the preservation of their wilderness character, and for the gathering and dissemination of information regarding their use and enjoyment as wilderness.</p>
WILDERNESS OPPORTUNITY SPECTRUM (WOS)	<p>A method of delineating types of wilderness recreation settings within the National Wilderness Preservation System. There are four WOS settings derived from the six ROS setting guidelines. Only the last two occur on the Carson National Forest. The four nonmotorized settings are:</p> <ul style="list-style-type: none"> - Transition: predominantly unmodified natural wilderness setting. Many locations noticeably affected by users. Moderate to few opportunities for isolation and solitude during peak use season. - Semi-primitive: area beyond one-half mile from motorized areas and less than three miles from these areas. - Primitive: area three miles beyond any type of motorized route where feeling of solitude and user challenge are expected. - Pristine: areas within primitive zone more than 200 feet from any trail.
WILDERNESS STUDY (WSA)	<p>An area designated by the New Mexico Wilderness Act of 1980 (Public Law 96-550). The Act requires the Secretary of Agriculture to review WSA's and submit a report to the President. The President shall make a recommendation to Congress as to the area's suitability for inclusion in the National Wilderness Preservation System.</p>

6. GLOSSARY

WILDFIRE	Any fire on wildlands other than one intentionally set for management purposes and confined to a predetermined area.
WILDLIFE	All nondomesticated mammals, birds, reptiles, and amphibians living in a natural environment, including both game species and nongame species. Animals, or their progeny, which once were domesticated but escaped captivity and are running wild (i.e., feral animals), such as horses, burros, and hogs, are not considered wildlife.
WILDLIFE AND FISH USER DAY (WFUD)	One visitor day equals 12 hours of wildlife and fish-oriented recreation (one person for 12 hours, or 12 people for one hour, or any combination thereof). Includes both consumptive and non consumptive uses of wildlife and fish. A MWFUD's equals 1000 WFUD's.
WILDLIFE HABITAT DIVERSITY	The distribution and abundance of different plant and animal communities and species within a specific area.
WILDLING	A naturally grown seedling or small tree used for transplanting and landscaping.
WINDOW	A short corridor that provides for critical access to areas which may be subsequently designated for corridor use.
WINTER RANGE	Habitat used by wildlife species during the winter months to provide food and shelter and which generally limits the population. For planning purposes, areas of land where 75 percent of the individuals in a population can be expected to be found during average winter (snowfall and temperature) conditions from December 15 through April 15.
WITHDRAWAL	An order removing specific land areas from availability for certain uses.
WOODLAND	Pinon and juniper forests usually growing on drier sites in the low elevations.
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YUM	"Yarding of unmerchantable material" is often included as a timber sale contract requirement for slash treatment. It means moving unmerchantable slash material, of specified size, to roadside landing areas or other specified points. Generally the material is then removed by the public as firewood.