

United States
Department of
Agriculture

Natural Resource
Conservation Service

Western
Region



Land and Resource Management Plan

Part 2

Crooked River National Grassland

Caring for the Land...

Land and Resource Management Plan

Preface

Crooked River National Grassland

August 1989

The Crooked River National Forest Land and Resource Management Plan (Grassland Plan) was prepared in compliance with 36 CFR 219, based on the Forest and Rangeland Renewable Resources Planning Act (RPA) as amended by the National Forest Management Act of 1976, and in compliance with 40 CFR 1500 based on the National Environmental Policy Act of 1969.

Because the Plan is a major Federal action significantly affecting the quality of the human environment, an environmental impact statement (EIS) was prepared. The Plan provides direction for implementing the preferred alternative selected in the EIS.

If any particular provision of this Grassland Plan, or the application of the action to any person or circumstance, is found to be invalid, the remainder of the Forest Plan and the application of that provision to other persons or circumstances shall not be affected.

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CROOKED RIVER NATIONAL GRASSLAND PLAN

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Chapter 1

Grassland Plan Introduction

Chapter 1

Grassland Plan Introduction

Purpose

The Land and Resource Management Plan guides natural resource management activities and establishes management standards and guidelines for the Crooked River National Grassland. It describes resource management practices, levels of resource production and management, and availability and suitability of lands for resource management.

National grasslands are a permanent part of the National Forest System, administered under the provisions and purposes of the Bankhead-Jones Farm Tenant Act (see Appendix G). The rules and regu-



lations applicable to national forests as set forth in Title 36, Code of Federal Regulations, also apply to national grasslands (see 36 CFR 213, Appendix C).

The Grassland Plan:

- establishes Grassland-wide multiple use goals and objectives;

- establishes Grassland-wide standards and guidelines applying to future conditions;

- establishes management area direction including management area prescriptions and standards and guidelines applying to future management activities in that management area; and establishes monitoring and evaluation requirements.

The Grassland Plan embodies the provisions of the National Forest Management Act of 1976, the implementing regulations, and other guiding documents. Land use determinations, prescriptions, and standards and guidelines constitute statements of the plan's management direction. However, the projected outputs, services, and rates of implementation are dependent on the annual budget.

This Plan will guide Forest Service programs on the Crooked River National Grassland beginning in fiscal year 1990 (Oct. 1, 1989). It will ordinarily be revised on a ten-year cycle, but at least every 15 years. The Plan may be amended or revised at any time if the Forest Supervisor determines that conditions in the area covered by the Plan have changed significantly, or if project level environmental analysis demonstrates the need to make a change.

Relationship of the Grassland Plan to Other Documents

Relationship to the Environmental Impact Statement and the Record of Decision

This Grassland Plan sets forth the direction for managing the land and resources of the Crooked River National Grassland. The Plan results from extensive analysis and considerations addressed in the Environmental Impact Statement (EIS), and Record of Decision (ROD). The planning process and the analysis procedures used to develop these plans are described in the EIS. The EIS also describes other alternatives considered in the planning process.

Specific activities and projects will be planned and implemented to carry out the direction in this Plan. *Environmental analysis will be performed on these specific projects.* This subsequent environmental analysis will be tiered to the Plan and Environmental Impact Statement.

Relationship to the Regional Guide

The Regional Guide for the Pacific Northwest Region, as amended December 8, 1988, provides direction for National Forest Plans, and in turn, can be used also for National Grassland Plans. It includes standards and guidelines addressing the major issues and management concerns considered at the Regional level, to facilitate planning.

- | | |
|--------------------|---|
| 1. National | Resource Planning Act Assessment and Program. |
| 2. Regional | Regional guide. |
| 3. Forest | National forest Land and Resources Management Plans (Forest Plans) for National Forest System lands. Tiered to Regional guide |
| 4. Project | Site or projects specific plans, generally at ranger district level. Tiered to Forest Plan. |

Relationship to Special Area Plans

The Crooked River National Grassland includes several “special areas.” The plans for these include: Cove Palisades State Park Management Plan, Haystack Reservoir Recreation Management Plan, Rimrock Springs Wildlife Area Management Plan, and Gray Butte Electronic Site Plan. The regulations guiding the development of Forest Plans state that “if, in a particular case, special area authorities require the preparation of a separate special area plan, the direction in any such plan may be incorporated without modification in plans prepared under this subpart” (36 CFR 219.2(b)). Direction for incorporation and implementation of these plans can be found in Chapter 5, Implementation of the Grassland Plan.

Relationship to Other Plans

This Grassland Plan serves as the single land management plan for the Crooked River National Grassland. All other land management plans are replaced or superseded by the direction in this plan or will be made consistent with it; see Chapter 5 and the appendix for a listing of existing plans that this Grassland Plan supersedes.

Plan Structure

The Grassland Plan is composed of five chapters, a glossary, and appendices. Chapter 1 introduces the general purpose and structure of the Grassland Plan, explains how the plan relates to the environmental impact statement, and provides a brief description of the Grassland. Chapter 2 summarizes the supply and demand conditions for significant market and nonmarket goods and services on the Grassland. Chapter 3 discusses how the plan responds to the major issues identified during the planning process.

Chapter 4 is the heart of the Grassland Plan. It sets the management direction for the Grassland for the next 10 to 15 years. It presents goals, objectives, and desired future conditions directing resource management on the Grassland. Desired future condition sections describe what the Grassland should look like after implementation of the management direction. Chapter 4 also presents prescriptions for each of the 16 management areas, Grassland-wide standards and guidelines, and management area standards and guidelines. Grassland-wide standards and guidelines state the constraints within which all practices are to be carried out in implementing the Grassland Plan.

Chapter 5 explains the methods for implementing the management direction, monitoring and evaluating implementation activities, and keeping the plan current in light of changing conditions or other findings. The Appendices provide the detailed and supplemental information needed to explain portions of the plan. An index is provided to assist readers in locating subjects of interest.

Grassland Description

The Crooked River National Grassland is located in central Oregon, entirely within Jefferson County (see Vicinity Map, Figure 1-1). Of 173,629 acres encompassed by the Grassland boundary, 111,379 acres (1987 figures) are under Forest Service administration. Other lands are privately owned or under the administration of the BLM, State of Oregon, or Jefferson County.

The Grassland is traversed north-to-south by State Highways 26 and 97. West of Highway 97, the country is a high plateau interrupted by the steep canyons of the Deschutes River and its tributaries. East of Highway 97, the terrain is rolling hills and buttes. Elevations range from 2,241 feet at Madras to 5,108 feet atop Gray Butte. Steep canyons border the major drainages, including the Deschutes and Crooked Rivers, and Squaw and Willow Creeks

The Grassland lies within two subbasins of the Deschutes River drainage system: the Middle Deschutes River and Lower Crooked River.

It is believed that the Grassland was originally a *grassland vegetated with bluebunch wheatgrass and Idaho fescue, and some sagebrush, rabbitbrush, bitterbrush and juniper*. Because much of the area was cultivated and the native vegetation removed during the homesteading era, it is difficult to determine the original vegetation patterns.

The climate of the Grassland is typical for central Oregon. The annual precipitation averages 10.5 inches, but higher elevations may receive 19 inches or more per year. High intensity rainstorms are likely to occur during spring and summer months. The growing season averages 100 days. Temperatures are moderate throughout the year. Coldest temperatures are recorded in December and January; warmest temperatures are recorded in June, July, and August. Temperatures may fluctuate greatly between day and night, and frost can occur any day of the year. Humidity is usually low. (Hopkins and Kovalchik, 1983.)

The area was first homesteaded in the 1880's and eventually 700 homesteads were established. But by

the 1930's, inadequate rainfall and poor economic conditions had caused the farms to fail and homesteaders to abandon their lands. By 1935, Federal Land Banks and private mortgage banks had taken over 35 percent of the homesteads in foreclosures. The Federal Government then began to buy the land back from the remaining homesteaders under the authority of the Resettlement Administration and Bankhead-Jones Farm Tenant Act.

Management of the land was transferred from the Soil Conservation Service to the Forest Service in 1954. Originally known as the Central Oregon Land Utilization Project, the name was changed to the Crooked River National Grassland in 1960. Management direction states that "the National Grassland shall be administered under sound and progressive principles of land conservation and multiple use .." (36 CFR 213).

During the late 1930's and early 1940's, many acres were seeded to provide ground cover and improve the bare ground situation that had resulted from plowing the land and attempting to raise grain. Treated lands (approximately 63,000 acres) were planted to either crested wheatgrass or beardless wheatgrass. The native bluebunch wheatgrass proved impossible to restore. In the 1960's, many acres were reseeded and sprayed with herbicides to control shrubs. In the 1970's, reseeding was phased out and fire was introduced as a management tool. This management method continues today.

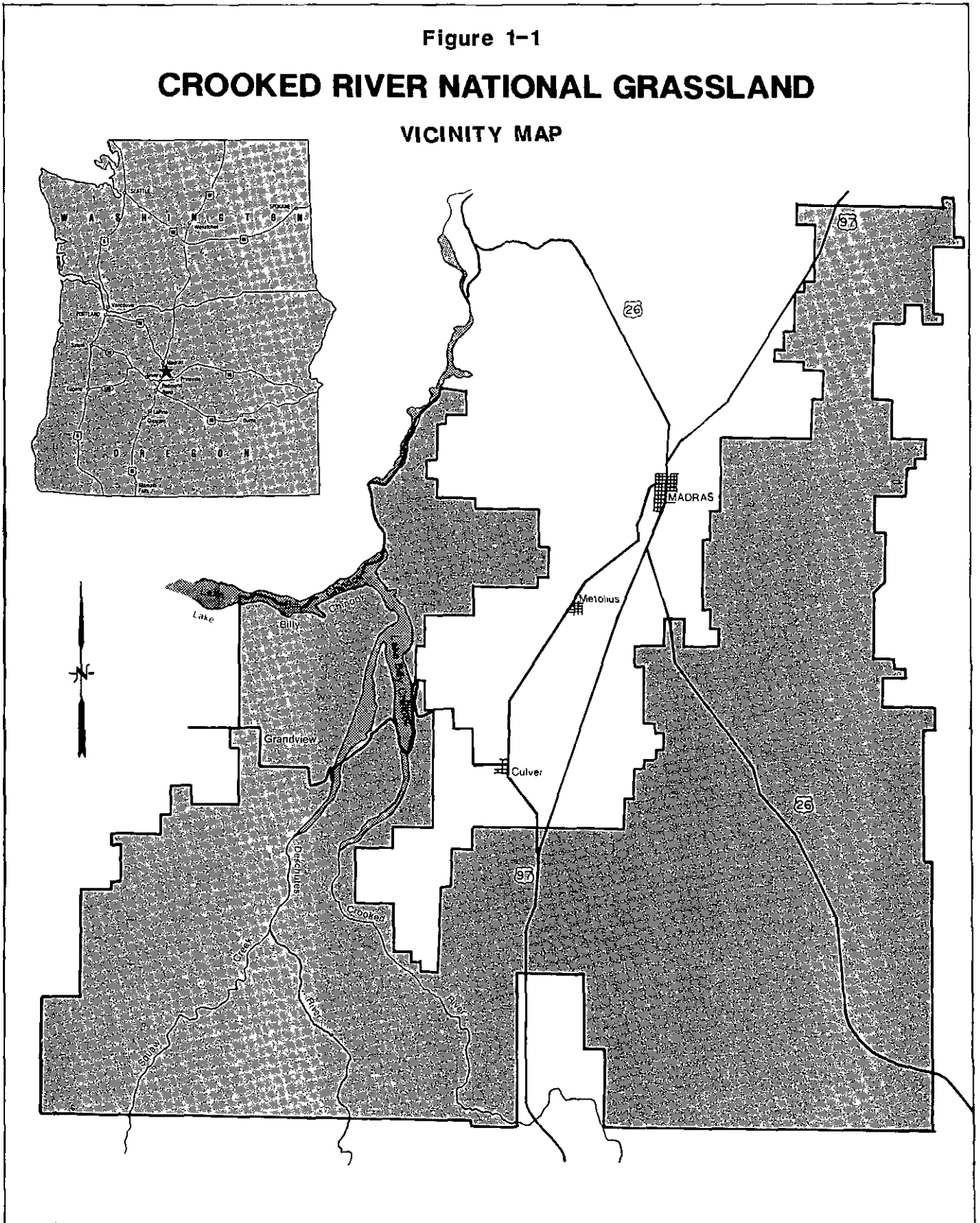
The Crooked River National Grassland is administered as a Ranger District of the Ochoco National Forest and is the only National Grassland in the Forest Service Pacific Northwest Region (Region 6). *There are 19 National Grasslands nationwide.*

The Grassland is managed to promote the development of grassland agriculture and sustained yield management of the forage, fish and wildlife, timber, water, and recreation resources and to demonstrate sound and practical principles of land use. Since the beginning of the land utilization projects in the 1930's, improving range management and the forage resource has been a major goal.

Figure 1-1

CROOKED RIVER NATIONAL GRASSLAND

VICINITY MAP



Chapter 2

Summary of the Analysis of the Management Situation

Chapter 2

Summary of the Analysis of the Management Situation

Introduction

This chapter summarizes the supply and demand situation for the key market and nonmarket goods and services associated with the Grassland. Included is a summary containing:

- resource supply and demand conditions for the Resources Planning Act (RPA) periods,

- production levels attainable under both the current management direction (Alternative A) and the Grassland Plan;

- and a list of information that would be desirable to have prior to the preparation of the next Crooked River National Grassland Land and Resource Management Plan.

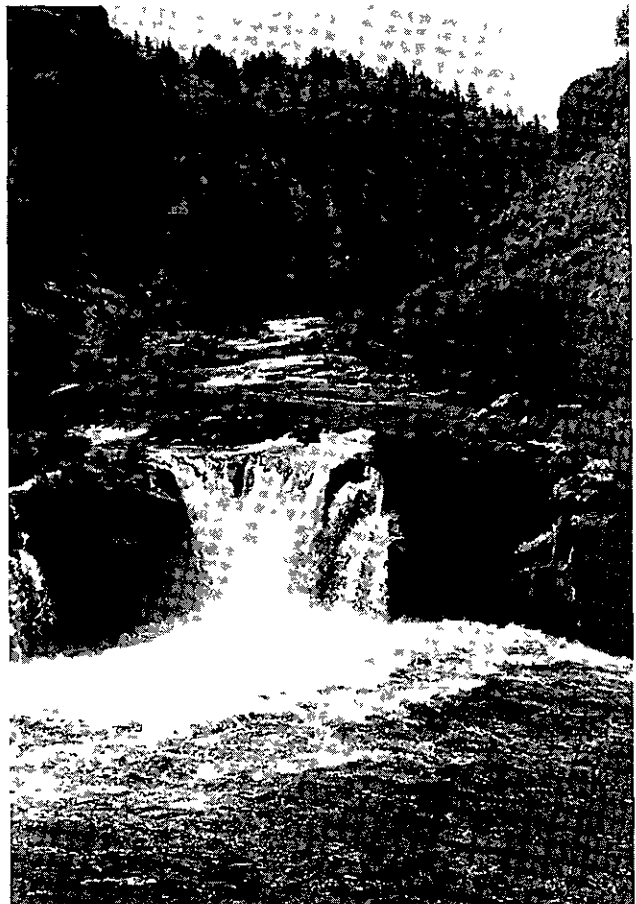
Resource and Economic Potentials

Benchmarks were developed to help define the resource and economic potentials of the Grassland,

and the range of outputs from which alternatives could be developed.

Most of the benchmarks were developed to explore the potential of the Grassland to produce the maximum of a particular issue-related resource; e.g. range, recreation, or big game. Two benchmarks were developed to determine the mix of resources that produced the maximum present net value (PNV) of the Grassland - one using market values only and the other using market and assigned values. Market priced outputs include: minerals, livestock, grazing, and developed recreation. Outputs with assigned values are dispersed recreation, including and fish and wildlife use. (See Appendix B of the FEIS for dollar values)

One benchmark estimates the minimum costs to retain the Grassland in Federal ownership with no outputs of goods and services other than those that would occur incidentally, such as dispersed recreation.



While benchmarks must be realistic, they could not serve as alternatives because they do not address the issues, concerns, or opportunities (ICO's). Rather, they were used to define the minimum and maximum parameters within which alternatives might be developed.

All benchmarks and alternatives were required to meet management requirements (Regional Direction 1920, 11/10/83). The major Management Requirements (MR's) addressed are: soil and water conservation, and riparian areas

Resource Description and Supply/Demand Projections for Selected Resources

Introduction

Following is a brief discussion of the current situation of each of the major Grassland resources (see FEIS Chapter 3 for more detailed discussions), and the anticipated supply and demand for goods and services associated with these resources. The supply figures were developed from the benchmarks and independent estimates. Demand figures were estimated independently and the source is included in Table 2-1. Economists consider "demand" to be a schedule of quantities of an output that users are willing to consume within a price range, at a given time, and under certain conditions of sale. The term "demand," as used in this section, identifies a certain level of consumption at a particular point in time. Although demand estimates are projected over several decades, long-term projections are expected to be less accurate than those for the near future.

Forage

Current Situation:

The Grassland, through the Grazing Agreement with the Gray Butte Grazing Association, administers 20 grazing allotments under permit to 29 permittees. 21,252 animal unit months (AUM's) are permitted. The permittees have their base ranch operations in the three-county area of Jefferson, Deschutes, and Crook Counties. Due to the extended drought, animals have been sent home early over the last few seasons due to lack of forage. Actual use has been about 17,000 AUM's.

Supply:

The main limiting factor affecting the amount of utilizable forage by domestic livestock is the type of vegetation currently occupying the Grassland. Due to past agricultural and grazing practices and the exclusion of fire, many acres formerly occupied by bluebunch wheatgrass and Idaho fescue have been replaced by brush species and juniper.

With an intensive and aggressive program using prescribed fire and seeding, the supply of forage could be increased to support 29,000 AUM's.

Demand:

Ranchers regard the Grassland as desirable summer range because of the high quality of forage and easy access. As a result, allotments have been fully occupied for many years. When an allotment becomes available, it is usually filled, indicating a constant demand for available forage. In addition, there is interest in increasing livestock numbers and the season of use.

The demand figures in Table 2-1 are proportioned from the Forest Service 1980 RPA Program, and reflect the Grassland's apportioned share of the national demand for forage.

Fuelwood

Current Situation:

The Grassland provides about 300 cords of personal use fuelwood per year. Fuelwood from the Grassland is regarded as desirable by some due to the species (juniper), proximity to towns, and easy terrain.

Supply:

The Grassland has the potential to supply up to 12,500 cords of fuelwood per year. This level could significantly affect other resource objectives such as wildlife habitat.

Demand:

No demand projections are made. It is assumed that there is in fact some demand for fuelwood from the Grassland, but most use would be displaced onto the Forest if the Grassland was made unavailable for personal use fuelwood.

Minerals and Energy

Current Situation:

Oil, natural gas, diatomite, and cinnabar are the known or expected mineral and energy resources on the Grassland.

There are approximately 7,200 acres under lease for oil and gas, mostly located in the southeast quadrant of the Grassland near the old field headquarters. One well drilled in the 1960's was abandoned when it proved dry, and there was additional interest in drilling in the late 1970's. There are no geothermal leases on the Grassland.

Supply:

All of the Grassland is classified as available for and potentially favorable for the discovery of geothermal energy sources. All of the Grassland is available for oil and gas exploration and development, and approximately 66,000 acres are considered prospectively valuable.

Approximately 22,000 acres are classified as having moderate potential for gold, silver, and mercury, and approximately 12,000 acres are classified as having moderate potential for diatomite. However, very little exploration has been done on the Grassland, and it is likely that further exploration will result in much of this land being reclassified as having low potential.

Demand:

The demand for oil, gas, gold, and mercury is directly related to international production and price. An increase in the price of any of these commodities will result in increased exploration on the Grassland, and the discovery of a valuable deposit may result in the production of the commodity. The largest number of acres ever leased for oil and gas on the Grassland was 17,000 acres in the early 1980's. There is no known demand for direct heat applications of geothermal energy on the Grassland. The demand for mineral materials is generated by the construction, reconstruction, and maintenance of roads on and near the Grassland. Approximately 250,000 cubic yards of mineral material will be produced on the Grassland each decade.

Recreation

Current Situation:

The Crooked River National Grassland is an untapped area that provides a variety of recreational opportunities. The local communities of Madras, Redmond, Culver, Prineville, and Bend, as well as those living in and adjacent to the Grassland have utilized this area for camping, fishing, hunting, pleasure driving, all-terrain vehicle (ATV) use, photography associated with old homesteads and canyon beauty, and organized group activities such as dog trials and horse endurance racing.

Roughly 100,000 recreation visitor days (RVD's) occur on the National Grassland, of which 90 percent is dispersed use. The area literally comes alive during the two weekends of deer hunting season, much of which is day hunting from local communi-

ties. This accounts for roughly 10 percent of dispersed use, and it is intense for a short period of time.

Supply:

Developed recreation capacity at Haystack Reservoir is not sufficient to handle the existing use when considering the area administered by the Bureau of Reclamation (BOR). The Grassland portion by itself can handle existing and projected use of the facility, but in consideration of all users of the reservoir and a cooperative effort to manage all users with the BOR, the facilities will need to be modified and expanded. The joint development management plan will guide the development of facilities on both the Grassland and BOR administered lands.

Demand:

Overall recreation demand is correlated with the population increase of approximately one percent per year. Demand for recreational vehicle camping, hiking, and interpretation is increasing at a higher rate than many other recreational activities. Hiking demand is highest in the semiprimitive natural setting. The latest information in the State-wide Comprehensive Outdoor Recreation Plan (SCORP) indicates that although more use actually occurs in roaded modified settings, the predominant preference is for primitive and semiprimitive nonmotorized settings. Demand for fishing in the Deschutes Canyon and general dispersed camping in the canyon bottoms are estimated to increase more rapidly as people become aware of this unique area.

Social and Economic

Current Situation:

The Grassland generated receipts primarily from grazing fees, special use permit fees, firewood sales, and mineral leases. Up to seventy percent of the gross grazing fees are retained by the Gray Butte Grazing Association for administrative costs and the Conservation Practices program. The remaining thirty percent of grazing fees is combined with all other receipts. Of this total, twenty-five percent goes to the

county, and seventy-five percent goes to the U.S. Treasury. Currently Grassland supported jobs are a minor component of the local counties' economic base.

Supply:

The ability of the Grassland to influence jobs and payment to counties is limited. Only the amount of livestock grazing and amount of acres leased for minerals have any impact.

Demand:

The demand for outputs which influence the economic parameters (displayed in Table 2-1) is expected to increase somewhat in the future.

Wildlife and Fish

Current Situation:

The Grassland provides habitat for approximately 200 species of birds, 80 species of reptiles, amphibians, and mammals, and 20 species of fish.

Key big game habitats include: mule deer winter range, and antelope winter range.

Riparian areas support the largest diversity of wildlife. Most of them have seen heavy impacts from livestock in the past. However, most of the structural work and management changes have been done to aid their restoration and they are on the road to recovery. Quail are a popular game bird that are present on the Grassland in limited numbers. It is expected that they will increase as the riparian habitat continues to improve and other habitat work is done.

Haystack Reservoir, Lake Billy Chinook, Deschutes River, Crooked River and Squaw Creek are the primary fish habitats on the Grassland and support a wide variety of warm water and cold water fish. Willow Creek also supports a fish population. Angling in Willow Creek has been closed by the Oregon Department of Fish and Wildlife. Fish numbers are being monitored and used as an indicator of riparian habitat recovery. Populations are increasing and

**TABLE 2-1
RESOURCE SUPPLY AND DEMAND PROJECTIONS**

Resource/ Activity	Unit of Measure	Decade				
		1st Decade	2nd Decade	3rd Decade	4th Decade	5th Decade
FORAGE	Thousand AUM s					
Supply						
Current Direction		21.3	21.3	21.3	21.3	21.3
Maximum Potential		29	29	29	29	29
Grassland Plan		18	19	19	19	19
Demand	22.5	22.5	22.5	22.5	22.5	
FUELWOOD	Cords					
Supply						
Current Direction		300	300	300	300	300
Maximum Potential		12500	12500	12500	12500	12500
Grassland Plan	400	400	400	400	400	
MINERALS Oil & Gas	Thousand Acres					
Supply						
Current Direction		7.2	17	17	17	17
Maximum Potential		7.2	83	93	83	83
Grassland Plan		7.2	17	17	17	17
Demand	7.2	17	17	17	17	
Geothermal	Thousand Acres					
Supply						
Current Direction		0	0	0	0	0
Maximum Potential		174	174	174	174	174
Grassland Plan		0	0	0	0	0
Demand	0	0	0	0	0	
Nonenergy Minerals	Thousand Acres					
Supply						
Current Direction		0	1	3	3	3
Maximum Potential		0	1	3	3	3
Grassland Plan		0	1	3	3	3
Demand	0	1	3	3	3	
RECREATION	MRVD's					
Developed Recreation						
Supply						
Current Direction		28.8	28.8	28.8	28.8	28.8
Maximum Potential		28.8	28.8	28.8	28.8	28.8
Grassland Plan	28.8	28.8	28.8	28.8	28.8	
Demand	13.7	15.4	16.7	18.3	19.9	
Roaded Natural and Rural Supply	MRVD's					
Supply						
Current Direction		37.8	37.8	37.8	37.8	37.8
Maximum Potential		37.8	37.8	37.8	37.8	37.8
Grassland Plan		37.8	37.8	37.8	37.8	37.8
Demand	111.4	122.6	132.4	143.3	155.2	
Semiprimitive Motorized	MRVD's					
Supply						
Current Direction		0	0	0	0	0
Maximum Potential		0	0	0	0	0
Grassland Plan		0	0	0	0	0
Demand	12	13	13	15	16	
Semiprimitive Nonmotorized	MRVD's					
Supply						
Current Direction		2.6	2.6	2.6	2.6	2.6
Maximum Potential		3.2	3.2	3.2	3.2	3.2
Grassland Plan		3.2	3.2	3.2	3.2	3.2
Demand	2.0	2.1	3.0	4.0	6.0	

Resource/ Activity	Unit of Measure	1st Decade	2nd Decade	3rd Decade	4th Decade	5th Decade
Fishing Supply	MRVD's					
Current Direction		23 1	24 9	27 0	29 4	32 2
Maximum Potential		23 2	26 3	28 4	30 8	33 6
Grassland Plan		23 2	26 3	28 4	30 8	33 6
Demand		23 5	26 3	28 4	30 8	33 6
Hunting Supply	MRVD's					
Current Direction		5 7	5 6	5 2	5 3	5 3
Maximum Potential		5 7	5 6	6 2	6 2	6 2
Grassland Plan		5 7	5 6	5 4	5 4	5 4
Demand		Unknown	Unknown	Unknown	Unknown	Unknown
ECONOMIC AND SOCIAL	Change in Jobs from Current Situation					
Supply						
Current Direction		9	N/A	N/A	N/A	N/A
Maximum Potential		10	N/A	N/A	N/A	N/A
Grassland Plan		9	N/A	N/A	N/A	N/A
PAYMENT TO COUNTIES	MMS					
Supply						
Current Direction		03	03	03	03	03
Maximum Potential		03	03	03	03	03
Grassland Plan		03	03	03	03	03
WILDLIFE Deer Winter Range Carrying Capacity	Thousand of Wintering Animals					
Supply						
Current Direction		4.3	3.2	2.2	2.2	2.2
Maximum Potential		4.3	3.2	2.2	2.2	2.2
Grassland Plan		4.3	3.2	2.2	2.2	2.2
Antelope Winter Range Carrying Capacity	Hundreds of Wintering Animals					
Supply						
Current Direction		16	16	16	16	16
Maximum Potential		35	35	35	35	35
Grassland Plan		35	35	35	35	35

NOTE Current Direction is the No Action alternative which is Alternative A.

AUM's - Animal Unit Months

MRVD's - Thousand Recreation Visitor Days

MMS - Million Dollars

spreading in the creek as riparian conditions and resulting fish habitat are improved.

Many other species of wildlife make their homes in the great diversity of habitats available on the Grassland, some of which include: cavity nesting birds in the old growth juniper stands, raptors nesting on the cliffs of the Crooked and Deschutes Rivers, and the Ord's kangaroo rat in the sagebrush communities.

Supply:

The wintering deer population on the Grassland is estimated at 4,300. The habitat can support a larger population with an adjustment in cover/forage ratios which is planned to be done on the Grassland. However, intermingled private lands may be developed as homesites which will decrease overall habitat capability. It is estimated that by the third decade, wintering deer numbers will be 2,200, which will carry through the planning horizon of five decades.

The wintering antelope population on the Grassland is about 160 head. They are expected to increase up to a potential number of 350 head.

Demand:

The primary demand for wildlife on the Grassland is for populations of deer and antelope large enough to be hunted. Hunting license sales are expected to grow two percent annually between 1986 and 1995, and one percent annually thereafter.

Although the demand for hunting opportunities is expected to increase in the future, big game population levels are ultimately limited by the capacity of the environment to support them. Control through hunting is a means of regulating big game populations at levels compatible with their habitat capacity. The authority for establishing hunting seasons and regulating populations rests with the State.

Information Needs

This section lists the information, inventory, and research needs that have been identified for the Grassland. Gaps in data or scientific knowledge that would be desirable to fill prior to preparation of the next land and resource management plan are recognized. Organization and development of these needs is based on the biological, physical, and social ecosystems which are the foundation for the planning process.

This ecosystem perspective has been used to develop a comprehensive framework for identifying and organizing information, inventory, and research needs. This framework is intended to encourage integrated research approaches that address interdisciplinary needs rather than traditional functional approaches. The ecosystem approach should meet planning needs, as well as help the public understand information needs.

Of the many ecosystems found in wildlands, several were identified as having particular current importance in Grassland planning. Juniper old growth, riparian/aquatic, and upper slope ecosystems are examples of areas where more information would be desirable to test present planning assumptions as plans are implemented. Human visitors in the Grassland are an integral part of these ecosystems. People's needs and expectations concerning the Grassland should be considered in land and resource planning.

Information needed to address these concerns fall into six general categories: interactions and processes, long-term productivity, cumulative effects, management strategies and techniques, social and economic analysis, and wildland/community relations.

Interactions/Processes

This category includes information leading to a better understanding of interactions of ecosystems, and the physical, biological, social, and political processes that influence these ecosystems.

Clarify the relationships between recreational settings, use, and opportunities, and other resource uses.

Understand the relationships between old growth juniper characteristics and ecological and visual diversity, associated plant and wildlife species, and the maintenance of natural gene pools.

Determine the response of management indicator species to patterns of habitat created by management and natural succession.

Develop an understanding of ecosystem response to global atmospheric warming.

Evaluate the roles of disturbance processes in the maintenance and succession of natural systems.

Develop an understanding of atmospheric dispersion and deposition processes.

Determine the mechanisms of plant and animal dependence on fire.

Improve knowledge of the distribution and habitat requirements of wildlife associated with juniper old growth forests.

Long-Term Productivity

This section includes studies leading to a better understanding of ecosystem needs in order to maintain various aspects of long-term productivity.

Determine the effects of removing various levels of biomass on soil productivity.

Identify the current productivity levels of resources such as wildlife, forage, and fish habitat to establish baseline levels of productivity.

Establish baseline information on nutrient levels and distribution in soils and vegetation for major soil groups.

Assess the magnitude of change in vegetative growth rates in a carbon-enriched atmosphere.

Understand the role of fire in the nutrient cycles that maintain long-term productivity.

Cummulative Effects

This section includes studies to examine the cumulative effects of naturally occurring and human-induced activities on various aspects of selected ecosystems and resources.

Understand the cumulative effects of various management practices on resource outputs.

Identify the effects of changing habitat patterns on selected management indicator species.

Evaluate the effects of fire exclusion on the structure and function of ecosystems.

Determine the effects of human disturbance and livestock competition on wildlife species.

Management Strategies and Techniques

Assess the relationship of human presence in recreation areas and wilderness on habitat use by wildlife.

Assess the results of stream rehabilitation projects on fish population dynamics, public perception of landscape and recreation quality, stream quality, stream hydrology, etc.

Predict the changes in air quality that will result from alternative management strategies.

Evaluate decision processes that can compare market and nonmarket benefits.

Improve the efficacy of fire use for vegetation management and as an alternative to herbicide use.

Develop and refine monitoring techniques, including:

Techniques used to assess habitat conditions and trends.

Methods of assessing population density and reproductive success.

Procedures for using habitat information to make inferences about populations.

Cost-effective sampling designs that provide information about both habitats and populations with appropriate reliability.

Review the utility of the ecological indicator species concept as a framework for wildlife planning, and investigate alternatives.

Social and Economic Analysis

Additional studies are needed to increase our understanding of the economic and social effects of many planned wildland activities.

Determine the costs and benefits of the grazing program to the local agricultural community.

Improve knowledge of mineral resource potential on the Grassland.

Wildland-Community Relations

The relations and interactions between wildlands and the human communities within and around them need to be better understood.

Understand the effects of prescribed fires on nearby communities.

Determine potential effects of increased human densities in and near national forests on recreational use, fire management, water quality, wildlife, cultural resource protection, etc., and develop strategies to respond to these relationships.

Chapter 3

Response to Issues, Concerns, and Opportunities

Chapter 3

Response to Issues, Concerns, and Opportunities

Overview

The Ochoco National Forest and Crooked River National Grassland initiated the public involvement process in 1980 to prepare for the Draft Plan and Environmental Impact Statement (EIS). There has been a major effort throughout the process to capture and incorporate public and agency ideas so that the Final Crooked River National Grassland Plan can be responsive to concerns and new information. This has been a continuing effort. The Plan is intended to be dynamic in its ability to respond to new ideas, issues or information as circumstances may require.

Issues Display and Discussion in the Final EIS

Appendix A in the FEIS details how the issues were originally developed and how they evolved. The public comments on the DEIS, and the Forest responses to those comments are discussed in Appendix I of the FEIS. The comments received on the Draft Plan and EIS did result in changes in the final documents. A number of the issues were modified and new issues added.

In the Draft Plan, National Grassland management and direction was overshadowed by the National Forest. In response to public comments, a separate plan was developed for the Grassland.

A discussion of the changes in issues from the Draft to the Final and how the Plan will address the issues follows.

Issue #1, Timber Supply and Forest Management, is not an issue on the Grassland. There is no programmed harvest of timber on the Grassland in this Plan.

Issue #2, Social and Economic Wants and Needs of Local Communities, continued to receive attention. Some comments noted the importance of grazing on local economies. These respondents expressed concern over the negative effect that reductions in grazing would have on Jefferson County.

As noted in the discussion under Issue #3, livestock grazing will increase over time. The local ranching community will continue to benefit from a dependable supply of forage.

Local communities are dependent on forest-related jobs and income, and payments to counties in lieu of taxes. As a result, economics is the major factor in measuring the social and economic effect the Plan will have on these communities.

Using computer models (described in FEIS Appendix B), the economic effects of the Plans¹ for the first decade were estimated.

Income	Increase \$1.737 million
Employment	Increase 124 jobs
Payments to counties, average annual	\$4.9 million

Payments to counties will increase to \$5.6 million in the second decade and then decrease to \$5.4 million by the end of the fifth decade.

Issue #3, Livestock Grazing or Grazing Allotments, remained a major issue for the management of Grassland. In the public comments on the Draft, concern was expressed over the impact of grazing on riparian

areas and big game habitat. Many felt livestock grazing numbers could not be increased while simultaneously improving riparian conditions.

Spring, summer, and fall pasture will continue to be provided for livestock. The present supply of 17,000 AUM's for livestock will continue to be provided through the first decade, increasing to 18,000 AUM's in the second decade and 19,000 AUM's in the third decade and after. Forage productivity will be increased through structural and nonstructural range improvements including seeding, burning, fencing, and development and maintenance of water sources. Special attention will be given to the needs of wintering wildlife in the deer and antelope winter range areas.

Issue #4, Riparian Area Management, received additional interest during the public comment period for the Draft. As noted in the discussion for Issue #3, concern was expressed over the proposed increases in grazing numbers and how this might prevent the Grassland from improving riparian conditions.

The goal is to bring all riparian on the Grassland into "excellent" condition. Approximately 90 percent of the riparian improvement work has been completed, and the remaining 10 percent will be completed in the first decade. However, it will take many years before all riparian areas have attained their full biological potential.

Specific practices will include more intensive management practices (e.g., exclusion, high intensity-short duration grazing, and riparian pastures) and range improvements (e.g., fences and water developments). Range allotment plans will include forage utilization levels needed to meet brush and hardwood protection or riparian improvement needs.

Issue #5, Transportation System, generated 1000 comments on the DEIS. Some commented that too many roads are constructed and that road standards are too high. These respondents expressed concern over the cost of road construction and maintenance.

Support was voiced for the physical closure of roads to protect water quality and sensitive areas. Both temporary and permanent road closures were recommended to protect wildlife habitat. This is different from the comments made at the first public meetings, which opposed the closure of areas to access by motorized equipment. This view was expressed in comments stressing the need for roads to provide recreational access for the elderly and handicapped.

A travel plan for the Forest will address road management concerns and will complement the objectives of the various management areas on the Forest and Grassland. Wildlife habitat effectiveness objectives will be partially met through road restrictions and closures. The number of miles of roads maintained open for public travel on the Forest will decrease nominally in the future as a result of these road restrictions and closures for big game habitat protection, erosion control, and public safety.

In the first decade 4 miles of road will be maintained for passenger car travel, and 446 miles will be maintained for high clearance vehicles. By the fifth decade, 4 miles will be maintained for passenger cars, and 305 miles for high clearance vehicles.

Roads will be closed to protect soil and water, prevent disturbance of big game, and limit investment loss. In the first decade, 15 miles of roads will be closed. In the fifth decade, 25 miles will be closed. Closures may be seasonal or year long.

Issue #6, Big Game Habitat, was second only to timber in the number of public comments on the draft. While most comments addressed elk, which do not occur on the Grassland, comments were also received regarding deer and antelope. The public supported the management of big game winter range and the management of road systems to attain habitat effectiveness.

Management areas have been established to provide for wintering deer and antelope. Winter range will be provided to support 350 antelope. Deer winter range will support 4300 head in the near future, then drop steadily as private lands are developed and winter range effectiveness decreases, leveling off at about 2200 head.

Issue #7, Roadless Areas and Wilderness Study Areas, generated the third highest number of comments on the DEIS. Some of these comments addressed Deschutes Canyon. There was strong sentiment for the retention of existing roadless areas by some, while others objected to the single-use designation as precluding other uses. Some respondents recommended that roadless area management reflect a compromise between natural values and commodity production.

None of the Deschutes Canyon-Steelhead Falls Wilderness Study Area is being recommended for wilderness designation at this time. The primary reason for this is that most of the land within the study area is open country with evidence of human use in the form of roads and structures. The area within the Deschutes and Squaw Creek canyons possessing more rugged scenic characteristics is too small to be effectively administered as a wilderness. In addition, parts of this area have been classified under the Wild and Scenic River Act, and will receive protection under that law. Details of this recommendation are included in Appendix C of the FEIS.

Squaw Creek and the area surrounding it will be managed for nonmotorized recreation and to protect its natural features. The Deschutes and Crooked Rivers will continue to be managed to protect their natural characteristics. Both have been added to the Wild and Scenic River System. Squaw Creek has had an eligibility determination made for Wild and Scenic River designation. (See FEIS Appendix H.)

Issue #8, Scenic or Visual Resources, continued to receive public interest, although only a few comments concerned the Grassland. Some comments supported increased emphasis on visual resources, while others supported less emphasis.

Power lines visually dominate the landscape in parts of the Grassland. Existing power line corridors have been identified. While additions may be made to existing corridors, no new corridors will be developed.

The Crooked River Recreation Management Area (720 acres), Deschutes River Scenic Corridor Management Area (650 acres), and the Lake Billy Chinook View Management Area (560 acres) will be managed to maintain scenic quality.

Issue #9, Old Growth Forest, generated over 1000 comments on the DEIS. Some respondents noted the need to retain some old growth juniper habitat.

For juniper old growth dependent species, 740 acres of habitat will be dedicated in addition to the stands of juniper that may exist at any time elsewhere on the Grassland.

Issue #10, Fuelwood Supply, also generated over 1000 comments on the DEIS. The comments supported the continuation of fuelwood supplies into the future.

This Plan will continue to make firewood available in a manner consistent with other resource objectives and environmental constraints. Approximately 400 cords will be available annually between 1990 and 2000.

Between 1984 and 1989, the annual demand for firewood on the Forest and Grassland has been less than 6,000 cords. Even coupled with the Forest's supply, it appears that demand will exceed supply.

Issue #11, Snag Dependent Wildlife - Cavity Nesters, is not an issue on the Grassland. Some suitable cavity nester habitat does occur in juniper old growth stands.

Issue #12, Winter Sports, is not an issue on the Grassland because the traditional winter recreation use that this issue deals with does not occur on the Grassland.

New Issues

Public involvement, including comments on the DEIS, has resulted in the Forest adding four new issues to the twelve developed for the DEIS. Two of the issues are extensions of previous issues where it became evident that special attention would be appropriate in the FEIS to capture public concerns and allow full assessment of the issue in the development, analysis and selection of a final alternative for the Forest and Grassland Plans.

Anadromous Fish: Anadromous fish is not an issue on the Grassland, because the Round Butte Dam prevents the fish from entering the rivers on the Grassland.

Historic Trail Preservation - Summit Trail: Because the Summit Trail does not cross the Grassland, this is not a Grassland issue.

Off-Road Vehicle (ORV) Use: This issue emerged during the issue/Final Plan validation phase. Most respondents desired a reduction in ORV use on the Grassland. Some favored a total ban on ORV's, while others felt use should be prohibited in sensitive areas. This issue is best described as a social issue. Off-road vehicle owners like to pursue fun through the use of their ORV. Others find ORV's offensive and oppose the use of them on the Grassland. Much of the distaste seems to surround the noise levels, the displacement of wildlife, trespass onto closed areas and private land and the impacts they make on scenery. Off-road vehicle users feel that the Grassland has enough nonmotorized opportunities, and that motorized recreation opportunities are lacking.

A managed system of trails for off-highway vehicles will be provided at the Trails Crossing (Henderson Flat) area and other designated trails identified on the Travel Plan Map.

Round Mountain: Because Round Mountain is on the National Forest, it is not a Grassland issue.

Chapter 4

Grassland Management Direction

Section 1

Grassland Management Goals, Objectives, and Desired Future Condition

Chapter 4

Grassland Management Direction

Section 1

Grassland Management Goals, Objectives, and Desired Future Condition

Management goals provide broad direction for the management of the Grassland. Specific direction, based on the goals, is provided in the General Standards and Guidelines and Management Area Standards and Guidelines, Section 3.

Primary goals for the Grassland are:

Administer the National Grassland under sound and progressive principles of land conservation and multiple use, and promote the development of grassland agriculture and sustained-yield management of the forage, fish and wildlife, timber, water, and recreational resources.

Manage the National Grassland resources to maintain and improve soil and vegetative cover, demonstrate sound and practical principles of land use, and exert a favorable influence for securing sound land conservation practices on associated private lands.

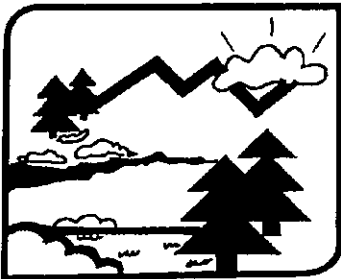
Objectives represent projected outputs which are estimates of the levels of goods and services anticipated when the Plan is fully implemented. Table 4-1, p. 4-20, displays the expected outputs of key resources on the Grassland, expressed in terms of average annual outputs per decade for the next five decades. The outputs shown are projections developed by resource specialists based on available inventory data and assumptions, and are subject to the annual budget and other elements of uncertainty inherent in predicting future events.

Desired future conditions summarize the anticipated physical changes that are likely to occur as a result of carrying out planned management practices. These descriptions are provided at ten years, and fifty years and beyond for the Grassland.

The information presented in this section provides goals, objectives, and desired future conditions for the key Grassland resources. Resources are presented in alphabetical order. They are:

AIR QUALITY
BIOLOGICAL DIVERSITY
CULTURAL RESOURCES
FACILITIES
FIRE
FORAGE AND LIVESTOCK USE
FUELWOOD
LANDS
MINERALS AND ENERGY
OLD GROWTH JUNIPER
RECREATION
SCENIC RESOURCES
SOCIAL AND ECONOMIC
SOIL
TRANSPORTATION SYSTEM
WATER
WILDLIFE AND FISH

Air Quality



Goal(s)

Maintain air quality at a level adequate for the protection and use of the Crooked River National Grassland resources, which meets or exceeds applicable Federal and State standards and regulations (Clean Air Act, as amended, and Oregon State Implementation Plan for Protection of Visibility in Class I Areas).

Objectives

Use the best available technology and management techniques to minimize smoke production from prescribed burning activities. Table 4-1, p. 4-20, shows the estimate of total suspended particulates (TSP) generated in smoke from both natural and activity residue treatments.

Desired Future Condition

In Ten Years

Air quality will be maintained or improved due to increasingly stringent State restrictions on burning. However, air quality will continue to be influenced by smoke and other pollutants produced outside the Grassland, e.g. local agricultural field burns, and slash treatment from neighboring forest lands.

Fifty Years and Beyond

Air quality should be much improved through a variety of regulatory and burning technologies. Much of the desired vegetation mosaic will be in place (more grass and forbs, less juniper and sage) which translates into fewer smoke emissions from the continuing maintenance burning envisioned.

Biological Diversity



Goal(s)

Maintain native, historic, and desirable introduced plant and animal species and communities, including those that may be threatened, endangered, or sensitive.

Maintain or enhance ecosystem functions to provide for long-term productivity of resources and biological communities.

Objectives

Provide for all seral stages of terrestrial and aquatic plant associations existing and/or desirable for the Grassland with a distribution that is ecologically sound, and ensure continued reproduction of the species. For the Crooked River National Grassland, the following diversity elements serve as objectives for defining biological diversity for both plants and animals. Values are displayed as totals, rather than as average annual outputs.

Desired Future Condition

In Ten Years

Biological diversity of plant and animal communities and species will be different in ten years.

Riparian areas, which serve as critical habitat for more than 75 percent of the Grassland's wildlife species, will be improved over today's conditions, as a result of specific management actions.

Dedicated old growth juniper areas will be providing a habitat niche that has shrunk as other areas have been managed for optimum deer habitat and livestock forage production.

All plant communities will be present as no planned activities are intensive to the point that they would result in a change from one plant community to another. Vegetation conditions will be improving on areas that are presently in less than good condition.

Fifty Years and Beyond

Riparian areas will all be in excellent condition and will contain a large variety of plant communities.

Dedicated old growth juniper areas will be providing a habitat niche that has shrunk as other areas have been managed for optimum deer habitat and livestock forage production.

All areas will be in good vegetative condition.

Cultural Resources



Goal(s)

Locate, evaluate, protect, and mitigate if necessary, significant historic and archaeological sites. Enhance selected sites for public enjoyment, education and interpretation. Conduct cultural resource planning and preservation with public involvement from American Indian Tribes, historical societies, local interest and professional groups. Promote opportunities for research, traditional Native American cultural practices, writing and photography.

Objectives

Complete "broad area" cultural resource inventories and documentation prior to ground-disturbing activities on the Grassland (e.g. range improvements, water developments, pipeline or powerline installations, or road construction projects). Identify Native American traditional food and religious use areas in Compliance with Public Law 95-341 (American Indian Religious Freedom Act) and the Treaty of 1855, with the assistance of the Warm Springs Confederated Tribes. Site enhancement and protection, and National Register nominations will be accomplished through the NEPA process and be funded by specific projects or the Regional cultural resource capital investment process.

Site Enhancement and Interpretation

A comprehensive interpretative plan for the Grassland and its historic, cultural, and prehistoric resources will be implemented. Selected sites and classes of sites (thematics) will be enhanced and interpreted. A minimum of four sites or thematic classes will be interpreted per decade, gradually increasing during the five decades. Local citizens, interest groups, American Indian Tribes, and professional organizations will be involved in both comprehensive planning and specific site enhancement and interpretation.

National Register Nomination

An integral part of recording sites will be the application of the eligibility criteria for inclusion in the National Register of Historic Places. Determinations of Eligibility and Nominations will be treated thematically where possible to facilitate the treatment of groups, classes and districts of similar cultural resource sites. For example, the history of the Grassland and its associated homestead sites will be examined for their potential as a historic district. A determination of effect will be made for all listed or eligible sites prior to the implementation of associated projects. Nominations will generally be done on thematic classes or districts of historic or prehistoric sites.

See Table 4-1, p.4-20, for outputs by decade for Cultural Resources.

Desired Future Condition

In Ten Years

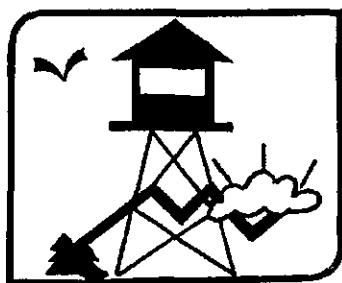
The “Interim Cultural Resource Inventory Design” will have been implemented and 11,000 acres will have been surveyed. Sufficient inventory data will be available to modify the Inventory Design to conditions specific to the Grassland. Thematic Determinations of Eligibility for classes of historic and prehistoric sites will have been conducted. Management plans and allocations for site and thematic site classes will have been implemented through the NEPA process with public involvement by local citizens, interest groups, Indian Tribes, the State Historic Preservation Office and the Advisory Council on Historic Preservation. Traditional Native American use of sites and areas will be recognized and considered during land and resource management activities. Site enhancement and interpretation will have been performed on specific sites and thematic classes. Stabilization of threatened cultural resource sites will have been performed within or adjacent to existing public recreation and use areas.

Fifty Years and Beyond

Cultural resources will be managed as part of a state-wide strategy in coordination with the State Historic Preservation Office and other Federal and State agencies. Cultural resource surveys will have been completed on 25,000 acres (25 percent of the Grassland). The accumulated knowledge of historic, cultural

and prehistoric site types and implementation of management plans and allocation strategies for cultural resource will reduce the need to inventory certain portions of the Grassland. Enhancement and Interpretation will dominate the program. Local citizens, groups and professional organizations will be involved in site preservation and interpretation. Native Americans will make greater use of the Grassland for traditional food gathering and religious practices; they will be involved in the management and treatment of prehistoric sites and burials, and the Grassland in general.

Facilities



Goal(s)

Plan, construct, maintain, and manage Grassland facilities to provide maximum economy, investment protection, user safety, and resource protection.

Objectives

Facilities consists of administrative sites located on the Grassland. There are campgrounds, day use areas such as Rimrock Springs Wildlife Management Area, and the Grassland field headquarters. Table 4-1, p. 4-20, shows future facilities construction and improvements as total numbers by decade.

Desired Future Condition

In Ten Years

Grassland facilities will be attractive to users and reflect favorably on the Forest Service. Marginal facilities will have been removed or upgraded based on need and planned life expectancy. Historic values of the facilities at the Grassland field headquarters will be emphasized in the ongoing maintenance.

In Fifty Years and Beyond

No drastic changes in location or design of Grassland facilities are predicted, even though some changes may occur as a result of an aging population.

Any reconstruction work done at Grassland field headquarters will conform to historic construction type.

Fire



Goal(s)

Control wildfire aggressively, particularly in urban-Grassland interface areas, and in a cost-effective manner (minimize suppression cost plus loss).

Provide for the ecologically sound use of prescribed fire as a cost-effective management tool for achieving other resource management objectives.

Objectives

Wildfire Management

Provide a cost-efficient fire management organization as determined by the National Fire Management Analysis System. The Wildfire Effectiveness Index figures shown in Table 4-1, p. 4-20, represent average annual program cost plus wildfire loss per thousand acres protected.

Prescribed Burning

Reduce wildfire intensities to support a cost-efficient fire protection organization.

Emulate the natural role of fire in maintaining environmental diversity and site productivity, and in maintaining or improving wildlife and range habitat.

Table 4-1 provides estimates of average prescribed fire acres. It is anticipated that there may be large variations above and below these averages in any one year due to variations in available burning conditions, funding, and personnel.

Desired Future Condition

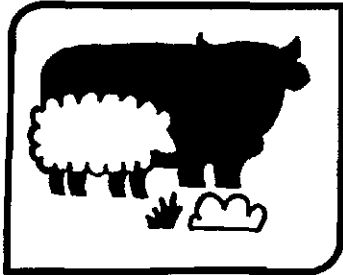
In Ten Years

The natural role of fire in the Grassland ecosystem will be emulated by a mix of prescribed fire, natural fire, and other management techniques.

Fifty Years and Beyond

The natural role of fire in the Grassland ecosystem will continue to be emulated by a fully integrated program of prescribed fire and other management techniques. Increasing values at risk on intermixed private lands will continue to increase the need for fuel hazard management at the interface with Grassland areas and continued cooperation with wildland/urban fire control agencies.

Forage and Livestock Use



Goal(s)

Provide forage for wildlife and domestic livestock in a manner consistent with other resource objectives and environmental constraints, while maintaining or improving ecological condition and plant community stability. Use livestock as a tool for improvement of vegetation, soils, and watersheds.

Objectives

Present permitted use by domestic livestock is 22,000 Animal Unit Months (AUM's). The average actual use by domestic livestock is 17,000 AUM's. The difference between permitted use and actual use is due to forage utilization standards being met before the end of the grazing season on many allotments, and livestock being removed from the Grassland prior to the completion of the permitted season.

By implementing more intensive livestock management systems and improving forage production by increasing the prescribed burning program, it is projected that actual use by livestock will increase to 18,000 AUM's per year during the first decade, and 19,000 AUM's per year during the second decade and thereafter. (See Table 4-1, p. 4-20,)

Desired Future Condition

In Ten Years

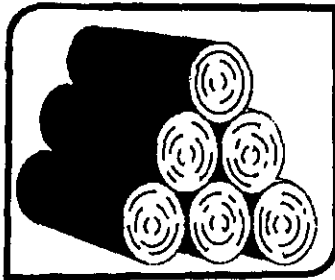
Forage conditions are intended to improve as allotment management plans and intensive management systems are implemented, and range improvements are constructed or reconstructed. Forage for domestic livestock, deer, and antelope will be improved on approximately 3,000 acres per year by burning or cutting juniper and burning sagebrush.

Fifty Years and Beyond

Forage conditions will have been improved to their full potential given other resource considerations. All allotment management plans will have been updated several times and intensive range management practices will have been in place for years. Few new range improvements will be required and the range improvement program will consist of reconstructing existing improvements as they wear out. New management techniques and practices will be implemented.

The number of grazing allotments will most likely decrease, but productivity will be up about 10 percent due to intensive management practices and improved forage conditions. Burning and cutting to control juniper, and burning to control sagebrush, will be ongoing range improvement practices involving about 3,000 acres per year.

Fuelwood



Goal(s)

Provide fuelwood for personal and commercial use in a manner consistent with other resource objectives and environmental constraints.

Objectives

Fuelwood will be provided as a side benefit of clearing juniper for wildlife habitat and forage enhancement practices. Current and expected output is about 400 cords per year. (See Table 4-1, p. 4-20.)

Desired Future Condition

In Ten Years

Fuelwood outputs will continue to be about 400 cords per year and it will be a by product of juniper removal for forage and wildlife habitat enhancement.

In Fifty Years and Beyond

Fuelwood outputs will continue to be about 400 cords per year but the material will be smaller as optimum cover/forage ratios are obtained and available material starts coming from re-treated areas.

Lands



Goal(s)

Permit special land uses that have been evaluated in relationship to land management objectives, are harmonious with other resource objectives and environmental considerations, and that are in the public interest.

Achieve a pattern of landownership that best supports resource goals, improves the efficiency of resource management, and demonstrates effective Grassland management.

Objectives

Issue and administer special use permits in a manner consistent with management area direction (See Table 4-1, p. 4-20, for special use outputs by decade.)

Desired Future Condition

In Ten Years

The demand for special use permits, both recreational and nonrecreational, will increase. There will be no new utility corridors, but additional lines may be added to existing corridors. The National Recreation Strategy will result in additional permits for recreational facilities and activities.

There will be some accomplishment toward land exchange goals. Research Natural Areas (RNA's) will be withdrawn from mineral entry. Property boundaries will be surveyed, marked, and posted. Encroachments will be eliminated. Rights-of-way for trail access will be acquired.

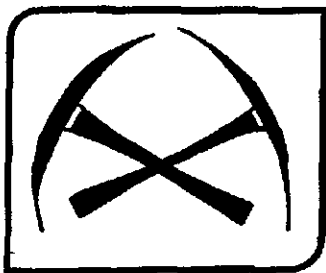
The lease agreement with the State for National Forest System lands within Cove Palisades State Park will be continued. Lands not needed for Grassland purposes within the Park may be traded to the State. The Island RNA will be retained in Grassland ownership.

Fifty Years and Beyond

The demand for special use permits will continue to increase. The number of transmission lines within existing utility corridors is expected to increase.

Moderate progress will have been made toward accomplishing the desired land ownership. All of the property boundaries will have been surveyed, marked, and posted to Forest Service standards and maintained regularly. Grassland ownership within the Cove State Park may have been transferred to the State. The power withdrawals in excess of existing reservoir pool requirements along the Crooked and Deschutes Rivers will have been revoked and authority transferred to the Grassland or State.

Minerals and Energy



Mineral potential is discussed in detail in Appendix I.

Goal(s)

Provide for and facilitate the exploration, development, and production of mineral resources on the Grassland in coordination with other resource objectives, environmental considerations, and mining and leasing laws.

Objectives

Oil and Gas

The Grassland will respond to demands for oil and gas leases. In 1980, 17,000 acres were under lease; 7,200 acres are presently (1989) under lease. On the Grassland, 93,000 acres (includes all ownerships) are classified as being potentially valuable for oil and gas. This is assumed to be the maximum acreage that might be leased. Domestic demand for oil and gas leasing is directly related to international production and prices. Increases in the cost of imported oil and increased turmoil in the Middle East can trigger increased domestic production. These factors may cause an increase in leasing on the Grassland sometime in the next five decades. Changes in the international situation, changes in technology, or the depletion of Grassland oil and gas deposits may then result in the decline in the acres leased.

Geothermal

The Oregon Department of Geology and Mineral Industries (DOGAMI) has classified the entire Grassland as "favorable for the discovery at shallow depth (less than 1,000 meters) of thermal water of sufficient temperature for direct heat applications." However, approximately three-quarters of the state is given this classification, and DOGAMI states, "it is probable that only small areas of this region are truly underlaid by such thermal water." For the purposes of this Plan, it is assumed that the geothermal exploration during the next five decades will be concentrated in those areas where it is now occurring, and the Grassland will not issue any geothermal leases.

Nonenergy Minerals

Approximately 22,000 acres are classified as having moderate potential for gold, silver, and mercury, and approximately 12,000 acres are classified as having moderate potential for diatomite. However, very little exploration has been done on the Grassland, and it is likely that further exploration will result in much of this land being reclassified as having low potential.

Common Variety Minerals

The aggregate mined on Grassland land is mostly used to surface State and county roads. The demand for this material is expected to remain constant over the next five decades. See Table 4-1, p. 4-20.

Desired Future Condition

In Ten Years

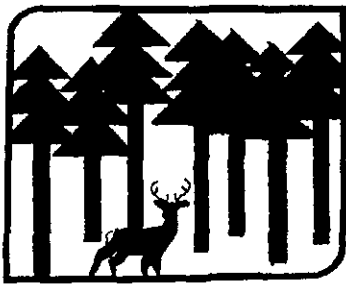
Mining activity is not expected to change from the present low level of activity unless a valuable deposit is discovered. If oil and gas shortages develop nationally, seismic exploration activities could occur on the Grassland. An overall materials source management plan will be developed and a comprehensive

development plan written for each active or proposed source. All sources will be rehabilitated when depleted or closed. Most common variety material is used for road maintenance or reconstruction by local government agencies, and the demand for common variety materials will remain the same.

Fifty Years and Beyond

Interest in oil and gas leasing and exploration is expected to increase. Common variety minerals sources will be developed and rehabilitated in accordance with a materials source management plan.

Old Growth Juniper



Goal(s)

Provide stands of old growth juniper on the Grassland for wildlife habitat, ecosystem diversity and aesthetic diversity.

Objectives

Manage the 15 designated old growth juniper stands spaced approximately five miles apart so that the unique habitat niches they provide will be available for the wildlife species that use them.

Desired Future Condition

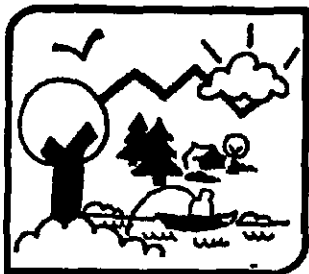
In Ten Years

Designated old growth juniper sites will be providing habitat niches and diversity while other areas will have various percentages of the juniper treated for wildlife habitat and range improvement objectives.

Fifty Years and Beyond

Designated old growth juniper sites will be continuing to provide habitat niches and diversity.

Recreation



Goal(s)

Emphasize the National Recreation Strategy.

Provide for a variety of recreational experiences in grassland, high desert, canyon, and riparian environments in a manner consistent with other resource objectives and environmental constraints.

Protect unique natural and recreational features.

Objectives

Manage, improve, modernize, and expand developed recreation sites based on use and needs.

Provide for a wide variety of recreational opportunities.

Desired Future Condition

In Ten Years

A variety of recreational opportunities will be provided. Existing campgrounds and boat ramps will be maintained and additional camping and boating facilities will be constructed at Haystack Reservoir.

The special values associated with existing and potential Wild and Scenic Rivers will be protected and enhanced. Opportunities for semiprimitive nonmotorized recreation will be provided in the Deschutes Canyon and Squaw Creek areas. Trailheads will be developed; rights-of-way and lands will be acquired to provide better public access for this area.

Off-road vehicles (ORV's) are expected to become increasingly popular. ORV use will be accommodated on designated routes on the Grassland. Staging areas, camp areas, and routes offering a variety of challenges will be identified on the Grassland.

Fifty Years and Beyond

Recreational use of all types is likely to increase, requiring new strategies for managing and distributing use.

Scenic Resources



Goal(s)

Participate in the “National Forest Scenic Byways” program, through nomination of special Grassland roads that exhibit exceptional qualities and meet national selection criteria.

Provide natural appearing scenery along major travel ways, at developed and dispersed recreation sites, and in management areas where recreation is emphasized.

Integrate visual quality management into all resource activities which have potential effects on scenery.

Objectives

Table 4-1, p. 4-20, lists the acres projected for scenic resources by Visual Quality Objective (VQO). See Standards and Guidelines, Section 3, this chapter, for listing of VQO's by Management Area.

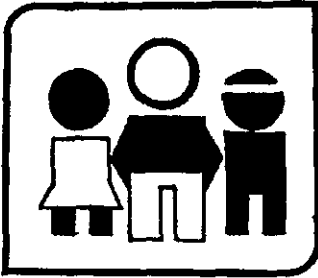
Desired Future Condition

In Ten Years, Fifty Years and Beyond

Juniper areas will be a mosaic of juniper and openings as a result of wildlife cover and forage manipulations.

Powerlines and other above ground facilities will continue to dominate the landscape within the utility corridors.

Social and Economic



Goal(s)

Manage the Grassland to lend support to the social and economic viability of local communities, as well as to the Nation as a whole.

Provide equal opportunities to people regardless of race, color, creed, sex, marital status, age, handicap, religion, or national origin.

Maximize net public benefits (36 CFR 219.3).

Objectives

The Grassland will continue to generate receipts primarily from grazing fees, special use permit fees, firewood sales, and mineral leases. Up to seventy percent of the gross grazing fees are retained by the Gray Butte Grazing Association to cover administrative costs and the Conservation Practices program. The remaining thirty percent of grazing fees is combined with all other receipts. Of this total, twenty-five percent goes to the county and seventy-five percent goes to the U.S. Treasury. The county also receives an average of about \$20,000 worth of mineral materials for roads per year at no cost.

Desired Future Conditions

In Ten Years

The management of Grassland resources will be accomplished in an economically efficient manner. Investments in resource management will take into account site productivity, product value and marginal rates of return. Resources with market value (e.g. special uses, minerals, and grazing) which contribute to county receipts and the local economy, will experience increasing competition with nonmarket resources, (e.g. unroaded recreation, wildlife habitat, and unspoiled scenery). Urban population values and demands for the latter values from the National Grassland will increasingly conflict with local utilitarian views and lifestyles. The Forest Service, caught in this conflicting dichotomy, will continue to seek a balance of use options, and to form public partnerships.

Fifty Years And Beyond

The dichotomy and competition for resources, and the purposes of the National Grassland, will be politically and legislatively addressed, and the questions of today resolved, although new issues will arise. Greater uniformity and clarity will exist in how publics view the National Grassland, its purpose, and its management. The present method of payment to counties, which encourages conflict, will be changed to something other than that requiring local governments to emphasize resource extraction from the National Grassland in order to maximize county receipts.

Soil



Goal(s)

Manage soil to maintain, restore, or improve its natural productive potential.

Objectives

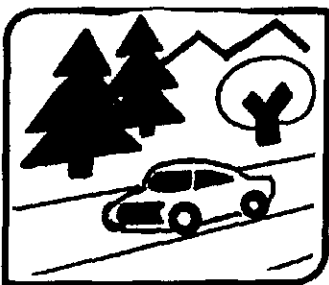
Land disturbing management activities such as road-building, grazing, and certain recreational uses have a potential for dramatic decreases in soil productivity if not managed or mitigated correctly. The objective of the Crooked River National Grassland is to prevent or correct soil damage in all activity areas that result in productivity loss on lands dedicated to plant and water production. (See Table 4-1, p. 4-20,)

Desired Future Condition

In Ten Years and Beyond

Soil productivity will be conserved; areas where productivity has been impaired will be rehabilitated through management activities.

Transportation System



Goal(s)

Plan, design, operate, and maintain a safe and economical transportation system that provides efficient access for the movement of people and materials involved in the use and protection of Grassland resources.

Objectives

The miles of road open and maintained on the Grassland will decline over time as the Forest Service assumes ownership of 78 miles of public usage roads, no longer maintains other public usage roads, and inactivates and revegetates roads identified as having no current or future use for resource management. Initially, 15 miles of development roads will be closed seasonally or yearlong, increasing to 25 miles by the fifth decade. Four miles of road will be maintained for passenger vehicles, while the remaining miles (446 miles initially, and 305 miles by the fifth decade) of development roads will be maintained only for high clearance vehicles.

Desired Future Condition

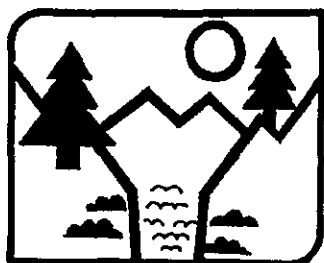
In Ten Years

State highways and County roads will continue to provide the principal access to the Grassland. The Forest Service will assume ownership and management of over 78 miles of public usage roads while other public usage roads on the Grassland will no longer be maintained by the Forest Service. Approximately 50 miles of roads identified as having no current or future use for resource management will have been inactivated and revegetated. Fifteen miles of Grassland development roads will be closed seasonally or yearlong. Most of the other 450 miles of Grassland development roads will be maintained only for high clearance vehicles.

Fifty Years and Beyond

Some of the primary, high-use county roads providing access to the Grasslands will have improved surfaces. Roads totaling 181 miles will have been closed and revegetated, and 25 miles will be closed seasonally or yearlong - a 36 percent increase in seasonal and yearlong closures over existing conditions. The other 310 miles of roads will be open only to high clearance vehicles.

Water



Goal(s)

Maintain or improve water quality, quantity, and timing of run-off.

Comply with the objectives of the "Clean Water Act" and Oregon State water quality standards.

Provide water of a consistently high quality to users and dependent resources.

Objectives

Maintenance or improvement of water quality will be achieved through proper management of riparian areas and uplands. See Table 4-1, p. 4-20, for acres of riparian improvement by decade.

Desired Future Condition

In Ten Years

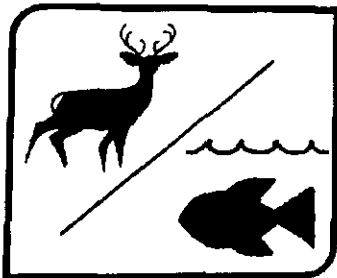
Work to restore riparian areas will have been completed, but not all riparian areas will have had time to recover to full biological potential. Many streams that

presently flow only seasonally will flow year-round. The potential for overland flows and delivery of sediment to streams from upland areas will have been reduced by construction of structural improvements (namely fences to exclude livestock and the development of dispersed water sources) and adjustments in grazing systems. Water quality will be maintained or improved to meet state standards for temperature and turbidity.

In Fifty Years and Beyond

All riparian areas will be in excellent condition. Where the potential exists, stream channels will be narrow and deep with overhanging banks. Deciduous vegetation will shade 80 percent of the surface of perennial streams, lowering water temperatures and improving fish habitat. Fish populations will be ten or more times the present population due to excellent stream and riparian area conditions.

Wildlife and Fish



Goal(s)

Identify existing populations of any threatened, endangered, or sensitive species, and maintain or improve their habitats.

Provide, manage, and improve fish and wildlife habitats to maintain viable populations of existing native and desired non-native vertebrate species, including threatened, endangered, and sensitive species.

Objectives

Wintering Antelope Population

There are currently about 160 head of antelope wintering on the Grassland, considerably more than noted in the unit plan (1979), which predicted that antelope numbers would stabilize at 70 to 75 head. It is now believed that the wintering herd will continue to increase to a maximum of about 200 to 350 head, or to the point where neighboring private land damage complaints require the Oregon Department of Fish and Wildlife (ODFW) to limit further population growth. Antelope wintering habitat will be managed for the maximum number.

Wintering Deer Population

Deer populations are expected to remain at current levels in the near future, but drop dramatically in later decades as private land on the winter range is developed for homesites. The present deer population on the winter range is about

4,300. Habitat on the Grassland will continue to be improved to provide the optimum cover/forage ratios. However, at the same time, private land within and adjacent to the Grassland, that is also part of the winter range, is expected to be developed into home sites, reducing its ability to support deer. If the Grassland can acquire the private land, deer numbers may be maintained at the higher levels.

Desired Future Condition

In Ten Years

The wintering antelope population is expected to increase until it reaches the carrying capacity of the range at 200 to 350 head. The summering population is expected to remain at 40 to 50 animals.

Wintering deer populations are expected to remain at existing levels (in spite of development on private lands within the winter range) due to improved habitat on the Grassland. Habitat enhancement work will include: managing juniper to attain a 40 to 60 cover-to-forage ratio, prescribing fire applications on winter ranges, and improving riparian areas.

Populations of animal species, including upland game birds, doves, bluebirds and other songbirds, small mammals, reptiles, and amphibians, are expected to increase substantially as vegetation conditions in riparian areas and elsewhere improve, and as brush planted for winter cover and hiding cover matures.

Fish populations will increase dramatically as riparian areas improve in condition.

Fifty Years and Beyond

Antelope populations should be about the same on the Grassland summer range as they were after the first decade. Winter range numbers should also be about the same or less, depending on what happens on the summer ranges off the Grassland.

Deer populations are predicted to drop over the next 50 years. The Grassland portion of the winter range should be producing habitat at its potential due to habitat improvement work. Since a large portion is within private holdings, changes in the management of these lands are predicted, and natural succession will adversely affect the mule deer carrying capacity. Private land acquisition combined with habitat improvements should result in a fairly stable deer herd.

It is estimated that fish populations will be ten or more times the present population due to excellent stream and riparian area conditions.

**TABLE 4-1
PROPOSED AVERAGE ANNUAL OUTPUTS, BY DECADE**

Resource/Activity	Unit of Measure	DECADE				
		1st	2nd	3rd	4th	5th
AIR QUALITY Total Suspended Particulates	M Tons	0 35	0 31	0 27	0 23	0 19
CULTURAL RESOURCES Sites Documented	Properties	50	40	40	30	20
Enhanced/interpreted	Properties	4	5	5	6	6
Nat'l Register Nomination		2	2	2	2	2
FIRE Fire Management Efficiency Index	\$/M Ac protected	715	715	715	715	715
Prescribed Fire	M Acres	3	3	3	3	3
LIVESTOCK USE	M AUM's/Yr	18	18	19	19	19
FUELWOOD	Cords	400	400	400	400	400
LANDS Special Use Permits	Permits	130	140	150	150	150
MINERALS AND ENERGY Oil and Gas	M Ac Leased	7 2	17	17	17	17
Geothermal	Ac Leased	0	0	0	0	0
Nonenergy (Gold, Mercury, Silver, Diatomite)	M Ac Leased	1	2	3	3	3
Common Variety (Gravel, Cinders, etc)	M Cu Yds	220	220	220	220	220
RECREATION Developed Sites	M/RVD's	67	81	81	81	81
Dispersed Sites	M/RVD's	158	158	158	158	158
Off Road Motorized	M/RVD's	2	2	2	2	2
Roadless Potential	M/RVD's	2	2	2	2	2
RIPARIAN IMPROVEMENT	Acres	125	0	0	0	0
SOCIAL AND ECONOMIC Returns to Government	M\$	36	36	36	36	36
Payments to Counties	M\$	12	12	12	12	12
SOIL Soil Loss (erosion)	Tons/Ac/Yr	0 45	0 45	0 45	0 45	0 45
TRANSPORTATION SYSTEM F S Roads						
Open and Maintained	Miles	465	440	405	360	334
Passenger Car Use						
Open and Maintained	Miles	4	4	4	4	4
High Clearance Use						
Open and Maintained	Miles	446	411	378	341	305
Prohibited	Miles	15	25	25	25	25
WILDLIFE (Big Game) Wintering Antelope Population	#	350	350	350	350	350
Wintering Deer Population	#	4300	3200	2200	2200	2200

Chapter 4

Grassland Management Direction

Section 2 Management Area Prescriptions

Chapter 4

Section 2

Management Area Prescriptions

A management area is composed of lands with similar capabilities managed under a common prescription. The lands may or may not be contiguous.

All areas of the Grassland are managed under the Grassland-wide standards and guidelines (Chapter 4, Section 3) and broader multiple use principles directed by laws, regulations, and policies.

Management area locations are displayed on the Alternative I Map (Figure 4-16, pg. 4-57). Individual maps for each management area are located at the end of this section of Chapter 4.

Modifying Management Areas or Prescriptions

The appropriate setting for each management area is determined by the management goals, objectives, desired conditions, and suitability of the area to achieve these conditions. When a project would result in conditions that do not meet these criterion, the need to modify the management area allocation should be addressed (see Chapter 5, Implementation of the Grassland Plan). Evaluation of factors including activity extent, duration of impact, season of operation, sight or sound impacts, or feasibility of rehabilitation would be necessary. Cumulative modifications of prescriptions should not exceed those described in Chapter 5, Implementation of the Grassland Plan, such modifications will be the exception, rather than the rule.

During implementation, it may be discovered that a management area boundary was inaccurately or inappropriately mapped. In such a case procedures for adjusting boundaries will also follow direction in Chapter 5, Implementation of the Grassland Plan (Amendment and Revision Process). Final boundary adjustments will be documented and integrated into the Grassland data base by the initiating party.

**TABLE 4-2
CROOKED RIVER NATIONAL GRASSLAND MANAGEMENT AREAS**

Allocations and Resource Emphasis By Area

Management Area	Acres	% Total	Resource Emphasis
MA-G1 Antelope Winter Range	22700	20	Wildlife
MA-G2 Metolius Deer Winter Range	12740	11	Wildlife
MA-G3 General Forage	59440	53	Range
MA-G4 Research Natural Areas	110	<1	Research
MA-G5 Juniper Old Growth	740	1	Wildlife
MA-G6 Crooked River Recreation Area	720	1	Wild/Scenic River
MA-G7 Deschutes River Scenic Corridor	650	1	Wild/Scenic River
MA-G8 Squaw Creek	7840	7	Recreation/Wildlife
MA-G9 Riparian	2110	2	Riparian
MA-G10 Rimrock Springs Wildlife Area	430	<1	Wildlife
MA-G11 Haystack Reservoir	150	<1	Recreation
MA-G12 Cove Palisades State Park	2690	2	Recreation
MA-G13 Lake Billy Chinook View Area	560	1	Visuals
MA-G14 Dispersed Recreation	90	<1	Recreation
MA-G15 Gray Butte Electronic Site	80	<1	Facilities
MA-G16 Utility Corridors	460	<1	Facilities
TOTAL GRASSLAND ACRES	111510	100	

MA-G1 Antelope Winter Range

22,700 Acres



Description

The Antelope Winter Range Management Area is located between Prineville and Madras in the vicinity of Boyce Corral, the Grassland field headquarters and Scales Corral. This management area is generally open country with some scattered patches of juniper.

Emphasis

Manage for optimum winter range conditions for antelope in conjunction with the Oregon Department of Fish and Wildlife.

Desired Condition

The antelope winter range will generally consist of open grassland with shrub heights at or below 24 inches, but definitely not over 30 inches in height.

Fences will be built with lower wires elevated for easy passage by antelope.

The area will have an abundance of fall greenup left for antelope winter use.

MA-G2 Metolius Deer Winter Range

12,740 Acres

Description

The Metolius deer winter range is located in the lower desert area west of the Deschutes River on the National Grassland, the Sisters Ranger District of the Deschutes National Forest, and on private and BLM lands. Of the total acreage of the Metolius winter range, 12,740 acres are located on the National Grassland.

Present permitted grazing use of the winter range is by two bands of sheep and one cattle allotment.



Emphasis

Manage for big game winter range habitat.

Produce high quality deer winter range habitat to support Oregon Department of Fish and Wildlife management objectives for the wintering deer population. Manage for 60/40 forage/cover ratio and a healthy, vigorous shrub overstory.

Desired Condition

The forage/cover ratio will be at the optimum level of 60/40 where ever that is possible and will be well distributed. A vigorous shrub component will be present. Private land will either not be developed or will have been acquired by the National Grassland

Livestock will be used as a management tool to maintain winter deer forage in a highly palatable and nutritious condition.

Roads will be managed to reduce harassment and stress on wildlife.

MA-G3 General Forage

59,440 Acres



Description

The General Forage Management Area consists of those parts of the Grassland not allocated to other management areas. It is located primarily in the east and north portions of the Grassland. This area consists of different combinations of juniper, sagebrush and bunchgrass communities.

Emphasis

Manage for forage production and utilization in a manner consistent with general standards and guidelines for other resources.

Desired Condition

The management area will contain the natural composition and cover values of native grasses, sedges, forbs and palatable shrubs. Undesirable forage plants, such as sagebrush and juniper, that decrease range productivity will be managed using the tools of fire and livestock to reduce their competition while keeping with multiple use of objectives. Proper stocking levels and distribution of livestock will be employed to effectively utilize forage production without adversely affecting plant communities over time.

Some crested wheatgrass pastures will be used as early season pastures, and as such will be managed to maintain the crested wheatgrass.

Other crested wheatgrass pastures will be proceeding through natural succession to re-establish native plant species.

Aspen clones will be regenerating and noxious weeds will be declining or absent.

Range improvements will be in place to facilitate livestock distribution and effective use of forage.

MA-G4 Research Natural Areas

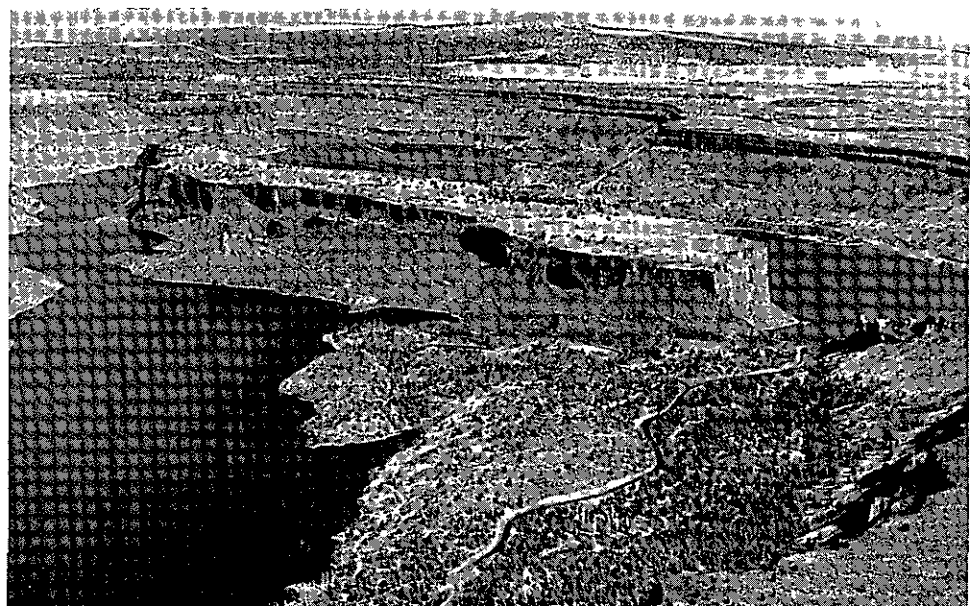
110 Acres

Description

Two Research Natural Areas (RNA's) are located on the National Grassland: Haystack Butte and Island.

The Haystack Butte RNA is located on an isolated butte 11 miles south of Madras. The RNA is potentially 84 acres: 58 acres of National Grassland and 26 acres of private land.

The Island RNA, 215 acres (162 acres BLM and 53 acres National Grassland), is located on an isolated butte on the north end of the peninsula between the Deschutes and Crooked River arms of Lake Billy Chinook.



Each RNA represents several plant communities in the juniper/shrub/steppe zone as follows:

Island
(Flat)

1. Western juniper/big sagebrush/bluebunch wheatgrass-Idaho fescue
2. Western juniper/big sagebrush/bitterbrush/bluebunch wheatgrass-Idaho fescue

Haystack Butte
(Top)

1. Western juniper/big sagebrush/bluebunch wheatgrass-Idaho fescue
2. Western juniper/big sagebrush/bluebunch wheatgrass-Idaho fescue, biscuits
(Steep north side slopes)
3. Western juniper/big sagebrush/bluebunch wheatgrass-Idaho fescue
(Steep south side slopes)
4. Western juniper/big sagebrush-rock spirea/bluebunch wheatgrass- arrowleaf
balsamroot

Emphasis

Allow natural processes to occur for research purposes and education. These processes will provide baselines against which other activities may be measured, sites for study of natural processes in undisturbed ecosystems, and gene pool preserves for both plant and animal species.

Desired Condition

Natural conditions will be observed. Any management activities within the RNA will be directed at maintaining the natural conditions of the area; these human-caused changes to the ecosystem will not be readily evident. Continuing baseline studies may be occasionally visible in terms of equipment, instruments, and related activities.

Fire occurrence will be evident where natural lightning and human-caused fire starts occur.

There is a high probability that grazing will not be evident, but this is still to be determined through the official designation (RNA) process.

MA-G5 Juniper Old Growth

740 Acres



Description

The Juniper Old Growth Management Area consists of selected juniper stands suitable for providing old growth habitat conditions for specific wildlife species. These stands do not meet the criteria defined in the Regional guide, FEIS, 1984. Selected stands are at least 40 acres, and distributed not more than five miles apart. Where suitable stands are not available, capable areas have been selected and will be managed to allow the stands to grow toward old growth habitat conditions. Fifteen stands have been selected on the Grassland.

Emphasis

Provide habitat for wildlife species that prefer a habitat niche provided in old growth juniper stands. The common flicker is the management indicator species.

Desired Condition

Stands will be at least 40 acres in size dispersed not more than five miles apart. Trees will be large with hollow centers, and have broad, irregular-shaped crowns or spike tops. Most of the large trees, both live and dead, will support lichen growth. Trees will contain cavities from either bole splits and/or limbs that have broken away from the tree bole. Some younger trees will be present along with various grasses, forbs, and shrubs. Major management activities and roads will generally not be evident. Fire occurrence will be evident where natural lightning and human-caused starts occur. Grazing by livestock, as well as by big game wildlife species will occur. Existing range improvements will be maintained and new improvements allowed if they are compatible with the primary objectives of the management area.

MA-G6 Crooked River Recreation Area

720 Acres



Description

The Crooked River Recreation Area includes a one-half mile wide corridor encompassing the Crooked River canyon between the southern Grassland boundary and Lake Billy Chinook. Of 9.3 miles of free-flowing river within the Grassland boundary, 4.1 miles are in private ownership, 3.2 miles are administered by the Bureau of Land Management, and 2.0 miles are administered by the Forest Service. Private lands, both housing developments and farms, are included in the corridor along the canyon rim.

The canyon is rocky and steep and offers spectacular views from the rim. There are numerous natural and geologic features such as springs, rock pillars and columns, eagle nest rocks, waterfalls, and rapids along the river. The canyon becomes deeper as the river flows northward.

The Crooked River has been designated by Congress under the Omnibus Oregon Wild and Scenic Rivers Bill to be an addition to the National Wild and Scenic River System as a recreational river. The BLM is the lead agency for developing a management plan for the river.

Emphasis

Management will maintain the appearance of a natural landscape to enhance and protect recreational and scenic values. Further planning for this management area will be forthcoming, as required by the Omnibus Oregon Wild and Scenic Rivers Act of 1988.

Desired Condition

This steep canyon will remain relatively pristine, but evidence of ranching and subdivision housing will be observable along the canyon rim. The river will remain free flowing, and accessible (to some extent) to the rim only.

Access up and down the river will remain very difficult by foot due to cliffs, talus slides, and vegetative thickets. Canoeing, rafting, and kayaking will continue at low to moderate levels.

MA-G7 Deschutes River Scenic Corridor

650 Acres

Description

The Deschutes River Scenic Corridor includes a one-half mile wide corridor encompassing the Deschutes River canyon between the southern Grassland boundary and Lake Billy Chinook. Of a total of 3,087 acres, 2,076 acres are administered by the Bureau of Land Management and 655 acres are administered by the National Grassland. Private lands, both housing developments and farms, are included in the corridor along the canyon rim.

The canyon is rocky and steep; it offers spectacular views, such as the Geneva Overlook on the west rim where one can view 735 feet down the canyon to the river. There are numerous natural and geologic features such as the weeping wall springs, rock pillars and columns, eagle nest rocks, and waterfalls and rapids along the river. The canyon becomes deeper as the river flows northward.

This section of the Deschutes River has been designated by Congress under the Omnibus Oregon Wild and Scenic Rivers Bill for addition to the National Wild and Scenic River System as a scenic corridor. The BLM is the lead agency for developing a management plan for the river.



Emphasis

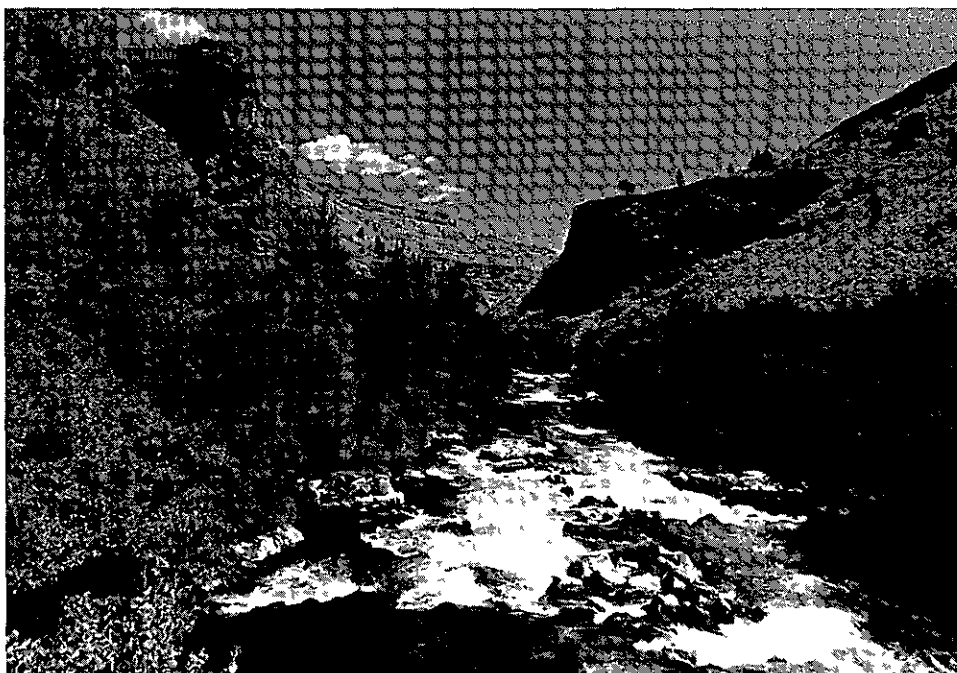
Manage for scenic quality and natural appearance of the landscape.

Desired Condition

This area will remain pristine and the river will remain free flowing. Access in the corridor will be over user-maintained trails offering opportunities to explore more primitive canyon experiences. Motor vehicle access in the corridor will be limited to existing routes within the Crooked River Ranch subdivision including access to the BLM Steelhead Falls area. Except for existing minor intrusions from private lands (houses on the rim at Crooked River Ranch and the pump house on the west side) the area will appear natural and rugged.

MA-G8 Squaw Creek

7,840 Acres, 6,470 acres in semiprimitive recreation and 1,370 acres in proposed "scenic river."



Description

Located in the southwestern corner of the Grassland, the Squaw Creek Management Area includes the sage and juniper plateaus surrounding the narrow canyon formed by Squaw Creek. Squaw Creek itself, a tributary of the Deschutes River, is an oasis in this otherwise dry land. The occasional ponderosa pine and

abundant riparian vegetation growing along the stream contrasts with the surrounding desert vegetation; the canyon walls offer interesting geologic formations and color. The main access to the area is provided by Forest Road 6360, which divides the area from east-to-west. The area where Road 6360 fords Squaw Creek is a popular area for dispersed camping.

A 7.5 river mile (creek) segment, one-half mile wide, from the Grassland boundary to its confluence with the Deschutes River, has been identified as suitable for recommendation as a "scenic river" under the Wild and Scenic River System. This river segment includes portions of two parcels of private land which are undeveloped except for improved road access to the canyon rim.

Emphasis

Provide opportunities for semiprimitive nonmotorized recreation in a pristine canyon setting, while protecting and enhancing the deer winter range habitat and fisheries. A 1,370-acre corridor along the creek will be managed for its scenic quality as a "scenic river."

Desired Condition

Semiprimitive Nonmotorized Recreation

Except for the one access of Forest Road 6360, which fords Squaw Creek at a dispersed campsite, the area will be void of motor vehicles. It will offer unique canyon hiking, bird watching, and fishing opportunities. User trails will continue to be the main access into the canyon areas. The vegetation will continue to be lush along the creek, providing excellent riparian habitat.

Recreational use and livestock grazing will occur, but the area will appear natural. Wildlife and fish species indigenous to the area will continue to exist at levels consistent with the available habitat. Fire occurrence will be evident where prescribed fire and wildfire from natural and human-caused starts occur.

Proposed Scenic River Corridor

Preserve the natural and scenic qualities of the river (creek) corridor. The canyon area within this corridor will remain pristine and offer remote recreational opportunities. Livestock grazing will not be allowed in the river corridor.

MA-G9 Riparian

Description

Riparian zones include land adjacent to water, and are identified by the presence of terrestrial vegetation that requires or tolerates large amounts of free or unbound water. These sites include wet areas around springs and seeps as well as streambanks and active floodplains. Major riparian areas include: Willow Creek, Mud Springs Creek, Squaw Creek, Deschutes River, Crooked River, and Lone Pine, Skull Hollow, Windom, Rodman and Lithgo drainages.



Emphasis

Maintain riparian habitat, including streambank stability and fish habitat capability, at existing levels where the desired condition is met. On sites where the desired condition is not met, take steps necessary to bring riparian condition to its ecological potential. Activities that will result in a deterioration of water quality in perennial and fish bearing streams will not be allowed. Range allotment plans will reflect forage utilization levels necessary to meet brush and hardwood protection or enhancement needs.

Desired Condition

Riparian areas will exhibit a low, but apparent levels of management. Vegetation may or may not appear manipulated, depending on the condition of the stream. An abundance of wildlife species should be evident as a result of restrictions on management activities and level of habitat provided. Due to management restrictions and the low risk associated with these areas, the signs of natural or man-caused fire will be infrequent.

For management purposes, a special protection area (100 feet from the edge of perennial bodies of water) will be apparent.

Roads not planned for future use, through and across riparian areas, will be obliterated and re-vegetated to a natural or near natural condition.

Within the limits of ecological potential, a shady, brushy condition with a canopy of alder, willow, aspen, or other deciduous vegetation will exist.

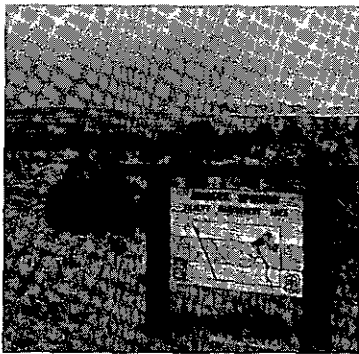
Where coniferous evergreens are a natural component of the ecosystem, a variety of size classes will exist to perpetuate the supply of shade and woody debris over time. Sites unable to support a canopy of deciduous or evergreen species will be characterized by vigorous stands of forbs, grasses, and grass-like riparian species.

Bank slopes containing high plant densities, thick root masses, embedded angular boulders, and old logs will also characterize these areas. Extensive scouring of streambanks will be an uncommon occurrence as will soil deposition outside the norm for the individual stream system. Streambeds will be commonly covered by native aquatic growth on assorted sizes of rocks and boulders.

Where cobble and gravel bars are prominent, they will become covered by sandy loam soils as riparian vegetation filters and traps stream sediments. As stream banks are re-built and cutbanks stabilized, a narrower, deeper channel will gradually develop.

MA-G10 Rimrock Springs Wildlife Area

430 Acres



Description

Rimrock Springs is a state-designated wildlife management area located 17 miles north of Prineville and 10 miles south of Madras on Highway 26 near the old Grassland field headquarters. The 450-acre area includes ponds and marshes that were developed cooperatively with the State (see Appendix J) and private groups. A short loop trail provides access to two wildlife viewing platforms. The old field headquarters and winter pastures for government horses are also included in the management area.

Emphasis

Provide unique habitat (wetlands, ponds, springs) within the juniper-sagebrush steppe characteristic of central Oregon's high desert. Provide for nonconsumptive (viewing, photography) wildlife uses in a natural setting. Improve present habitat conditions and promote habitat diversity.

Desired Condition

Wildlife will be available for viewing and photography. A barrier-free (handicapped access) interpretive trail and a brochure will be used by the general public and as an outdoor education tool for schools. Barrier-free toilet facilities will be available at the trailhead. Interpretation of unique cultural resources will preserve early history of the area. Prescribed fire will be used to improve habitat.

MA-G11 Haystack Reservoir

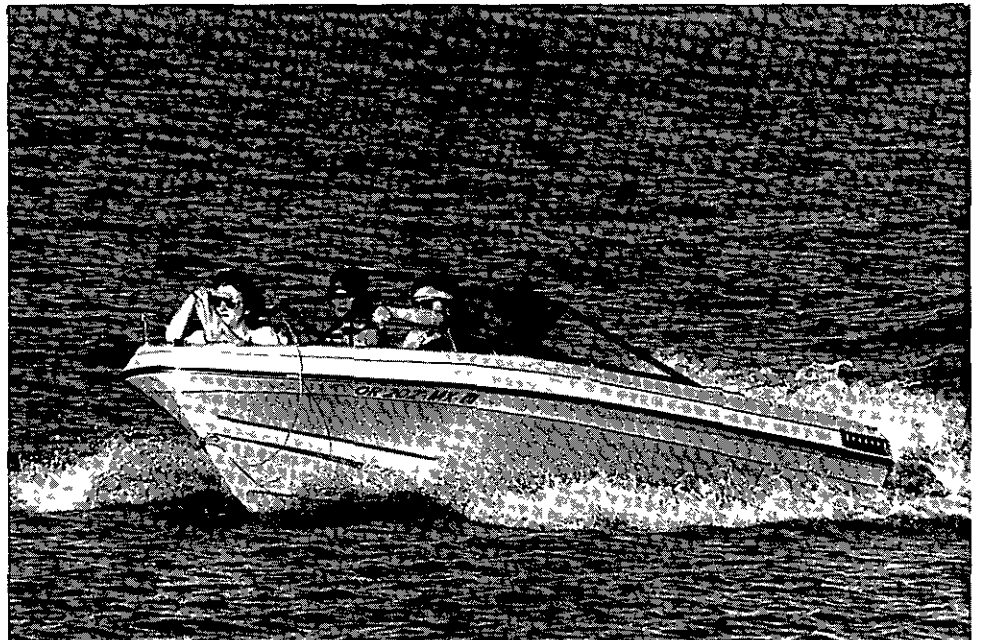
150 Acres

Description

Haystack Reservoir, located in the southcentral portion of the Grassland between Highways 26 and 97, is an irrigation regulating reservoir developed by the Bureau of Reclamation (BOR) and operated by the North Unit Irrigation District. The reservoir has a capacity of 6,000 acre feet of water and surface area of 233 acres. The Haystack Reservoir Management Area includes the shoreline around the lake that is in public ownership.

Haystack Reservoir is a popular location for fishing, swimming, water skiing and other types of water-oriented recreation. Picnicking, sightseeing, and bird watching are also popular activities. Boat launching, camping, and picnicking facilities developed and operated by the Forest Service are located on the east shore of the reservoir (Haystack Lake Campground).

Under the guidance of a recreation management plan developed in 1986 (see Appendix L), work is under way through a partnership with the BOR, State Marine Board, and the Forest Service to develop the south, west, and north shores of the reservoir (BOR land) to provide a variety of additional boating, camping, and picnicking facilities. These facilities will be managed by the Forest Service. Other partnerships include cooperation with the Oregon Department of Fish and Wildlife and adjacent land owners who participate in cooperative wildlife and fisheries projects related to the reservoir and adjacent lands. The southeast corner of the lake has been set aside as wildlife habitat.



Emphasis

Provide a system of quality facilities that are safe and environmentally sound. Continue to emphasize camping, picnicking, boating, fishing, and swimming.

Desired Condition

Partnerships will help provide for the needs of recreational users. Bureau of Reclamation (BOR) lands around the reservoir will have been acquired by the Grassland to simplify management of the area (BOR would retain ownership and management of the dam). New and upgraded facilities will provide for barrier-free opportunities.

MA-G12 Cove Palisades State Park

2690 Acres

Description

Cove Palisades State Park is a developed recreation complex, including campgrounds, boat ramps, swimming beaches, and picnic grounds. It is located on the Deschutes and Crooked River arms of Lake Billy Chinook within the boundaries of the Crooked River National Grassland.

Land ownership within the park is a mix of State and Federal lands totaling 7,000 acres, as follows:¹

State land	1,434 acres
Leased from USDA (National Grassland)	2,695
Leased from BLM	1,170
Lake Billy Chinook	1,700

A 50-year cooperative agreement, between the United States Department of Agriculture (USDA) and the State of Oregon, leasing lands under USDA administration located within the park boundary to the State, will expire April 19, 1990. However, the agreement will automatically be renewed unless written notice is given by either party not less than 90 days prior to its termination. See Appendix K.

¹ From the Cove Palisades State Park Master Plan, State of Oregon Department of Transportation, 1981.

Development and operation of recreational facilities within the park has been the responsibility of the State. The Forest Service maintains control over minerals and fire management.

Emphasis

Manage for developed campgrounds and water related recreational activities.

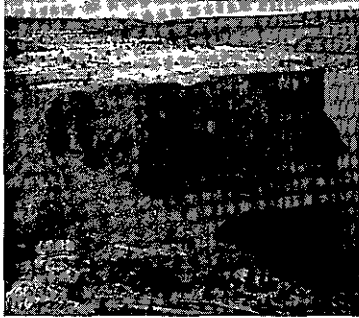
Desired Condition

National Grassland ownership within the park boundary will be consolidated with park ownership to support a highly developed recreation experience under park management.



MA-G13 Lake Billy Chinook View Area

560 Acres



Description

This management area is the view area that can be seen from Lake Billy Chinook outside the Cove Palisades State Park and within the boundary of the Crooked River National Grassland.

Emphasis

Maintain the natural appearing characteristics of the viewshed from Lake Billy Chinook, where management activities are not evident, or they are visually subordinated to the surrounding landscape.

Desired Condition

The view area will be an undeveloped, natural appearing landscape with scenic qualities.

MA-G14 Dispersed Recreation

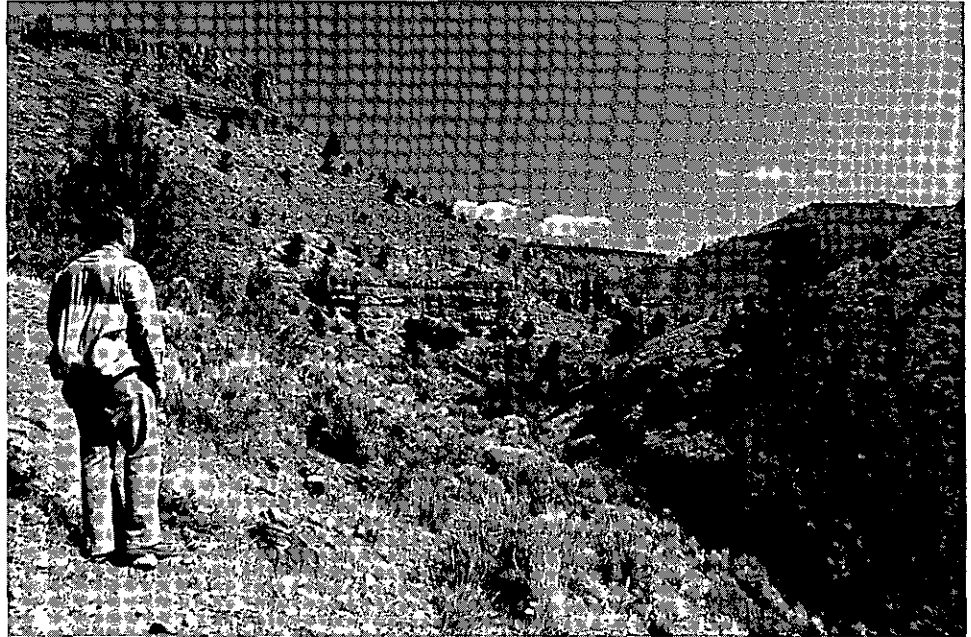
90 Acres

Description

This prescription applies to dispersed recreation sites located throughout the Grassland. These sites generally occur along roads, and many are concentrated near riparian areas and stream courses. The prescription applies to the actual site and the influence area immediately around it.

Emphasis

Provide and maintain a near-natural setting for people to utilize while pursuing outdoor recreation experiences.



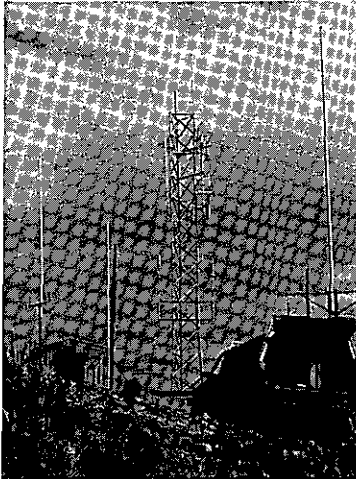
Desired Condition

Dispersed sites will exhibit a natural appearance, although management activities may be highly visible nearby. Primitive, user-constructed structures or facilities, consistent with the sites use, may be seen. Sites will be managed so that users tend to feel relatively isolated from the sights and sounds of civilization. A strategy will be developed that encourages individuals or groups to “find their own place.”

Livestock grazing may be evident but the successful application of allotment management requirements will also be evident.

MA-G15 Gray Butte Electronic Site

80 Acres



Description

Gray Butte is a designated electronic site for radio and television relay stations. It is located 15 miles south of Madras, 11 miles northeast of Redmond, and 15 miles northwest of Prineville. Gray Butte's elevation is 5,108 feet above sea level, and it rises approximately 2,300 feet in elevation above the surrounding area. The top of the butte contains approximately 5,400 square feet, on which there are presently three buildings and two towers. Access to the site is by Forest Road 5720-080. This road was constructed by permittees in 1967 and is not open to the general public. Use of the site by the permittees has increased steadily during recent years.

Emphasis

Manage the Gray Butte Electronic Site low-power-output electronic equipment and transmitters which do not exceed 150 watts.

Desired Condition

Gray Butte Electronic Site will have three buildings and three towers. The access road will be gated and closed to the general public under a CFR closure. The site will meet partial retention and will continue to provide a public service to central Oregon.

MA-G16 Utility Corridors

460 Acres

Description

This management area includes electric transmission lines, natural gas transmission lines, and railroads crossing the Grassland that have been identified and designated as corridors. These linear features are presently in use or proposed for the transport of gas, oil, water, or electricity.

Emphasis

Accommodate energy-transmission facilities.

Desired Condition

This prescription recognizes the need to establish a regional corridor system in the Western United States, as identified by industry in the “Western Regional Corridor Study” (1986). This system would accommodate growth in energy transmission facilities in a planned way, minimizing adverse environmental impacts while allowing logical and efficient development of energy transmission systems.

All development is in existing corridors. Exclusion and avoidance areas are identified. Design and management has made optimum use of lands allocated to power facilities.



Figure 4-1

ANTELOPE WINTER RANGE (MA-G1)

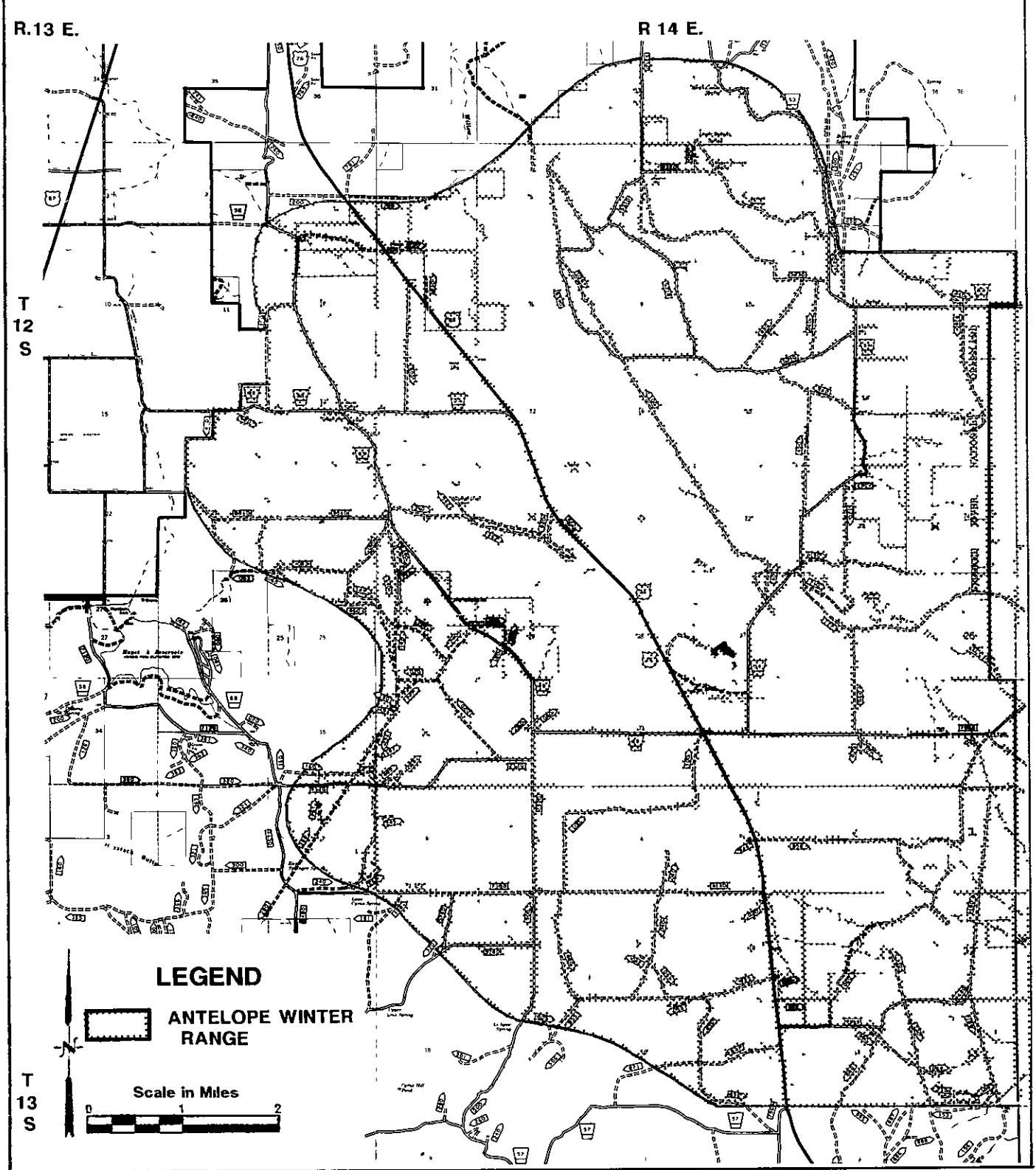


Figure 4-2

METOLIUS DEER WINTER RANGE (MA-G2)

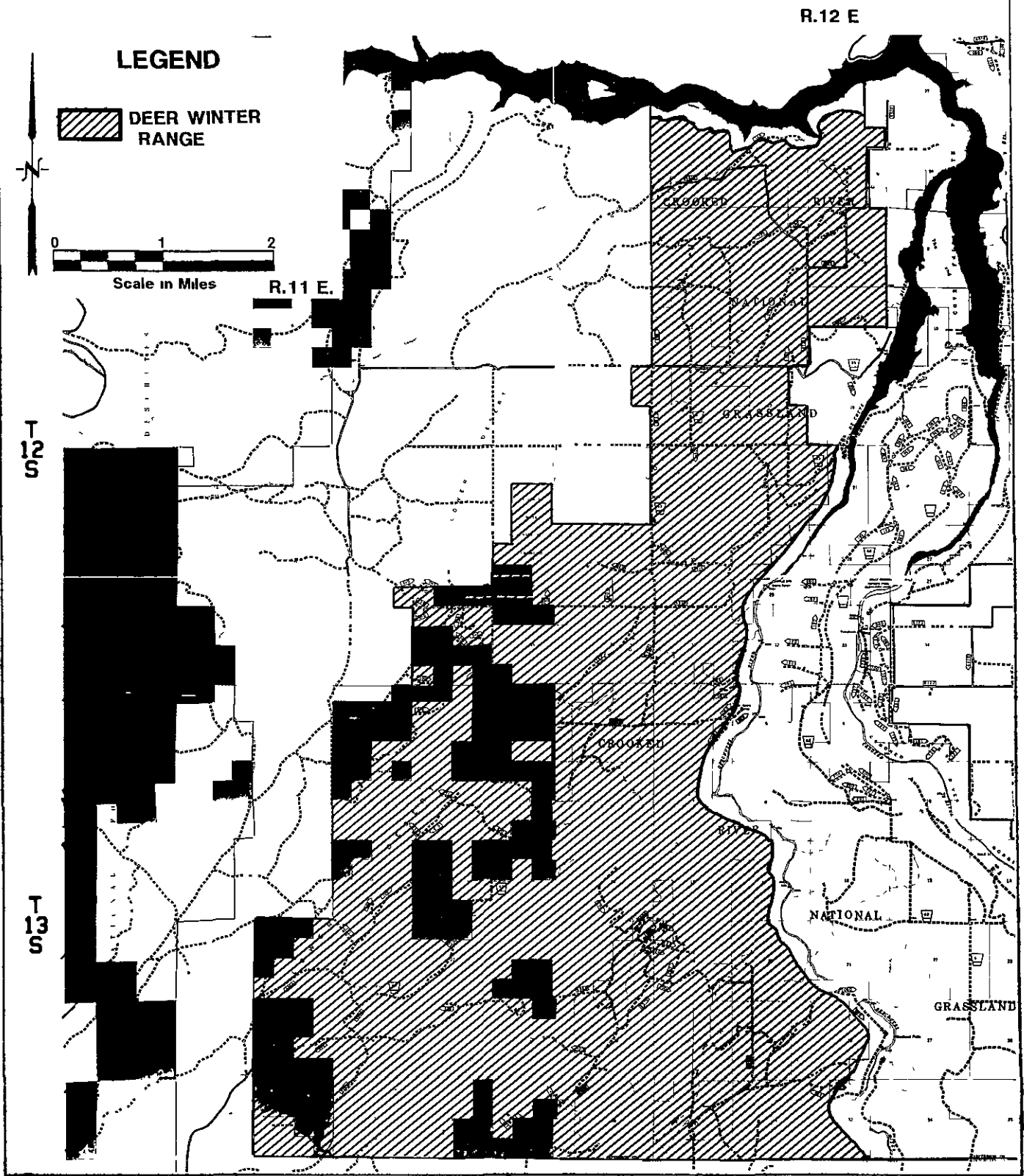


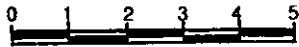


Figure 4-3

GENERAL FORAGE (MA-G3)

LEGEND

-  OTHER OWNERSHIP
-  GENERAL FORAGE



Scale in Miles

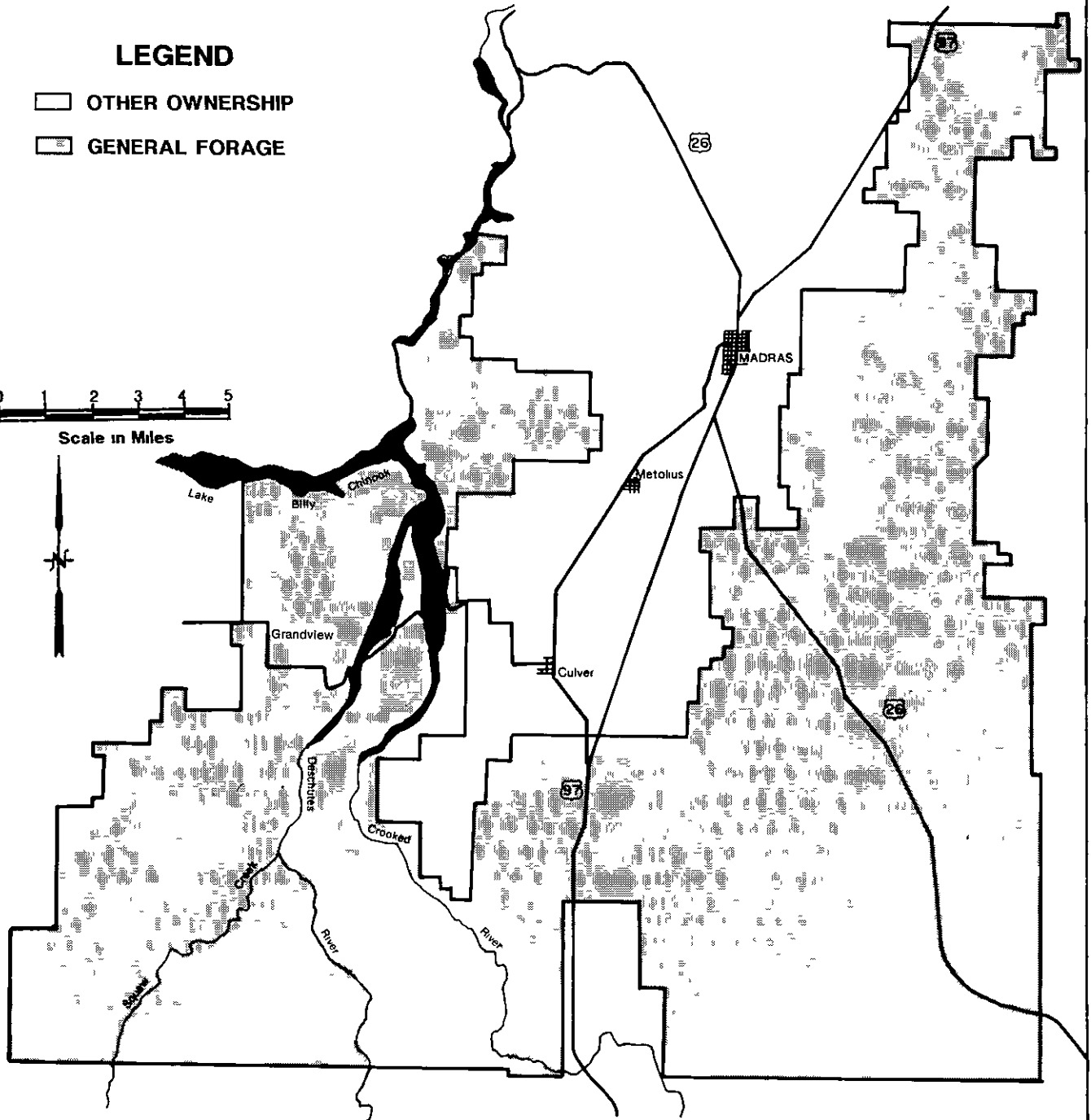


Figure 4-4

RESEARCH NATURAL AREA - ISLAND (MA-G4)

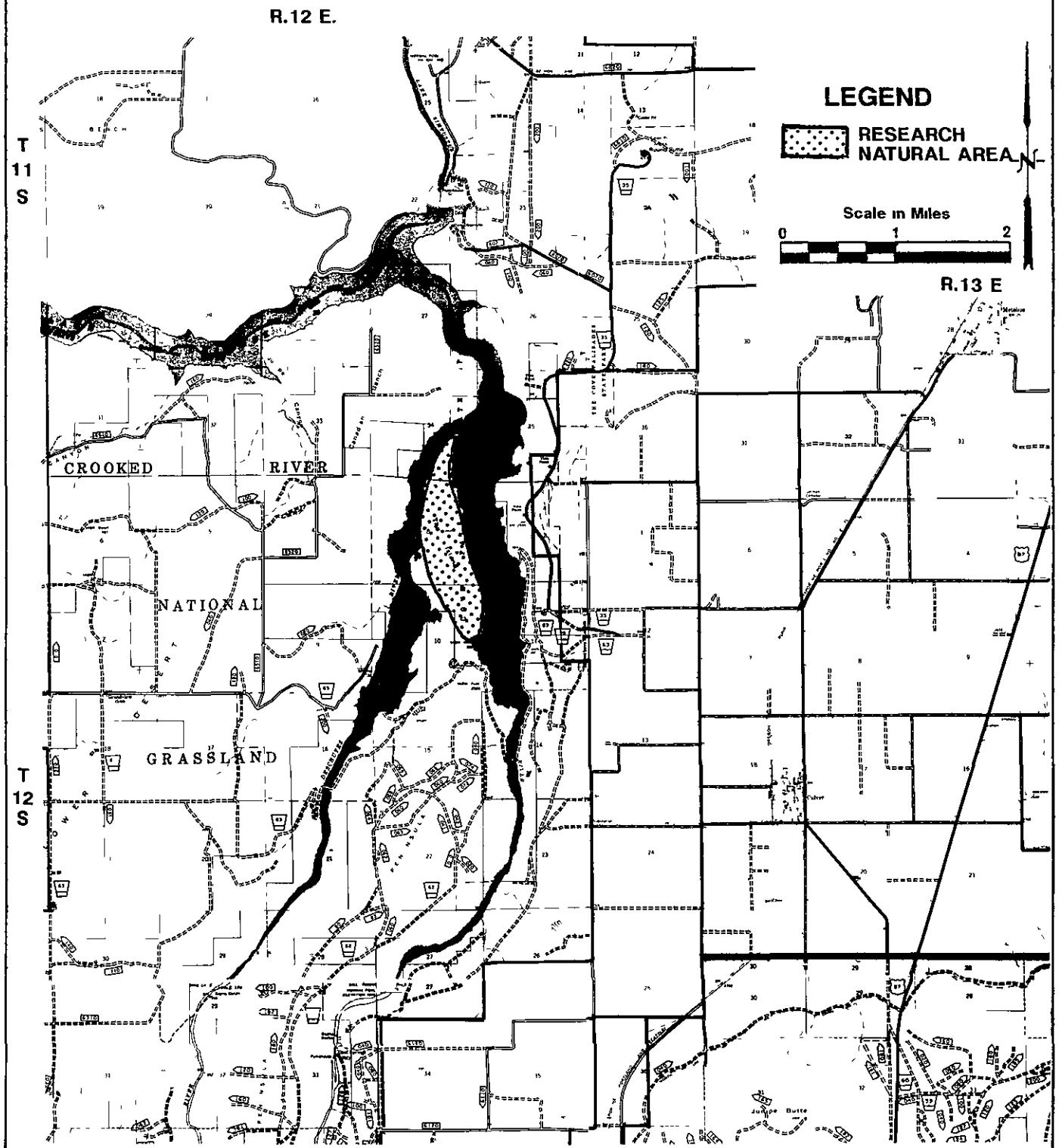


Figure 4-5

RESEARCH NATURAL AREA - HAYSTACK (MA-G4)

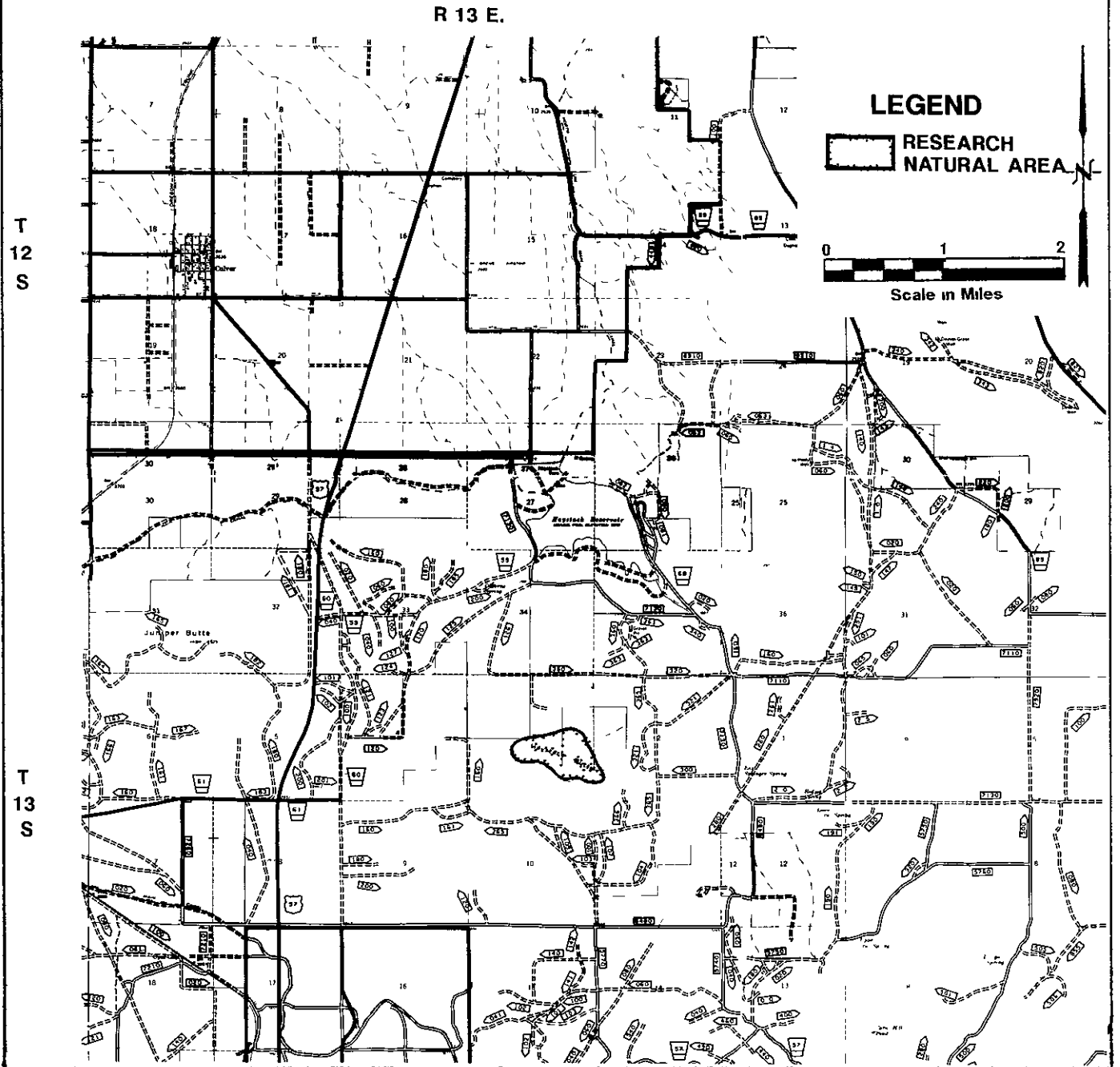


Figure 4-6

JUNIPER OLD GROWTH (MA-G5)

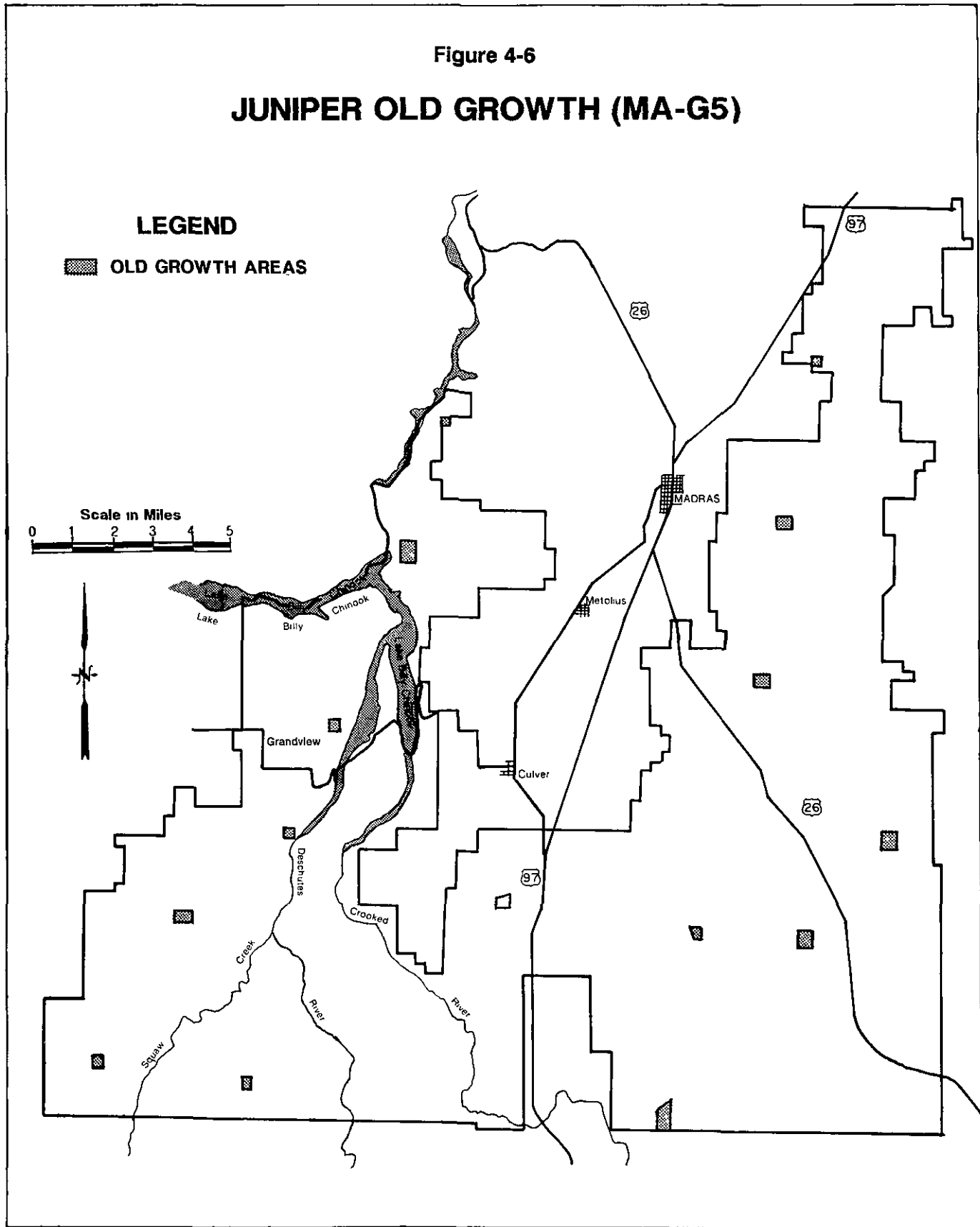


Figure 4-7

CROOKED RIVER RECREATION RIVER (MA-G6) DESCHUTES RIVER SCENIC CORRIDOR (MA-G7)

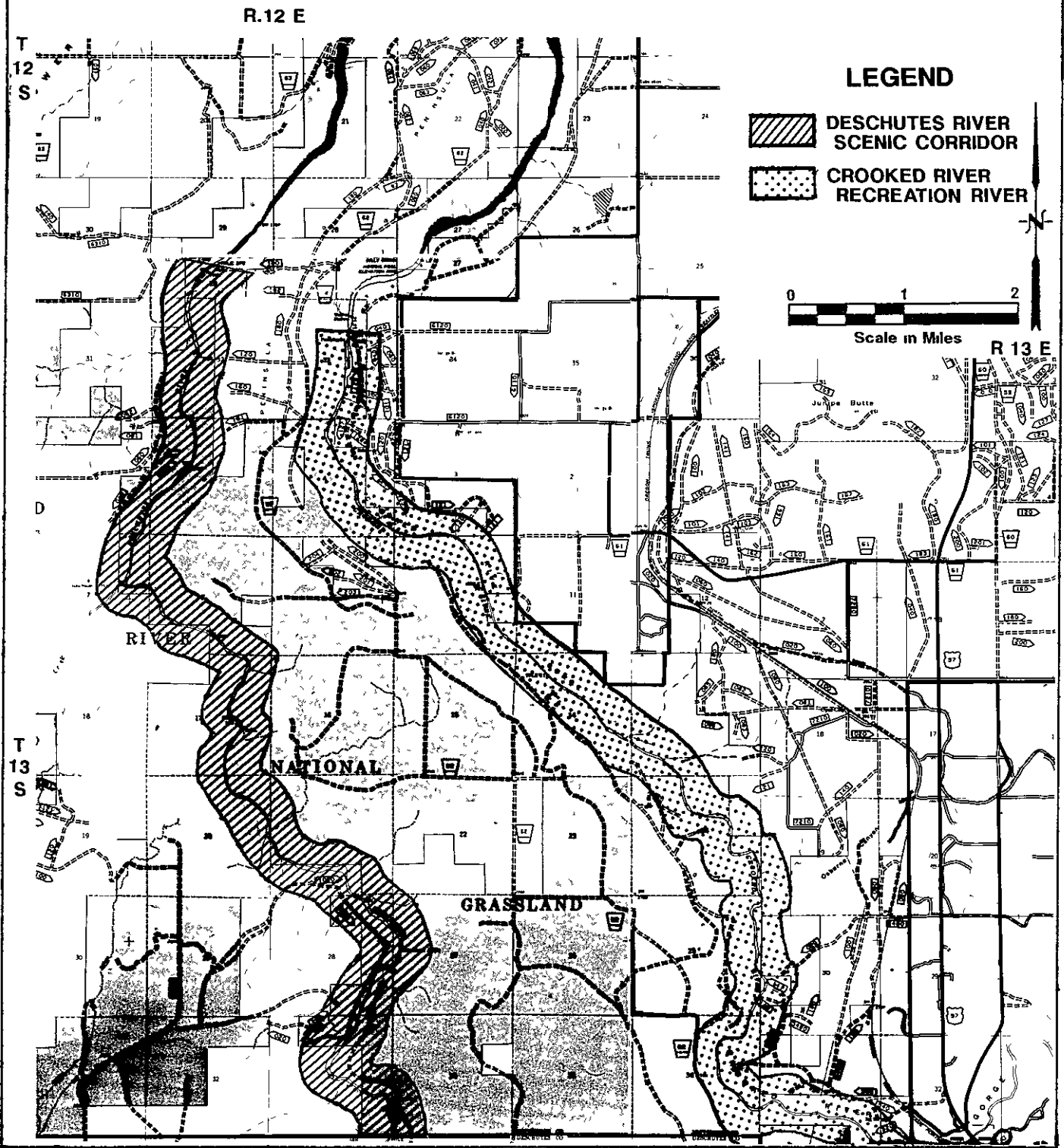











Figure 4-8

SQUAW CREEK MANAGEMENT AREA (MA-G8)

LEGEND

-  PROPOSED SCENIC RIVER
-  MANAGEMENT AREA
-  OTHER OWNERSHIP
-  POWERLINE
-  YEARLONG CLOSURE PERMITTEE USE
-  SEASONAL CLOSURE CLOSED NOV. 15 - MAR. 31
-  ELIMINATE USE
-  PROPOSED TRAILHEAD
-  DISPERSED RECREATION SITE

R 11 E.  Scale in Miles

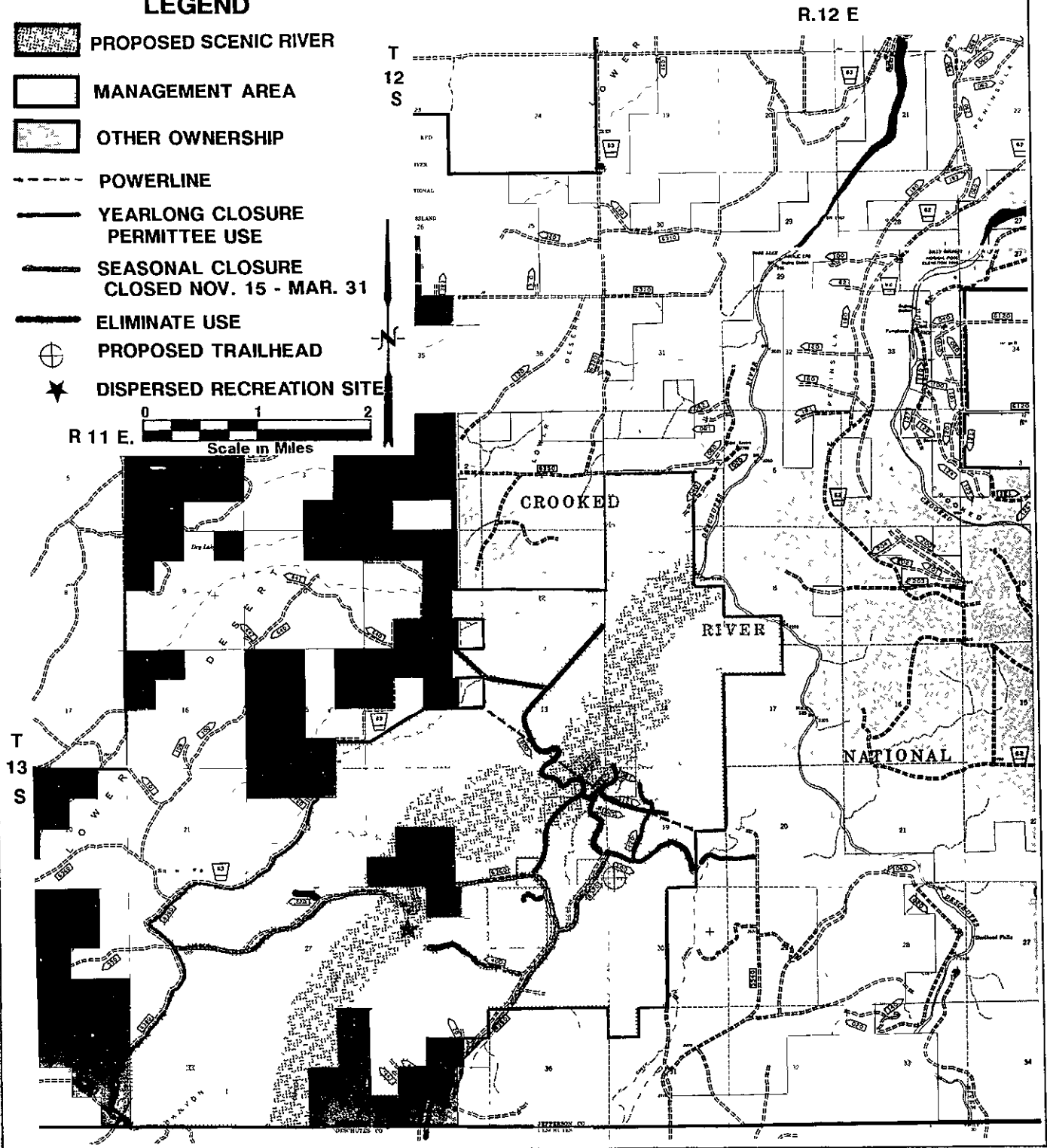


Figure 4-9

RIPARIAN MANAGEMENT AREA (MA-G9)

LEGEND

 RIPARIAN MANAGEMENT AREA

Scale in Miles

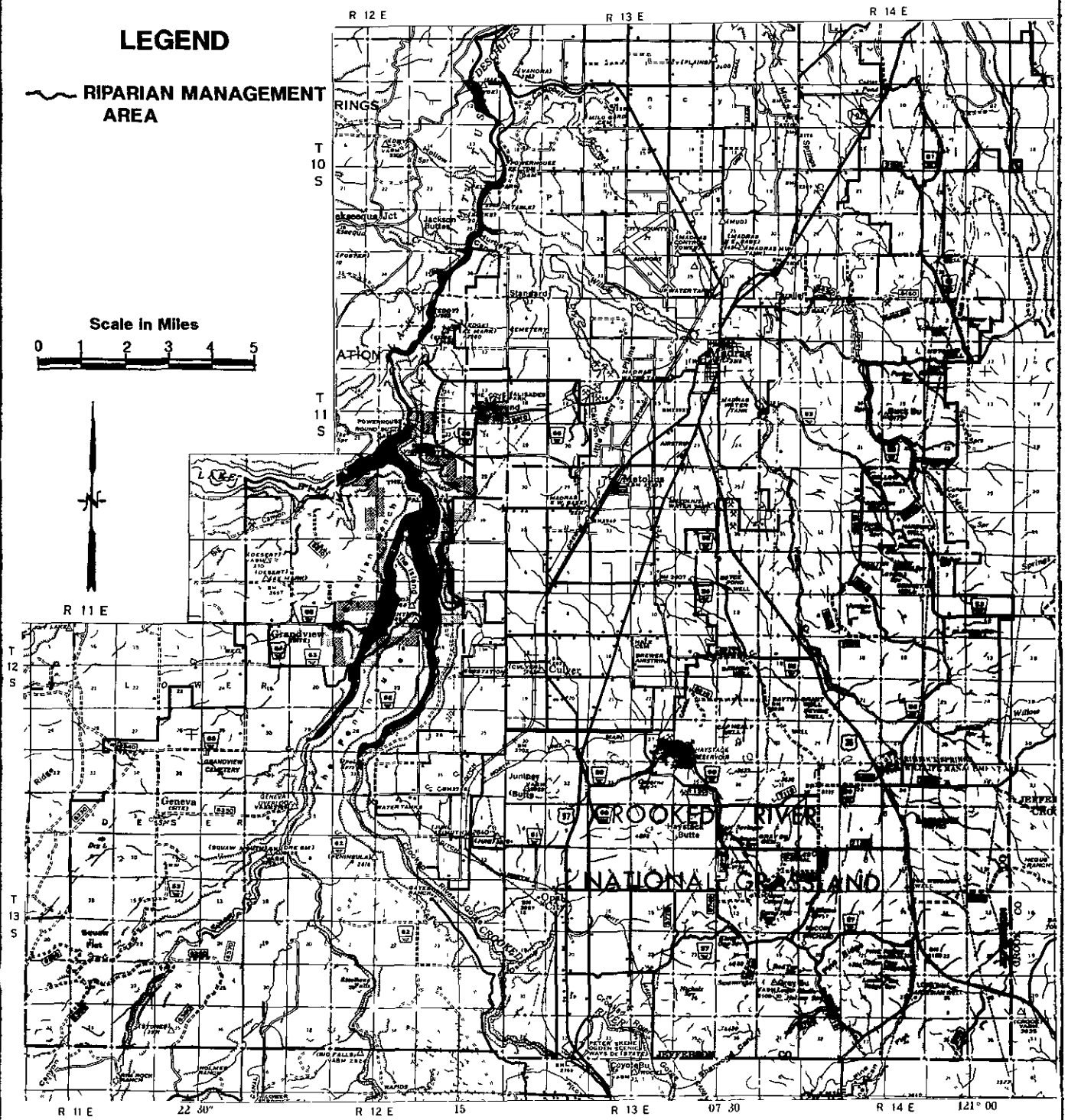
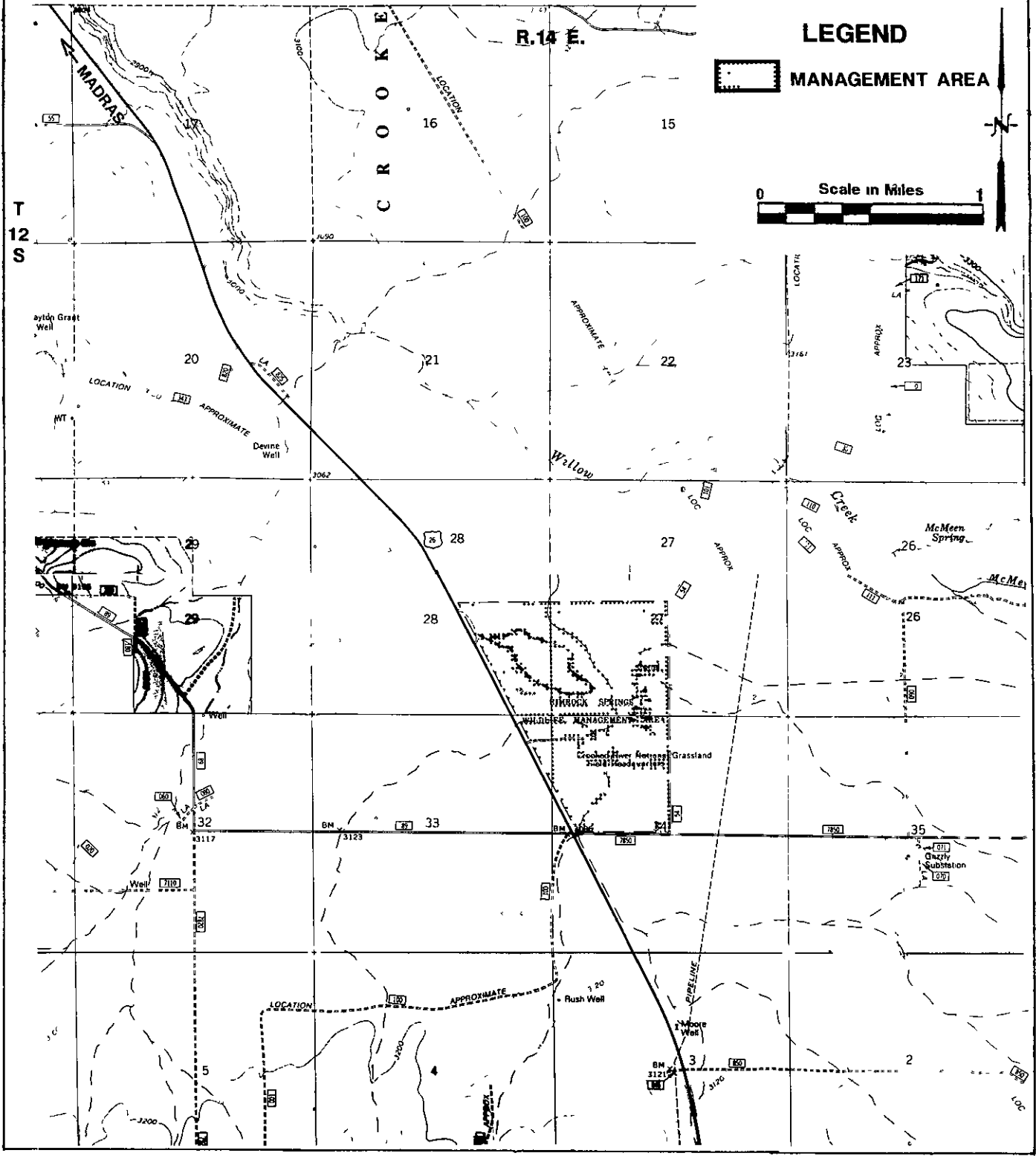


Figure 4-10
RIMROCK SPRINGS WILDLIFE
MANAGEMENT AREA (MA-G10)



LEGEND

 **MANAGEMENT AREA**



Figure 4-11

HAYSTACK RESERVOIR AREA (MA-G11)

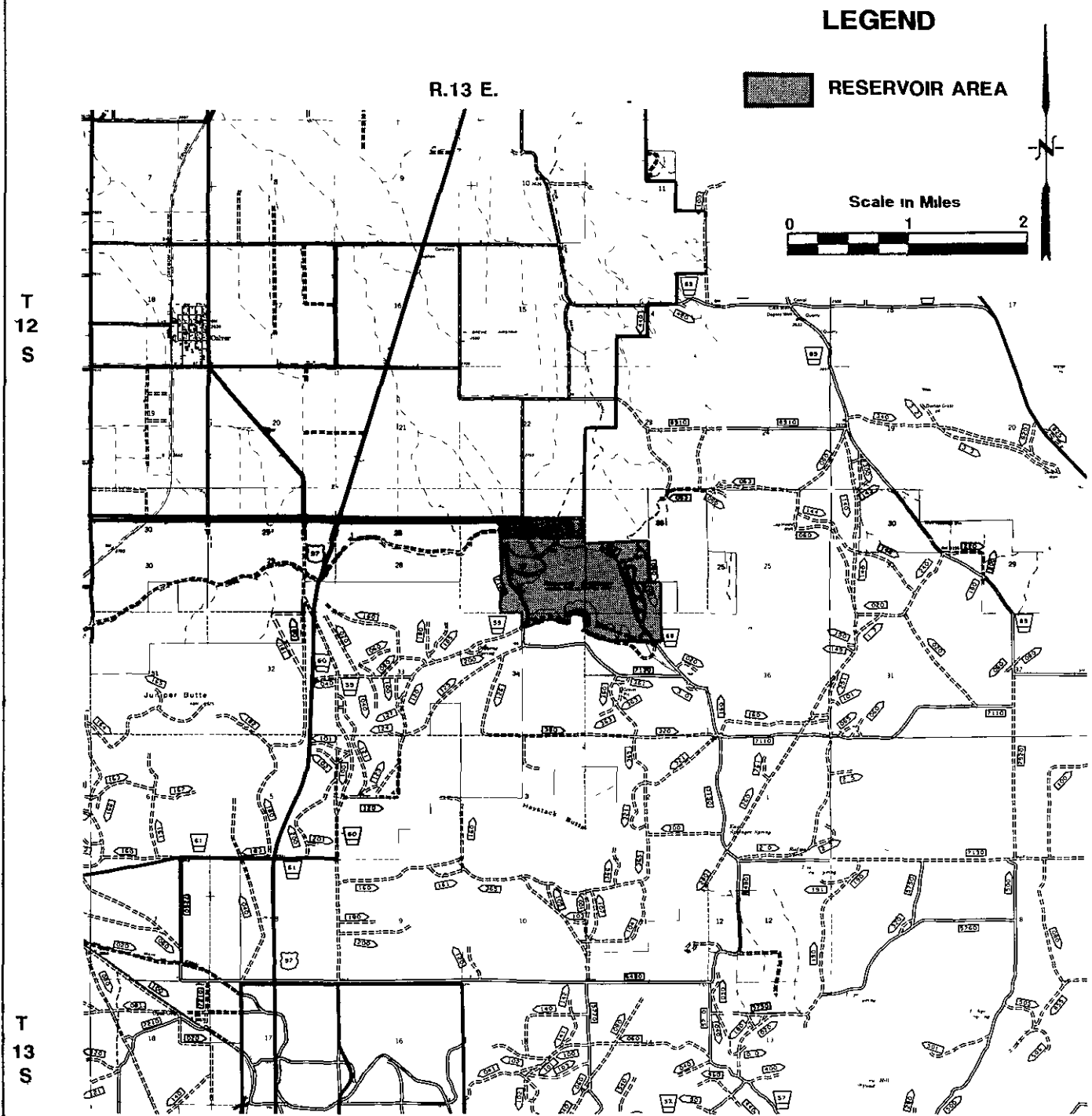


Figure 4-12

COVE PALISADES STATE PARK (MA-12)

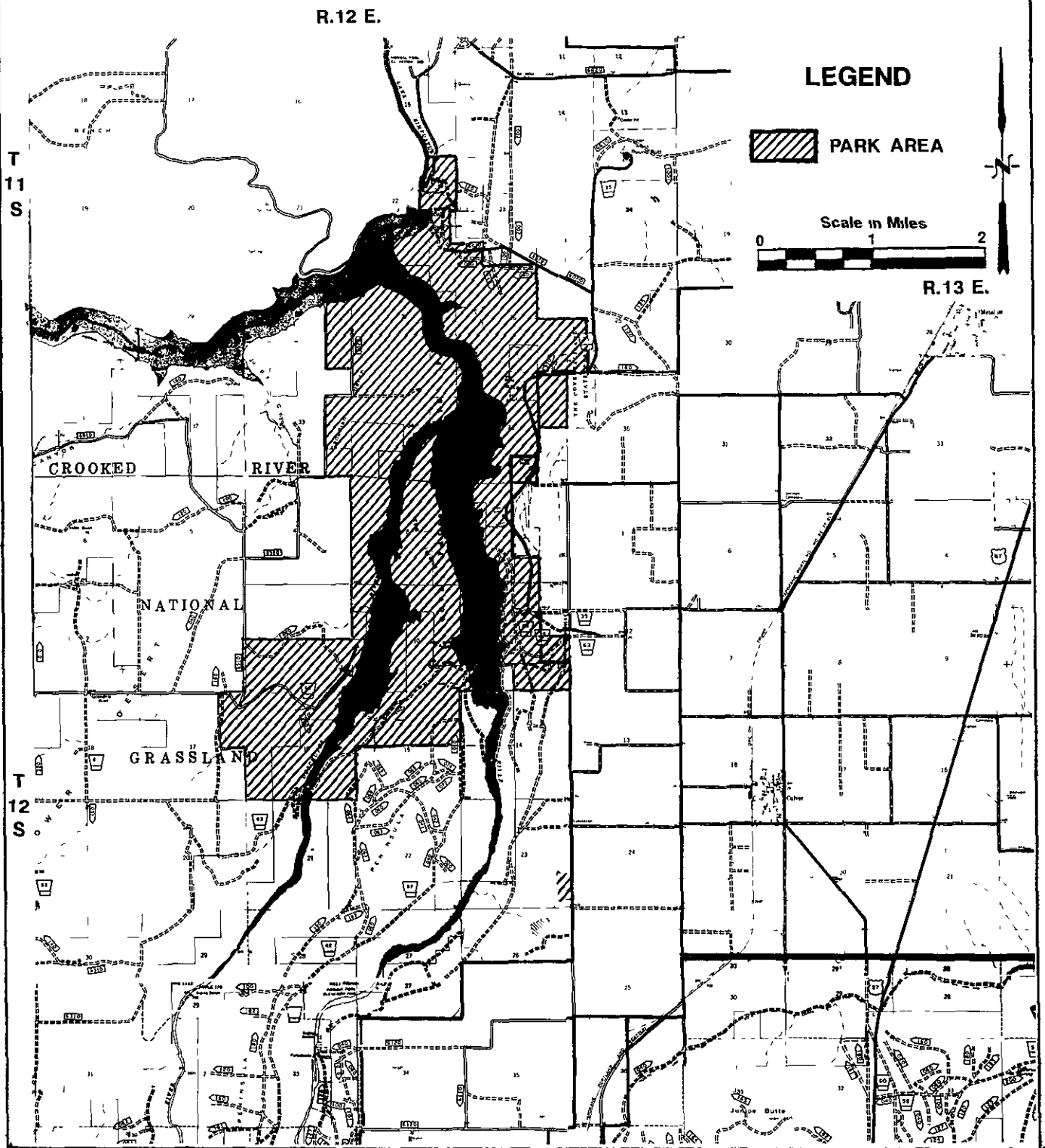


Figure 4-14

DISPERSED RECREATION (MA-G14)

LEGEND

- DISPERSED RECREATION
- OTHER OWNERSHIP
- ▨ GENERAL FORAGE

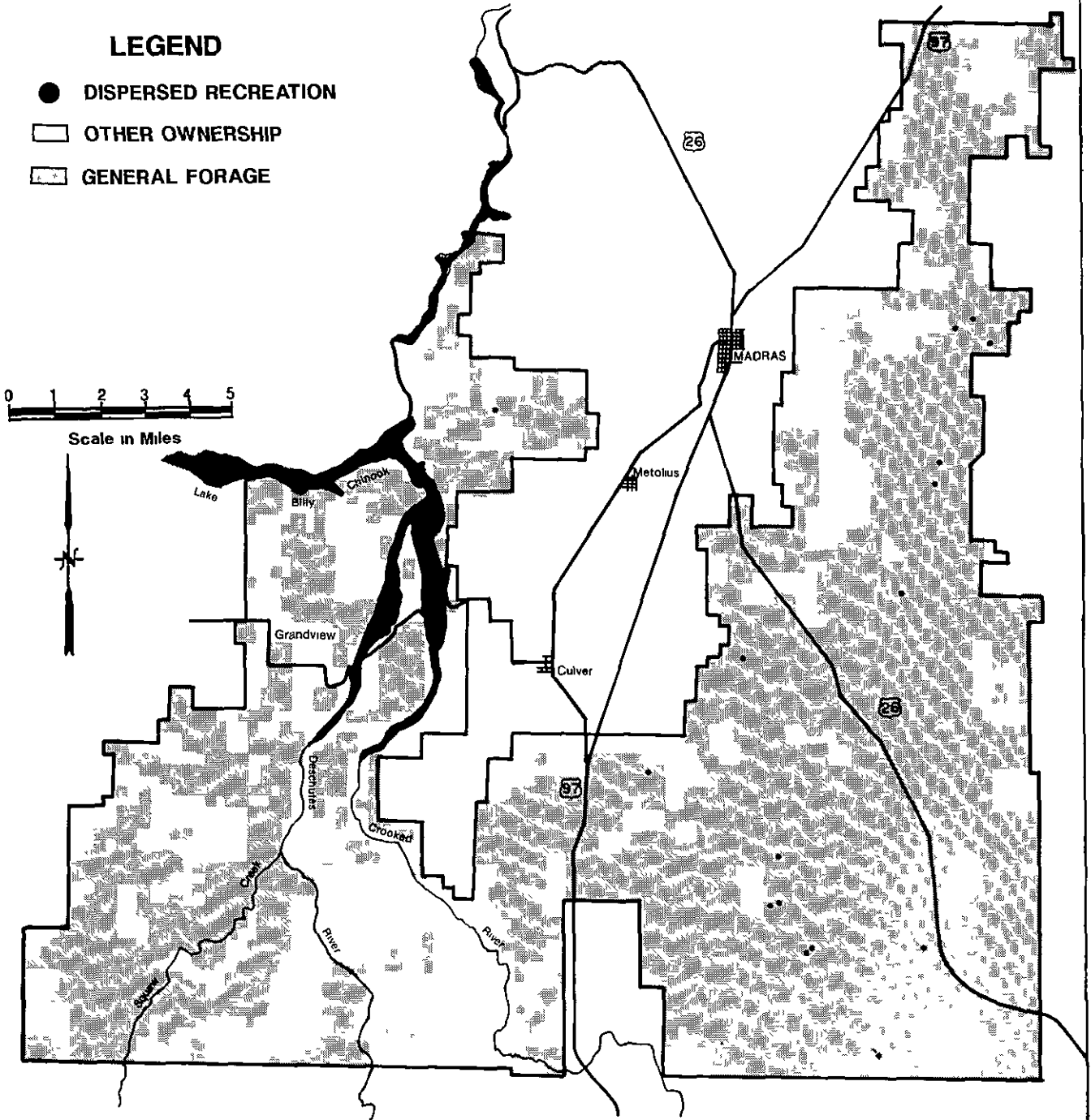


Figure 4-15

GRAY BUTTE ELECTRONIC SITE (MA-G15) UTILITY CORRIDORS (MA-G16)

LEGEND

----- POWERLINE

----- GASLINE

★ GRAY BUTTE ELECTRONIC SITE

Scale in Miles

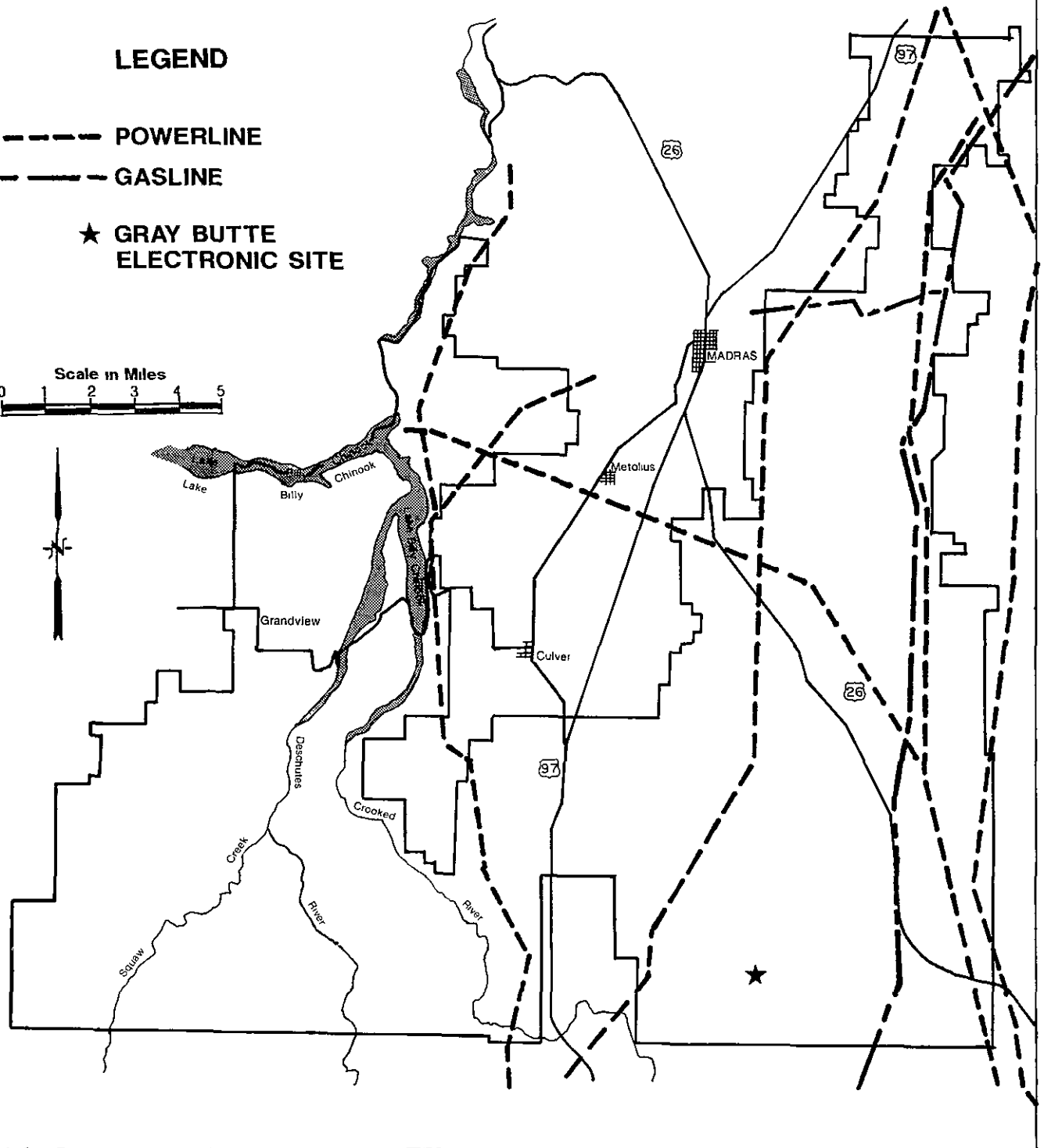
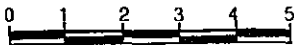
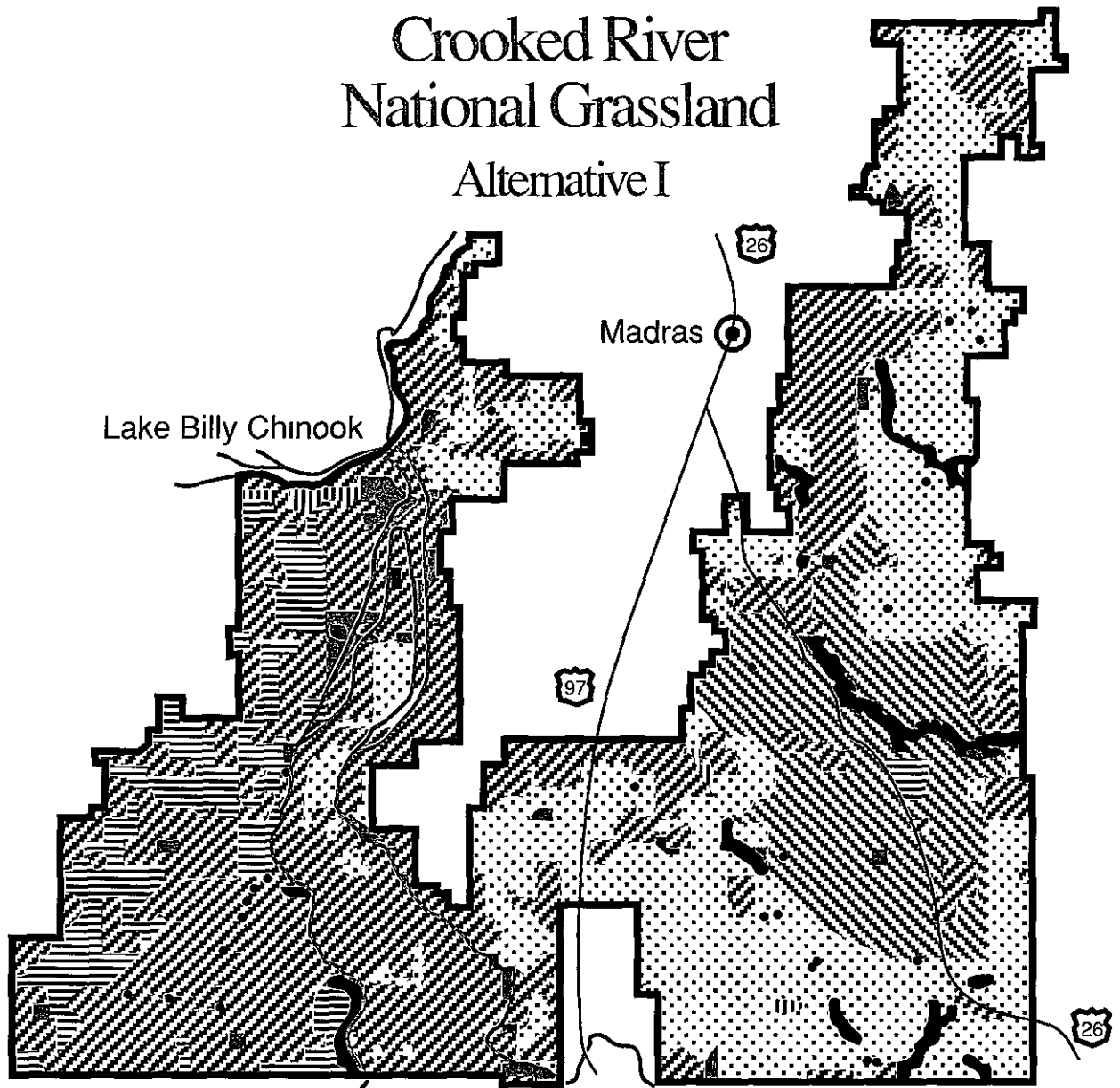


















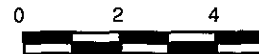
Figure 4-16

Crooked River National Grassland Alternative I



Legend

- | | | |
|---|---|--|
|  Antelope Winter Range |  Crooked River Recreation River Corridor |  Cove Palisades State Park |
|  Deer Winter Range |  Deschutes Scenic River Corridor |  Lake Billy Chinook View |
|  General Forage |  Squaw Creek |  Dispersed Recreation |
|  Research Natural Area |  Riparian (not to scale) |  Gray Butte Electronic Site |
|  Juniper Old Growth |  Rimrock Spring Wildlife |  Other Ownership |
| |  Haystack Reservoir | |



1/4" = 1 Mile

Chapter 4

Grassland Management Direction

Section 3

Grassland-Wide and Management Area Standards and Guidelines

Chapter 4

Section 3

Grassland-Wide and Management Area Standards and Guidelines

Standards and guidelines state the bounds or constraints within which all management practices are to be carried out in achieving the planned goals, objectives and desired future condition. They are intended to supplement, but do not replace, policy direction found in Forest Service Manuals and Handbooks and the Regional Guide for the Pacific Northwest Region. They also must comply with applicable State and Federal laws and regulations.

Grassland-wide and management area standards and guidelines are grouped together by resource (or functional area), so that the user will have the total management direction available in one package. The general standards and guidelines apply to all areas on the Crooked River National Grassland. Management area standards and guidelines are site specific; they must be in compliance with Grassland-wide standards and guidelines, as well as higher order policy, regulation, and law.

Some resource direction is only applicable on a Grassland-wide basis, and does not vary by management area. Therefore, no management area standards and guidelines are presented for the following resources: Air Quality, Biological Diversity, and Social and Economic.

Air Quality



Grassland-Wide Standards and Guidelines

Maintain air quality on the Grassland at a level which meets or exceeds applicable Federal and State standards and regulations. Comply with regulations of the Clean Air Act, as amended, and coordinate activities with the Oregon State Department of Environmental Quality and the Oregon State Department of Forestry.

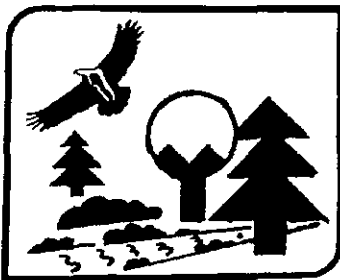
Demonstrate reasonable progress in reducing total suspended particulate (TSP) emissions from prescribed burning. Monitor particulate emissions originating from Grassland activities as outlined in Chapter 5, Implementation of the Grassland Plan.

Conduct prescribed burning in accordance with State smoke management plans
Follow Regional standards and guidelines for smoke emissions as stated in the Regional Vegetation Management Final Environmental Impact Statement.

Use the best available predictive methods and models, and most cost-efficient technologies to minimize the impact of prescribed burning on the Grassland and adjacent lands.

Protect the Grassland air resources against pollution sources outside the Grassland boundaries through application of the Prevention of Significant Deterioration (PSD) regulations contained in the Clean Air Act. Take appropriate action to contact the Oregon State Department of Environmental Quality when outside air pollution sources (chiefly those originating on a regular seasonal basis from the Madras basin and Willamette Valley) exceed Grassland standards.

Biological Diversity



Grassland-Wide Standards and Guidelines

Research Natural Areas (RNA's), featuring unique community types, are to be maintained and protected from influences which detract from their purposes. Monitor vegetation to insure that all major vegetative types and unique plant communities are preserved for future knowledge and gene pool diversity.

Identify and manage unique ecological situations through the Grassland implementation and monitoring process. Examples of these include: eagle roosting, representative examples of old growth juniper, aspen clones, river canyons, and riparian areas.

Maintain soil productivity through management practices which reduce erosion, and through the application of guidelines that limit use of heavy equipment.

Protect fragile sites such as shallow soil areas (scablands) and natural meadows.

Incorporate and design habitat-specific species requirements--such as those for cavity excavators--into guidelines and prescriptions for individual projects.

Monitor plant communities/associations to determine conditions and trends. Encourage recovery or prevent deterioration where activities may be leading to poor conditions; downward trends, the displacement of native plants or plant communities by unusually weedy, annual, or noxious vegetation; or where cover is untypically low for the particular plant associations (see Hall, 1973; Hopkins and Kovalchik, 1983). Manage aspen stands to produce a vigorous population

Limit the frequency of underburning of plant communities to the natural fire cycle, or less frequently, until research is completed on ecological effects of burning.



Cultural Resources



Grassland-Wide Standards and Guidelines

Update the existing Cultural Resource Overview each decade to incorporate all known cultural resource information on each District. The Overview will provide a framework for evaluating cultural resources located through survey efforts, will assist in the development of a Forest Inventory Plan approved by the Oregon State Historic Preservation Office (SHPO), and will help to identify opportunities for site interpretation.

Conduct cultural resource surveys (inventories) in advance of all ground-disturbing actions. Both project and non-project areas will be surveyed during the earliest stages of the planning (NEPA) process; this will be accomplished through the implementation of the Interim Inventory Design (Dyrden, 1988) or Forest Inventory Plan (when formally approved) Submit project Cultural Resource Reports for SHPO review and Section 106 (National Historic Preservation Act, as amended) compliance prior to issuance of the Decision Notice and Environmental Assessment or Environmental Impact Statement.

Evaluate cultural resource properties located during inventory to determine their eligibility to the National Register of Historic Places. This will be accomplished through the Lithic Scatter Programmatic Memorandum of Agreement (PMOA), individual site and thematic Determinations of Eligibility.

Develop contexts and themes from which to evaluate all classes of sites through thematic Determinations of Eligibility. Develop management plans, Memorandums of Agreement (MOA's), and PMOA's in cooperation with the State Historic Preservation Office, the Advisory Council on Historic Preservation, and other interested publics (Native Americans, local historical societies, groups and professional organizations) to facilitate cultural resource treatment and future management.

Document, through the NEPA process, the results of cultural resource surveys for all proposed ground-disturbing projects (federal, federally-funded or permitted) or projects determined to have an effect upon cultural resource sites or values.

Prepare a Determination of Effect for all projects and submit for Oregon SHPO review and consultation (i.e. No Effect, No Adverse Effect, or Adverse Effect).

Mitigate adverse effects to eligible and significant sites under consultation with the Oregon SHPO, Advisory Council on Historic Preservation, and interested publics. In ranked order of preference, the following treatment options will be considered:

1. Avoidance through project design modification or abandonment (No Effect).
2. Combination of project modification and scientific data recovery under an

approved data recovery plan (No Adverse Effect or Mitigation of Adverse Effect).

3. Data recovery and analysis such that cultural resource values are protected and preserved in forms useful to various scientific, government, ethnic and local groups (Mitigation of Adverse Effect).

Cultural resource sites, districts and thematic classes of such will be nominated to the National Register of Historic Places. Schedule nominations incrementally until the Forest-wide inventory of cultural resources is completed. Protect significant sites from degradation due to public use or natural deterioration. Protection methods may include, but are not limited to, scientific study and collection, the use of fences or barriers, prudent use of signs, site stabilization, closure orders, site monitoring, area patrolling, and restriction of access to site locational information as provided for under the provisions of the Freedom of Information Act.

Interpret and enhance selected sites for the education and enjoyment of the general public. A priority will be given to sites within or adjacent to public use areas, and which are being degraded through natural or human impacts. Produce scientifically accurate and culturally sensitive displays, brochures, posters, tours, lectures, etc. Support the distribution of scientific reports, monographs, video tapes, and books for the benefit of interested members of the public. Promote public-private partnerships which will benefit Forest visitors through enhancing and interpreting sites.

Burial Sites

Treat historic or prehistoric burial remains as follows:

Evaluate the site to determine if the skeletal material is human and to what time period or ethnic group it may be ascribed.

Contact local authorities, Native American Tribal Group(s), other ethnic groups and County Historical Societies where appropriate.

For Native American burials, reinter in-place with involvement by the appropriate representatives of a federally recognized Tribe or Native American group. Project planning for management activities in the site vicinity shall consider burial location in planning decisions, and if necessary, modify implementation to avoid direct and indirect impacts to the burial site.

Where reinterment in-place is not feasible or prudent, alternative locations for reinterment will be reviewed and selected in consultation with the appropriate Indian Tribal representatives. In situations where a direct link cannot be made to an existing Federally recognized Tribe, this consultation shall take place with the nearest tribe or confederation.

Religious Freedom

Meet all requirements of the American Indian Religious Freedom Act (AIRFA). This law makes it the policy of the Federal government "to protect and preserve for American Indians their inherent right of freedom to believe, express, and

exercise [their] traditional religions.” This protection includes, but is not limited to, access to sites, use and possession of sacred objects, and the enactment of ceremonies and traditional rites. Related activities include the gathering and processing of plants for food, medicinal, or craft uses, and the construction of sweat lodges, or “vision quest” structures.

AIRFA addresses the religious freedom of all Native Americans without regard for Federal tribal recognition, but does not convey exclusive use of areas or free use of Forest products. While considering access to properties or sites within its boundaries, the Forest will examine other potential or existing uses and activities. Publicly owned properties, sites, objects of antiquity, etc. remain the property of the United States government. Activities which may effect such properties, sites, or objects are subject to existing laws, regulations and treaties.

Treaty Rights

Honor the rights reserved by the Confederated Tribes of Warm Springs Indians for lands ceded to the Federal Government through the Treaty of 1855.

On the ceded lands, the Tribes have the right to take fish in streams running through and bordering the Reservation and at all other usual and accustomed stations in common with the citizens of the United States.

The right of hunting, gathering roots and berries, and pasturing stock on unclaimed lands in common with citizens was also secured within the ceded lands.

Management Area Standards and Guidelines

Resource - Cultural Resources

Practice

Enhancement and Interpretation

Standard and Guideline

On-site interpretation and enhancement of cultural resources will not be done. Off-site interpretation and enhancement is permissible.

Applicable Management Area

MA-G5 Juniper Old Growth
MA-G15 Gray Butte Electronic Site
MA-G16 Utility Corridors

Standard and Guideline

Enhancement and interpretation of cultural resources will not be emphasized.

Significant cultural resource sites and features may be enhanced and interpreted if the action does not detract from the management area objectives.

Applicable Management Area

MA-G4 Research Natural Areas
MA-G8 Squaw Creek
MA-G11 Haystack Reservoir
MA-G12 Cove Palisades State Park

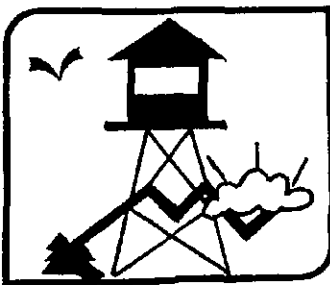
Standard and Guideline

Selectively enhance and interpret cultural resources, with priority on identifying sites that will complement the management emphasis of the specific areas.

Applicable Management Area

MA-G1 Antelope Winter Range
MA-G2 Metolius Deer Winter Range
MA-G3 General Forage
MA-G6 Crooked River Recreation River Area
MA-G7 Deschutes River Scenic Corridor
MA-G9 Riparian Areas
MA-G10 Rimrock Springs Wildlife Area
MA-G13 Lake Billy Chinook View Area
MA-G14 Dispersed Recreation

Facilities



Grassland-Wide Standards and Guidelines

Plan, develop, maintain, and operate buildings, utility systems and related facilities for safe use, support of Grassland resource programs, and cost effectiveness. Historic buildings will be managed in accordance with the Programmatic Memorandum of Agreement (PMOA) for Depression-Era Administrative Buildings.

Insure that the construction of new buildings or additions to existing buildings and utility systems complies with approved site development plans.

Provide and manage administrative facilities sufficient to accomplish land and resource management and protection objectives of the Grassland. Prepare an administrative site development plan for the Grassland field headquarters. Recognize that the field headquarters is eligible for the National Register of Historic Places. Clear proposed improvements through the State Historic Preservation Office (SHPO). Consider long-term development and maintenance costs in planning of facilities.



Management Area Standards and Guidelines

Resource - Facilities

Practice

Construction, Reconstruction and Maintenance of Administrative Buildings and Structures

Standard and Guideline

No administrative buildings or structures allowed.

Applicable Management Area

MA-G5 Juniper Old Growth
MA-G4 Research Natural Areas

Standard and Guideline

Allow no administrative facilities within floodplains unless no feasible alternative sites exist (Executive Order 11988).

Applicable Management Area

MA-G9 Riparian

Fire



Grassland-Wide Standards and Guidelines

Fire Management

Planning

Use the National Fire Management Analysis System to determine the most cost-efficient fire protection organization. Reevaluate organization as conditions change and better information is developed. Due to the nature of intermixed land ownerships, including a number of wildland subdivisions, interagency cooperation must be considered in the planning process.

Prevention

Monitor current and recent fire reports to target specific risks. Coordinate activities through the Central Oregon Fire Prevention Cooperative (or its equivalent).

Detection

Periodically review the mix of aerial and ground detection activities to maintain the most cost-effective combination.

Initial Attack

Apply aggressive suppression action to wildfires that threaten life, private property, public safety, improvements, or investments.

Where wildfires do not threaten to exceed acceptable sizes and intensities, apply the lowest cost suppression option

If a wildfire escapes initial action and threatens to exceed established limits, prepare an escaped fire situation analysis. Weigh the cost of suppression against the resource potential losses. Suppression costs should be commensurate with the values threatened.

Secondary Attack Forces

Provide equipment and training for Forest Service employees outside of the fire management organization to assist in initial attack.

Fuel Treatments

Burn excess residues from management activities or natural events only after an interdisciplinary team evaluation of site needs and appropriate utilization efforts have been considered. The Ochoco National Forest Residue Management Plan, 3/89, will be used as a guide for identifying site-specific treatment selections.

Prescribed Fire

All planned prescribed fires will have prescriptions approved by the appropriate line officer.

Unplanned ignitions may be used as prescribed fire if: 1) a prescribed fire plan has been prepared and approved, 2) the fire is burning within prescription, and 3) there are enough personnel and equipment available to provide the staffing necessary to carry out the existing prescribed fire plan.

Conduct prescribed burns within existing Federal and State regulations affecting the timing, duration, and dispersal of emissions. Coordination with adjacent local smoke management groups and local agency offices will be required.

Construct water diversions on firelines in hilly or steep terrain to drain water into areas with sufficient vegetation or other protection to avoid erosion.

Provide for a protective strip of undisturbed surface between the prescribed burn area and perennial water courses, considering local topographic, vegetation, and soil characteristics.

Avoid intense prescribed fires on soils that are highly erodible and/or are subject to the development of hydrophobic (nonwettable) conditions.

Fuelbreaks

Use existing transportation and topographic features as much as possible for planned fuel breaks.

Use fuelbreaks only where risk analysis indicates this to be the most economically viable alternative treatment, and where doing so meets the objectives of management as a prescriptions, listed in Section 2, this chapter.

Piling and Burning

Locate piles outside of the normal high water flow area of natural and man-made drainages or water courses.

Burn slash piles located within mapped floodplains within one year after piling.

Remove slash created within the normal high water zone of a stream, unless needed for soil protection purposes.

Slash will not be piled on scablands unless there is no other feasible location, i.e. under circumstances dictated by topography (see Soils Standards and Guidelines).

Chipping, Burning, Lopping, and Scattering

Dispose of material so it will not reach stream courses.

Disperse material over a wide area when practical.

Management Area Standards and Guidelines

Resource - Fire

Practice
Suppression

Standard and Guideline

Use appropriate suppression strategy (confine, contain, control) identified in the economic efficiency analysis for each preattack block.

Applicable Management Area

MA-G1 Antelope Winter Range
MA-G3 General Forage

Standard and Guideline

Maximum acceptable wildfire acres at Fire Intensity Level III is 5,000 acres per decade.

Applicable Management Area

MA-G3 General Forage

Standard and Guideline

Control all wildfires except on Island Research Natural Area.

Applicable Management Area

MA-G12 Cove Palisades State Park

Standard and Guideline

Minimize physical disturbances. Confine, contain, or control fires utilizing confine or contain strategies whenever possible.

Applicable Management Area

MA-G6 Crooked River Recreation Area
MA-G7 Deschutes River Scenic Corridor
MA-G8 Squaw Creek
MA-G13 View Area Lake Billy Chinook
MA-G14 Dispersed Recreation

Standard and Guideline

Control all wildfires.

Applicable Management Area

MA-G11 Haystack Reservoir

MA-G15 Gray Butte Electronic Site

Standard and Guideline

Minimize acreage affected by wildfire. Suppress fires using the tactical strategy of control. Minimize damage from suppression activities.

Applicable Management Area

MA-G5 Juniper Old Growth

Standard and Guideline

Use appropriate suppression strategy (confine, contain, control) identified in the economic efficiency analysis with due regard for prescribed fire plans for the area.

Maximum acceptable wildfire acreage per decade at Fire Intensity Level III is 500 acres.

Applicable Management Area

MA-G2 Metolius Deer Winter Range

Standard and Guideline

Permit no suppression of natural fires on the Island RNA. Suppress natural fires on Haystack Butte only if facilities or resources outside the RNA are threatened.

Use only water as a retardant.

Applicable Management Area

MA-G4 Research Natural Areas

Standard and Guideline

Confine, contain, or control all wildfires with due regard for prescribed fire plans (see Wildlife).

Applicable Management Area

MA-G10 Rimrock Springs Wildlife Area

Standard and Guideline

Limit mechanical suppression activities to avoid excessive disturbance to riparian zones to avoid disturbing soil or vegetation. Contain or control fires.

Maximum acceptable wildfire acreage at Fire Intensity Level III is the same as surrounding management areas.

Applicable Management Area

MA-G9 Riparian

Standard and Guideline

Allow prescribed burning when feasible. Completely dispose of slash. The minimum acceptable suppression response is “contain” at all Fire Intensity Levels.

Applicable Management Area

MA-G16 Utility Corridors

Practice
Prevention

Standard and Guideline

Encourage the State of Oregon to post appropriate fire prevention information. Inform visitors about fire prevention and regulations.

Applicable Management Area

MA-G12 Cove Palisades State Park

Practice
Prescribed Fire

Standard and Guideline

Use no prescribed fire.

Applicable Management Area

MA-G15 Gray Butte Electronic Site

Standard and Guideline

Normally, utilize manual and mechanical methods of fire hazard reduction. Prescribed fire may be used under limited circumstances.

Applicable Management Area

MA-G11 Haystack Reservoir
MA-G14 Dispersed Recreation

Standard and Guideline

Use prescribed fire only to reduce fuel load if natural fuels accumulate to a level likely to result in a catastrophic fire.

Applicable Management Area

MA-G5 Juniper Old Growth

Standard and Guideline

Use prescribed fire to maintain the naturalness of the area, provide scenic diversity, and vegetative management.

Applicable Management Area

MA-G6 Crooked River Recreation Area
MA-G7 Deschutes River Scenic Corridor
MA-G8 Squaw Creek (includes proposed "scenic river" segment)

Standard and Guideline

Allow the use of managed or naturally occurring fire as needed to perpetuate the plant community the RNA is meant to represent.

Where prescribed fire is used to perpetuate a plant community, it should mimic a natural fire but be managed prudently to avoid catastrophe.

Applicable Management Area

MA-G4 Research Natural Areas

Standard and Guideline

Allow fuels to accumulate at natural rates unless they threaten the objectives of the management area.

Applicable Management Area

MA-G4 Research Natural Areas
MA-G6 Crooked River Recreation Area
MA-G7 Deschutes River Scenic Corridor

Standard and Guideline

On firelines constructed in hilly or steep terrain, install water diversions to drain water into areas with vegetation or other protection sufficient to avoid erosion.

Where possible, provide for a protective strip of undisturbed surface between the prescribed burn area and perennial water courses, considering local topographic, vegetation, and soil characteristics.

Applicable Management Area

MA-G9 Riparian

Standard and Guideline

Use prescribed fire periodically to improve big game winter habitat and reduce fuel conditions on a periodic basis.

Applicable Management Area

MA-G1 Antelope Winter Range
MA-G2 Metolius Deer Winter Range
MA-G8 Squaw Creek

Standard and Guideline

May be used to meet visual management objectives.

Applicable Management Area

MA-G6 Crooked River Recreation Area
MA-G7 Deschutes River Scenic Corridor
MA-G8 Squaw Creek
MA-G13 Lake Billy Chinook View Area

Practice

Fuel Break Construction and Maintenance

Standard and Guideline

Maintain fuel breaks only where risk analysis shows them to be economically feasible.

Applicable Management Area

MA-G3 General Forage

Standard and Guideline

Construct and maintain no fuel breaks.

Applicable Management Area

MA-G5 Juniper Old Growth
MA-G9 Riparian

Standard and Guideline

Maintain fuel breaks only where they do not conflict with wildlife goals, especially with regard to thermal cover.

Applicable Management Area

MA-G2 Metolius Deer Winter Range

Practice

Treatment of Natural Fuels

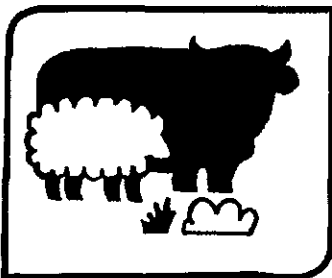
Standard and Guideline

Emphasize protecting cover needs.

Applicable Management Area

MA-G2 Metolius Deer Winter Range

Forage and Livestock Use



Grassland-Wide Standards and Guidelines

Unsatisfactory Condition Identification and Improvement

Identify lands in unsatisfactory condition. Develop allotment management plans with specific objectives for these lands on a priority basis under a schedule established by the Forest Supervisor. These objectives will define desired future conditions based on existing and potential values for all resources. Include in allotment management plans: (1) a schedule for improvement; (2) activities needed to meet forage objectives; and (3) an economic efficiency analysis.

Forage Utilization

Utilization tables have been developed for "Primary Range" (Table 4-3) and "Riparian" (Table 4-4). In addition, special seasonal restrictions (for fall green-up) have been directed for individual management areas.

Administration and Grazing Systems

Administer lands available and suitable for domestic livestock grazing according to the grazing agreement with the Gray Butte Grazing Association.

Utilize intensive grazing management systems where feasible.

Develop, revise, and maintain allotment management plans to incorporate Grassland Plan direction

Control noxious weeds and invader plants to prevent threats to adjacent agricultural lands or to prevent unacceptable loss of range productivity.

Encourage demonstration projects when they are compatible with other standards and guidelines.



Management Area Standards and Guidelines

Resource - Forage

Practice Utilization

Standard and Guideline

Reserve fall greenup for antelope. Plan forage management to meet this objective in individual Allotment Management Plans.

Applicable Management Area

MA-G1 Antelope Winter Range

Standard and Guideline

Allow no livestock grazing.

Applicable Management Area

MA-G12 Cove Palisades State Park
MA-G6 Crooked River Recreation Area
MA-G7 Deschutes River Scenic Corridor

Standard and Guideline

Continue to keep campground closed to livestock grazing.

Applicable Management Area

MA-G11 Haystack Reservoir

Standard and Guideline

Maintain early season livestock use.

Applicable Management Area

MA-G2 Metolius Deer Winter Range

Standard and Guideline

Permit no grazing of domestic livestock within the RNA unless needed to maintain a specific vegetative type.

Applicable Management Area

MA-G4 Research Natural Areas

Standard and Guideline

Use periodic high intensity grazing as a tool to maintain the desired vegetative communities and habitat types.

Maintain pastures for Forest Service horses.

Applicable Management Area

MA-G10 Rimrock Springs Wildlife Area

Standard and Guideline

See Table 4-4.

Applicable Management Area

MA-G9 Riparian

Standard and Guideline

Allow no livestock grazing within lower Squaw Creek canyon (the 1,370 acre segment proposed for Wild and Scenic River designation). Utilize grazing systems that protect and complement the deer winter range and riparian areas.

Applicable Management Area

MA-G8 Squaw Creek

Practice

Nonstructural Improvements

Standard and Guideline

Allow mechanical and nonmechanical treatments that are compatible with the primary objectives of the management area. Manage to keep shrub species (primarily big sagebrush) at or below 24 inches in height, and definitely not over 30 inches in height.

Applicable Management Area

MA-G1 Antelope Winter Range

Standard and Guideline

Allow mechanical and nonmechanical treatments.

Applicable Management Area

MA-G3 General Forage

Standard and Guideline

Permit only nonstructural improvements that are compatible with the primary objectives of the management area.

Applicable Management Area

MA-G5 Juniper Old Growth
MA-G2 Metolus Deer Winter Range

Standard and Guideline

Use prescribed fire or controlled livestock grazing to maintain productive vegetation.

Applicable Management Area

MA-G10 Rimrock Springs Wildlife Area

Standard and Guideline

Manage vegetation to decrease bare soil areas.

Applicable Management Area

MA-G9 Riparian

Standard and Guideline

See adjacent management areas (except for prescribed burning).

Applicable Management Area

MA-G16 Utility Corridors

Practice

Structural Improvements



Standard and Guideline

Maintain existing improvements where they are not in conflict with the primary objectives of the management area.

Construct additional improvements where they will aid in improved livestock management.

Guidelines for constructing or reconstructing fences:

(1) Topwire: Not more than 40 inches above the ground. Bottom wire: Smooth wire at least 18 inches above the ground.

(2) Use white-topped fence posts.

After the livestock are off the Grassland in the fall, leave gates open to facilitate antelope passage (except where needed for road management objectives).

Applicable Management Area

MA-G1 Antelope Winter Range

Standard and Guideline

Maintain existing developments. Construct additional water developments to improve forage availability where project level analysis shows these developments to be cost-efficient. Design and locate improvements to disperse livestock away from riparian areas and alleviate other resource problems. Priority projects will be those with the highest present net value that reduce resource problems.

Applicable Management Area

MA-G3 General Forage

Standard and Guideline

Maintain existing improvements. Permit new improvements only when they are compatible with the primary objectives of the management area.

Applicable Management Area

MA-G5 Juniper Old Growth

Standard and Guideline

Maintain existing developments where they are not in conflict with the desired future condition of the management area.

Construct additional developments as needed to aid in livestock distribution and facilitate using domestic livestock as a management tool to improve the palatability and availability of winter deer forage.

Applicable Management Area

MA-G2 Metolius Deer Winter Range

Standard and Guideline

Construct and maintain fences needed to exclude livestock.

Applicable Management Area

MA-G4 Research Natural Areas

Standard and Guideline

Maintain existing fences and corrals.

Applicable Management Area

MA-G10 Rimrock Springs Wildlife Area

Standard and Guideline

Allow developments that meet the desired condition as follows:

Locate improvements to disperse livestock away from riparian areas.

Construct water developments to better distribute livestock.

Fence corridors to exclude livestock.

Applicable Management Area

MA-G9 Riparian

Standard and Guideline

Only those structural improvements compatible with Wild and Scenic Rivers Rivers management objectives will be allowed

Applicable Management Area

MA-G6 Crooked River Recreation Area

MA-G7 Deschutes River Scenic Corridor

MA-G8 Squaw Creek (Proposed 1,370-acre "scenic river" segment)

Practice

Allotment Management Plans

Standard and Guideline

Identify action needed to meet riparian objectives within a specific time frame. Set objectives for key parameters, such as stream surface shade, streambank stability, and shrub cover. The process is described in *Managing Riparian Ecosystems (Zones) for Fish and Wildlife in Eastern Oregon and Eastern Washington*, (1979).

Applicable Management Area

MA-G9 Riparian

**TABLE 4-3
PRIMARY RANGE (Except Riparian)**

Allowable Use of Available Forage 1/

Range Resource Mgmt. Level	Maximum Annual Utilization (%) 2/					
	Forested Commu- nities		Grassland Com- munities		Shrubland Communities	
	Sat	Unsat.	Sat.	Unsat.	Sat.	Unsat.
B - Livestock use managed within current grazing capacity by riding, herding, salting, and cost-effective improvements used only to maintain stewardship of the range.	40	0-30	50	0-30	40	0-25
C - Livestock managed to achieve full utilization of allocated forage. Management systems designed to obtain distribution and maintain plant vigor include fencing and water developments.	45	0-35	55	0-35	45	0-30
D - Livestock managed to optimize forage production and utilization. Cost-effective culture practices improving forage supply, forage use and livestock distribution may be combined with fencing and water development to implement complex grazing systems.	50	0-40	55	0-40	50	0-35

1/ Incorporate into annual operating plans and allotment management plans. Allotment management plans may include utilization standards that are either higher or lower when associated with intensive grazing systems and specific management objectives that meet other resource objectives.

2/ Utilization based on percent by weight of total annual forage production removed for grass, grasslike, and forbs, and percent of current years growth removed for shrubs. See example in riparian table for shrubs.

* For satisfactory and unsatisfactory condition see Glossary in FEIS

**TABLE 4-4
RIPARIAN FORAGE UTILIZATION**

Allowable Use of Available Forage 1/

	Maximum Annual Utilization (%) By Existing Range Condition			
	Grassland Communities 2/		Shrubland Communities 3/	
Range Resource Management Level	Sat. *	Unsat. •	Sat.	Unsat.
B - Livestock use managed within current grazing capacity by riding, herding, salting, and cost-effective improvements used only to maintain stewardship of the range.	40	0-30	30	0-25
C - Livestock managed to achieve full utilization of allocated forage. Management systems designed to obtain distribution and maintain plan vigor include fencing and water development.	45	0-35	40	0-30
D - Livestock managed to optimize forage production and utilization. Cost-effective culture practices improving forage supply, forage use and livestock distribution may be combined with fencing and water development to implement complex grazing systems.	50	0-40	50	0-35

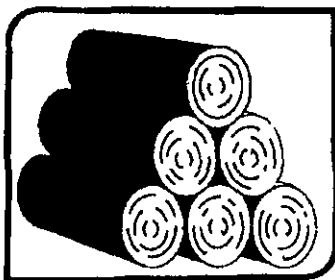
1/ This will be incorporated in annual operating plans and Allotment Management Plans. Allotment Management Plans may include utilization standards which are either higher or lower than associated with intensive grazing systems and specific vegetation management objectives which will meet objectives for the riparian dependent resources. Includes cumulative annual use by big game livestock.

2/ Utilization based on percent of total annual forage production removed by weight.

3/ Utilization based on percent of the current years growth removed. Example: measure length of current years growth of browsed and unbrowsed leaders and determine incidence of use. Calculate percent of current years growth removed.

* For satisfactory and unsatisfactory condition see Glossary in FEIS.

Fuelwood



Grassland-Wide Standards and Guidelines

Allow fuelwood cutting primarily to meet other resource objectives.

Permit fuelwood removal only in designated areas.

Sign wildlife trees (which are not to be cut) near roadsides or other areas accessible to firewood cutters.

Allow only juniper to be cut unless otherwise designated.

Allow no firewood cutting in designated old growth juniper areas.

Consider soil moisture, productivity, and compaction when managing fuelwood areas.

Management Area Standards and Guidelines

Resource - Fuelwood

Practice

Commercial and Personal Gathering

Standard and Guideline

Allow no fuelwood gathering.

Applicable Management Area

MA-G4 Research Natural Areas

MA-G5 Juniper Old Growth

MA-G15 Gray Butte Electronic Site

Standard and Guideline

Allow fuelwood gathering for on-site use only.

Applicable Management Area

MA-G6 Crooked River Recreation Area
MA-G7 Deschutes River Scenic Corridor
MA-G8 Squaw Creek
MA-G11 Haystack Reservoir Area
MA-G13 Lake Billy Chinook View Area
MA-G12 Cove Palisades State Park
MA-G14 Dispersed Recreation

Standard and Guideline

Fuelwood cutting areas will only be provided where used as a tool to provide a proper cover/forage ratio for optimum big game winter range.

Do not allow fuelwood cutting when deer are concentrated on the winter range.

Applicable Management Area

MA-G1 Antelope Winter Range
MA-G2 Metolius Deer Winter Range

Standard and Guideline

Allow no firewood cutting or removal of vegetation, except for approved research related activities.

Applicable Management Area

MA-G4 Research Natural Areas

Standard and Guideline

Designate no fuelwood areas.

Applicable Management Area

MA-G10 Rimrock Springs Wildlife Area

Standard and Guideline

See adjacent management areas.

Applicable Management Area

MA-G16 Utility Corridors

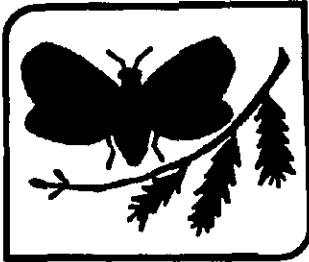
Standard and Guideline

Firewood gathering subject to permit regulations only.

Applicable Management Area

MA-G3 General Forage

Grassland Health



Grassland-Wide Standards and Guidelines

Use Integrated Pest Management (IPM) strategies to manage pests within the constraints of laws and regulations, and meet Grassland management objectives. IPM strategies include manual, mechanical, cultural, biological, chemical, prescribed fire, and regulatory means. Select strategy through the environmental analysis process, and in compliance with the Regional Vegetation Management Environmental Impact Statement, 1988.

Coordinate strategies with the Agricultural Pest Health Inspection Service (APHIS) when proposing major control projects.

Pesticide application, if used, will conform with EPA regulations, label restrictions, and the Regional Environmental Impact Statement on chemical applications.

Management Area Standards and Guidelines

Grassland Health

Practice

Insects & Disease

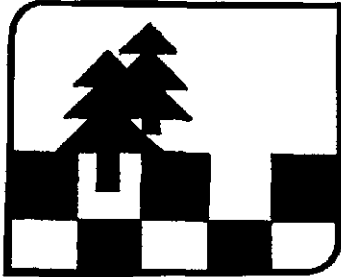
Standard and Guideline

Take no action to control insects, disease or noxious weeds unless the outbreak drastically alters the natural ecological processes within the RNA.

Applicable Management Area

MA-G4 Research Natural Areas

Lands



Grassland -Wide Standards and Guidelines

Utility Corridors

Existing state highways, electric transmission lines, natural gas transmission lines, canals, and railroads have been identified and designated as utility corridors. Avoidance areas are identified and corridor widths set (see *Utility Corridor and Electronic Site Map*, Figure 4-1). Allow no exclusion areas and no windows. Additional facilities will be confined within the existing corridors whenever feasible. Upgrading of present facilities will be considered prior to adding facilities.

Designation of corridors does not imply entitlement of use and environmental analysis must precede occupancy on a project-specific basis. Whenever possible, utility rights-of-way will be designated to allow joint use of the right-of-way.

Identify and approve additional utility corridors only after site specific environmental analysis has been done (including analyzing the alternative of moving energy through existing corridors). Coordinate analysis with other Forests and land management agencies. Determine the lead agency and develop a study plan prior to the start of any analysis. Analysis will be done in accordance with the environmental analysis process and with procedures set forth in the *Regional Guide*. The Grassland Plan will be amended to include additional corridors approved through this process.

Determine the compatibility of each alternative with the management areas affected. If a route is not compatible with the management area direction and other alternatives are not feasible, amend the plan through the NEPA process.

Electronic Sites

Manage Gray Butte in accordance with the site plan being developed, Forest service Manual 2728, and Forest Service handbooks (see *Utility Corridor and Electronic Site Map*, Figure 4-1). Allow no additional electronic sites on the Grassland.

Allow no development or expansion of electronic uses on Buck Butte, Juniper Butte, or Round Butte.

Other Uses

Review applications for other uses through the NEPA process.

Issue new special use permits through a prospectus process when a competitive interest has been identified.

Recreational Special Uses

Issue recreational special use permits only after a public need has been demonstrated that applies to a significant number of the recreating public. This policy may not include business opportunities.

The experience provided through the permit must be compatible with the Recreational Opportunity Spectrum (ROS) classification of the management area.

Limit the number of special use permits for a specific use, to the extent possible, in order to minimize administrative costs and to create economic conditions that provide a high quality public service.

Minimize the impact of special use permits on other users through the operating plans.



Land Ownership

Acquire and dispose of lands in accordance with the Land Ownership Map and Plan (see Appendix B).

Survey and mark property boundaries to prevent encroachments, protect present corners or references where the possibility of disturbance exists, and assist in administration of the Grassland.

Identify and resolve encroachments as they are identified.

Management Area Standards and Guidelines

Resource - Lands

Practice

Land Ownership and Adjustment

Standard and Guideline

Acquire lands as needed (see Category 2 of the Grassland Ownership Plan, Appendix E).

Applicable Management Area

MA-G1 Antelope Winter Range

Standard and Guideline

Cooperate with the State in defining an optimum ownership pattern and lease terms.

Applicable Management Area
MA-G12 Cove Palisades State Park

Standard and Guideline

Acquire private inholdings (see Land Ownership Map and Plan, Appendix B).
Seek transfer of Bureau of Reclamation (BOR) lands to the Forest Service.

Applicable Management Area
MA-G6 Crooked River Recreation Area
MA-G7 Deschutes River Scenic Corridor
MA-G8 Squaw Creek
MA-G13 View Area

Standard and Guideline

Retain and acquire all lands in National Forest System ownership (see Land Ownership Map and Plan, Appendix B). Seek transfer of Reclamation (BOR) lands to the Forest Service.

Applicable Management Area
MA-G11 Haystack Reservoir

Standard and Guideline

Retain old growth lands unless they are small isolated blocks surrounded by privately owned lands (see Land Ownership Map and Plan, Appendix B).

Applicable Management Area
MA-G5 Juniper Old Growth

Standard and Guideline

Acquire lands that support wildlife management goals. Lands in this management are in Category 2 (see Land Ownership Map, Appendix B).

Applicable Management Area
MA-G2 Metolius Deer Winter Range

Standard and Guideline

Retain all lands, and acquire inholdings (see Land Ownership Map and Plan, Appendix B).

Applicable Management Area
MA-G4 Research Natural Areas

Standard and Guideline

Retain all lands.

Applicable Management Area

MA-G10 Rimrock Springs Wildlife Area
MA-G15 Gray Butte Electronic Site

Standard and Guideline

Retain or acquire lands except for small, isolated blocks surrounded by privately owned lands (see Land Ownership Map).

Applicable Management Area

MA-G9 Riparian

Practice
Special Uses

Standard and Guideline

Grant no special use permits that would have a direct and adverse effect.

Applicable Management Area

MA-G6 Crooked River Recreation Area
MA-G7 Deschutes River Scenic Corridor
MA-G8 Squaw Creek (proposed "scenic river" segment)

Standard and Guideline

Only allow minimal, temporary or semipermanent research facilities and installments.

Applicable Management Area

MA-G4 Research Natural Areas

Standard and Guideline

Allow only special use permits for activities that are consistent with the visual management objectives for the area.

Applicable Management Area

MA-G13 Lake Billy Chinook View Area

Practice
Rights-of-Way

Standard and Guideline

Grant no rights-of-way.

Applicable Management Area

MA-G4 Research Natural Areas

MA-G5 Juniper Old Growth

MA-G10 Rimrock Springs

Standard and Guideline

Grant rights-of-way only where there are no alternate routes.

Applicable Management Area

MA-G2 Metolius Deer Winter Range

MA-G9 Riparian

Standard and Guideline

Establish no exclusion areas on the Grassland. Avoidance areas include Squaw Creek, Haystack RNA, Island RNA, Rimrock Springs, and Antelope Winter Range (see individual management area prescriptions).

Corridor widths are 1,000 feet for each existing corridor. Confine additional facilities to existing corridors. Require present facilities to be upgraded before allowing new facilities.

Designation of corridors does not imply entitlement of use. Evaluate application for use on a project-by-project basis.

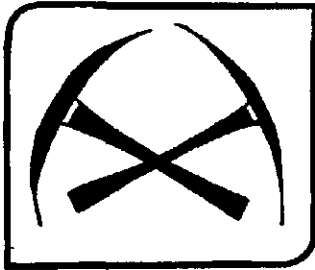
Where possible, encourage joint use of the rights-of-way.

Additional utility rights-of-way or corridors may be identified and approved subject to site-specific environmental analysis.

Applicable Management Area

MA-G16 Utility Corridors

Minerals and Energy



Grassland-Wide Standards and Guidelines

Require that operating plans and permits include reclamation plans describing final management objectives for areas disturbed during mining operations. Insure that reclamation plans include reasonable and practical procedures and timeframes for accomplishing the objectives. Base reclamation bonds on actual reclamation costs formulated using appropriate technical and other resource input.

Notify lessees of impending Forest Service actions that may affect their claims or leases. Reasonable effort should be made to protect mine workings from disturbance as a result of Forest Service activities.

Nonenergy Minerals

Lands administered under the Bankhead-Jones Act are not open to mining claim location. However, leases for nonenergy (hardrock) mineral exploration and development may be issued on acquired lands when the mineral estate is owned by the Federal Government

Mineral Leases

Evaluate surface-use plans of operations through the environmental analysis and documentation process.

Common Variety Minerals

Use existing sources instead of developing new sources; exceptions include:

- when existing sources are unable to economically supply the quantity and quality of material needed,
- when conflicts with other resource uses are found to be unacceptable.

Cinder, hardrock, and gravel sources which are available for use during the planning period are designated on the Material Source Map (on file at the Ochoco National Forest Supervisor's Office).

On lands acquired under the authority of the Bankhead-Jones Act, common variety materials may be disposed of only to public agencies, and only for public purposes.

Proposals for capital investments and improvements on structures, which may occur on known material source deposits, should be analyzed within the context of management direction within this Plan. Do not unnecessarily reduce options for future removal of materials by making significant investments on sources when equally viable options exist in other areas.

Allow no occupancy or other surface disturbance on slopes in excess of 30 percent without written permission.

Allow no occupancy of surface disturbance in the vicinity of eagle, hawk, or owl nesting sites as specified in Wildlife and Fish Standards and Guidelines. Specified distances may be modified when specifically approved.

Require all semipermanent and permanent facilities to be painted or camouflaged in order to maintain aesthetic value.

Rockhounding

Rockhounding (hunting and collecting rocks and minerals as a hobby) on land under Forest Service jurisdiction and where the Forest Service holds the mineral estate does not require a permit if: the land is open to mineral entry; the activity does not conflict with existing rights, and specimens are used for personal, non-commercial use (FSM 2861). Activities involving other than casual removal of small amounts of material with minimal surface disturbance are provided for under the mining or leasing laws or Materials Act.

Management Standard and Guidelines

Resource - Minerals and Energy

Practice

Leasing and Common Variety Minerals

Standard and Guideline

Allow exploration, drilling, and other developmental activities only between April 1 and November 15 to reduce harassment to antelope on the winter range. This limitation does not apply to maintenance and operation of producing wells.

Applicable Management Area

MA-G1 Antelope Winter Range

Standard and Guideline

Close and rehabilitate the existing rock source due to low demand and unsuitable material.

Applicable Management Area

MA-G12 Cove Palisades State Park

Standard and Guideline

Allow no use, occupancy, or surface disturbance within the river corridor.

Applicable Management Area

MA-G6 Crooked River Recreation Area

MA-G7 Deschutes River Scenic Corridor

MA-G8 Squaw Creek (proposed "scenic river" segment)

Standard and Guideline

Allow no occupancy or other surface disturbance.

Common mineral material sources should not be inventoried or developed.

Applicable Management Area

MA-G4 Research Natural Areas

MA-G5 Juniper Old Growth

MA-G9 Riparian

MA-10 Rimrock Springs Wildlife Area

MA-G11 Haystack Reservoir

MA-G12 Cove Palisades State Park

MA-G13 Lake Billy Chinook View Area

MA-G15 Gray Butte Electronic Site

Standard and Guideline

Allow exploration, drilling, and other developmental activities only between April 1 and November 15 to reduce harassment to deer on the winter range. This limitation does not apply to maintenance and operation of producing wells.

Applicable Management Area

MA-G2 Metolius Deer Winter Range

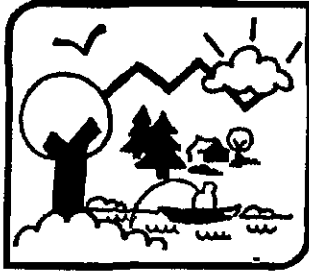
Standard and Guideline

Allow no occupancy or other surface disturbance within Squaw Creek canyon. Elsewhere, allow exploration, drilling, and other developmental activities only between April 1 and November 15 to reduce harassment to deer on the winter range. This limitation does not apply to maintenance and operation of producing wells.

Applicable Management Area

MA-G8 Squaw Creek (proposed "scenic river" segment)

Recreation



Grassland-Wide Standards and Guidelines

General

Recreational activities will be managed to prevent site deterioration within riparian areas.

Developed Sites

Prepare site plans prior to rehabilitation, expansion, or construction projects.

See specific management area standards and guidelines for Haystack Reservoir and Rimrock Springs Wildlife Area.

Dispersed Recreation

Provide a variety of dispersed recreational opportunities.

Provide facilities needed to protect public health and safety, e.g. portable toilets and campfire rings.

Off-Road Vehicles (ORV'S)

Provide opportunities for ORV's on roads that are closed to full-sized vehicles and on other designated trails.

In compliance with the Travel Plan (Appendix D), close roads, trails, and areas, as needed, to protect soil, watershed, wildlife, riparian areas, or nonmotorized recreation.

Special Interest Areas

Protect the outstanding values of the designated and potential Wild and Scenic Rivers corridors.

Identify and protect special natural features, e.g., natural springs, rock formations, weeping walls, petroglyphs, cultural and historic districts.

Trails

Identify and provide a trail system to provide for a variety of uses, such as hiking, horseback riding, endurance horseback riding, mountain bicycling, ATVs, motorcycling, and for the needs of the handicapped.

Construct and maintain the trail system to standards suitable for type and amounts of use. Maintain trails to prevent resource damage, protect the investment in the system, and provide for user safety.

Allow horses and hikers on most trails. Limit use or implement other techniques as needed to prevent or reduce erosion.

Encourage partnerships or volunteers to maintain or construct trails.

Management Area Standards and Guidelines

Resource - Recreation

Practice

Recreational Opportunity Spectrum (ROS)

Standard and Guideline

Rural.

Applicable Management Area

MA-G1 Antelope Winter Range
MA-G11 Haystack Reservoir

Standard and Guideline

Semiprimitive nonmotorized.

Applicable Management Area

MA-G6 Crooked River Recreation Area
MA-G7 Deschutes River Scenic Corridor
MA-G10 Rimrock Springs Wildlife Area
MA-G13 Lake Billy Chinook View Area
MA-G14 Dispersed Recreation

Standard and Guideline

Roaded Natural or Rural.

Applicable Management Area

MA-G3 General Forage
MA-G2 Metolius Deer Winter Range
MA-G14 Dispersed Recreation

Standard and Guideline

Semiprimitive nonmotorized, except for Road 6360 corridor.

Applicable Management Area

MA-G8 Squaw Creek

Practice
Dispersed

Standard and Guideline

Protect the natural environment in and around dispersed camp sites.

Do not encourage dispersed recreational use during the time antelope or mule deer are concentrated on the winter range.

Applicable Management Area

MA-G1 Antelope Winter Range
MA-G2 Metolius Deer Winter Range
MA-G14 Dispersed Recreation

Standard and Guideline

Manage for Roaded Modified/Roaded Natural recreational opportunities. Protect natural setting in and around dispersed sites.

Applicable Management Area

MA-G3 General Forage

Standard and Guideline

Manage to protect the naturalness of the areas. Use of the areas for nonmotorized recreation is acceptable.

Applicable Management Area

MA-G5 Juniper Old Growth

Standard and Guideline

Discourage recreational activities and uses, including overnight camping, and pack and saddle stock use.

Applicable Management Area

MA-G4 Research Natural Areas
MA-G15 Gray Butte Electronic Site

Standard and Guideline

Day use only. Allow no overnight camping.

Applicable Management Area

MA-G10 Rimrock Springs Wildlife Area

Standard and Guideline

Allow recreational uses that are compatible with utility corridors. These areas will provide roaded, modified recreational opportunities.

Applicable Management Area

MA-G16 Utility Corridors

Practice

Developed

Standard and Guideline

Encourage and support State program of providing high quality developed recreational facilities.

Applicable Management Area

MA-G12 Cove Palisades State Park

Standard and Guideline

Allow no developments.

Applicable Management Area

MA-G5 Juniper Old Growth

Standard and Guideline

Develop no sites in riparian areas.

Applicable Management Area

MA-G9 Riparian

Standard and Guideline

Develop trailheads at road closure points on Road 6360, Geneva overlook, and along Roads 63 and 6380.

Applicable Management Area

MA-G8 Squaw Creek

Practice
Facilities

Standard and Guideline

Develop facilities to meet user demand in line with the carrying capacity of the area.

Provide for boating, camping, picnicking, swimming and fishing uses.

Applicable Management Area

MA-G11 Haystack Reservoir

Standard and Guideline

Develop no interpretive or demonstration facilities.

Applicable Management Area

MA-G4 Research Natural Areas



Standard and Guideline

Develop facilities such as staging areas for ORV users, horse camps, and trail-heads to meet user demand, but not exceed the carrying capacity of the area.

Allow overnight camping at designated areas.

Applicable Management Area

MA-G1 Antelope Winter Range

MA-G3 General Forage

Practice

Interpretation

Standard and Guideline

Pursue opportunities for interpreting natural resources, resource management, historical points of interest, scenic views of the Cascades, etc. This may include such things as on-site facilities, interpretive trails, or self-guided motor tours.

Applicable Management Area

MA-G1 Antelope Winter Range

MA-G2 Metolius Deer Winter Range

MA-G3 General Forage

MA-G11 Haystack Reservoir

Standard and Guideline

Avoid publicity that would attract the public to the areas.

Applicable Management Area

MA-G4 Research Natural Areas

Practice

Trails

Standard and Guideline

Utilize the existing paths into the canyon as trails, and improve these trails as necessary to protect soil and watershed.

Applicable Management Area

MA-G6 Crooked River Recreation Area

MA-G7 Deschutes River Scenic Corridor

MA-G8 Squaw Creek

MA-G13 Lake Billy Chinook View Area

Standard and Guideline

Provide trailhead facilities as needed to support a coordinated trail system connecting the Grassland, the Ochoco National Forest, and other areas of central Oregon.

Applicable Management Area

MA-G11 Haystack Reservoir

Standard and Guideline

Allow existing trails to remain as long as the RNA objectives are not compromised.

Construct no new trails unless needed for research purposes.

Applicable Management Area

MA-G4 Research Natural Areas

Standard and Guideline

Maintain and improve the existing trail to provide for wheelchair access. Expand the trail system as needed to enhance other recreational and interpretive opportunities.

Applicable Management Area

MA-G10 Rimrock Springs Wildlife Area



Standard and Guideline

Relocate trails to avoid wet areas.

Applicable Management Area

MA-G9 Riparian

Standard and Guideline

Construct & maintain trails to standards suitable for type and amount of use. Maintain trails to prevent resource damage and provide for user safety. Emphasize reconstruction of existing trails rather than construction of new trails.

Develop multiple use trails whenever possible. Encourage use of volunteers to assist with trail construction and maintenance.

Applicable Management Area

MA-G1 Antelope Winter Range

MA-G2 Metolius Deer Winter Range

MA-G3 General Forage

Practice

Off-Road Vehicles (ORV's)

Standard and Guideline

No motorized use allowed.

Applicable Management Area

MA-G4 Research Natural Area

MA-G5 Juniper Old Growth

MA-G6 Crooked River Recreation Area

MA-G7 Deschutes River Scenic Corridor

MA-G8 Squaw Creek

Standard and Guideline

Encourage ORV's on designated routes where such use will not conflict with other resources. Legally close ORV routes to standard vehicle traffic. Allow no cross-country travel, including snowmobiles, except for administrative and permit purposes (such as maintaining range improvements or firefighting). Rehabilitate user-developed trails and areas. Utilize seasonal closures on certain designated routes. Discourage play areas.

ORV Trails: Provide designated trails which offer scenic vistas, resource interpretation, challenging terrain and a variety of difficulty levels and experiences. Trail layout and design will be done in a manner to protect the resources. Install cattleguards at locations where trails cross a fenceline. Utilize topography, fences and buffers to isolate users from private lands and mitigate existing problems.

Applicable Management Area

MA-G3 General Forage
MA-G14 Dispersed Recreation

Standard and Guideline

Motorized use restricted to designated routes.

Applicable Management Area

MA-G9 Riparian

Standard and Guideline

No motorized use from Nov. 15 - March 31 Motorized use restricted to designated routes April 1 -Nov. 14.

Applicable Management Area

MA-G1 Antelope Winter Range
MA-G2 Metolius Deer Winter Range
MA-G11 Haystack Reservoir
MA-G13 Lake Billy Chinook View Area

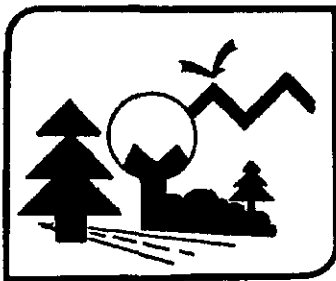
Standard and Guideline

Allow no vehicles off roads, except for permittee or administrative purposes.

Applicable Management Area

MA-G10 Rimrock Springs Wildlife Area

Scenic Resources



Grassland-Wide Standards and Guidelines

Manage for the visual quality objectives (VQO's) listed for each management area.

Where natural catastrophes such as large wildfires, insect epidemics, or windthrows occur, management activities may differ from stated visual quality objectives.

In areas of the Grassland managed for a Visual Quality Objective of "modification" or "maximum modification," be sensitive to the needs of the viewing public. Use cost-effective visual management techniques while meeting the emphasis of the management area. Examples of these techniques may include the construction of facilities, roads, and other physical structures with native materials, where possible.

Management Area Standards and Guidelines

Resource - Scenic Resources

Practice

Visual Quality Objectives (VQO's)

Standard and Guideline

Modification. Design vegetation manipulation projects for winter range habitat improvement to conform in size, shape and color to the natural terrain, to the degree practicable.

Applicable Management Area

MA-G1 Antelope Winter Range

MA-G2 Metolius Deer Winter Range

Standard and Guideline

Retention.

Applicable Management Area

MA-G5 Juniper Old Growth
MA-G6 Crooked River Recreation Area
MA-G7 Deschutes River Scenic Corridor
MA-G8 Squaw Creek
MA-G10 Rimrock Springs Wildlife Area
MA-G11 Haystack Reservoir
MA-G12 Cove Palisades State Park
MA-G13 Lake Billy Chinook View Area
MA-G14 Dispersed Recreation

Standard and Guideline

Maximum modification.

Applicable Management Area

MA-G3 General Forage
MA-G16 Utility Corridors

Standard and Guideline

Preservation (unless otherwise approved as part of a research proposal).

Applicable Management Area

MA-G4 Research Natural Areas

Standard and Guideline

Modification.

Applicable Management Area

MA-G9 Riparian

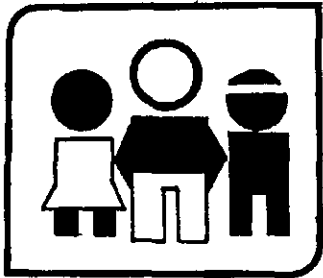
Standard and Guideline

Partial Retention.

Applicable Management Area

MA-G15 Gray Butte Electronic Site

Social and Economic



Grassland-Wide Standards and Guidelines

Human Resources

Minimize social, cultural, and administrative barriers to legitimate uses of the Grassland within the legal authority of the agency.

Maintain and implement an affirmative action plan.

Consider needs of the handicapped in the design of facilities and in other possible ways.

Conduct compliance reviews as required by the Title VI of the Civil Rights Act of 1964.

Inform the general public, including minorities and the underprivileged, of benefits they are eligible to receive from Grassland programs. Use techniques and the media best suited to increase awareness and participation.

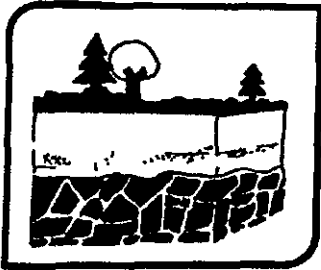
Protect and preserve, for American Indians, access to and use of traditional sites, the possession of sacred objects, and the freedom to worship through ceremonials and traditional rites. Coordinate location and protection of these areas with representatives of the Confederated Tribes of the Warm Springs Indian Reservation. Consider the plans and policies of other Federal, State, local, and American Indian tribal governments in plan implementation.

Native American Rights

Consider and provide for the ceded land rights (treaty rights) of the Warm Springs Confederated Tribes in all Grassland related management activities.

Coordinate resource activities with the designated representatives of the Confederated Tribes of the Warm Springs Indian Reservation.

Soil



Grassland-Wide Standards and Guidelines

Address the potential for soil displacement, compaction, mass wasting, and surface soil erosion in project environmental analyses. Develop alternative management practices and mitigating measures when activities are likely to cause displacement, compaction, mass wasting, erosion, or long-term productivity losses.

Include provisions in contracts and permits to protect soils and soil productivity.

Surface Soil Erosion

Land management activities will be planned to achieve effective ground cover as defined by the following classes:

Soil Resource Inventory Erosion Hazard Class	Minimum % Effective Ground Cover	
	First Year	Second Year
Low	20-30	30-40
Moderate	30-40	40-50
Severe	50-60	60-75
Very Severe	60-75	75-90

Effective ground cover is defined as the basal area of perennial vegetation, plus litter and coarse fragments (greater than 2mm sizes), including tree crowns and shrubs that are in direct contact with the ground. Exceptions may occur where specific projects meet erosion control objectives without meeting the ground cover objectives stated above.

Recognize the sensitivity of certain areas and their potential to be adversely affected by management activities, and plan accordingly to minimize those effects. These sensitive areas include: riparian areas; wet meadows; springs, scablands and sensitive, threatened or endangered species habitat.

Scablands

Scablands are recognized as among the most fragile ecosystems on the Crooked River National Grassland. Damage to the soil and vegetation as a result of management activities is nearly impossible to mitigate. This is a result of their

having very shallow soils which are subject to severe water saturation and frost heaving during winter, thus making revegetation virtually impossible. For this reason, all management activities will be analyzed as to their affect on scablands prior to implementation. Use *Plant Associations of the Crooked River National Grassland*, Hopkins and Kovalchi, 1983, to identify scabland plant communities.

Other standards and guidelines for scablands are specific to certain types of activities, such as livestock grazing and road building, and are listed under those sections.

Management Area Standards and Guidelines

Resource - Soil

Practice

Soil Conditions

Standard and Guideline

Develop soil rehabilitation plans. Implement in the event of soil disturbing activities such as fire suppression.

Applicable Management Area

MA-G4 Research Natural Areas

Standard and Guideline

Maintain 90 percent of the area in an acceptably productive condition.

Applicable Management Area

MA-G9 Riparian

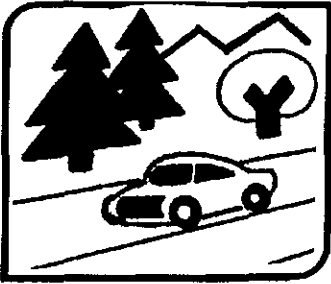
Standard and Guideline

Limit erosion to a rate that approximates natural processes. Soil compaction should not exceed limits that prevent plant establishment.

Applicable Management Area

MA-G5 Juniper Old Growth

Transportation System



Grassland-Wide Standards and Guidelines

Planning

Plan transportation systems to support resource activities in the management areas, and to serve multiple resource needs rather than individual project proposals.

Roads and trails will be at the lowest density, which meets long-term resource needs. Where existing roads or trails are impacting water quality, steps will be taken to mitigate the problem.

Construct the planned transportation system to the required standards in order to meet the needs of the planned resource activities of the area. This standard will be such that repeated reconstruction to upgrade any given section of the system will be minimized during the planning period.

Update the Grassland Road Management Plan annually to identify development, traffic management, and maintenance priorities. Prepare and maintain road management objectives (RMO's) for proposed and existing system roads, and identify roads not needed for future maintenance.

Coordinate with Jefferson County on management of their roads to complement Grassland uses.

Identify public usage roads in the Road Management Plan that require Forest Service jurisdiction to meet resource objectives.

Update the Grassland sign plan annually to reflect revisions in the Travel Plan (Appendix D).

Traffic Management

Manage traffic as needed to control access due to structural limitations of the road, safety, or constraints imposed by resource (coordination), such as those to meet wildlife needs or off-road vehicle (ORV) travel management needs.

Restrict traffic to a level that is compatible with the existing condition of a road if the road does not exist at an adequate and safe standard for the traffic expected to use it.

The adequacy and safety of the transportation system will conform to the Forest Service Manual and Handbooks

Utilize the full range of strategies for managing traffic, including prohibiting use on a seasonal or yearlong basis to eliminating all standard vehicle use for more than one year.

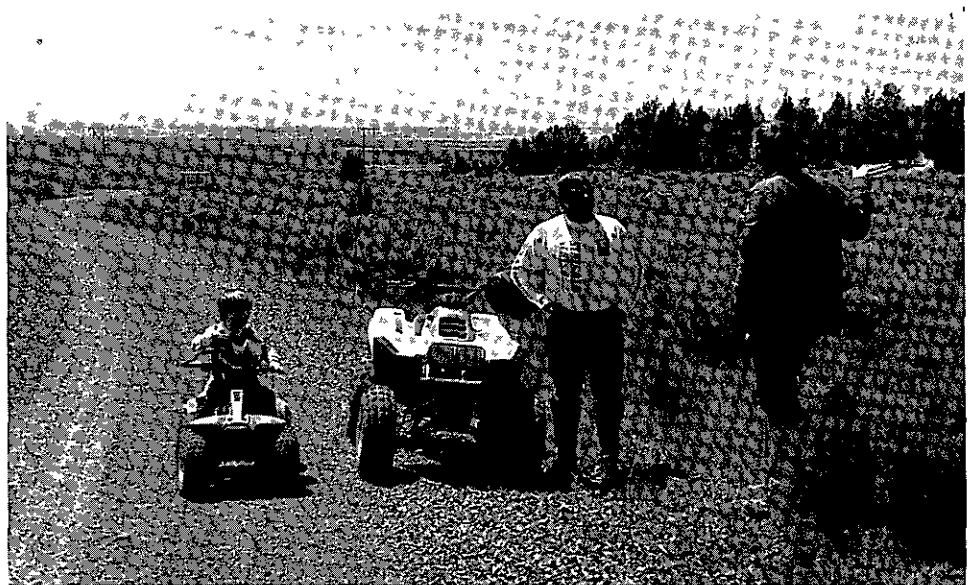
Allow ORV use only on roads where all standard vehicle use has been eliminated or on roads which have no current or planned future use where appropriate with other resources.

Sign traffic control devices (such as locked gates) to let users know why use is prohibited and for what period of time.

Recreation

Encourage ORV use only on roads where all standard vehicle use has been eliminated, or on roads which have no current or planned future use, where appropriate with other resources.

Reconstruct, operate and maintain access routes to developed sites, permitting low clearance (passenger car) traffic. However, public use may be seasonally discouraged, or restricted.



Prevent investment loss and resource damage during wet periods of the year by graveling local road access to historical dispersed recreation sites. Road access management strategies to the dispersed sites will generally be “accept” or “encourage” use by dispersed recreationists.

Construction and Reconstruction

Design, construct, and reconstruct roads according to standards based on the following criteria: resource management objectives, environmental constraints, safety, physical environmental factors, traffic requirements, traffic service levels, vehicle characteristics, road users, and economics.

Do not construct roads through the length of a riparian area. Roads crossing a riparian area will not alter stream or groundwater flow characteristics to a degree which will impact the riparian characteristics.

Design and maintain road drainage, to the extent possible, to eliminate any influx of sediment road runoff directly into stream channels.

Manage road construction activities to minimize the amount of unprotected soil surfaces when heavy rain or heavy surface runoff are most likely to occur.

Ensure that erosion control measures are completed prior to times of year when heavy rain or heavy runoff are normally expected.

Whenever practical, locate roads on areas with the lowest erosion hazard.

Ensure that temporary culverts or bridges are used where stream bottoms or banks would otherwise be damaged, and that these temporary structures are removed after use.

Roads which pass through high water table areas should be constructed in a manner which does not alter the flow characteristics of the groundwater.

Stream Crossings

Design and construct the transportation system to minimize the numbers of stream crossings.

Locate stream crossings and the approach alignment to minimize stream damage.

Protect bridge approach fills with riprap or wing walls.

Ensure adequate sizing of culverts or bridges to accommodate anticipated high streamflows and to allow fish passage.

Schedule stream crossing construction during low streamflow and/or outside fish spawning periods.

Do not permit stream crossings that will change floodplain or streamflow characteristics.

Maintain existing riparian communities both upstream and downstream from the crossing.

Visuals

Include parking areas and view points in road plans and designs where appropriate.

Locate material stockpiles out of site of the main travel route.

Meet visual objectives for the management area when locating, entering, or closing gravel pits or barrow areas.

Avoid locating roads in the visual foreground other than at junctions. Design roads to fit the topography, minimizing cuts and fills. Roads should not dominate the natural pattern of line, form or color.

Design and construct necessary road closures in visual management areas to blend with the natural characteristics of the landscape.

Road Operations and Maintenance

Operate and maintain all roads within available financing according to maintenance levels established in Road Management objectives and standards defined as follows:

Minimum Maintenance Level	Use
Obliterated	No current or future use (36 CFR 261.5)
1 (Closed)	No current use, planned future use
2	High clearance vehicles
3,4,5	Low clearance vehicles

If funding is inadequate to maintain some roads at the intended maintenance level, maintain roads at a lower maintenance level, such as high clearance access (Level 2) to a closed level (Level 1).

Stabilize and re-establish vegetation on obliterated roads.

Ensure that necessary road and trail maintenance is performed on all runoff control and drainage structures (dips and culverts).

Provide for additional maintenance of road drainage and crossing structures during periods when unusual runoff is expected.

Ensure that appropriate traffic management is established to prevent the creation of pollution-generating conditions, such as deep wheel tracks in roads during wet weather.

Management Area Standards and Guidelines

Resource - Transportation Planning

Practice

Construction and Reconstruction

Standard and Guideline

Allow no road construction unless there are no reasonable alternatives. When essential, allow construction or reconstruction only between July 15 and January 31 to protect wildlife values (such as nesting).

Applicable Management Area

MA-G5 Juniper Old Growth

Standard and Guideline

Construct no new trails or roads unless they enhance RNA values, and only with the permission of the PNW director.

Applicable Management Area

MA-G4 Research Natural Areas

Standard and Guideline

Construct no roads along the length of riparian system areas. Do not allow roads that cross riparian areas to alter stream or groundwater flow characteristics to a degree that will impact the riparian characteristics.

Design, construct, and maintain road drainage to eliminate the runoff of sediment into riparian areas.

Where existing roads are impacting water quality, mitigate the problem.

Design and construct the transportation system to minimize the number of stream crossings.

Protect bridge approach fills with riprap or wing walls.

Install culverts or bridges that are adequate to accommodate high stream flows, and designed to allow fish passage.

Accomplish stream crossing work only during periods of low stream flow, and when fish are not spawning.

Applicable Management Area

MA-G9 Riparian

Practice

Operations and Maintenance

Standard and Guideline

Generally, maintain roads for high clearance vehicles (Level 2). County roads are generally maintained for low clearance vehicles.

Applicable Management Area

MA-G1 Antelope Winter Range

Standard and Guideline

Generally, maintain roads for low clearance vehicles (Level 3, 4, 5). However, some roads may be maintained only for high clearance (Level 2).

Applicable Management Area

MA-G3 General Forage
MA-G14 Dispersed Recreation

Standard and Guideline

Close all roads in the management area to public use year-round, allowing only administrative and permittee use.

Applicable Management Area

MA-G6 Crooked River Recreation Area
MA-G7 Deschutes River Scenic Corridor
MA-G15 Gray Butte Electronic Site

Standard and Guideline

Maintain roads for low clearance vehicles (Level 3).

Applicable Management Area

MA-G11 Haystack Reservoir

Standard and Guideline

Generally, maintain roads for high clearance vehicles (Level 2).

Applicable Management Area

MA-G2 Metolius Deer Winter Range

Standard and Guideline

Maintain trailhead for passenger car traffic.

Applicable Management Area

MA-G10 Rimrock Springs Wildlife Area

Standard and Guideline

Manage road construction activities and complete erosion control measures to prevent runoff from unprotected soil surfaces when heavy rains are expected.

Ensure that erosion control measures are completed prior to times of year when heavy rain or runoff are normally expected.

Whenever practical, locate roads in areas with the lowest erosion hazard.

Where roads cross streams, use temporary culverts or bridges in places where stream bottoms or banks would likely be damaged. Remove these temporary structures when no longer needed.

Maintain runoff control structures annually.

Applicable Management Area

MA-G9 Riparian

Standard and Guideline

Transportation systems needed to support the installation and maintenance of structures associated with utility corridors is generally done by utility company.

Applicable Management Area

MA-G16 Utility Corridors

Standard and Guideline

Maintain existing roads and allow no further development. (The present ford on Road 6360 will be maintained at the present development level).

Applicable Management Area

MA-G8 Squaw Creek

MA-G13 Lake Billy Chinook View Area

Practice

Traffic Management

Standard and Guideline

Control access as needed to enhance big game winter range and support other resource objectives (see Travel Plan, Appendix D).

Applicable Management Area

MA-G1 Antelope Winter Range

MA-G2 Metolius Deer Winter Range

Standard and Guideline

Transportation within the park boundary is the responsibility of the State.

Applicable Management Area

MA-G12 Cove Palisades State Park

Standard and Guideline

Close roads seasonally in specific areas: deer hunting season, September 20 - October 20; protection of soil and water for winter closure, December 1 - March 30.

Applicable Management Area

MA-G3 General Forage

Standard and Guideline

Control access to protect old growth habitat (see Travel Plan, Appendix D).

Applicable Management Area

MA-G5 Juniper Old Growth

Standard and Guideline

Allow only administrative and permittee traffic.

Applicable Management Area

MA-G10 Rimrock Springs Wildlife Area

Standard and Guideline

Close Road 6360 seasonally to protect deer winter range.

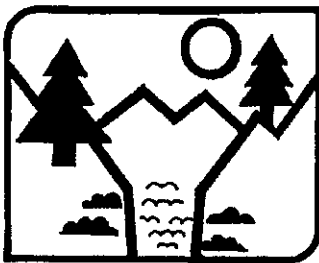
Close all other roads in the management area to public use year-round, allowing only administrative and permittee use.

During the period that Road 6360 is open, keep Road 6370 open to a trailhead to Alder Spring that is to be constructed.

Applicable Management Area

MA-G8 Squaw Creek

Water



Grassland-Wide Standards and Guidelines

Meet or exceed water quality standards for waters of the State (Oregon Administrative Rules, Chapter 340-41) through application of Best Management Practices (BMP's). The key beneficial uses that BMP's are designed to protect are fish and water for domestic use (see FEIS Appendix G).

Use the existing process to implement the State Water Quality Management Plan on lands administered by the Forest Service (including the National Grassland) as described in a Memorandum of Understanding (MOU) between the Oregon Department of Agriculture and the Forest Service (2/79), and "Attachment A" referred to in this MOU (Implementation for Water Quality Planning on National Forest lands in the Pacific Northwest 12/78, Appendix F).

The following standards and guidelines apply to all management areas where water resources exist, and where management activities have potential for degradation of water quality.

Water Quality

Meet State standards for temperature, turbidity, and waste discharge.

Temperature

The requirements for shade along streams will generally correspond to provisions for more than 80 percent of the surface shaded. Where this can not be attained, 100 percent of the potential for shade is the standard.

Shade requirements may be reduced in cases where management is necessary to sustain a thrifty (fast growing) community of shade providing species over time (e.g., in the case of local infestation or disease, or for managing for future shade in a decadent stand), but activities may not result in an increase in temperatures above the limits specified.

Deschutes River, Crooked River, Squaw Creek and Associated Tributaries

Existing temperatures at or above 58° F. will not be increased.

Temperatures at or below 56° F. may be raised a maximum of 2° F.

Where stream temperatures exceed 58° F., management activities will include objectives for reducing temperatures to levels that will improve fish habitat capability.

Turbidity

Cutbanks should not exceed an average of 20 percent for any given stream drainage.

Allow no more than 10 percent cumulative increase in stream turbidity. Short-term deviations from this standard to accommodate emergency or other legitimate activities will comply with state requirements for notification and approval.

Waste Disposal

Dispose of waste effluents (e.g. fuels, solvents, and pesticides) in a manner that will prevent contamination of surface or subsurface water.

Project Planning

Allow no management activities in and around Class III streams that contribute to the deterioration of water quality below standards set for downstream Class I and II streams. Some short-term temperature and/or turbidity increases may be allowed, providing the standards for Class I and II streams continue to be met. Consider the potential for cumulative impacts.

Develop specific objectives for the management of riparian areas through the NEPA process for all projects that could impact water quality. Include in the environmental assessment:

Stream classification.

Site specific topographic, soil, channel, and vegetation characteristics.

Water quality standards and goals.

Fisheries habitat.

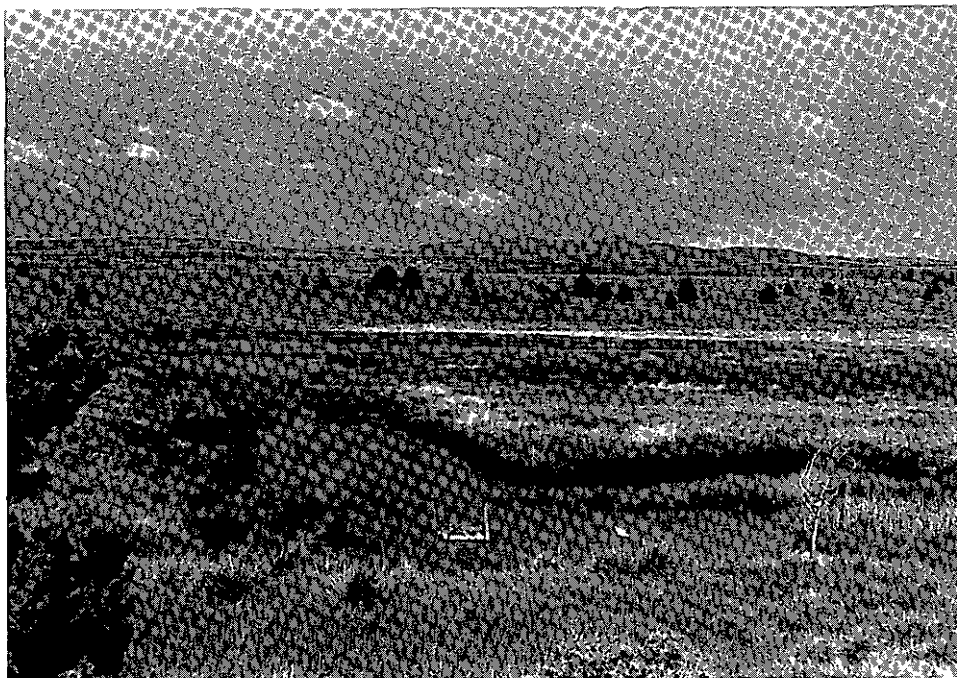
Analysis of the cumulative effects of individual management activities.

The opportunities management activities present in correcting existing problems within a drainage.

Other resource objectives, as appropriate.

Highest priorities for treatment are existing areas where water quality is being adversely impacted.

Give preferential consideration to riparian-dependent resources over other resources in case of unresolvable conflicts.



Floodplains

Consider the presence of potential (Executive Order 11988) inventoried floodplain within the project area in project environmental assessments.

Do not locate major structures, roads, or other facilities within floodplains unless no feasible alternative sites exist outside floodplains.

Allow projects causing short-term impacts on floodplain values only if specific mitigation measures designed to minimize the impacts are documented in the project environmental analysis. Restore natural floodplain characteristics after the activity has ceased.

Wetlands

Discuss the presence of potential impacts to riparian areas in all project-level environmental assessments.

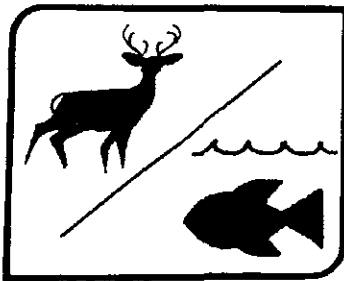
Vegetation and ground cover requirements:

Where site potential and topographic factors permit, manage riparian areas to provide the shade necessary to meet stream temperature goals.

Maintain upper streambanks in a stable condition along at least 80 percent of the length of a stream.

Retain at least 80 percent of the potential ground cover in grass-forb riparian communities. Also, retain at least 80 percent of the potential tree or shrub cover in riparian areas dominated by trees or shrubs. In riparian areas with mixed layers, the cover requirement may be met by taking credit for the effective cover provided by all vegetative layers of the riparian community including shrubs, tree understories, and the dominant overstory. Consider the mitigating effect of stream size and orientation as well as surrounding topography when determining the amount of cover that may be removed.

Wildlife and Fish



Grassland Standards and Guidelines

Management Indicator Species

General

Determine if a species' use of habitat is incidental or essential. If it is determined to be essential habitat (e.g. roosting sites), protect it from adverse modification through curtailment of conflicting activities, modification of activities, seasonal restriction of activities, or avoidance of the area. For bald eagles, consult with the

Endangered Species Branch of the Fish and Wildlife Service on proposed actions that may affect the species.

For newly discovered habitat, evaluate through the environmental analysis process to determine if habitat is essential. If so, amend the Plan to reflect this situation.

Close areas to vehicles during hunting season in cooperation with the Oregon Department of Fish and Wildlife.

Common Flicker (Old Growth Juniper)

On juniper dominated lands, maintain old growth juniper habitat comprising 40 acre units (may be composed of scattered stands as small as five acres in size located no more than 1/8 mile apart), generally no more than 5 miles apart.

Rainbow Trout

Provide habitat by managing as required in the Riparian management area prescription.

Threatened, Endangered, and Sensitive Wildlife Species

Cooperate with State and Federal fish and wildlife agencies in developing recovery plans for threatened or endangered wildlife species. Recovery plans take precedence over other management direction.

Consult with the U.S. Fish and Wildlife Service when conflicts between project activities and habitat needs cannot be resolved, or when uncertainty exists.

Maintain inventories of essential or critical wildlife habitats including their locations and distribution.

Inventory and protect sensitive plant species and their habitat(s). Possible taxa found on the Grassland are: *Astragalus howellii* (not confirmed), *Collomia macrocalyx*, and *Oryzopsis hendersonii*.

Incorporate plant association information (Hall, 1973, Hopkins and Kovalchik, 1983) and management implications into project design.

Maintain contacts with Federal, State, and other agencies, groups, and individuals concerned with the management of threatened, endangered, and sensitive plant and animal species. Consult with the Oregon Department of Fish and Wildlife, Oregon Natural Heritage Data Base and U.S. Fish and Wildlife Service for technical assistance in developing species management guides and in determining viable population levels.

Review location records, available habitat, and other information during environmental analysis of each project activity to determine whether known or suspected locations of sensitive plant species or their habitat occur.

Document findings when no suitable habitat or reported locations of sensitive plants are identified, and no further investigation will be required.

Perform a field reconnaissance when suitable habitats or reported locations are suspected to occur in the area of influence of the project, to more precisely verify the presence, abundance, and distribution of the sensitive species. If the search is conducted during a season of the year when positive identification is probable, and no listed species are found, document this fact and no further investigation will be needed.

Determine actual distribution and current status of listed plant species if they are found in the project influence area. Informal consultation with the Endangered Species Branch of the Fish and Wildlife Service will be initiated if the species is Federally listed. Curtail or modify the proposed project if it would jeopardize the existence of the species.

Spell out identified safeguards in the environmental analysis and project plan; project personnel will be fully responsible for being aware of and implementing these safeguards. Supervisors of the activity must assure that actions which jeopardize the listed species do not occur.

Defer actions which may affect habitat for Federally listed endangered or threatened species, if they can not be avoided, until a formal consultation with the Endangered Species Branch of the Fish and Wildlife Service is completed to determine a course of action.

Possibly conduct a full botanical investigation of the species involved in cases where other high values or uses would be foregone if the proposed activity were modified or deferred. Develop management guidelines that will make possible an assessment of the significance of the specific population involved. Determine an appropriate course of action based on these findings and consultation with appropriate state and federal agencies.

Coordinate with the Native Plant Society of Oregon to exchange information on local plant distributions and status.

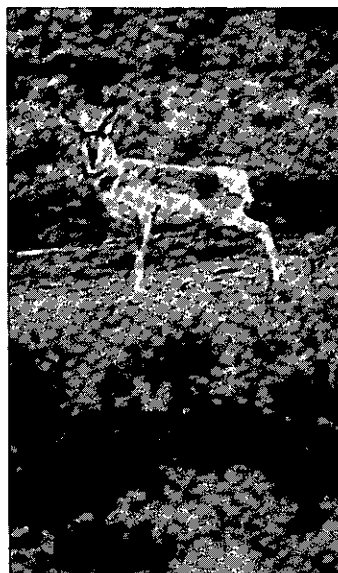
Other Species

Mule Deer

Manage mule deer winter range to attain a 40/60 cover/forage ratio. Thermal cover units should generally be larger than 20 acres.

Provide forage sufficient to maintain current State management objectives for mule deer.

Manage the transportation system to provide optimum habitat effectiveness. Utilize permanent and seasonal closures as needed during the hunting season and on the winter range to achieve this standard (see Travel Plan, Appendix D).



Antelope

Allow antelope populations on the Grassland to increase until either significant resource conflicts or private land damage occurs. Estimated carrying capacity for wintering antelope is 300-350 animals. The Oregon Department of Fish and Wildlife is the lead agency in controlling animal numbers.

Raptors

Protect active raptor (bird of prey) nests from human disturbances until nesting, feeding, and fledgling are completed. Provide protection of nest sites and nesting habitat sufficient for the species involved.

Bald and Golden Eagles

Protect nesting sites and roosting sites used in conjunction with nesting sites, as prescribed in the "Act for Protection of Bald and Golden Eagles" (ref. title 50 CFR, USC 668-668d).

Nesting Sites

Eagle nesting territories are divided into primary and secondary management zones.

Primary

The boundary of the primary zone shall not be less than 20 chains from the nest.

Human activities should be controlled during the critical period. The critical period is the time between arrival of adults at the nest site and three weeks after the fledgling of any young. The critical period will usually fall between March 1 and August 15.

Secondary

The purpose of this zone is to further minimize disturbance.

The size of the secondary zone will be determined by local topography and resulting visibility from the nest. It shall lie outside the primary zone and be approximately circular with a minimum boundary of 40 chains from the nest.

Human activities into the secondary zone should be restricted during the critical period.

Roosting

Within 1/2 mile (40 chains) of existing nests, save three to five old growth trees for potential roost and perch trees during the breeding season.

Hawks and Owls, Except Prairie Falcons

Nesting Sites

Nesting areas are divided into primary and secondary zones.

Primary

The boundary of the primary zone should not be less than 5 chains (330 ft.). The management objective for this zone will be to maintain the present habitat characteristics.

The critical period, during which human activities should be restricted, will usually fall between March 1 and August 1.

Secondary

The boundary of the secondary zone should be an additional five chain radius beyond the primary zone (total 10 chain radius). In this secondary zone, modified treatments will be required. "Modified" means intermediate between that required in the primary zone and that normally prescribed outside of the whole protection zone.

The critical period is the same as for primary zone "Hawks" above.

Prairie Falcons

Carefully evaluate activities having the potential to alter or disturb cliffs, talus, or cave habitats.

Nesting Sites

Primary

The boundary of the primary zone should not be less than five chains (330 ft.). Maintain the present habitat characteristics.

Restrict human activities during the critical period, usually March 1 to August 1.

Secondary

The boundary of this zone should be an additional 15 chains beyond the primary zone. The management direction for this zone will be a modified treatment, and full treatment beyond the secondary zone.

Critical period: March 1 to August 1.

Species Associated with Dead and Downed Logs

Down dead log requirements for wildlife are expected to be met through attrition of standing snags as they fall.

Species Associated with Various Plant Communities and Successional Stages

Provide diversity by maintaining representative portions of all native plant associations and various successional stages represented in an area through time

Species Associated with Springs and Bogs

Identify and evaluate seeps, springs, bogs, other small (less than 10 acre) wet areas, and any other unique habitat on a project level basis, while providing appropriate protection.

Introduced Species

Evaluate proposals for introducing wildlife through the NEPA process. Coordinate with the Oregon Department of Fish and Wildlife.

Management Area Standards and Guidelines

Resource - Wildlife and Fish

Practice

Habitat Management

Standard and Guideline

Manage to provide optimum habitat for antelope use on winter range.

Work toward a minimum of 50% vegetative ground cover comprised of 40-60% grasses, 10-30% forbs, and 5-20% shrubs.

Maintain shrub species (primarily big sagebrush) at or below 24 inches in height by prescribed fire or mechanical means.

Refer to *Wildlife Habitats in Managed Rangelands, The Great Basin of South-eastern Oregon*.

Applicable Management Area

MA-G1 Antelope Winter Range

Standard and Guideline

Manage the area north of the Hay Creek road at a 20/80 cover/forage ratio by maintaining the present cover patches. The rest of the General Forage Management Area will be managed at a 40/60 cover/forage ratio.

The 40 percent cover component will have a range of juniper canopy cover from 15 percent to 30 percent, and will continue to be manipulated to maintain the target cover/forage ratio over time.

Cover areas will not be allowed to deteriorate to the point of poor range condition or unhealthy watershed condition.

Applicable Management Area

MA-G3 General Forage

Standard and Guideline

Provide old growth juniper stands of 40 acres minimum size distributed a maximum of five miles apart. The majority of the trees should be large with hollow centers.

Applicable Management Area

MA-G5 Juniper Old Growth

Standard and Guideline

Manage to provide optimum habitat for deer use on winter range.

Manage 40 percent of the total area in cover. Maximum distance from cover to any point in a forage area should not exceed 400 feet.

Treat isolated cover-producing lands to produce the best balance of cover over time when the general area inherently has a low cover production potential.

Give top priority to providing high quality forage, by fall greenup, for deer.

Applicable Management Area

MA-G2 Metolius Deer Winter Range

MA-G8 Squaw Creek

Standard and Guideline

Allow no exotic species to be introduced.

Permit the reintroduction of former native species if not in conflict with other objectives of the RNA.

Control of excessive animal populations may be considered where such populations threaten the RNA objectives.

Applicable Management Area

MA-G4 Research Natural Areas

Standard and Guideline

Manage for wetland related species.

Use prescribed fire or controlled livestock grazing to maintain productive habitat.

Applicable Management Area

MA-G10 Rimrock Springs Wildlife Area

Standard and Guideline

Manage habitat for maximum populations of brook and rainbow trout where that potential exists.

Manage riparian vegetation to provide cover for upland game birds.

Applicable Management Area

MA-G9 Riparian

Standard and Guideline

See standards and guidelines for adjacent management areas.

Applicable Management Area

MA-G16 Utility Corridors

MA-G14 Dispersed Recreation

Habitat Improvement

Standard and Guideline

Permit habitat improvements that are compatible with the primary objectives of the management area.

Applicable Management Area

MA-G1 Antelope Winter Range

MA-G4 Research Natural Areas

MA-G5 Juniper Old Growth

Standard and Guideline

In areas of extensive juniper encroachment, remove juniper in irregular-shaped blocks to work toward an optimum 40/60 cover/forage ratio.

Permit other habitat improvements that are compatible with the primary objectives of the management area.

Applicable Management Area

MA-G2 Metolius Deer Winter Range

MA-G3 General Forage

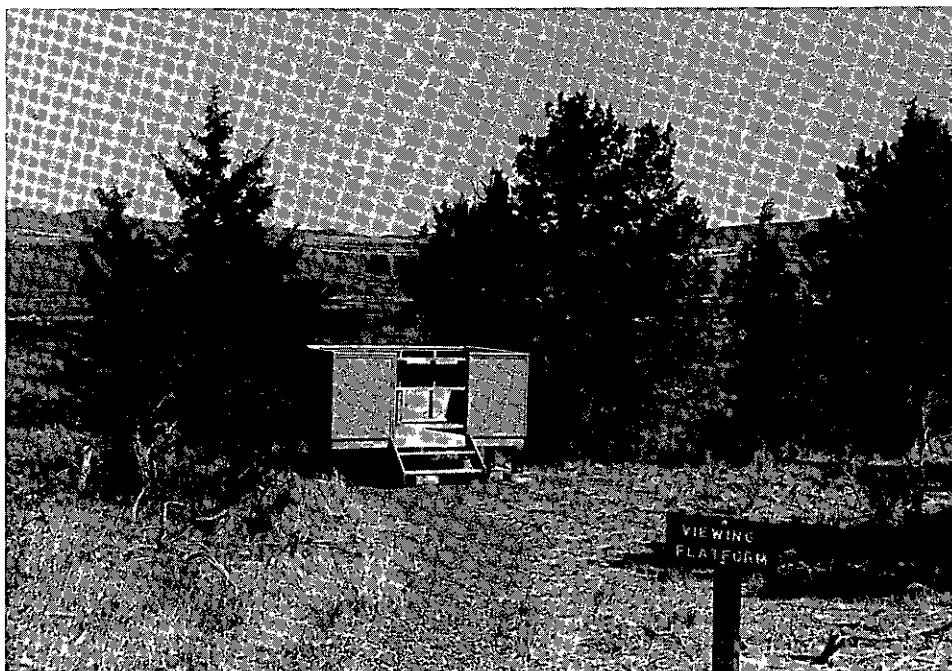
MA-G8 Squaw Creek

Standard and Guideline

Use habitat improvements to achieve the desired future condition of the area.

Applicable Management Area

MA-G10 Rimrock Springs Wildlife Area



Standard and Guideline

See standards and guidelines for adjacent management areas (except for prescribed burning).

Applicable Management Area

MA-G16 Utility Corridors

MA-G14 Dispersed Recreation

TABLE 4-5
CROSS-REFERENCE TABLE

Resource Area	MANAGEMENT AREA							
	MA-G1	MA-G2	MA-G3	MA-G4	MA-G5	MA-G6	MA-G7	MA-G8
Cultural Resources	65	65	65	65	64	65	65	65
Facilities				66	66			
Fire	69, 73	70, 73, 74	69, 73	70, 72	70, 72, 73	69, 72, 73	69, 72, 73	69, 72, 73
Forage	75, 77, 79	76, 77 79	77, 79	76, 80	77	76, 80	76, 80	77, 80
Fuelwood	84	84	84	83	83	84	84	84
Grassland Health				85				
Lands	87	88, 90		85, 88-90	88, 90	89	89	89
Minerals & Energy	92	93		93	93	93	93	93
Recreation	95, 96, 99, 101-102	95, 96, 99-102	95, 96, 99-102	96, 98 99-101	96, 97, 101	95, 99, 101	95, 99, 101	95, 97, 99, 101
Scenic Resources	103	103	104	104	104	104	104	104
Soil				107	107			
Transportation System	112, 114	113, 114	113, 115	112	112, 115	113	113	114, 115
Wildlife & Fish	123, 125	123, 125	123, 125	123, 125	123, 125			123, 125

Resource Area	MANAGEMENT AREA							
	MA-G9	MA-G10	MA-G11	MA-G12	MA-G13	MA-G14	MA-G15	MA-G16
Cultural Resources	65	65	65	65	65	65	64	64
Facilities	66							
Fire	71, 73	70	70, 72	69, 71	69, 73	69, 72	70-71	71
Forage	76, 78, 80	76-77, 80	76	76				78
Fuelwood		84	84	84	84	84	83	84
Grassland Health								
Lands	89, 90	89, 90	88	88	88, 89		89	90
Minerals & Energy	93	93	93	92, 93	93		93	
Recreation	97, 101-102	95-96, 100, 102	95, 98, 99-102	97	95, 99, 102	95-96, 102	96	97
Scenic Resources	104	104	104	104	104	104	104	104
Soil	107							
Transportation System	112, 114	113, 115	113	114	114	113	113	113 114
Wildlife & Fish	125	123, 126 125-126				125-126		

NOTE. The Grassland-wide standards and guidelines for Air Quality, Biological Diversity, Old Growth, and Social and Economic resources apply to all management areas as appropriate with no management area standards and guidelines. This table will assist the reader in locating the applicable standards and guidelines for each management area by referencing the applicable pages (only the page number suffix is listed, all are preceded by a 4-)

Chapter 5

Implementation of the Grassland Plan

Chapter 5

Implementation

Introduction

This chapter explains how management of the Crooked River National Grassland will move from the current direction and situation into Alternative I. Implementation can be influenced by previous management activities and objectives, project analysis, budget, monitoring and evaluation, and when necessary, the required amendment process.

Implementation will require a transition from an existing management program with a “pre-allocated” budget and accomplishment targets to a new management program, represented by Alternative I, with budget, goals, and objectives based on identified issues and concerns. The Plan establishes the management direction for the Crooked River National Grassland for the next 10 to 15 years. In doing so, it conforms to existing laws, regulations, and policies, including those found in the Forest Service Manual and Handbooks, and the Regional Guide

Project Scheduling

An initial schedule of proposed projects is contained in the appendices of this document. These activities represent possible projects and time frames from which annual work programs (dependent on approved funding) are developed. The listing of projects and schedules for a ten year period are maintained by unit managers. Listings will routinely

change as projects are implemented or are removed from the lists for other reasons, and as new projects take their place. Projects are implemented in response to public demand, planned outputs and the annual budgeting process.

Budget Proposals

Multiyear budget proposals that identify funding needed to implement the scheduled outputs will be developed. Upon approval of a final budget for the Grassland the annual program of work is finalized and carried out. The annual program is an incremental implementation of the management direction in this Plan. Outputs and activities in individual years may vary from those shown in the Management Objectives (Chapter 4, Section 1) and schedules (Appendix A), depending on actual budget, but will progress toward the desired future condition.

The rate of progress is dependent to a large extent upon funding to support activities needed to achieve plan objectives. Table 5-1 compares the projected funding level that will be required to implement Alternative I to funding levels received by the Grassland from 1985 to 1989.

Environmental Analysis

Projects and activities are subject to analysis under the National Environmental Policy Act (NEPA) process before they can be implemented. Depending on expected environmental consequences, a categorical exclusion, environmental assessment, or environmental impact statement may be prepared. All documents, including categorical exclusions, will be available for public review.

**TABLE 5-1
HISTORY OF CROOKED TIVER NATIONAL GRASSLAND BUDGET 1985-1988
COMPARED TO ESTIMATED PLAN BUDGET (IN \$1000)**

Resource	85	86	87	87	Est Plan Budget 1/
Fire Management	50	43	47	57	79
Range	67	58	56	57	154
Timber	6	6	6	6	10
Recreation	26	21	38	37	233 2/
Minerals	3	3	4	4	10
Wildlife	11	9	34	34	24
Watershed	7	5	7	7	26
Real Estate Management	6	4	17	21	38
Building Maintenance	1	1	1	1	2
Brush Disposal	2	2	2	2	3
General Administration	61	70	70	70	75
Totals	240	222	282	296	654

1/ Implementation will begin in fiscal year 1990. The program budget for fiscal year 1992 scheduled for completion in late 1989 will be the first to reflect the final plan. Budget levels requested during the draft planning period will be amended to support out final document.

2/ Includes \$200,000 in Recreation Construction.

Monitoring and Evaluation

Monitoring is the means of measuring and evaluating the effectiveness of the Grassland Plan implementation. Monitoring provides quantitative and qualitative information on the progress and results. It is a means to determine how well assumptions used in preparing the Plan reflect actual conditions, how well objectives of the Plan are being met, and the appropriateness of the management standards and guidelines. Monitoring may lead to changes in management practices, or provide a basis for minor adjustments, amendment, or possible revision of the Plan.

Monitoring is intended to help keep the Grassland Plan dynamic and responsive to changes. When a situation is identified as being outside the limits of acceptable variability, appropriate amendment, revision, or other changes may be made. Monitoring and evaluation have a distinctly different purpose and scope. Monitoring consists of gathering data, observations, and information. During evaluation, the data and information are analyzed and interpreted. This process provides information necessary to determine if planned conditions or results are being attained and are within the intent of the Plan, and if not, why.

It will provide information to help determine, for example:

whether laws, regulations, and policies are being followed, including those found in the Regional Guide, Plan standards and guidelines, the Forest Service Manual and Handbooks;

whether the Grassland Plan responsively addresses the issues, concerns, and opportunities in a publicly acceptable manner;

whether management prescriptions are producing the predicted or desired environmental results,

if costs of implementing the Plan are within projected limits;

if projected outputs are being produced,

whether there are new issues and concerns not adequately addressed by the Plan.

There are a number of monitoring systems currently in place to comply with administrative and legal responsibilities. Examples include MAR, PAMARS, RAMIS, TSPIRS, STARS, NIRP, etc. Additional examples may be found in Forest Service Handbook 1309.14 Forms and Reports.

Grassland Plan monitoring does not replace or substitute these systems, but rather complements them by addressing specific issues and concerns identified through the planning process and providing additional information for evaluating the effectiveness of the Plan.

Table 5-3 outlines monitoring actions, including a number of ongoing monitoring items that will help evaluate how implementation is progressing. Following the decision matrix in Figure 5-1, evaluation of the monitoring data will lead to decisions of the following types:

1. Continue practice, no change necessary.
2. Refer the problem to the appropriate Forest officer for corrective action.
3. Modify the management practice through Plan amendments.
4. Modify land designations through Plan amendments.
5. Revise output schedules.
6. Revise unit output costs.
7. Revise the Plan.

The first step in monitoring will be comparing the Plan to the annual budget received by the Grassland. This will include a review of Grassland capabilities to implement the prescriptions in the Plan, cost comparisons and output levels. Variances beyond a threshold of 10 percent will be presented to the Ochoco National Forest Management Team for decision. Resolution may be accomplished through allocation adjustments, requests for change to the Regional Office or other adjustments or amendments. Figure 5-2 shows schematically how the process proceeds.

FIGURE 5-1 PROCESS DIAGRAM FOR EVALUATING DEVIATIONS FROM THE LRMP

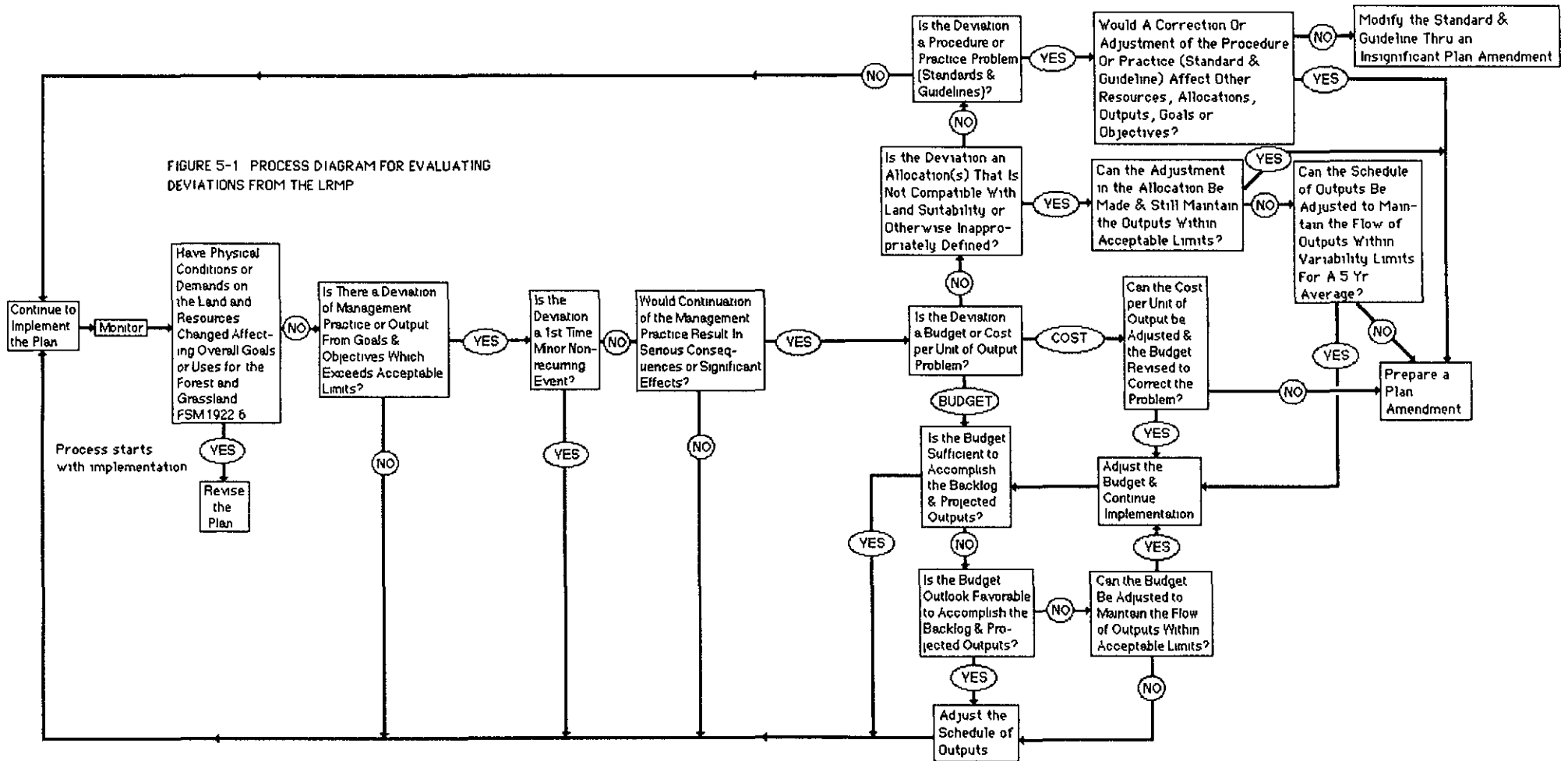
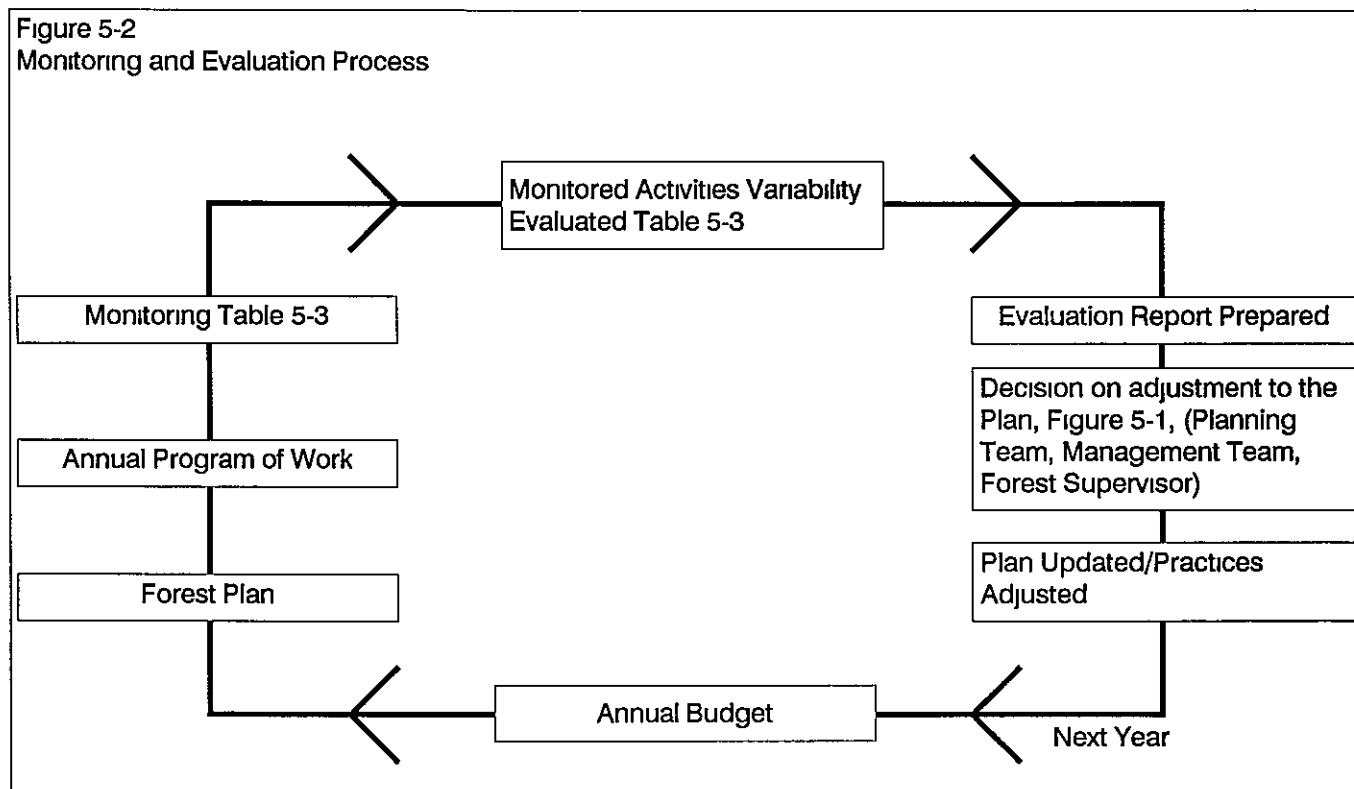


Figure 5-2
Monitoring and Evaluation Process



Amendment and Revision Process

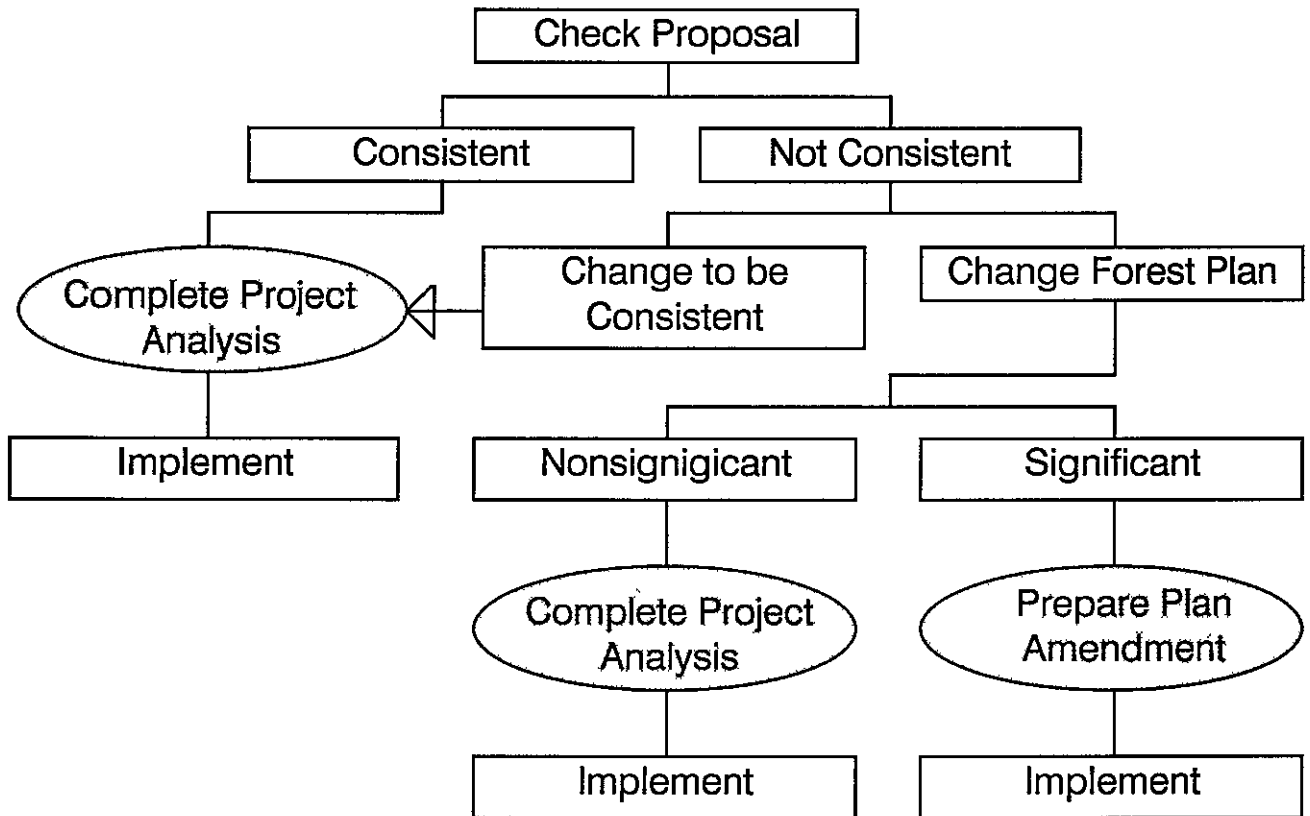
The Grassland Plan incorporates legal mandates, professional judgement and the public's stated concerns into a future vision of the Grassland. It charts a path for getting there by developing management goals and objectives and translating them into management direction in the form of standards and guidelines for management areas on the Grassland. National Grassland planning is a dynamic process, and the products -- Grassland Plans -- are similarly dynamic. Grassland Plans can and should be modified if conditions warrant. As management goals are applied on the ground or as new information is learned about resources, the Plan's goals and objectives, or activities the goals generate, may no longer be appropriate. In such instances, activities may be tailored to fit the resource, or planning objectives as stated in the Plan may be amended. Plans do not apply direction in site-specific management activities. It would be unrealistic and wrong to try to identify, analyze and schedule the myriad projects or

activities that occur on a National Grassland. Instead, this type of site-specific planning occurs at the project-level planning stage, such as allotment management planning.

This Grassland Plan may be changed either by an amendment or a revision. Such changes may come about as a result of the monitoring process or project analysis (Figure 5-2). An amendment may become necessary as a result of different situations. They can include:

- recommendations of the Interdisciplinary Team based on their review of monitoring results;
- the determination that an existing or proposed permit, contract, cooperative agreement, or other instrument authorizing occupancy and use is not consistent with the Grassland Plan, but should be approved, based on project level analysis;
- changes in proposed implementation schedules needed to reflect differences between funding levels assumed in the plan and funds actually appropriated,

Figure 5-3
Amendment Process and Dynamic Nature of the Plan



changes necessitated by resolution of administrative appeals;

changes to correct planning errors;

changes made necessary by altered physical, social, or economic conditions.

Based on an analysis of the objectives, guidelines, and other aspects of the Grassland Plan, the Forest Supervisor shall determine whether a proposed amendment would result in a significant change to the Plan. If the change is determined to be significant, the Forest Supervisor shall follow the same procedure as that required for development and approval of a plan. If the change is determined not to be significant, the Forest Supervisor may implement the amendment after appropriate public notice and compliance with NEPA (see Figure 5-3).

The Regional Forester will approve significant amendments, and the Forest Supervisor will approve "not significant" amendments. The determination of significance will be documented in a decision notice and would be appealable under 36 CFR 217.

With respect to revision, the NFMA requires revision of the Grassland Plan at least every 15 years. However, it may be revised sooner if physical conditions or demands on the land and resources have changed sufficiently to affect overall goals or uses for the entire Grassland. If a revision becomes necessary, the procedures described in 36 CFR 219.12 will be followed. The Chief, however, must approve the scheduling of such revision.

Consistency with Other Instruments

This Grassland Plan serves as the single land management plan for the Crooked River National Grassland. All other land and resource management plans are replaced by the direction in this Plan; a list of plans revised, superseded, or updated by this Plan are shown in Table 5-2.

All outstanding and future permits, contracts, cooperative agreements and other instruments for occupancy and use of lands will comply with direction in the Grassland Plan as soon as practicable, subject to the valid existing rights of the parties involved. This will occur generally within three years of the date of implementation of this Plan.

Recreation

All leases and Memoranda of Understanding between the Ochoco N.F. and the State of Oregon, Bureau of Reclamation, or other agencies, will be consistent with Grassland Plan direction at the first reissuance of said leases and Memoranda following plan implementation.

Wildlife and Fish

Within two years after implementation, habitat survey schedules and habitat improvement project schedules will be prepared for a five-year period.

Range

Existing Allotment Management Plans and Grazing Permits will be in compliance with Grassland Plan direction on the first update or reissuance following Plan Implementation.

In implementing the Grassland Plan, any necessary adjustments between existing permitted livestock numbers and plan direction will be made by evaluating management direction for allotments, and deter-

mining if a change in management intensity for the allotment is necessary. Factors influencing this decision will include permit status, condition of improvements, funds available, priority needs on other allotments, and ability to meet standards and guidelines in this Plan.

Lands

All development and management plans for facilities will be consistent with Plan direction as soon as practicable, subject to valid existing rights of outstanding permits, contracts, and cooperative agreements.

Minerals

New mineral leases, permits, contracts, and operating plans will be evaluated for consistency with the Grassland Plan as they are received or proposed. Existing permits and operating plans will be reviewed for consistency with Plan standards and guidelines. Modifications of these permits will be required only when authorized by law or regulation. Operating plans may be modified on a case-by-case basis if over-riding resource considerations are present.

Since the Forest Service has no authority to modify stipulations attached to existing mineral leases, modification will be recommended to the proper agency when found necessary.

**TABLE 5-2
REVISED OR SUPERSEDED PLANNING DOCUMENTS**

PLAN/AGREEMENT TITLE	SUPERSEDED	UPDATE/REVISE 1/	PREPARE
1980 Agreement with Gray Butte Grazing Association		X	
Gray Butte Electronic Site Plan		X	
Metolius Winter Range Coordinated Resource Management Plan		X	
1980 Crooked River National Grassland Unit Plan	X		
Minerals Material Source Plan		X	
Transportation Plan		X	
Fire Management Plan(s)		X	
Fuelwood Plan		X	
Special Use Permits		X	
Memoranda of Understanding		X	
Coop Agreements		X	
Allotment Management Plans		X	
Land Adjustment Plan		X	
Recreation Development Plans		X	
Statewide Comprehensive Wildlife Plan		X	
1977 Off-Road Vehicle Plan	X		
Facilities Management Plans		X	
Wild and Scenic River Plans			X
Forest and District Multiple Use Plans	X		

1/ These existing plans will be examined and updated or revised as necessary to be brought in conformance with the Forest Plan, or simply incorporated into the Forest Plan if no change is needed

TABLE 5-3

MONITORING ACTIONS

MONITORING ITEM	ACTIONS/EFFECTS MONITORED	UNITS OF MEASURE	VARIABILITY THRESHOLD	DATA PRECISION RELIABILITY	SUGGESTED METHODS	WHO WILL MONITOR	MONITORING FREQUENCY	DATA LOCATION	ESTIMATED ANNUAL COST
MONITORING DIRECTLY RELATED TO ISSUES AND CONCERNS									
RESOURCES									
FACILITIES, ROADS Transportation System Management.	Open road density Operation, construction, and reconstruction of arterial, collector, and local roads as related to objectives established in the Forest Plan road standards	Miles of open road per square mile by traffic service and maintenance levels	Departure from Forest Plan estimates	H/H	Compare road mileage with Management Area Objectives	Forest Engineer and District Ranger	Annually, with 5 year report	GIS 1/, Annual Accomplishment Report, Project files	\$5,000
FISHERIES Habitat capability and productivity, species and size composition (rainbow and brook trout)	Determine if habitat meets management objectives	1) sedimentation (% imbeddedness), 2) temperature (F), 3) channel morphology (cross sectional area), 4) riparian community composition, 5) large woody material (number of pieces), 6) smolt numbers	Loss in habitat capability, objectives not being met.	H/M	1) Bucket or ocular (hoop) 2/, 2) hydrothermograph, 3) cross section and pool riffle ratio 3/, 4) line transects, 5) riparian plant community survey (photo points) and 6) electrofishing or trapping	District Ranger, Fisheries Biologist & wildlife biologist	1) June thru Sept., 2) winter & summer daily, 3) every 3 yrs on selected streams, 4) every 3 years on selected streams, 5) 5% of streams annually and 6) every 3 yrs on selected streams	GIS 2600 Files	\$7,000
RANGE AUM's output.	Comparison of produced vs planned outputs	Animal Unit Months	10% below targeted Animal Unit Months for the Forest.	H/H	Annual Use Report	Range Staff	Annually for first 3 years, every 3 years thereafter	Report file	\$500
Utilization of forage	Determine if forage utilization levels in (1) riparian areas and (2) upland areas are consistent with applicable standards and guidelines	Percent utilization in grazing allotments	10% over recommended use per allotment.	M/H	Sample key areas on at least 20% of the allotments annually Each allotment should be sampled at least once every four years with the highest priority placed on known or suspected problem areas 4/	District Ranger, Range Staff	Annually	District GIS files	\$5,000

MONITORING ITEM	ACTIONS/EFFECTS MONITORED	UNITS OF MEASURE	VARIABILITY THRESHOLD	DATA PRECISION RELIABILITY	SUGGESTED METHODS	WHO WILL MONITOR	MONITORING FREQUENCY	DATA LOCATION	ESTIMATED ANNUAL COST
Conditions of Range resources	Determine if vegetative condition and trend is being maintained or improved to meet Forest Plan objectives Determine if areas are in a satisfactory condition	Condition evaluation in grazing allotment.	Allotment condition and trend not fair or better condition with upward trends	M/M	Range condition and trend transects, photo transects	District Ranger	10% of the allotments annually	District 2200 files	\$15,000
Range/Wildlife Conflicts	Determine that livestock use on winter range won't reduce value for deer and antelope	Utilization of forage	Use by livestock other than spring and summer months Forage not available for wintering animals.	M/M	Field survey	District Ranger	Annually	District files	\$300
RECREATION Semiprimitive	Comparisons of actual use with social and managerial setting criteria for ROS Class in Squaw Creek Management Area. 5/	Recreation visitor days and encounters per visitor day	When desired physical, social and managerial setting for each Recreation Opportunity Spectrum Class would not be achieved 15 encounters/day over 20% off-season	M/M	Visitor contacts, trail registration, observations of resource conditions at heavy use area.	District Ranger, Rec Staff	Annually	RIM data	\$2,500
ORV Effects	ORV use effects on soil, water, vegetation, fish and wildlife, visuals, other visitors or cultural and historic resources	On site conditions and public comments	If ORV use conflicts with management direction for a management area, such as unacceptable damage to soil, vegetation or visual quality, the area will be considered for closure or restriction of ORV use, and rehabilitation of area.	H/H	On-ground review of ORV use areas. Review of public comments	District Ranger Collect on-ground information and propose changes to ORV Management Plan Recreation and Lands Staff Review District comments	Annually	Files	\$2000/yr
Use	Compatibility of recreation use with ROS class and management area allocation	FVD as per RIM	Inappropriate use in congressionally designated areas, more than 5 complaints annually of inappropriate use	M/M	Joint review, by District and S O Rec staff, of use levels by mgmt. area.	District Rec Staff	At least every 3 years	S O	\$1500
TRAILS	Trail system	Miles of trail established or maintained	50% of planned system not built in first 5 year period Trails not being maintained to standard Trails lost to resource development.	H/H	Visitor contact, condition survey, review of trail system	Recreation Staff	5 years	Trail Inventory	\$500

MONITORING ITEM	ACTIONS/EFFECTS MONITORED	UNITS OF MEASURE	VARIABILITY THRESHOLD	DATA PRECISION RELIABILITY	SUGGESTED METHODS	WHO WILL MONITOR	MONITORING FREQUENCY	DATA LOCATION	ESTIMATED ANNUAL COST
MANAGEMENT ACTIVITIES	Riparian Management Area Activities	Variable depending on standard	Activities depart from established standards more than 10% of the time or indications that management goal of any area may be compromised	M/M	Activity/Area specific monitoring to gauge accomplishment of management area standards. Number and frequency of reviews in each category will be dependent on relative risk rating associated with activities and management area category. a. Key Site b. Special emphasis c. General	Range & Watershed Staff	Annually 2 samples per District.	2520, 2620 TRI / GIS	\$5,000/yr
FUELWOOD	Fuelwood - Amount of fuelwood provided	Cords/MBF	Supply exceeded by demand	M/M	Field Observations Public Comment # of permits	District Ranger	Annually	Annual Free Use Timber Report, Timber Cut & Sold Report	\$1000
SCENIC RESOURCES	Whether the condition of the visual resource is commensurate with standards required in the management prescription	Visual quality objective achievement.	Conflict of management goals with VQO on more than 10% of the area.	M/M	Program and Activity Reviews, corridor plans, photo log of corridors	DR/LA	Minimum every two years	File (2380)	\$5000/yr
WATERSHED Stream Improvement	Improvement in stream conditions (morphology)	Miles	Average stream condition less than excellent, not showing improvement, or stream condition declining	M/M	Survey of stream morphology using established survey points on selected streams	District, Soil & Water Biologist	5 years	District, S O	\$3000
Vegetation Improvement	Improvement in riparian vegetation	Miles	Riparian vegetation in condition that is declining, lacking in vigor, or otherwise not contributing to stream stability	M/M	Survey using established survey points on selected streams	District, Soil & Water Biologist	5 years	District, S O	\$5000
WILDLIFE Old Growth (pileated woodpecker)	Old Growth juniper	Acres old growth & allocation	Less than 1 designated stand or habitat area per 12,000 acres	H/M	Review of old growth management acres	Wildlife Staff, District Ranger	Annually	GIS Files	\$400
Antelope Winter Range	Determine if projects on antelope winter range are consistent with objectives.	Number of projects	Projects on >10% of area not conforming to standards and guides.	M/M	Review of EA's, with field verification	District Range and Wildlife Staff	Annually	2600 files / GIS	\$500
Antelope Winter Range Use	Determine if animals are using designated winter range	Percent of designated winter range used	20% or more of winter range not being used	M/M	Field survey	District Ranger, Wildlife Staff	Annually	2600 Files / GIS	\$200

MONITORING ITEM	ACTIONS/EFFECTS MONITORED	UNITS OF MEASURE	VARIABILITY THRESHOLD	DATA PRECISION RELIABILITY	SUGGESTED METHODS	WHO WILL MONITOR	MONITORING FREQUENCY	DATA LOCATION	ESTIMATED ANNUAL COST
Deer and elk habitat and population trends	Determine if habitat is managed to meet big game management objectives	Habitat capability based on cover/forage relationships, trend of vegetation, open road densities	HEI vary 10% from management objective 6/	M/M	Analysis of habitat using HEI model, with field verification Population trends using ODFW data.	District Ranger and Wildlife Staff	Project level analysis annually	File 2600 GIS	\$10,000
Primary cavity excavators population trends and snag numbers, sizes, species and use	Determine if habitat for snag dependent species is being managed properly	1) Number of snags and live wildlife trees per acre, 2) primary cavity excavator use (numbers and species observed)	1) Not Sufficient standing and down, dead and defective trees to meet objectives, 2) to be determined	M/M	Pre- and post project review of snag numbers and live wildlife trees/acre in 25% of harvest units	District Ranger and Wildlife Staff	At least one presale and one postsale project/district/year, randomly selected	2600 GIS files	\$8,000
WILD AND SCENIC RIVERS	Determine the effects of activities on Wild and Scenic River attributes on Crooked and Deschutes Rivers, and Squaw Creek	Lands adjacent to Crooked and Deschutes Rivers, and Squaw Creek.	When resource condition or level of activities would lower Wild and Scenic River designation, or experience level Management plan not complete within first half of decade	H/M	Review Project Activity considering activity on adjacent lands	District Ranger and Recreation Staff	Annually	Supervisor's Office wild and scenic river files	\$5,000
SOCIO-ECONOMIC									
AMERICAN INDIAN INTERACTION	Responsiveness of Grassland Management activities to the rights, interests and concerns of American Indians as reserved by Treaty and defined by the American Indian Religious Freedom Act.	Documentation of Contacts	Potential conflict identified between Grassland Management objectives, and American Indian rights to, and/or for, an area or resource	M/H	Coordination of project plans and Environmental Analysis, where appropriate, with affected tribal representation	Forest Supervisor, Native American Coordinator, District Ranger	Annually	Project Files	\$1,000/year
COMMUNITY LIFESTYLES	Responsiveness to local lifestyles, attitudes, beliefs or values	Various	Established trend toward Forest-Community conflict or identification of problems	M/H	Interviews with key publics and opinion leaders in communities, observation, etc (See FSH 1909 17) Public Involvement.	Planning Staff, Line Staff Officers	Annually	Files, newspapers, anecdotal data	\$500
EFFECT OF GRASSLAND MANAGEMENT ON INDIVIDUALS AND OTHER GOVERNMENT AGENCIES	Identify emerging issues, concerns, opportunities Includes problems of Interagency cooperation		Failure to have general acceptance of Grassland management.	M/M	Collect public input through contacts, letters, verbal comments, Interagency contacts, etc	Public Affairs	Annually	S O and Districts	\$300

MONITORING ITEM	ACTIONS/ EFFECTS MONITORED	UNITS OF MEASURE	VARIABILITY THRESH- OLD	DATA PRECI- SION RELI- ABILITY	SUGGESTED METHODS	WHO WILL MONI- TOR	MONITORING FREQUENCY	DATA LOCATION	ESTIMATED ANNUAL COST
HUMAN AND COMMUNITY DEVELOP- MENT	Whether Human and Community Development goals are met.	Enrollee years by program	-10% variation from goals	H/H	Maintain personnel record by Forest Service pro- grams (YCC, CETA, Senior Citizens, Volunteers, oth- er)	Admin Officer, Planning Staff	Annually	Personnel Records Forest Attainment Reports	\$200
COMMUNITY ECONOMIC PARAMETERS	Population, income, em- ployment, industrial needs	Varies	Developing problems in local economy	M/M	Retrieve data from IMPLAN at FCCC	Budget and Ac- counting Analyst	5 years	State Employment Office, Personnel	\$1000
ECONOMICS Economic ef- fects of Plan Implementa- tion	To compare projected estimated economic ef- fects with actual	Dollars	25% variation from estimated	H/H	Compare expenditures, contracts, salaries, actual payments to counties and returns to the Treasury with Forest Plan projec- tions.	Budget & Account- ing Analyst	Annually	TSPIRS, Supervisor's Office	\$1,000
MONITORING NEEDED TO EVALUATE PLAN EFFECTIVENESS OR MEET LOCAL/ADMINISTRATIVE RESPONSIBILITIES									
ADMINISTRATIVE									
LAND OWN- ERSHIP	Lands being acquired or disposed as opportunities arise consistent with plan direction	Acres	Review and ownership plan not complete	M/M	Review, update ownership plan	Lands Staff, Dis- trict Ranger	Annually	5400 files	\$200
CIVIL RIGHTS & EQUAL EMPLOY- MENT OP- PORTUNITIES	Workforce diversity	Number mInori- ties and women employed, retained	5% deviation from goals	H/H	Personnel Records Review	Admin Officer	Annually	Personnel Files	\$200
ECONOMICS Comparison of actual and planned imple- mentation costs and value	To compare projected expenditures and value with actual expenditures and value	Dollars spent.	2% deviation from total Financial Work Plan as compared to Forest Plan projections	H/H	Extract actual costs and compare with plan esti- mates	Budget & Finance	Annual (Quarterly)	PAMARS	\$1,000
NEPA Project compli- ance with National Envi- ronmental Pol- icy Act, includ- ing cumulative effects analy- sis	All project level decisions	Management activities	Meet NEPA Regulations and FSM direction on environmental documentation, meet standards and guidelines	M/H	EA review by office and field staff of 1-2 projects per District per year	District Ranger and Plan- ning Staff	Each project	1850 files	\$25,000

MONITORING ITEM	ACTIONS/EFFECTS MONITORED	UNITS OF MEASURE	VARIABILITY THRESHOLD	DATA PRECISION RELIABILITY	SUGGESTED METHODS	WHO WILL MONITOR	MONITORING FREQUENCY	DATA LOCATION	ESTIMATED ANNUAL COST
PLANNING MODELS Modeling assumptions (primarily FORPLAN)	Comparison of the projected outputs and effects modeled in the Forest Plan with the actual outputs and effects	Selected parameters	Plus or minus 20% in each area, subsequent analysis to determine if pattern exists	H/H	Review outputs per area FORPLAN projection	Land Management Planning	One analysis per district per year	S O	\$8,000
STANDARDS AND GUIDELINES	Adherence to standards and guidelines not covered by separate monitoring item, goals and objectives met by standards and guidelines	All standards and guidelines	Unacceptable deviation from stated goals and objectives	M/H	Review of selected activities	District Ranger and S O Staff	Annually	Files	\$5,000
RESOURCES									
AIR QUALITY	Total suspended particulate production	Tons of TSP	Any increases of annual tons of TSP over last 5 yr average	L/L	Project burns planning, further research, annual treatment reports	Fire Staff & Water/Soil Staff	Annually	Accomplishment Reports	\$500
CULTURAL RESOURCES	Protection of significant cultural resources during project implementation (where specified)	Properties	Any disturbance to, or alteration of, the property	H/M	Review Environmental Analyses and project work plans, systematic field inspection during project activities inspection of selected projects to determine effectiveness of mitigation actions	Forest Archeologist, District Ranger	Annually	Project plan files, District and S O cultural resource files	\$10,000
USE/OCCUPANCY Permits, Leases, Claims	Effects on resources by management emphasis areas of mining claims and mineral permits	Operating plans requirements & stipulations	Any noncompliance	M/M	Review of operating plans & onsite inspections	District Ranger	Annually	2810, 2850 files	\$1000
SPECIAL USES	Special Uses	Operation plans, requirements & stipulations	Noncompliance	M/M	Review special uses	District Ranger	Annually	Paper Files	\$500
OIL & GAS	Oil, Gas, & Geothermal leases	Number of leases	Inadequate surface resource protection	M/M	Review Leases	Forest Supervisor	Annually	2820 Files	\$500
FIRE Fire Effects	Ecological effect of underburning	Ecological effects	Prescription not being met on 20% or more of areas	M/M	Research PNW	Research PNW	Annually	PNW Report	\$500

MONITORING ITEM	ACTIONS/EFFECTS MONITORED	UNITS OF MEASURE	VARIABILITY THRESHOLD	DATA PRECISION RELIABILITY	SUGGESTED METHODS	WHO WILL MONITOR	MONITORING FREQUENCY	DATA LOCATION	ESTIMATED ANNUAL COST
Fire Protection	FMEI - Cost of pre-suppression & suppression plus net value change effect of wildfire	\$/1000 acres protected (FMEI)	+ 25% increase in FMEI in any year or > 10% Increase in FMEI of 5 yr average	M/H	FEP costs FFFcosts NVC assoc with acres burned by Fire Intensity Level (Form 5100 29)	Fire Staff	Annual comparing to last 10 year acreage	FCCC Fire History Files - Budget Records - Nat'l Fire Mgmt. Planning System - FCCC	\$500
RECREATION User experience and physical setting in dispersed and developed use sites and areas	Site conditions and user satisfaction assure that a broad spectrum of ROS settings and recreational opportunities are provided	Developed and dispersed sites and areas	>20% physical, social, and managerial setting for each ROS Class not achieved Developed site not providing barrier free facilities, not maintained, not meeting public expectations, facilities deteriorating	M/M	Condition surveys, user satisfaction surveys ROS/ RIM vehicle counts, visitor use counts, visitor contacts	District Ranger, Rec Staff	Annually	R I M Data and File 2300	\$15,000
INFORMATION	Information available to inform public of areas suitable for proposed use	ROG	ROG not available at District or information in guide outdated	H/M	Review of ROG's	Rec Staff, District Ranger	Minimum every 2 years	Districts	\$1,500
SOIL	Growth losses caused by accumulative compaction	Cubic feet.	>10% decline in tree growth	H/M	25% of earth disturbing projects sampled	Soil Staff/ Silviculture	Annually	2550	\$10,000/yr
Changes in soil productivity	To determine if soil management and conservation practices are being implemented and to assess their effectiveness	Percentage of detrimental soil disturbance and/or vegetative recovery or growth loss Amount of organic matter retained in harvest units	Minimum of 80% of an activity area will be left in a non-detrimental impacted state following a soil disturbing activity	M/M	25% of earth disturbing projects sampled	Soil/ Watershed Staff	Annually	GIS, 2550 files	\$6,000
TIMBER	Population levels of insects & disease following management activities	Acres infected	As recommended by Regional Office specialists	M/M	Annual insect & disease survey (by R 6 Forest Pest Mgmt specialists) Compare with past surveys to detect trends	Timber Staff Officer	Annually	Survey Report	\$500/yr
LAND SUITABILITY	Land Suitability	Acres	+ or - 5000 acres	H/H	Stand Exams Aerial Photos Field Observation	Forest Silviculturist	Annually	DBMS R2MAP	\$2000
THREATENED, ENDANGERED AND SENSITIVE ANIMALS AND PLANTS	To determine if management and recovery objectives for Threatened, Endangered and Sensitive species are being met.	Acres of suitable habitat.	Defined management objectives not being met. Suitable habitat lost.	H/M	Five year activity schedule evaluations, habitat review, EA project review	District Ranger, Range and Wildlife Staff	Update activity schedule evaluations at least every 5 years Annual review of habitat and Project EA's	GIS, File 2870	\$2,500

MONITORING PLAN NOTES

This monitoring plan is intended to be a dynamic plan subject to revision as the Forest and Grassland Plans are implemented. The process to update and, or amend the plans is iterated in figure 5-2, p ___

Definitions of monitoring plan elements

Monitoring Item - Primary resource or activity to be monitored

Action or Effect to be Monitored - A specific statement of what will be checked

Units of Measure - A quantifiable amount related to the action or effect.

Variability Threshold - Levels which, if exceeded, may trigger the need for re-evaluation of the Forest Plan

Data Precision - How exact or accurate the measurement, rated high, moderate or low (H, M, L)

Reliability - Expected probability that information acquired through sampling will reflect actual conditions. Rated high, moderate or low (H, M, L)

Suggested Methods - Statement of how monitoring will be accomplished

Who Will Monitor - Identifies Program Manager in charge of implementation of monitoring, data collection, analysis, evaluation, and report preparations

Monitoring Frequency - The scheduling of sampling for the item to be monitored stated in years or parts of years

Data Location - Indicates where the collected monitoring data, analysis and evaluation reports for the item monitored are accumulated

Estimated Annual Cost - This cost includes existing and planned monitoring items

Action Indicated - Codes related to types of procedures implemented when variability thresholds are exceeded

FOOTNOTES

1/ GIS- Graphic Information System. The monitoring plan recognizes that when GIS is implemented on the Forest and Grassland, it will provide the base data upon which monitoring will rely. In the interim, the existing data bases will be used.

2/ Bucket or ocular sampling using techniques outlined by Munther and Lilburn (Aquatic Environment and Fisheries Habitat, 1986 Monitoring Report, 1987 Bitterroot, Deerlodge, and Lolo NF)

3/ Cross section and pool riffle ratio- Use standard inventory procedures outlined by Hankin and Reeve's stream survey process (Estimating Total Fish Abundance and Total Habitat Area In Small Streams Based On Visual Estimation Methods, Hankin, D G & Gordon H Reeves, Canadian Journal of Fish & Aquatic Science, Vol 45, 1988)

4/ Utilization levels will be incorporated into allotment management plans

5/ Recreation Opportunity Spectrum

6/ Habitat effectiveness index- The HEI model, using cover, forage relationships, vegetation trends and road density, measures habitat capability for big game at a point in time. The HEI provides trend information over time to determine whether habitat capability objectives are being met.

Appendix A

Schedules

APPENDIX A1

LANDLINE LOCATION SCHEDULE

YEAR	LOCATION	PROJECT
FY89	T 10S , R 12E , Sec 36 T 11S , R 12E , Sec 13, 14, 22, 23, 24, 25, 26, 35	Hurber's Canyon Round Butte
FY90	T.13S , R 13E , Sec 15, 16, 22 T 13S , R 13E., Sec. 11, 12, 13	ATV Area Kings
FY91	T 13S , R 11E , Sec 1, 2, 3, 4, 9, 10, 11, 12	Geneva
FY92	T 12S , R 11E , Sec 13, 23, 25, 26, 27, 28, 34, 35	N of Geneva
FY93	T 13S , R 11E , Sec 16, 20, 29, 32, 33, 34, 35	Squaw Flat
FY94	T 11S , R 13 , Sec 17, 18, 19, 20 T 12S , R 14E , Sec 13, 14, 23, 24	E of Round Butte Blanchard Well
FY95	T 10S , R 15E , Sec 6 T 10s , R 14E , Sec 1, 2, 3, 10, 11, 12	Kennedy Alottment
FY96	T 11S , R 12E , Sec 31, 32, 33 T.12S , R.12E , Sec 5, 6, 7, 8	N of Grandview
FY97	T.13S., R 12E , Sec 3, 4, 5, 8, 9 T 13S , R 12E., Sec 21, 28, 29, 31, 32, 33	Peninsula Steelhead Falls
FY98	T 12S , R 14E , Sec 5, 6, 7, 8 T 12S , R 13E , Sec 1, 2, 11, 12, 14	Boyce
FY99	T 12S , R 12E , Sec. 16, 17, 18, 19, 20, 29, 30, 31	Grandview
FY00	T 13S , R 13E , Sec 7, 8, 17, 18, 19, 20, 30	Opal City

APPENDIX A2

RANGE ALLOTMENT MANAGEMENT PLAN SCHEDULE

YEAR	ALLOTMENT
FY 1990	Canadian Bench Allotment Holmes-Squaw Creek Allotment
FY 1991	Clevenger Allotment Goldmine-Falls Allotment
FY 1992	Williams Allotment
FY 1993	Peninsula Allotment Round Butte Allotment

This completes a management plan on every allotment. At this point, revisions will be started on allotments as they are needed. Revisions will be scheduled based on changes found to be needed during monitoring of existing allotment management plans, or changes in permittees on an allotment who have a different type of operation. It is estimated that one to two revisions per year will be done.

APPENDIX A3

RECREATION DEVELOPED SITES CONSTRUCTION SCHEDULE

First Five Years

SITE	COST (M\$)
Haystack Reservoir Campground Addition	200
Rimrock Trail/Interpretive Site	117
ORV Trail System	78
ORV Staging and Camp Area	240
Horse Camp and Endurance Trail	120
Willow Creek Trail	148
Squaw Creek Dispersed Site (toilet)	30
Smith Rock Tie Trail	25

Second Five Years

SITE	COST (M\$)
Extended ORV Trail System	120
Rimrock Trailhead	35
East-West Intertie (New Oregon Trail)	160
Deschutes Canyon Trail and Squaw Creek Trail	115
Viewpoint Overlook	110

APPENDIX A4

WILDLIFE AND RIPARIAN HABITAT IMPROVEMENT SCHEDULE

Metolius Deer Winter Range - In order to produce optimum deer winter range habitat, juniper must be cut and burned in patches to bring the cover/forage ratio to 40% cover and 60% forage. To meet this objective by the end of the first decade, 256 acres per year must be cut and burned, 51 acres, or 20% of those acres, will be seeded to grass species. After the first decade, 200 acres per year will need to be cut and burned to maintain a sustained 40/60 cover/forage ratio. 40 acres, or 20% of those acres, will be seeded to grass species.

Antelope Winter Range - 800 acres every other year will be treated with fire to maintain optimum antelope winter range. This will keep shrub species at or below 24 inches in height. Patches of juniper and taller shrubs will be maintained for overall diversity.

Ponderosa Pine Area - Cut juniper and underburn 70 acres per year for the first five years as per direction in existing environmental assessment.

Riparian and Wildlife - The following schedule lists all the riparian and wildlife projects that are left to be done on the Grassland. They are scheduled to be done between 1990 and 1993. After 1993, maintenance will be nearly all that will be necessary.

(R) = riparian

(W) = wildlife

PROJECT	ACRES	MILES/FENCE	COST	YEAR
Jap Cr Pipe Overflow (W)	10	17	425	1990
Sumner Aspen (W)	20	4	1000	1990
Trail Crossing Cottonwood (W)	10	2	500	1990
Pipe Spring (W)	10	2	500	1990
Windom New Riparian (W)	100	5	1250	1990
Braiden Spring Overflow (W)	10	25	625	1990
New Land (barn area) (F)	202	18	4500	1990
Cottman Drainage				
(below scales corral road (R)	30	4	1000	1990
Trail Crossing Willow Area (R)	40	56	1400	1990
New Land Pond Area (R)	43	57	1425	1990
Upper Mud Spring CR (R)	70	75	1875	1990
Sumner Spring Overflow (W)	10	25	625	1991
Juniper Spring Overflow	10	2	500	1991
Parkey Springs & Overflow (W)	20	.3	750	1991
Cat Tail Pond Drainage (R)	80	1.05	2625	1991
Cotman Drainage Lower (R)	30	.4	1000	1991
Monner #3 & 4 (R)	74	86	2150	1991
Sherwood Canyon Spring (W)	0.05	2	500	1992
Rodman Hill Spring (W)	20	.3	750	1992
Buck Butte Spring (W)	10	11	275	1992
Kekler Spring Overflow (W)	10	2	500	1992
Cottonwood Spring (R)	46	45	1125	1992
McMeen (all) (R)	140	17	4250	1992
Cyrus (W)	50	4	1000	1993
Boyce Pond (W)	10	25	625	1993
Cotter Pond (W)	20	25	625	1993
Lower Mud Sp. Changing Area (R)	300	20	500	1993

APPENDIX A5

CULTURAL RESOURCE OUTPUTS AND C.I.P. SCHEDULES

CROOKED RIVER NATIONAL GRASSLAND FY 90-99

PROJECT / ACTIVITY	FY	FUND	MEASURE	UNIT	COST (M\$)
Survey (Project Inventory)	90	NFCR	Acres	1 1M	3
Rimrock Interpretive Feasibility	90	NFCR	Project	1	1
Survey	91	NFCR	Acres	1.1M	3
Rimrock Interpretive Signs	91	NFRN	Project	1	2
Headquarters Interpretive Feas.	91	NFCR	Project	1	1
Survey	92	NFCR	Acres	1.1M	3
Rimrock interpretive Design	92	NFRN	Project	1	4
Headquarters Interpretive Design	92	NFRN	Project	1	2
Survey	93	NFCR	Acres	1 1M	3
Headquarters Interpretive Display	93	NFRN	Project	1	5
Viewpoint Overlook Interp Feas.	93	NFCR	Project	1	1
Survey	94	NFCR	Acres	1 1M	3
Viewpoint Interpretive Design	94	NFRN	Project	1	2
Thematic Nomination, Homesteads 1	94	NFCR	Project	3	1
Survey	95	NFCR	Acres	1 1M	3
Viewpoint Interpretive Signs	95	NFRN	Project	1	4
Thematic Nomination, Homesteads 2	95	NFCR	Project	1	3
Survey	96	NFCR	Acres	1 1M	3
Homestead Interp Feasibility	96	NFCR	Project	1	1
Grassland Archaeo District Feas	96	NFCR	Project	1	3
Survey	97	NFCR	Acres	1 1M	3
Homestead Interp Design	97	NFRN	Project	1	2
Thematic Nomination Archeo Dist	97	NFCR	Project	1	3
Survey	98	NFCR	Acres	1 1M	3
Homestead Inter Site	98	NFRN	Project	1	6
Thematic Nomination Archeo Dist	98	NFCR	Project	1	3
Survey	99	NFCR	Acres	1.1M	3
Prehistoric Lifeways Interp. Feas.	99	NFCR	Project	1	2
Archaeo Site Protection Plan	99	NFCR	Project	1	3

*Surveys are performed for all proposed ground-disturbing projects, such as range, wildlife, and recreation improvements, as well as energy transmission corridors and new or reconstructed roads.

APPENDIX A6

WILD AND SCENIC RIVER PLAN SCHEDULE

YEAR	RIVER
FY 89, 90, 91, 92	Deschutes River and Crooked River
FY 90, 91	North Fork Crooked River

- * Squaw Creek will be scheduled if and when congressional designation occurs.
- * Coordinate with the BLM as per memorandum of understanding in the preparation of congressionally mandated management plans.

Appendix B

**Land Ownership
Plan**

Appendix C

**Threatened, Endangered,
and Sensitive Species**

Appendix B

Land Ownership Plan

Because the existing land ownership pattern may not be optimum for accomplishing the Grassland's goals and objectives, a land ownership plan has been devised. This plan identifies which lands should be retained, disposed of, or acquired to achieve the best ownership pattern.

The fact that a parcel of land has been identified for acquisition in this plan does not guarantee that the parcel will be acquired in a given period of time. The private landowner must be willing to either participate in a land exchange involving the parcel, or to donate the parcel; there are no plans to purchase or condemn lands. In addition, in most cases, the Grassland will not acquire lands containing significant improvements.

The objective of the land adjustment program is to attain an optimum land ownership pattern that provides for resource uses that best meet the people's needs and that reduces administrative costs. A consolidated land ownership pattern helps accomplish these objectives. Adjustments will be accomplished through exchanges or donations. It is unlikely that private lands will be purchased.

Lands within the Grassland boundary have been grouped into the following ownership categories:

1. Areas where Congress has directed the Forest Service to retain Federal lands and to acquire non-Federal lands for a designated purpose. The Deschutes Scenic River falls into this category.
2. Areas where National Grassland ownership is necessary to meet management objectives. Federally owned lands will be retained, and non-Federal lands will be acquired as the opportunity or need arises.

3. Lands allocated for commodity production, where the lands would be managed to provide similar types of output regardless of ownership. Federal lands may be retained, or they may be used to acquire lands in Categories 1 and 2. However, lands in this category will not be disposed of if that would result in a breach in a solid block of Federally-owned land. Private lands within this category may be acquired in order to consolidate Federal ownership.
4. Small, isolated blocks of National Grassland lands which do not contain special features, and which are expensive and difficult to manage. These lands will be used to acquire lands in Categories 1, 2 and 3. Disposal of Category 4 lands will have priority over the disposal of lands in Category 3.
5. Areas where more intensive study and planning are necessary to determine the optimum land ownership patterns. Federal lands in Cove Palisades State Park are included in this category.



The management areas are classified as follows:

<i>Management Area</i>	<i>Land Ownership Category</i>
General Forage	3,4
Metolius Deer Winter Range	2
Antelope Winter Range	2
Juniper Old Growth	2,4
Rimrock Springs Wildlife	2
Cove Palisades State Park	5
Squaw Creek	2
Haystack Reservoir Area	2
Research Natural Areas	2
Riparian	2,4
Utility Corridors	2,3,4
Deschutes River Scenic Corridor	1
Crooked River Recreation River	2

Figure B-1

LAND ADJUSTMENT PLAN MAP

LEGEND

-  OTHER OWNERSHIP
-  GENERAL FORAGE
- 1 CONGRESSIONAL DIRECTION TO RETAIN/ACQUIRE
- 2 RETAIN/ACQUIRE
- 3 DISPOSAL ACCEPTABLE
- 4 DISPOSAL PREFERABLE
- 5 FURTHER STUDY

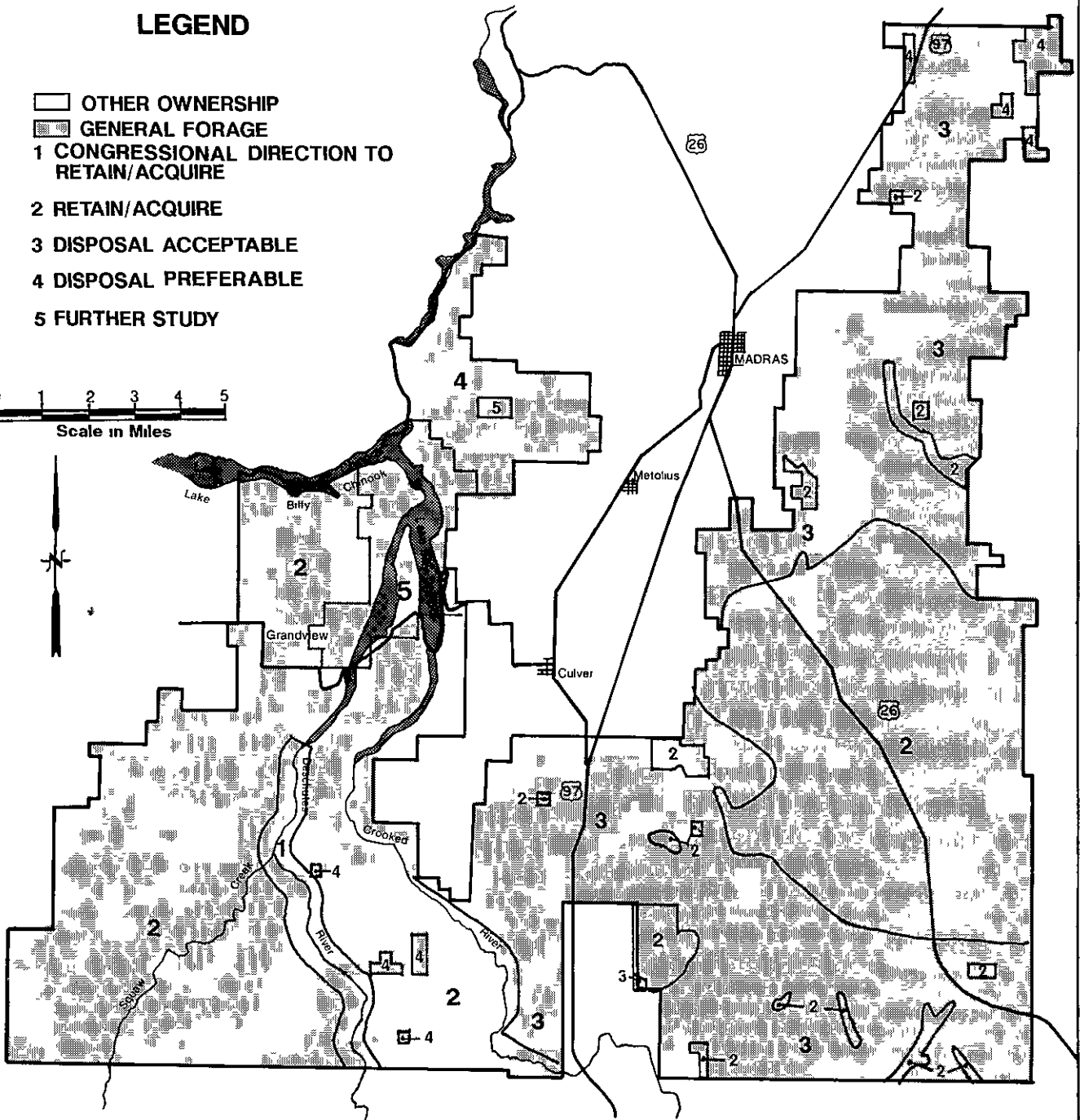
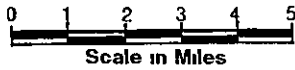


Figure B-2
LAND STATUS

LEGEND

- OTHER OWNERSHIP
- ▨ GENERAL FORAGE

0 1 2 3 4 5
Scale in Miles

