United States Department of Agriculture

Forest Service

October 1986

CUSTER NATIONAL FOREST

Management Plan

CUSTER NATIONAL FOREST
AND NATIONAL GRASSLANDS

LAND AND RESOURCES
MANAGEMENT PLAN

PREFACE

The Forest Plan is in compliance with the National Forest Management Act of 1976 (NFMA); the regulations for National Forest Land and Resource Management Planning (36 CFR Part 219); and the National Environmental Policy Act of 1969 (NEPA), including the Record of Decision for the Environmental Impact Statement covering the Forest Plan.

Further information about the Forest Plan can be obtained from:

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As changes, corrections, and modifications are made in the Forest Plan those that have participated in the Forest Planning process will be informed by letter. Significant changes will be covered by the local media. A mailing list of those interested in the Forest Plan will be developed to keep them informed of changes. Project level activities will be planned and implemented to carry out the management direction in this Plan. The NEPA requirements will be followed as the site specific issues and impacts are addressed during project development. Project environmental assessments and decision notices, or categorical exclusion statements will be prepared for individual projects to identify impacts and appropriate mitigation. These documents are all available to the public.

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CHAPTER I
INTRODUCTION

A. Purpose

This document, commonly and hereafter referred to as "The Forest Plan," guides all natural resource management activities and establishes management standards for the National Forest and National Grasslands administered by the Custer National Forest. It describes resource management practices, levels of resource production and management, and the availability and suitability of lands for resource management.

The purpose of the Forest Plan is to provide long-term direction for managing the Custer National Forest. This Plan will be revised every 10 to 15 years. If there are significant changes that occur as a result of new or better information, drastic changes in demand, or new significant issues the plan may be revised sooner than the 10 year period.

As displayed in this document, the Forest Plan provides two levels of direction: general Forestwide Direction and specific Management Area Direction. Direction is described in terms of MANAGEMENT GOALS, OBJECTIVES and STANDARDS. The Forest Plan also specified monitoring requirements.

The Forest Plan is structured as follows:

Chapter I: This provides an introduction to the Forest planning process.

Chapter II: This contains the forestwide multiple-use goals, objectives and standards that apply to the Custer National Forest.

Chapter III: This provides a description of each Management Area, the goal for management, and the management direction and activities necessary to achieve that goal. The specific monitoring items are shown for each Management Area.

Chapter IV: This contains a discussion of how the Forest will move from current direction and existing situation to the Preferred Alternative, and all of the identified activities.

Chapter V: This summarizes the Analysis of the Management Situation, which was made at the beginning of the planning process to determine the resource potentials of the Forest and examine supply and demand conditions. Production capabilities were determined for single resources and for a set of multiple resource outputs that maximized present net value.

Chapter VI: This contains the Glossary for the Forest Plan.

The remaining sections of the Plan contain the Appendices that provide further information on certain resources. See the Table of Contents for Appendices titles.

B. Management Direction

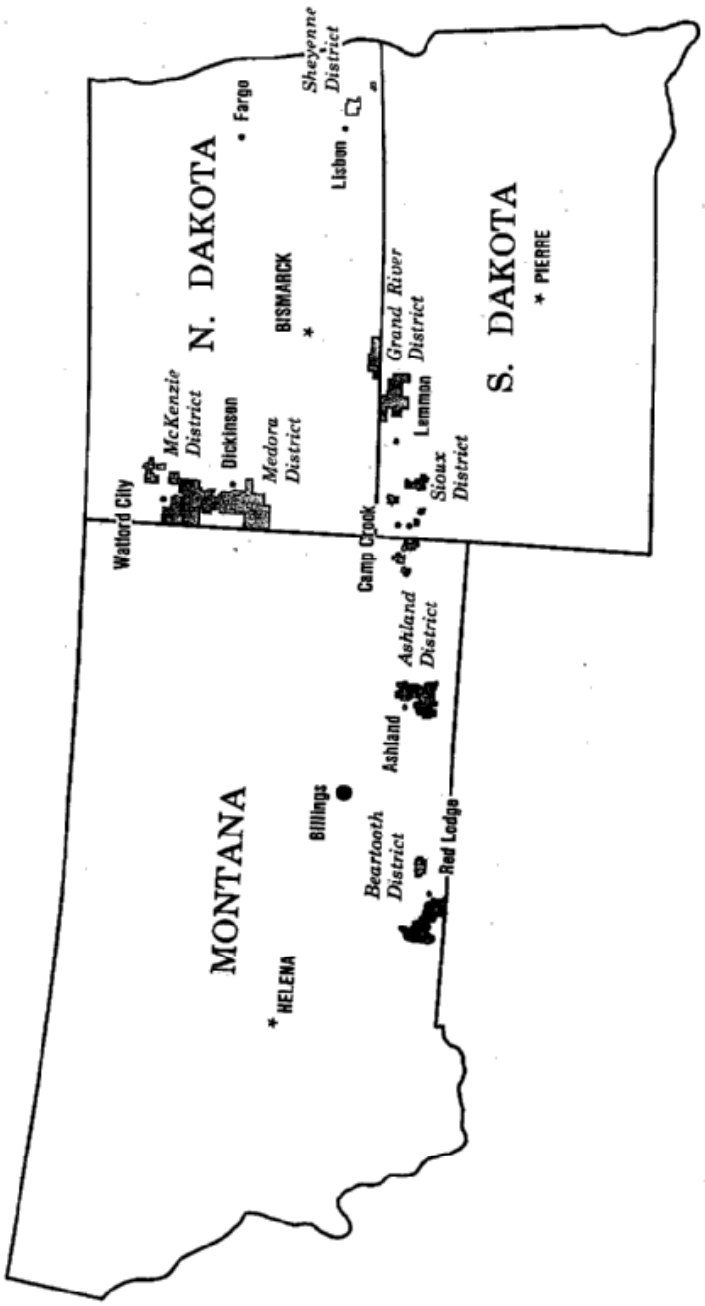
The goals, objectives, standards, schedule of management practices, and monitoring and evaluation requirements comprise the Plan's management direction. However, the projected outputs, services, and rates of implementation are dependent on the annual budget process.

C. Relationship of the Forest Plan to Other Documents

The Forest Plan is based on the various considerations which have been addressed in the accompanying Environmental Impact Statement (EIS) and represents the Preferred Alternative in that EIS. The planning process and the analysis procedure used in developing this Plan, as well as the other alternatives that were considered, are described or referenced in the EIS. Project level activities will be planned and implemented to carry out the management direction in this Plan. The NEPA requirements will be followed as the site specific issues and impacts are addressed during project development.

The Regional Guide displays the Northern Region's portion of the Forest and Rangeland Renewable Resources Planning Act (RPA) Program among the National Forests, provides direction for National Forest plans, and develops standards and guidelines for addressing major issues and management concerns which need to be considered at the Regional level to facilitate Forest planning. The Regional Guide process allows for discussion and analysis of National Forest program capabilities to determine opportunities to meet short- and long-term natural resource demands.

Custer National Forest
Ranger Districts



CHAPTER II

FORESTWIDE MANAGEMENT DIRECTION

A. Goals

The Forestwide multiple-use and other goals were identified in the planning process and are used to help guide the development of this Forest Plan.

- The goal of rangeland management is to achieve a diversity of beneficial uses of rangeland resources, including harvest of surplus production through a cooperative and integrated management approach designed to attain healthy and productive soil and vegetation and clean air and water. Briefly stated our rangeland goal is range in good condition.

- The goal of livestock management is to maintain approximately the current permitted level of animal unit months. Where necessary livestock management efforts will be intensified to allow for the improvement of vegetative condition and improve wildlife habitat.

- The goal of prairie dog management is to manage viable prairie dog populations to provide habitat for the species while maintaining a balance that does not significantly affect the grazing of livestock. A base acreage of prairie dog towns has been established as well as the location of towns. Priority is to control new towns at a small size. They will be treated to reduce the spread to new areas. Some established towns may be eliminated as long as a base acreage and a viable number of towns are retained on each District.

- The goal of noxious weed management is to implement an integrated pest management program aimed at controlling new starts, priority areas and areas of minor infestations. Holding actions will be implemented on areas of existing large infestations. Preferred control methods will be biological when such methods are available and feasible. Until that time, approved herbicides and mechanical methods will be used. In some cases biological and chemical control methods may be necessary to adequately control noxious weeds.

- The goal of minerals management on the Forest is to be responsive to the National demand for energy and strategic minerals consistent with other resources objectives. The Forest is rich in energy resources and strategic minerals and is responding to the growing demand by making these products available for development. The plan recognizes that extraction of these mineral resources is important to the National public interest and in some areas their values will outweigh other resource values. This plan also recognizes that there are other areas where recreation, key wildlife habitat or other resources are important values in the same areas. In these situations measures will be taken to minimize adverse impacts to these values, or in a few cases, the area will not be available for mineral development.

- The goal for riparian areas and woody draw management is to manage for water quality, provide diverse vegetation, and protect key wildlife habitat in these areas from conflicting uses. Riparian areas are critical for the maintenance of water quality and woody draws provide valuable wildlife habitats. Uses and activities that adversely impact these areas will be mitigated.

- The goal of wildlife and fisheries management is to manage and/or improve key wildlife and fisheries habitats, to enhance habitat quality and diversity, and to provide wildlife and fish-oriented recreation opportunities. Most of the critical habitat areas have been incorporated into management areas that maintain or improve these key habitats. Wildlife and fisheries management is considered in all management areas and the level of wildlife habitat management will increase over time.

- The goal for the management of Threatened and Endangered plant and animal species is to provide habitat that contributes to the recovery of the species.

- The goal of providing for public access to and within the Forest is to provide at least one access point per five miles of administrative boundary where there is not adequate access from inside National Forest System (NFS) land. At present there are a number of areas on the Forest that are not easily accessible by the general public as private lands adjacent to the Forest preclude access or roads/trails do not exist. Some additional access points are identified and over time access to the Forest will be increased. However, the intent will not be to provide road/trail access to all areas

on the Forest. In other areas on the Forest there are an abundance of roads that have been built primarily for oil and gas development. When the need for these roads no longer exists many of these roads will be closed and revegetated. The continuing need for areas of motorized dispersed recreation and off-road vehicle travel is provided for by allowing these activities over suitable areas of the Forest.

- The goal of timberland management is to harvest timber within sustained-yield capability to help maintain timber dependent communities, forest health, vigor, productivity, provide vegetative diversity for wildlife, eliminate tree encroachment on selected livestock grazing areas, and provide scenic openings.

- The goal of recreation management is to provide a broad spectrum of recreation experience opportunities for the benefit and enjoyment of the public, with due consideration for other forest uses and resources.

- The goal of cultural resource management is to maintain and enhance historic and prehistoric cultural resource values. Conservation of archaeological and historic sites and information for research, public interpretation, and use by future generations is emphasized.

- The goal of visual resource management is to maintain the overall natural appearing landscape recognizing that there are some areas that will be affected by management activities.

- The goal of watershed management is to ensure that soil productivity is maintained and that water quality is maintained at a level which meets or exceeds state water quality standards.

- The goal of air resource management is to meet or exceed state air quality standards and ensure protection of air quality related values.

- Some areas are protected from long-term disturbance from the activities of man with a goal of maintaining low development/wilderness values for these areas and to let natural processes occur in most cases.

  -- The goal of classified Wilderness management is to protect the environment from the impacts of man and let the ecosystems evolve without the impacts of man.

  -- The goal of management of "Low Development Areas" in the National Grasslands and in the National Forest is to retain these areas in a near natural condition.

B. Objectives

1. Resource/Activity Summaries

Following are brief summaries of how the various resources and activities will be managed under the Forest Plan. A complete understanding of the management direction can be attained by reading the Forest-wide goals and standards in this chapter, and the management area goals and standards in Chapter III.

a. Recreation and Affiliated Resource Activities

Management of the recreation resource is moderately intensive and developed recreation sites will be operated at a full service level. Some areas are managed for dispersed recreation and the existence of these areas will be more visible to the public. Analytical surveys for improvement of the cultural resource data base, in support of oil and gas area development, and for site distribution modeling will be made.

b. Wilderness and Low Development Area Resources

The Absaroka-Beartooth Wilderness is managed to provide a quality primitive recreation experience. In another decade use is expected to reach a point where the ability to have a quality experience will become more difficult. At that time use will be limited, redistributed, or otherwise managed to protect the unique values of the Wilderness. Subject to prior and existing rights, areas designated to be managed for low development will remain roadless or in a low development setting. The intent of management is to retain the low development characteristics of these lands so that human use leaves little permanent or long-lasting effects. Management seeks to rehabilitate areas that have been previously impacted by other resource activities and uses.

c. Wildlife and Fish

The objective of wildlife management is to emphasize active management of wildlife habitat. Mitigation of adverse effects from other resources activities will continue. Threatened and Endangered plants and animals are given special consideration on an area by area and species by species basis. Special consideration is also given to certain high interest species, such as bighorn sheep and prairie chickens, by designating key habitat areas where other resource activities are modified.

d. Range

The objective of range management is to improve overall vegetative conditions where needed through intensive range management systems. Land capabilities coupled with intensive management will dictate, on an allotment by allotment

basis, the need for reducing or the opportunity for increasing livestock numbers, or the season of use.

e. Timber

The objective of timber management is to provide an even flow of timber products to help support local industry, maintain a healthy diverse timber resource, improve or maintain wildlife habitat, salvage dead timber, control insects and disease, and reduce natural fuel loading. (For additional timber related information refer to Appendix I.)

f. Watershed (soil and water resources)

Continue to produce water that meets State water quality standards. National Forest System lands will be managed so that the soil and watershed conditions are in a desirable condition and will remain in that condition for the foreseeable future. Soil and water quality objectives are designed to assure that these resources meet State water quality objectives and BMP's (Best Management Practices) are incorporated to assure this.

g. Air Quality

Air quality of the National Forest System lands will be maintained at or above levels required by Federal and State laws, regulations, and standards. The Forest Service will work with state and other Federal agencies to assure these standards are met.

h. Riparian Areas and Woody Draws

The unique values of riparian and woody draws are recognized. Management direction is designed to protect these key wildlife habitats and improve water quality. These areas will be managed in relation to various legally mandated requirements including, but not limited to, those associated with floodplains, wetlands, water quality, dredged and fill material, endangered species, and cultural resources. Riparian areas and woody draws must be managed in the context of the environment in which they are located.

i. Minerals and Geology

Exploration and development of mineral and energy resources will be in a manner which is both timely and consistent with other resource values and management area goals. The mineral and energy resources will be emphasized in those areas with high known mineral potential and/or existing development. Paleontological resources on the Forest will be managed to maintain their scientific value. The Forest will encourage paleontological research by reputable individuals and organizations.

j. Lands

Support will be provided to resource programs, special use administration, land status, landownership adjustments, title claims, withdrawals, and rights-of-way to achieve the pattern of resource uses that best meets the intention of management direction and public needs. Road and trail rights-of-way will be acquired across non-National Forest and that is adequate for the protection, administration, and use of the National Forest system lands in a timely manner. The forest has developed a long-range rights-of-way program as part of the Forest planning process. This program is shown on the transportation plan maps that are a part of the planning record.

k. Facilities

The Forest transportation system required by this plan will be constructed and managed to minimize adverse impacts on the resources, while providing access to public lands for the public and for the management of the resources.

l. Law Enforcement, Fire Management, and Aviation

The management of the Custer National Forest insures a safe and legal environment for public use, as well as for resource management activities. The Forest will use a cost-efficient fire protection and fuels management program that is responsive to the goals of the Forest, including cooperative efforts with other agencies and organizations.

2. Projected Outputs and Activities by Time Periods

Planned decade one outputs and activities that will be used for programming, budgeting, and attainment-reporting are displayed in Table II-1. Other decades are displayed for information only. The projected budget required to implement the Forest Plan is shown in Appendix III.

Appendix IV contains activity schedules for various resources and activities. Projects will be added to these activity schedules periodically as they are identified during the continuous project planning process. Projects may also be deferred or modified if problems are identified during project level environmental analysis (refer to Chapter IV, Section C for a discussion of project planning).

3. Research Natural Areas

The Regional habitat types and other special areas listed in Table II-2 have been assigned by the Northern Regional Guide as the Forest's objectives for Research Natural Area (RNA) recommendations. This table also lists a candidate area, or areas from which the assigned type may be obtained. Establishment reports will be prepared for each area.

There are two existing RNA's on the Forest. These are the Poker Jim RNA on the Ashland District and the Two Top-Big Top RNA on the Medora District. In addition to these areas, there are two areas that have been proposed for RNA status. These are the Limber Pine Outlier Area on the

TABLE II-1

PROJECTED OUTPUTS AND ACTIVITIES BY TIME PERIOD

Items	Output or Activity	Unit of Measure	Average Annual Units Planned 1986-1995	Projected 1996-2005	2006-2015	2016-2025	2026-2035
Recreation							
T01	Developed Use	M RVD's	267	331	394	408	423
T02	Dispersed Use						
	Wilderness	M RVD's	201	257	313	335	358
	Non-wilderness	M RVD's	517	660	803	852	920
Wildlife and Fish							
T03	Wildlife Habitat Impr.	Acres	293	670	700	1000	1000
T04	Fish Habitat Impr.	Acres	6	10	33	36	43
T05	T&E Habitat Impr.	Acres	1	1	1	1	1
T29	Wildlife Habitat Impr.	Struct.	52	131	100	100	100
T30	Fish Habitat Impr.	Struct.	18	31	31	31	31
Range							
T06	Permitted Grazing Use	M AUM's	875	875	875	875	875
T07	Range Improvement						
	RBF	Struct.	60	60	60	60	60
	CP	Struct.	90	94	95	95	95
	RBF	M Acres	2.4	2.1	2	1	.2
	CP	M Acres	9.5	9.5	8	4	.5
T08	Range Resources Plans	Plans	55	55	55	55	55
T09	Noxious Weed (P&M)	M Acres	3.1	3.1	3.1	1.5	1
T09	Noxious Weed (CP)	M Acres	6.0	5.9	2.5	1	1
Soil							
	Soil Improvement	Acres	259	223	200	150	100
T10	Soil Inventory	M Acres	27	55	25	25	0
Minerals							
T12	Minerals Mgmt.	Cases	2136	1225	314	210	106
Timber							
T13	Volume Offered	MBF	3200	3050	3000	3000	3000
		MCF	933	889	875	875	875
T15	Silv. Exams	Acres	7000	7000	7000	7000	7000
T16	REF/TSI - Planting	Acres	20	20	20	20	20
T18	KV - Planting	Acres	20	20	20	20	20
T20	REF/TSI - Rel/Thinning	Acres	200	200	200	200	200
T21	KV - Rel/Thinning	Acres	115	115	115	115	115
Protection							
T23	Fuel Mgmt.	Acres	858	858	858	858	858
Lands							
T11	Land Exchange	Acres	1440	1440	1440	1440	1440
T22	Landline Location	Miles	53	53	53	53	53
Facilities							
T83	Trail Construction	Miles	3	2	0	0	0
T81	Road Construction	Miles	75	57	19	16	12
T84	Trail Maintenance	Mile	275	275	275	275	275

TABLE II-2

AREAS CONTAINING ASSIGNED ECOSYSTEMS AND QUALIFYING AS POSSIBLE RESEARCH NATURAL AREAS

Forest Habitat Type or Special Areas	State	Status
Ponderosa Pine/Bluebunch wheatgrass	MT	Represented in existing Poker Jim RNA.
Ponderosa Pine/Snowberry	MT	Represented in existing Poker Jim RNA.
Ponderosa Pine/Chokecherry	MT	Represented in existing Poker Jim RNA.
Douglas-Fir/Idaho fescue	MT	Represented in the proposed Lost Water Canyon RNA.
Douglas-Fir/Ninebark	MT	Represented in the proposed Lost Water Canyon RNA.
Douglas-Fir/Elk sedge	MT	Represented in the proposed Lost Water Canyon RNA.
Alpine Fir/Alpine clematis	MT	Represented in the proposed Lost Water Canyon RNA.
Alpine Fir/Prickly Gooseberry	MT	Represented in the proposed Lost Water Canyon RNA.
Bur Oak	MT	Habitat type not found in Mt. but it is found along the Sheyenne River in N. Dak.
Limber pine	ND	Represented in the Limber Pine Outlier proposed RNA.
Alpine type	MT	Not represented in any proposed RNA but available in the Red Lodge Creek-Hellroaring area on the Beartooth RD
Bluebunch wheatgrass/Western wheatgrass	MT	Represented in the existing Poker Jim RNA.

TABLE II-2 (Continued)

Forest Habitat Type or Special Areas	State	Status
Idaho fescue/Western wheatgrass	MT	Represented in the existing Poker Jim RNA.
Beaver Ponds	MT	Not represented in any proposed RNA but may be available in the White Rock Spring area, Sioux RD or in the Sheyenne River Terrace, Sheyenne RD.
Rivers	ND	Not represented in any proposed RNA but may be available in the Sheyenne River Terrace area or near the Little Mo. River
Special faunal populations	ND/SD	Not represented in any proposed RNA but may be available in the Deer Draw area, Sioux RD.
Temporary ponds	ND/SD	Not represented in any proposed RNA but may be available in the Sheyenne River Terrace Area.
Temporary ponds	MT	Not represented in any proposed RNA but may be available in the Upper Hellroaring Creek Area.
Low production potential lakes	MT	Not represented in any proposed RNA but available in the Upper Hellroaring Creek Area.
Lakes with fish	ND/SD	None found in any potential area at this time.
Lakes without fish	ND/SD	None found in any potential area at this time.
Lakes without fish	MT	Not represented in any proposed RNA but available in the Upper Hellroaring Creek Area.
Lakes with special faunal population	MT	None found in any potential area at this time.
Bog meadows	MT	Not represented in any proposed RNA but available in the Upper Hellroaring Creek Area.
Type I stream	MT	Represented in the proposed Lost Water Canyon RNA.

Medora District, and the Lost Water Canyon Area in the Pryor Mountain portion of the Beartooth District.

The Forest is assigned 25 ecosystems and/or special areas to be included in the RNA system. The established Poker Jim RNA contains five of the assigned ecosystems. The proposed candidate areas of Lost Water Canyon and the Limber Pine Outlier contain a total of seven of the assigned types or special areas. The Forest objective is to identify and recommend Research Natural Areas which include representative samples of each habitat type assigned.

With the exception of four categories, it would appear the Forest has areas suitable for RNA designation that would contain the assigned ecosystems and special areas. These four assigned ecosystems and/or areas could be reduced to three by using the Bur Oak ecosystem as a North Dakota type instead of a Montana type. This could be further reduced to two areas by using the Lightning or Sylvan Lake area within the Absaroka-Beartooth Wilderness to obtain the lakes with Special Faunal Population type for Montana. Both of these lakes contain pure strains of California Golden Trout.

As additional habitat types are defined and mapped there will be a need to continue to define RNA's. In North Dakota and possibly South Dakota new habitat types are being defined and mapped. A list of potential RNA's needs to be developed and areas evaluated for inclusion in the next Forest Plan. Initially five areas have been identified in North Dakota that need evaluation for possible future classification as RNA's or as Special Interest Areas (SIA's), as shown below:

Forest Habitat Type or Special Areas	State	Status
Black Cottonwood Stand Area	ND	Further evaluation needed for possible RNA or SIA classification. Black cottonwood has been identified as a unique species.
Bullion Butte Escarpment	ND	Further evaluation needed for possible RNA or SIA classification.
Burning Coal Vein Natural Area	ND	Further evaluation needed for possible RNA or SIA classification. Columnar juniper distinguishing feature.
Denbigh Experimental Forest	ND	Further evaluation needed for possible RNA or SIA classification.
Ice Caves Geological Area	ND	Further evaluation needed for possible RNA or SIA classification. Contains one of few ice caves in ND.

4. Additional Data Requirements and Accomplishment Schedule

Table II-3 identifies additional requirements that are needed to improve the Forest's data base, revise current data base inventories to new standards, and to incorporate new data base requirements that have recently been identified.

C. Research Needs

The following research needs have been identified during the development of this Forest Plan; they will be evaluated by the Regional Forester for inclusion in the Regional research program proposal. It is anticipated that more research needs will become apparent during monitoring and evaluation of the Forest Plan as it is implemented.

1. Range

a. Noxious Weeds

Many questions remain on the optimum strategy for controlling certain noxious weeds, especially leafy spurge (Euphorbia escula), and the Knapweeds (Centurea repens and C. maculosa). Specific concerns include the following:

1) The degree to which non-chemical control methods such as utilization by sheep, mowing, insect and disease, and burning are effective in the control of certain weed species.

2) Research is needed to determine seed viability of certain weed species.

3) Research is needed to help determine the extent of cumulative or long-term effects of chemical applications especially on non-target species.

4) Research is needed to determine the most effective chemicals and applicable rates to control target species.

b. Production and Utilization

Refined information on the production and utilization of range forage is needed in the following areas:

1) Calculation of carrying capacity for domestic livestock requires improved information on the seasonal diet changes of livestock and expected use levels of crested wheatgrass.

2) Yearly variation in range productivity in response to variations in climate.

3) Long term effects of various grazing conditions and grazing systems on soil fertility, rangeland productivity and woodland/shrub communities. What are anticipated demands for grasslands wilderness, what are the requirements.

2. Wilderness

Refined information is needed on what amount and type of use can be made of the Absaroka-Beartooth Wilderness without jeopardizing the wilderness environment and still be consistent with some measure of quality in the wilderness experience.

TABLE II-3

ADDITIONAL DATA REQUIREMENTS AND ACCOMPLISHMENT SCHEDULE

Data Requirement	Data Level	Accomplishment Schedule
Wildlife Management		
1. T&E Component Mapping with special emphasis on the grizzly bear, peregrine falcon, and black-footed ferret	Regional Standards	1990
2. Vegetative inventory of hardwood draws	Regional Standards	Ongoing
3. Population and habitat surveys with emphasis on indicator species	Regional Standards	Ongoing
Soil Surveys	Coordinated through SCS	1988
Range Management		
1. Forage production as correlated with soil moisture data	N/A	Ongoing
2. Habitat-type typing for non-timbered ecosystems	Regional Standards	1990
3. Noxious weeds	Update Inventory	1988
Minerals Management		
Current and future energy potential	Forest Data Base	1987
Air Quality		
Effects of oil and gas related emissions on air quality and other resources	State/Federal Standards	1990
Research Natural Areas		
Identify potential RNA's based on new habitat types	Regional Standards	2000
Cultural Resources		
Additional Class II and Class III inventory data in energy planning areas or areas lacking adequate management data	Regional Standards	1990

3. Wildlife and Fish

Many questions remain to be answered on what is the optimum wildlife habitat diversity and on the actual effects of vegetation management on indicator species. Specific concerns include the following:

a. What are the principal ecological factors at work that produce the spatial distribution and vegetative condition of woody draws on the Forest?

b. How should livestock be managed to maintain or improve condition of the woody draws and riparian zones?

c. What are the wildlife relationships of indicator species to various seral stages of vegetation occurring on the Forest?

d. What are the habitat components necessary to support a viable population of black-footed ferrets?

e. What are the short and long term effects of oil and gas activities on wildlife, especially as it relates to habitat displacement for deer and elk?

f. What are the cover/forage needs of whitetail deer in eastern Montana, especially as it relates to the Long Pines area on the Sioux Ranger District?

g. What constitutes adequate nesting cover for sharptail grouse and other ground nesting species?

h. Habitat requirements for elk on the Little Missouri National Grasslands with emphasis on defining conflicts and compatibilities with livestock.

i. Habitat requirements for bighorn sheep habitats on the Little Missouri National Grasslands and interaction with domestic livestock.

j. Establish degree of compatibility between livestock and wildlife by species including disease concerns from wildlife to cattle and vice versa.

4. Minerals Management

Many questions remain to be answered concerning some aspects of oil and gas management on the Forest. Specific concerns include the following:

a. What impact does oil and gas development have on hunter satisfaction and/or the quality of the hunting experience?

b. What are the environmental effects of the use and disposal of reserve pit drilling fluids, e.g. biocides, chromates; and what are the alternative methods of disposal?

c. How can mineral assessments be accomplished to define the quality and quantity of the mineral resources?

5. Soil, Air, and Water

The effects of such things as acid rain has catapulted the concern for air quality into a major National issue. Specific concern for the Custer National Forest is the following:

a. What are the long term effects of non-lethal levels of H_2S and SO_2 from oil and gas development activities on the environment and resources uses and how far ranging in time and area are these effects?

There is a need to quantify effects of livestock grazing on watershed conditions, specifically as related to:

b. How much baseline runoff and sediment are produced in an ungrazed situation with excellent range conditions.

c. How much more water and sediment are lost under various levels of grazing and various ranged condition classes and utilization rates.

d. Impacts on riparian zones and methods suitable to rejuvenate channels and vegetation to maintain good conditions during livestock use.

There is a need for further research to verify appropriate methods to rehabilitate mine spoils and to mitigate effects of effluents on riparian zones downstream. This is true in the upper Stillwater River and perhaps on the uranium mine spoils in South Dakota. Research is ongoing in the upper Stillwater River Basin.

D. Desired Future Condition of the Forest

This section describes what the future Forest should be like if the management direction contained in the Forest Plan is implemented. It summarizes the anticipated physical changes which would result from carrying out planned management practices, at two points in time: at the end of 10 years and at the end of the 50 year Resources Planning Act (RPA) planning horizon.

1. The Forest In 1995

a. National Forest Districts (Ashland, Sioux, and Beartooth Ranger Districts):

By the end of the first decade of implementing the Forest Plan there will be some noticeable changes to this portion of the Custer National Forest.

It is predicted that within the first decade a significant amount of oil and gas activities will have occurred this portion of the Forest. The on-going exploration program will continue on areas such as Line Creek Plateau and Basin, Rock Creek, Slim Buttes, and the Cave Hills. It is anticipated that several wildcat wells will be drilled during this decade. If economic finds are made, production would follow. In general, production levels would

not be sufficiently high enough to warrant pipeline facilities but individual well sites would include roads and storage facilities. Well pad sites and road construction will temporarily lower the visual quality and man affect wildlife habitat and use patterns. However, the amount, kind, and timing of the oil and gas activities will determine the amount of change.

Barring a National energy crisis, the huge reserves of coal underlying this portion of the Custer National Forest will remain undeveloped. The Surface Mining Control and Reclamation Act of 1977 prohibits surface coal mining on this portion of the Forest, and the anticipated economic climate would preclude any underground mining operation. During the first decade this portion of the Forest could expect some impacts such as increased demand for recreation opportunities as a result of the mining of private coal from such areas as the proposed Montco Mine near Ashland, Montana.

The possibility for locatable mineral production, particularly in the area known as the Stillwater Complex (Beartooth Ranger District) is high for platinum and palladium. It is anticipated that the proposed Stillwater Mine will complete adit development during the first part of the decade with the mill in production by 1990. Most of the facilities for this development are not located on National Forest system lands and the claims that are being developed may have gone to patent by this time and therefore the impacts will not be on National Forest lands. With the present plan of operations the facilities that will be located on National Forest lands are adits and related roads. The permit area is less than 600 acres and activities will actually occur on less than 100 acres.

If Congress should adopt the Forest Plan recommendation for additions to the National Wilderness System, the 5,812 acre Lost Water Canyon Wilderness would be established. In addition to this approximately 6,000 acres would be added to the existing Absaroka-Beartooth Wilderness. This would bring the existing wilderness on the Forest to approximately 355,000 acres or about 14 percent of the total Forest land. The proposed wilderness areas will change very little from the existing situation. The Absaroka-Beartooth Wilderness will experience an increase in visitor use and will reach capacity by the end of the first decade. Management emphasis will be placed on dispersing visitors through trail system improvements, access, and user education. Fire will be allowed to assume a more natural role in the maintenance of the ecosystems.

Most of the existing areas of low development lands outside of established Wilderness will not undergo significant change by the end of the next decade. Approximately 11,800 acres of low development land would be recommended for Wilderness classification. There are an additional 71,189 acres that are managed with wildlife emphasis that will remain in near present condition.

There will be some additions to existing facilities to accommodate the increased need for developed recreation on the Forest. These additions would be to enlarge existing facilities across the Forest and develop sites on the Ashland Ranger District. Perhaps the largest change would be the possible expansion of the Red Lodge Mountain Ski Area. Designating three areas for low development management will help to accommodate the expected increase in use by hunters, horseback riders, and hikers in the Ashland area.

Overall vegetative conditions have begun to improve as a result of more intensive management systems and a consideration of land capabilities and other resource goals. Allotment management plans will be completed for all allotments and will be in various stages of implementation. Not all rangelands will yet be in a "good" or better range condition. There will be a greater number of structural range improvements and in areas where supported by analysis, livestock numbers may be increased or decreased. However, it is expected that cattle coming off grazing allotments will show greater weight gain than in the past, though not yet reaching the potential.

Timber harvest activities will increase over the average of the past ten years. During the first decade the Forest will harvest 3.0 million board feet of timber annually from suitable timbered lands. This harvest level will result in less old growth and an improved distribution of age and size classes throughout the timber base of the Forest. On the average this will require approximately three miles of road construction per year. Other wood products such as firewood will become even more important as people try to cope with the economics of the 1990's. There will be some increase in the opportunity for firewood gathering.

By the end of the next decade some moderate increases in the size of localized pockets of spruce bud worm and mountain pine beetle infestations can be expected. Some of this timber will be salvaged but the majority of it will be located in isolated pockets and it will not be economical to harvest. Some increase in the fuel loading and fire danger will occur as some of these trees begin to fall.

Overall, wildlife and fish habitat conditions for game and nongame wildlife species will improve by the end of the next decade. Timber management practices will be designed to provide for a greater diversity of tree age and size classes. Prescribed fire will be used to improve big game winter range. Appropriate range management

practices within livestock grazing allotments will also improve wildlife habitat values. Protection of riparian zones will result in maintenance of high quality water. If there is an increase of oil and gas development on National Forest Districts a slight decline in habitat capacity can be expected. This decline can be partially offset through the habitat improvement program.

b. National Grassland Districts (Little Missouri, Sheyenne, Cedar River, and Grand River National Grasslands):

By the end of the first decade there will also be some noticeable changes within this portion of the Custer National Forest.

With the exception of the Sheyenne National Grasslands, oil and gas exploration and development will continue to require considerable management attention during the next decade. The highest levels of oil and gas activity by industry are expected to occur in the full development of existing fields and where there is high potential for establishing new fields. This will necessitate the drilling of some additional wells, and road construction. Some additional pipelines and other facilities will be needed to accommodate the anticipated increase in gas production as well as new methods of cleaning "sour gas." The exploration for oil and gas will continue at a moderate level.

Barring national energy crisis, interest in developing the reserves of coal underlying this portion of the Custer National Forest will most likely not increase. Coal reserves will, therefore, remain undeveloped.

There will be some additions to existing facilities to accommodate the increased need for developed recreation. These additions would be to enlarge facilities and build canoe launch sites on the Sheyenne Ranger District. Allocation of five low development areas in the Little Missouri National Grasslands will provide for a variety of recreation experiences.

Of the 1983 inventoried roadless (low development areas) areas, most are expected to be developed for oil and gas production. Portions of these areas will be protected through various leasing stipulations to emphasize wildlife management objectives for selected species.

As on the National Forest Ranger Districts, the vegetative conditions are expected to be improved by this point in time, although not to full vegetative potential. Stocking levels on some allotments will have been reduced in response to analysis and other resource goals. The impact of the oil and gas development may be evident by this time and likewise cause a change in stocking levels. The number of structural range improvement will be greater than currently exist and livestock weights are expected to be greater through the implementation of the allotment management plans.

Overall, wildlife habitat conditions for game and nongame wildlife species will remain at the current level or improve slightly. Key areas for wildlife such as woody draws, bottoms, and riparian areas will receive major considerations for wildlife and vegetative management and these areas should improve. Some short term adverse impacts to wildlife security will result due to accessing some areas that are currently low development. Other areas will be protected through mineral leasing stipulations, and resource management objectives to emphasize elk, big horn sheep, mule deer, and prairie grouse management.

More warm-water fisheries will be provided during this period by improvement of existing habitat and creation of new habitat.

c. Forestwide

As previously mentioned, the most noticeable changes in the Forest by the end of the first decade will be the increases in mineral activities, timber harvest levels, and the decrease in low development acres. Throughout the Forest, approximately 76 miles of road will be built annually during the first decade. About three miles of these roads will be constructed for the management of timber, while the remaining 73 miles will be constructed to service anticipated levels of oil and gas development. Forage for big game animals will remain at or near current levels, but habitat capacity for deer is expected to decline slightly overall due to gas and oil related activities. In areas of concentrated oil and gas activity, the decline will be greatest. This decline can be partially offset with the habitat improvement program. There will be slight increases in sediment yield because of road construction, but soil productivity will be maintained. Low development acres will decrease from about 258,280 to 116,700 acres. The Forest will continue to coordinate air quality monitoring with other Federal and State agencies. Although the Forest will comply with State and Federal smoke dispersal plans, some decrease in air quality is expected due to the increase in minerals related activities.

Management practices defined in the Forest Plan are designed to maintain or improve the existing habitat for Threatened and Endangered species and for the recovery of the species wherever possible.

Cultural resources will not be significantly affected by the proposed actions of the Forest Plan. The Forest will continue to manage these resources as provided by the National Historic Preservation Act, the 1906 Antiquities Act, the Archaeological Resources Protection Act, and other relevant Federal regulations.

2. The Forest in 2035

The other point in time for assessing the future condition of the Forest is in 2035, or fifty years from now, the end of the RPA planning horizon. Due to the uncertainty of such things as national economics and advancing technology, it is extremely difficult to predict the future condition of the Forest in fifty years. For that reason, the future condition of the Forest for the period ending in 2035 is discussed from a Forestwide perspective only.

By the end of the fifth decade of implementing the Forest Plan there will be many noticeable changes on the Forest.

Oil and gas development, production, and rehabilitation will be common activities throughout the Forest. Exploration for oil and gas will continue but most fields will have been developed and many areas reclaimed to near natural conditions. Secondary and tertiary recovery will continue in some areas but the impacts of this activity will be difficult to detect as areas are reclaimed and revegetated.

The Stillwater mine and mill operation will still be operating. Ore reserves from outside the area covered in the 1985-2015 plan of operation will be processed at the mill. Some of these ores will come from east of the Stillwater River. The original area of the Stillwater Mine should be reclaimed by this time, although some mining operations may still be in progress as activities are moved to other parts of the Stillwater Complex. The amount of mineral development in this area is difficult to predict and is dependent on mineral potential, land availability, and national as well as international economics and events. By this time the Stillwater mine will be accepted as a part of the industry of the area and little concern for it being visible as many of the spoil piles will be revegetated and unnoticed.

The 355,000 acres within the National Wilderness Systems will remain unroaded and undeveloped. Recreation use within the Wilderness is expected to increase over the next 50 years. This use will be better distributed due to more access points (trail heads), Wilderness administration, and visitor education. By the end of the fifth decade, approximately 132,000 acres of low development areas resource will have been developed, primarily for oil and gas. Approximately 117,000 acres will remain in a low development status. Recreation use in the nonwilderness portion of the Forest is also expected to increase significantly over the next 50 years. Some existing sites on the Forest will be expanded, but much of the growing demand for developed campgrounds will be satisfied by private facilities. The expanded road system will help meet the increase demand for dispersed recreation, although the opportunity for solitude will be decreased.

Livestock grazing will continue at about 875,000 AUM's per year. Many new range improvements will be evident as part of intensive range management programs on most allotments.

Timber harvest activities will provide about 3.0 million board feet per year by the end of the fifth decade. Some of the timber harvested will be the salvage of dead or dying trees caused by the moderate increase in insect and/or disease infestation levels. By the fifth decade the need for additional new road construction will have decreased from about three miles per year to about one and one-half miles per year.

Roads needed for other resource management activities will have been constructed prior to the fifth decade. Most roads constructed for oil and gas activities should have been closed and reclaimed by this time. By the end of the fifth decade, approximately 5,666 miles of road will have been constructed with about 5,000 miles still in use. When oil and gas development is completed, the mileage will drop to approximately 4,200 miles of permanent road. The current mileage is about 3,800 miles of permanent road and includes 1,680 miles of state and county roads.

Wildlife habitat should remain at or near current levels over the next 50 years. Key or critical areas for wildlife should improve due to special emphasis for wildlife. The growing demand for big game hunting will become more and more difficult to satisfy. Critical habitat for the endangered Grizzly Bear and the black-footed ferret will be maintained throughout the planning period. By the end of the fifth decade it is possible that the Forest will have at least five nesting pair of peregrine falcons.

E. Management Standards

The following standards apply to the National Forest and National Grasslands administered by the Custer National Forest. They are intended to supplement, not replace, the National and Regional policies, standards, and guidelines found in Forest Service Manuals and Handbooks, and in the Northern Region Guide.

1. General

a. As soon as practical, and subject to valid existing rights, all outstanding and future permits, contracts, cooperative agreements, and other instruments for occupancy and use of lands administered by the Custer National Forest will be made consistent with the Forest Plan.

b. Subsequent activities affecting the Forest, including budget proposals, shall be based on the Forest Plan. Proposed implementation schedules may be changed to reflect differences between proposed annual budgets and

appropriated funds. Such scheduled changes shall be considered as amendments to the Forest Plan, but shall not be considered as significant amendments, or require the preparation of an environmental impact statement, unless the changes significantly alter the long-term relationship between levels of multiple-use goods and services projected under planned budget proposals as compared to those projected under actual appropriations.

c. If it is determined during project design that the best way to meet the management area goals of the Forest Plan conflicts with a Forest Plan standard, the Forest Supervisor may approve an exception to that standard for that project; such exceptions and the rationale therefore must be described in documentation of the project.

2. Recreation

a. Developed Sites

Developed recreation management direction is shown in Management Area F.

b. Dispersed Use

1) Dispersed recreation opportunities will be emphasized in response to public needs.

2) National Forest System lands will be identified. Signs will be used to guide the public to National Forest System lands. Brochures, maps, and other means will be developed to describe recreation opportunities available, and to emphasize minimum impact camping.

3) Dispersed use will be managed to prevent site deterioration. Generally no specific campsites will be established or maintained. Minimum impact camping techniques will be encouraged through public information.

c. Off-Road Vehicle Use

1) Travel restrictions will be developed and maintained to meet land management objectives. These restrictions will provide reasonable access for public recreation, hunting and range maintenance/administration, but will confine motorized vehicles to specific roads, trails, or areas identified on a map. Vehicular access off these designated locations will be prohibited, except by permit. A map and information showing closures, restrictions, and opportunities on the Forest for motorized and nonmotorized use will be provided to the public.

2) Travel restrictions will consider:

a) adjacent state, local, and other Federal agency regulations

b) authority for implementation and enforcement

c) compatibility with nonrecreational use on the same area

d) needs for resource protection and concerns of the adjacent landowners, the other users, and cooperating agencies or units of Government.

3) Restrictions and maps will be reviewed annually and updated as needed.

4) Route and area closures will be properly signed and located to allow adequate parking and/or safe turnarounds.

d. Trails

1) Trail Management

a) The Forest trail system will be managed to provide for public safety, accessibility, user distribution, a variety of travel opportunities, and further the management area goals.

b) Trail management will be coordinated with grizzly bear needs in grizzly bear habitat to avoid conflicts and reduce user risks. Trails may be relocated or closed if necessary.

2) Trail Construction

a) Trail construction and reconstruction standards will be consistent with the purpose and use of the trail. The Trail Management Handbook (draft 10/83) provides guidelines for construction standards. Other specific standards which may apply to special trails such as scenic, disabled, or wilderness will be used.

b) Trail construction and reconstruction priorities will be:

(1) to maintain existing trails in a safe, usable condition

(2) to meet nationally identified trail needs (North Country National Scenic Trail)

(3) and to provide additional dispersed recreation opportunities needed to relieve heavy use concentrations and increased demands.

c) The North Country National Scenic Trail is the only Nationally identified trail scheduled for construction.

3) Trail Maintenance

a) The trail maintenance program will provide for:

(1) safety of the users

(2) correction of soil and water problems

(3) removal of travel barriers

b) Ski-touring and snowmobile trails will be marked but not groomed by the Forest Service. The Forest Service will encourage and facilitate grooming by cooperating user groups, or private sector permittees.

c) Users and user groups will be encouraged to provide self-policing of their trail use activities.

d) Trails may be closed for public safety or for protection of soil and water resources.

e. Special Uses --- Recreation

1) Recreation Residences (Special use recreation residences occur only on the Beartooth Ranger District).

a) New recreation residences will not be permitted.

b) Existing permits for recreation residences will be continued and the permit will be reviewed at least three years before the termination date.

c) Before a destroyed or isolated residence is allowed to be rebuilt, it must be determined to be the highest public use.

2) Outfitters and Guides

The optimum recreation management situation on the Custer National Forest is one in which a broad spectrum of recreation opportunities is being utilized by a self-sufficient, self-equipped public. In the absence of optimum conditions the commercial, semi-exclusive services of outfitters and guides are appropriate. Outfitter and guide operations will be permitted to meet the needs of the public for recreation opportunities and experiences which would otherwise be unavailable. Special use permits for outfitter and guide services will be issued as necessary to meet recreation objectives identified by land management plans and recreation opportunity analysis.

The following criteria should be considered prior to making the decision to issue a permit for outfitting and guiding services:

a) Recreation analysis identifies additional recreational opportunities that can be utilized by the public if outfitter/guide services become available.

b) The unoutfitted public is making limited use of the proposed area, and there will be minimal conflicts with this public as a result of the permitted service.

c) There will not be significant conflict with other permitted outfitters and guides as a result of the activities associated with the permit.

d) The issuance of the permit will not result in greater restrictions on the unoutfitted public to use and enjoy the National Forests or National Grasslands.

e) Other resource considerations including the biological needs of wildlife are considered and found compatible with the proposed action.

f) Private land is unavailable to accommodate the type of recreation use proposed by the applicant.

g) The inability of the public to utilize the recreation opportunities on National Forest system and is not a result of access problems brought about by the action of the applicant or his or her collaborator.

h) The action is not designed to legalize a real or suspected illegal use.

i) The applicant clearly understands that if the outfitter and guide service is permitted the tenure of the permit is contingent upon the service continuing to meet the above listed criteria.

3) Organization Camps

Applications for new organization camps will be considered and assessed for compatibility with Forest direction. If compatible and approved, they will be authorized by a Special Use permit.

4) Special Events

Special recreation-oriented events will be analyzed for compatibility with Forest direction including public safety and sanitation and if approved, will be authorized by a Special Use Permit.

f. Visual Resource Management

1) As a general rule, the Visual Quality Objective (VQO) established by management area direction or project assessment will be met. In the event a project environmental analysis determines that the VQO cannot be met, the project will either be modified to meet the VQO for the Management Area or the Forest Plan amended. The natural appearing landscape will remain dominant across the Forest. The VQO of Maximum Modification will not usually be appropriate.

2) Management practices will be designed to blend with the natural environment.

g. Cultural Resources

1) The Forest will undertake a systematic program of cultural resource inventory, evaluation, and preservation aimed at the enhancement and protection of significant cultural resource values. Integration of cultural resource management concerns into the overall Forest multiple resource management effort will be emphasized, as will coordination with the public, the scientific community and appropriate Native American groups.

2) Significant, evaluated cultural resource sites will be preserved in-place whenever possible. When such resources are threatened by another resource activity or project development, an effort to avoid or minimize adverse impact by project redesign will be made. When avoidance of an evaluated, significant cultural property or site is judged to be not prudent or feasible by the Forest Supervisor, the scientific or historic values

of the site will be conserved in consultation with the State Historical Preservation Officer (SHPO) and Advisory Council on Historic Preservation (ACHP), through proper scientific excavation, recordation, analysis, and reporting. Standards of fieldwork, data recovery, mitigation, analysis, and personnel qualifications will reflect the most current Federal guidelines and Forest Service Policy.

3) An inventory survey for cultural resources will be made for most surface-disturbing activities. Projects such as oil well pads, stock dams, or spring improvements will require the survey of the area of potential impact, or at least a 10-acre tract centered on the disturbance. Linear features such as pipelines or roads will require survey of a 150-foot corridor. Larger projects such as timber sales or multiple pipeline corridors will require a Class III survey of the area of potential impact as determined by the responsible official. Forest inventory efforts will be focused in three priority areas including:

a) Large areas where substantial development impact is anticipated, such as oil and gas analysis areas.

b) Areas where cultural resource inventories will provide management data that ere broadly applicable to ecologically similar areas and which will facilitate the development of predictive models capable of addressing issues of cultural site density, distribution, and significance.

c) Areas where specific project activities such as timber sales, road, range improvements, or mineral development activities result in significant ground disturbance.

4) Large-scale inventory projects required for projects such as surface mines, oil fields, or transcontinental pipelines that exceed Forest in-service survey capabilities, will be conducted by consultants operating under Special Use Antiquities permits.

5) Consultants, universities, or museums conducting privately-sponsored, project-specific cultural resource inventories must coordinate all such activities with the appropriate District Ranger. They are required to meet all current Federal data recovery standards and personnel qualifications. The Forest will ensure the level of performance required through permit administration, report review, field compliance inspections, and the preparation of scope-of-work documents for more complex reconnaissance or mitigation projects. Such projects will be coordinated with the State Historic Preservation Officer and the Advisory Council on Historic Preservation.

6) The Forest will encourage scientific research by privately-funded universities as a means of acquiring additional inventory and interpretive data. The Forest will manage cultural site locational information by means of a cultural resource atlas and cross-referenced site inventory record file at each Ranger District. A master cultural resource atlas and site file will be maintained at the Forest Supervisor's Office. Cultural resource site information is exempt from disclosure under the Freedom of Information Act. Site locational data may be released on a need-to-know basis to consultants, universities, or museums holding a current Special Use permit for research or consulting work on the Custer Forest. All other disclosures of cultural site locational information require written approval of the Forest Supervisor.

7) Discovered cultural resources will be evaluated in relation to published Advisory Council on Historic Preservation (ACHP) criteria for eligibility to the National Register of Historic Places. Cultural resource sites determined eligible will be nominated to the National Register.

8) The Forest will enhance and interpret significant cultural sites for the education and enjoyment of the public when such development will not degrade the cultural property or conflict with other resource considerations. Interpretation and enhancement of significant cultural resources may include, but are not necessarily restricted to, the following activities:

a) Scientifically and historically accurate interpretative displays, as well as brochures, poster, interpretative signs, lectures, or self-guided tours.

b) Encouragement of scientific or historical research on the Forest and the distribution of the resulting reports, monographs, or books to the interested public. Archeologists and historians conducting research on the Forest will be encouraged to present lectures, slide shows, or films for the education and enjoyment of the public.

9) Known, significant cultural resource sites on the Forest will be protected from inadvertent or intentional damage or destruction. Protective measures may include: a) physical on-site measures such as fences or grates, b) posting of antiquities law warning signs, c) protection of site locational information, and d) such law enforcement measures as patrolling and periodic monitoring. Site protective measures will be employed only where their presence will not degrade a significant cultural property, and such measures will require Forest Supervisor approval prior to implementation.

10) The Forest will make an effort to coordinate cultural resource issues and concerns with appropriate Native American groups such as the Crow, Cheyenne, Mandan, Hidatsa, and Sioux.

11) Human remains will be treated with

dignity and respect for the wishes of the deceased individuals they represent. This policy is based on the presumption that most people, at the time of their death, wish to rest in peace. Human remains will be left undisturbed unless there is an urgent reason for their disinterment. In case of accidental disturbance of historic graves, or interment sites, the following steps will be taken:

a) Evaluation by a Forest Service archeologist will be made immediately to determine if the skeletal remains are human and to what time period or ethnic group they may be related.

b) Reinterment in-place and avoidance of further disturbance by project redesign will be considered.

c) In cases where affiliation with living Native American tribal group can be reliably ascribed and where reinterment in-place is not prudent or feasible, the appropriate tribal entity will be contacted regarding proper reinterment. Human skeletal remains which cannot be reliably connected with a living Native American or historic group, and where disturbance is unavoidable, will be reintered as close to the discovery site as possible. Disposition will be in a manner consistent with the nature of the interment at the time of discovery.

d) Appropriate state or tribal policies regarding reinterment of human skeletal remains encountered during earth moving activities will be followed where appropriate.

12) The Forest will take into consideration in its multiple-use management process sites which are former or current ceremonial or religious sites, or sites of sacred significance to Native Americans. The Forest will consult with Native American traditional religious leaders on projects having the potential to affect Native American cultural rights and practices. The Forest will meet the requirements of the American Indian Religious Freedom Act.

13) Cultural resource issues and concerns will be coordinated with members of the public, and with the archeological and historical communities.

h. Wild and Scenic Rivers

The Little Missouri River is on the national inventory of potential Wild and Scenic Rivers. The river is classified as a Scenic River by the State of North Dakota. Management Area direction contains specific references to protection of the scenic values of National Forest System lands that are adjacent to or visible from the river.

i. Research Natural Areas (RNA's)

Management direction for RNA's is contained in Management Area (MA) L.

3. Wilderness

Management direction for the Absaroka-Beartooth Wilderness appears in Management Area (MA) I and Appendix II. Management direction for Lost Water Canyon and those areas recommended for addition to the Absaroka-Beartooth Wilderness are found in Management Area H direction.

4. Wildlife and Fish

a. General

The Forest has the responsibility to manage the land to maintain at least viable populations of existing native and desirable non-native vertebrate species, promote the conservation of federally listed threatened and endangered species and coordinate and cooperate with appropriate state, federal and private agencies in the management of habitats for major interest species.

b. Coordination with Private, State and Federal Agencies

1) Interagency coordination of Forest Service programs, plans, and activities which affect wildlife and fish or their habitats will be continued with appropriate local, State, and Federal agencies and interest groups to assure all management aspects of wildlife are considered.

2) Coordinate with State Fish and Game agencies to develop management strategies that will maintain wildlife populations within habitat capacities and management area objectives. Coordinate and cooperate with the state agencies in the development, review and implementation of comprehensive planning in accordance with the requirements of the Sikes Act.

3) The Memorandum of Understanding (MOU) agreements with State Fish and Game Departments and the U.S. Fish and Wildlife Service will be reviewed as needed, but not less than once a year.

4) Proposed wildlife transplants and introductions will require an environmental analysis prior to release of the animals on or adjacent to National Forest System lands.

5) Project activities designed for waterfowl will be evaluated for fisheries potential early in the analysis. Whenever possible projects will be designed to provide to fish habitats as well as waterfowl production.

6) Predator control is provided by the USDA-APHIS Animal Damage Control Unit. The Forest will coordinate control efforts with appropriate agencies as needed.

7) Conservation Practices (CP) and Range Betterment Funds (RBF) are available for improvement/protection of wildlife values and will be used for such projects in coordination with Allotment Management Plans.

c. Indicator Species

The concept of Management Indicator Species includes both biological indicators (those species which represent a whole group of other species that use the habitat similarly), as well as species of high interest, such as the major hunted species and those listed as threatened or endangered. The Custer National Forest has established a list of management indicator species and habitat indicators based upon National Forest Management Act (NFMA) and planning regulations criteria which include the following categories:

Threatened or Endangered Species
Habitat Indicator Species
Key Species (Major Interest Species)
Fisheries
Unique Plants and Animals

The "Management Indicator Species" as required by the National Forest Management Act are displayed in "e. Habitat Indicator Species."

d. Threatened and Endangered (T&E) Plants and Animals

The federally listed Threatened or Endangered species that could occur on the Custer National Forest are listed below.

THREATENED OR ENDANGERED SPECIES
(Federal Listing)

Grizzly Bear
Black-footed Ferret
Bald Eagle
Peregrine Falcon
Whooping Crane
Gray Wolf
Interior Least Tern
Piping Plover

THREATENED OR ENDANGERED PLANTS

There are no federally listed threatened or endangered plant species that might occur on the Forest.

1) The Forest will comply with the Endangered Species Act as amended and the Eagle Act of 1940 as amended, and further the purposes of the Acts by carrying out programs for the conservation of listed endangered and threatened species. Areas designated as "Essential Habitat" in 1977 are still current, but will be reevaluated based upon current knowledge of habitat requirements and survey techniques for all species. Coordination with the U.S. Fish and Wildlife Service will be maintained in this analysis. Appendix VII shows the list of T&E species (plant and animal) for the Forest. District offices will keep on file current and updated listings of State and Federal threatened and endangered plants and animals for their area, and maps of designated habitats (essential or occupied).

2) A biological evaluation (see glossary) of potential impacts to T&E species and their habitat will be made for every project undertaken by the Forest Service. If no T&E species are found they will not be considered a limiting factor in the project. If a T&E species is found:

a) The surface disturbing activity or control program will be modified in such a way that the species is not adversely affected, or

b) The surface disturbing activity or control project will be disallowed.

c) If neither (a) nor (b) above can be accomplished, consultation with the U.S. Fish and Wildlife Service will be arranged as per Section 7 of the Endangered Species Act.

3) Grizzly bear habitats were stratified into two categories: Management Situation I and II. The guidelines and the procedures for mapping and management are contained in the publication, *Management Involving Grizzly Bears in the Greater Yellowstone Area,* which is available in the Supervisor's Office, Billings, Montana.

4) Grizzly Bear Management Situation I areas are not to be leased for oil and gas and will be considered for mineral withdrawal.

5) All prairie dog towns are considered possible Black-footed ferret habitat. A survey for Black-footed ferrets will be made on all prairie dog towns prior to control, surface disturbance, or introduction is being considered under the State Ferret recovery plan in accordance with guidelines developed by the U.S. Fish and Wildlife Service. If ferrets are present:

a) The surface disturbing activity or control program will be modified in such a way that ferrets are not adversely affected, or

b) The surface disturbing activity or control project will be disallowed.

c) If neither (a) nor (b) above can be accomplished, consultation with the U.S, Fish and Wildlife Service will be arranged as per Section 7 of the Endangered Species Act.

6) Peregrine falcon habitats (presently unoccupied) will be maintained and periodic monitoring of potential eyries will continue. The Forest Service will coordinate with the Peregrine Falcon Recovery Fund to reintroduce the peregrine falcon into Lost Water Canyon.

7) The Forest will cooperate with future interagency efforts to aid the recovery of future T&E species.

e. Habitat Indicator Species (Management indicator Species)

These are species whose population changes are believed to indicate effects of management on

other species of a major biological community or on water quality. The forest will provide for the maintenance and improvement of habitats for these indicator species.

HABITAT INDICATOR LIST

Habitat	Indicator Species
Timber:	
old growth	goshawk
dog hair ponderosas pine	whitetail deer
aspen	ruffed grouse
open savanna	king bird (Ashland Ranger District)
	lark sparrow (Sioux Ranger District)
Riparian:	
tree	northern oriole
shrub	yellow warbler
Hardwood Draw:	
tree	ovenbird
shrub	rufus-sided towhee
Evergreen Shrubs:	
sagebrush	Brewers sparrow
Prairie Grasslands:	sharptail
	prairie chicken (Sheyenne Ranger District)
Aquatic:	
cold water	(Native strain) cutthroat trout
warm water	largemouth bass

f. Key Wildlife Species and Key Habitats (Terrestrial)

1) Key species and habitats (see Appendix VII) will be managed in cooperation with state and Federal agencies. Forest activities with potential for an impact on key wildlife species or key habitats, will have wildlife considerations made early in the project analysis process.

2) Scheduled management practices to improve wildlife habitat may include, but are not limited to, the following activities:

a) Rejuvenation of plant species by prescribed fire.

b) Protection of fragile habitats by fencing.

c) Development of water sources.

d) Timber harvesting to meet wildlife habitat needs.

e) Development of food plots.

f) Retention and creation of snags.

g) Development of cold and warm water fisheries.

h) Include shrub and/or forb species in seed mixtures where desirable to enhance wildlife forage.

3) Project activities, especially earth-disturbing activities, will be evaluated for impacts to wildlife. Mitigation measure such as those listed below will be taken as applicable to meet the MA goals. (MA direction may define more specific measures.)

a) Where feasible, roads and/or facilities will be located so that a water source is not separated from security cover, game trails, or other access normally used by wildlife. Structural range improvements will be located to minimize livestock impacts on woody draws and riparian zones, Where feasible, facilities (including oil and gas) will be screened from water sources by use of terrain or vegetation.

b) Construction activity will be excluded during breeding, incubation, and fledgling periods within one-half mile of active raptor nests for bald and golden eagles, and prairie and peregrine falcon to maintain raptor potential. The distance requirement of one-half mile can be reduced if topography or vegetation provides screening.

c) Active nests of ground nesting raptors will be avoided during incubation and fledging periods.

d) Roads and/or facilities will be constructed so that a known grouse dancing ground is not separated from security cover or a water source. Construction should not occur closer than 200 feet from a known dancing or strutting ground.

e) New roads and/or facilities will be located at least 100 feet from the edge of prairie dog towns so that predators and other species use of the town is not limited. Facilities such as roads should, where possible, be located on the side of the town which is opposite the major escape cover route for predators.

f) Where necessary to protect wildlife values, access and/or traffic will be restricted in key wildlife habitats during critical periods.

g) New or replacement powerlines will be designed to reduce the risk of electrocution of raptors.

h) Management activities, including prescribed fire, will be conducted to maintain or enhance the unique value associated within woody draws and riparian zones, as well as a variety of successional vegetative stages.

i) Existing wildlife/range experimental exclosures will be maintained and monitored in cooperation with the state game and fish departments.

j) Grazing systems will attempt to provide residual nesting cover needs on prairie grouse areas and other wildlife habitat in Allotment Management Plans consistent with management area goals and objective.

k) Following are the dates to be used as a guide for protection of key wildlife values on key areas.

4) Key Species/Critical Timing Periods

Activities may be restricted to meet MA goals by using the following dates as a guide for protecting key wildlife values. These dates may be varied in any one year due to climatic conditions:

Bighorn Sheep

North Dakota	
Breeding:	October 15 to December 1
Lambing:	April 1 to June 15
Winter Range:	December 1 to April 1
Montana	
Stillwater Herd	
Winter Range:	November 1 to June 1
Lambing:	June 1 to July 15
Rock Creek Herd	
Winter Range:	November 1 to July 1*
West Rosebud Herd	
Winter Range:	November 1 to May 1**
Lambing:	May 1 to July 10
Pryors	
Winter Range:	November 1 to June 15 ***

* Lambing occurs on the winter range.
** This herd winters within the wilderness boundary, but moves to a lower elevation for spring range, and lambing occurs on this spring range.
*** The Pryors herd appears to lamb on the winter ranges. However there appears to be little change in habitats used in winter or summer.

Elk

Winter Range:	November 30 to June 15*
Calving Areas:	June 1 to July 1

*On the winter ranges on the Beartooth Ranger District especially on the Line Creek area, the elk move onto the winter ranges in late October. These areas are of high value during this period and harassment places unneeded stress on these animals.

Eagles

Nesting	
Inactive Nests:	February 15 to May 1
Active Nests:	February 15 to July 15
Disturbance Zones*:	1/2 mile no disturbance during nesting, 1/4 mile no disturbance (NSO stipulation)

Falcons

Nesting:	March 15 to July 20 or fledging
Disturbance Zones*:	1/4 mile no disturbance (NSO stipulation in oil and gas leases)

Merlins

Nesting:	March 15 to July 15 or fledging
Disturbance Zones*:	1/4 mile no disturbance (NSO stipulation in oil and gas leases)

Prairie Grouse

Dancing grounds:	March 1 to April 15
Disturbance Zones*:	no ground disturbing activity within 1/4 mile of dancing grounds.

*All disturbance zones are line of sight distances up to specific distance such as 1/2 mile.

g. Fisheries

1) Fish species and habitats will be managed in cooperation with state and other Federal agencies.

2) An inventory will be made of warm and cold water fisheries potential. In suitable areas, activities will be designed to maintain, develop or create cold and warm water fisheries. Streams and lakes supporting pure strains of fish species will be managed to maintain or expand these populations.

3) Resource management activities will be conducted in such a manner to assure maintaining water quality and quantity in order to maintain fish habitat. An implementation program will be designed to identify specific activity constraints and will be guided by the following guidelines:

a) Lakes and reservoirs will be evaluated to determine their physical and chemical habitat parameters. Direct habitat improvements will be recommended on those waters found suitable for fish habitat enhancement.

b) Person-caused increases and decreases of water yields will be limited so that stream channel damage will not occur. Adequate in-stream flows will be maintained in all existing fisheries.

c) Activities will be designed to maintain present quality of the water flowing on and off National Forest System lands. The appropriate state and Federal water quality standards for fisheries will be met. Predictive models will be used if available to help evaluate impacts.

d) Riparian vegetation, including shrub and overstory tree cover, will be managed along all perennial streams with defined channels to provide shade, to maintain streambank stability and in-stream cover, and to promote filtering of overland flows.

e) Shorelines along reservoirs and lakes that support cold or warm water fisheries will be managed to encourage the establishment of bank vegetation and maintenance improvement of water quality.

f) Livestock and human access routes to water bodies will be managed to protect the aquatic resource, as well as allow consumptive use by livestock and recreation use by the public.

g) Bridges and culverts, designed for fish passage, will be used in streams supporting fisheries. Installation of these structures will be at a time when risks to water quality and fish habitat are minimal. Streambank disturbance will be kept to a minimum and stabilized soon after installation.

h) Areas, roads or trails will be closed as necessary to some or all motorized uses during specified periods, or indefinitely, to correct or prevent siltation problems that will degrade fish habitat.

i) State water quality standards will be met. Monitor project area and downstream water quality before (up to 2 years), during and after activities which have a risk of water quality degradation.

h. Unique Plants and Animals

Areas of unique plants and animals will be identified and all activities will be managed to retain habitat for these species. The known species of concern are listed in Appendix VII.

In addition to unique species there are areas that need special consideration by management to assure their survival such as protection from intensive grazing pressure. Following are areas that warrant special consideration to retain their unique characteristics. These areas may be evaluated for possible classification in the future.

Description	Location	Acres
Black Cottonwood Area	LMNG*	10
Bullion Butte Escarpment	LMNG*	600
Columnar Juniper	LMNG*	40
Denbigh Experimental Forest	Denbigh	40 to 120
Ice Caves	LMNG*	20 to 80

* LMNG denotes Little Missouri National Grasslands

These areas are not assigned to specific Management Areas at this time as they have not been evaluated as to needs or condition. As additional information is gathered on them they will be considered for appropriate classification. At this time it appears that at least some of these areas may qualify as "Special Interest Areas" as defined by the State of North Dakota. In the interim, they will be managed to protect them from adverse change.

i. Prairie Dog Management

1) A continuing population of prairie dogs will be managed in coordination with other resources and are recognized as a natural-occurring nongame species. Prairie dog control efforts will be coordinated with other appropriate agencies.

2) Prairie dog towns will be surveyed and monitored every three years (preferably by aerial methods) along with field checking of selected sites. Current and acceptable (on primary suitable range) prairie dog town acreage on National Forest System land within administrative boundaries are as follows. No limits are established for prairie dog acreage on secondary and unsuitable range.

Ranger District	Grazing Assoc.	Private	State	Forest Service	Acceptable Acreages of Primary Suitable Range Acres on Federally-Administered Lands
Sheyenne	0	0	0	0	0
Beartooth	N/A	*	*	50	50
Sioux	N/A	*	*	0	50
Ashland	N/A	*	*	300	300
Grand River	235	5	267	2107	1000
Medora	0	(845 S&P)		1643	1000**
McKenzie	0	25	113	700	600**
TOTALS	235+	30+	380	5500	3300

*No surveys were made on state or private lands.
*The 1,600 acres on these two Districts represent the approximate level of prairie dog towns existing on the Federally ad ministered lands of the Little Missouri National Grassland at the time of the 1974 survey.

3) Control will be considered when the Forest total exceeds 3,300 acres on primary suitable range, when District acceptable acreages are exceeded, or when one or more of following conditions exist:

a) Where an Allotment Management Plan (AMP) proposes a reduction in livestock stocking greater than 5 percent as a result of prairie dog impacts, or where more than 3 percent of an allotment is occupied by prairie dogs and range analysis shows a need for livestock reduction.

b) Where prairie dog towns have expanded to slopes in excess of 10 percent.

c) Where unacceptable degradation to the soils resource exists. For the purpose of this statement, unacceptable degradation is defined as moderate soil movement. This condition will be met when active erosion causes one of the following conditions:

(1) soil hummocking due to lowering of the soil surface in bare areas

(2) predestining of vegetation

(3) production of erosion pavement in gravelly soils

(4) development of rills following a storm

(5) rills occasionally developing into small gullies following a heavy storm

(6) sheet erosion occurring

(7) noticeable alluvial deposition occurring

d) Where prairie dog towns are expanding to private lands and other sensitive areas and causing a significant problem.

e) Where affected private landowners control the prairie dog on their lands.

f) Where, through confirmed public health hazard analysis, a potential danger exists.

4) Before any control program is approved, the following factors must be analyzed:

a) A survey is made for black-footed ferrets. If their presence is indicated, consult the T&E Species portion of this document.

b) Environmental analysis completed of control methods including non-chemical methods such as ripping and seeding. Where control is being considered, an allotment management plan or amendment must show that livestock management can be implemented in time and that vegetation can be managed to prevent or discourage a reoccurrence of the prairie dog problem. Any chemical proposed must be EPA/USDA approved for this use. Non-chemical treatment is preferred if shown to be effective.

c) Economic analysis, including the feasibility of range rehabilitation and the cost of the control method.

d) If any other endangered or threatened species, including those listed by the State, are reported on or near a prairie dog colony, suitable action will be taken to insure no adverse impacts to them occur because of prairie dog management.

e) The intent of management is to provide a suitable number of towns for a reasonable gene pool and the acreage permitted is not to be concentrated in one or two towns per Ranger District. A reasonable number and distribution of towns is needed.

5. Range

a. Cooperative Relations

1) The Forest will continue to share National Grasslands management with State chartered grazing associations under the terms of the negotiated grazing agreement.

2) The Forest will cooperate with university and local education and extension programs and with other Federal agencies to foster improved acceptable management of the range resource.

3) The Forest will work with the research community, and others to resolve range resource problems and to implement applicable research findings. The Forest Service Rocky Mountain Forest and Range Research Laboratory in Rapid City will be the primary contact and advisor on research matters.

4) The Forest will work with and support the North Dakota Grazing Association (NDGA) and Association of National Grasslands (ANG) in order to strengthen grassland management concepts.

5) Range management activities will be used to demonstrate sound practices in cooperation with extension services, Conservation Districts, universities, and other appropriate agencies and organizations.

6) Technical assistance will be provided to the State range specialists (Soil Conservation Service and State Extension Service) for rancher and 4-H tours.

7) The Forest will consult with Park Superintendents on those allotments where they may impact the National Parks.

8) The Forest will consult with the State on those allotments that contain State lands.

b. Range Administration

1) The range program will achieve a balance among range administration, analysis, and planning, and the range improvement program.

2) On and off permits will not be issued to validate unauthorized use. Livestock grazing under on-off permits must be included as part of an established grazing allotment. Where feasible, private land permits will be used in lieu of on and off permits.

3) Range readiness will be cooperatively evaluated annually to determine the range (soil and vegetation) readiness. Representative areas of primary range will be selected for permanent range readiness observation sites. The selected areas will represent differences in elevation, soils, exposure, and vegetation. A permanent range readiness stratification map for the observation sites will be developed. Season of use will be adjusted to reflect range readiness dates developed over a 3 to 5 year period.

4) Range inspections will be conducted annually on selected allotments to determine the degree of compliance with allotment management plans and grazing permits, and will provide base data for initiating changes or improvements. National Forest permittees and National Grasslands pasture directors will be encouraged to participate in allotment inspections to help resolve problems on the ground.

c. Range Analysis and Allotment Management Planning

1) The Allotment Management Plan (AMP) is the tool used to implement the intent of this Forest Plan incorporating the management area goals in every allotment.

2) All AMP's will include a vegetative assessment that shows its importance to wildlife, livestock, and watershed. Native rangelands will usually be managed to encourage perennial native species. Areas of unique vegetation,

including woody draws and riparian areas, will be identified in the AMP and the range managed to retain the unique value.

3) The Coordinated Resource Management Planning process will be used on appropriate allotments to incorporate private and public lands into an economic year-round livestock operation.

4) AMP's will be updated at least every 10 years, or as identified in the annual allotment inspection process. Allotment inspections will monitor the management of the allotment, record the range condition and trend, to reflect the health of the range resource and for use in the updating of AMP's.

5) Common or community allotments (two or more operators) will be a preferred type of allotment. However, a determination will be made on a case-by-case basis through the AMP, whether a common allotment should be divided into smaller common allotments, private allotments or remain intact. The following must be considered when preparing an AMP for one of these allotments:

a) The economics of the range improvement program versus cattle numbers, cattle weights, resource needs, and size of the allotment.

b) The density of range improvements within a common allotment versus a private allocation.

c) The proximity of a common allotment to a headquarters allotment.

d) Maintaining the concept of grazing association management by not breaking up allotments into private allocations or smaller common allotments.

e) The measures to be taken to assure the protection of public access and recreational use.

f) Consistent with Management Areas goals, means for improving the range resource for other uses such as for residual nesting cover for ground nesting birds.

d. Range Improvements

1) The Conservation Practices (CP) Program on the National Grasslands Districts and the Range Betterment funds (RBF) on the National Forest Districts will continue to be used to fund the range improvement program. Range Betterment Fund or Conservation Practices Program funds for new improvements will be expended only on allotments that have Forest Supervisor approved allotment management plans. Deviations from this must have specific Forest Supervisor approval. A continuing 3-5 year program of range improvement projects will be maintained.

2) Approval of Allotment Management Plans will establish the priority for funding of the recommended range improvements on the allotment. This priority will be based on the economic efficiency, nonmarket environmental benefits, and social well being benefits as determined by the allotment analysis.

3) Economics

a) The highest priority for the expenditure of RBF and CP funds will be to arrest and improve deteriorated range conditions.

b) The highest priority for allocation of funding for wells and pipelines will be for those that provide stock water to the largest area. The use of common watering facilities on pasture and allotment boundaries will be provided in the most cost effective manner. Development of pastures within allotments should be designed to make the best use of the available water sources on allotments and between allotments.

c) The highest priorities for the allocation of funding for nonstructural range improvements will be to improve deteriorating range, reduce the percent composition of undesirable plant species and to improve palatable species.

4) Structural Range Improvements

a) All newly constructed stockwater reservoirs will incorporate the needs of cattle and fisheries and where possible be designed to provide habitat for fish. Existing reservoirs and ponds with a probability of supporting fisheries will be inventoried and depths mapped to determine the potential to support a warm water fishery. If suitable, they may be stocked. Where cost-effective, marginal reservoirs subject to winterkill may be deepened or wind powered water/air circulators may be added.

b) When Federal Funds (RBF or CP) are used, easements and rights-of-way will be required prior to construction for all range improvements crossing or originating on non-Federal land.

c) Range improvement reconstruction required for the management of the range resource may be cost-shared between the Forest Service and grazing permittees when:

(1) A determination has been made that the improvement is necessary for the management of the range resource.

(2) The improvement has been properly maintained, but has exceeded its life expectancy.

(3) The improvement is damaged by: 1) an unforseen accident due to natural causes, 2) theft, or 3) vandalism. If an improvement is found to be damaged or deteriorated through lack of assigned maintenance and care, it

will be the permittee's sole responsibility to reconstruct to Forest Service specifications.

d) Livestock producers will continue to maintain structural range improvements.

5) Non-Structural Range Improvements

a) Plant species used in range revegetation projects will be those that best further the goals of the management area where the project is proposed. If the proposed project is located in an area or allotment that has had a history of the use of introduced species, the most productive mix of species available will be used, whether introduced or native. If the project is located in an area or allotment that is typified by native species, only native species will be used; unless the introduced species will better fulfill management area goals.

b) Water spreading and retention practices (not irrigation) may be used to increase range forage production. Practices such as contour furrowing and range pitting are examples of water retention practices. These practices will be used on range sites in fair or poor range condition to shorten the period necessary to bring the site up to its potential production. In most cases, these practices will not be used on ranges with good or better range condition.

c) Prescribed fire may be used for enhancement or maintenance of range forage productivity, palatability, and diversity for livestock and/or wildlife. Cooperators may use prescribed fire but only under Forest Service supervision.

d) Haying and/or lowland mowing may be allowed under the following circumstances:

(1) The practice is approved through the Allotment Management Planning process as a vegetative manipulation practice or for administrative reasons.

(2) The area cannot be grazed except for aftermath.

(3) Vegetative manipulation is needed.

(4) An assessment of wildlife needs has been conducted including nesting for upland game birds. Haying will not generally be permitted until after the nesting season.

(5) Noxious weeds are either not present or are pre-treated to prevent seeding.

(6) A determination has been made for the need to hay highway right-of-ways beyond the area needed for maintenance.

(7) Except for lowland vegetation on the Sheyenne District, native range may be hayed no more than 1 year out of 3, and crested wheat-grass range may be hayed no more than 1 year out of 2.

e) Haying will be accomplished through issuance of a charge special use permit subject to these provisions:

(1) Payment will be made for haying based on fair market value unless cut and left unprocessed as a special management practice (processing includes activities such as baling and stacking).

(2) All or part of the fee may be waived where special costs are incurred such as fertilization or where valuable public benefits are produced. Costs of haying (mowing, baling, and stocking), are not considered special costs.

f) Range fertilization will be based upon an approved AMP and a cost-benefit analysis. Use will be limited primarily to rehabilitation of disturbed areas, or when seeding or interseeding poor condition rangeland and on crested wheatgrass to increase utilization.

g) Conifer encroachment control may occur where:

(1) Silvicultural prescription indicates the need.

(2) Conifer species exist on sites capable of producing less than 20 cu. ft./acre that are invading rangeland habitat types may be removed in order to maintain the acreage of primary and secondary range. Habitat types include Ponderosa pine (PP)/bluebunch wheatgrass, PP/bluestems, PP/Idaho fescue, and Douglas-fir/Idaho fescue. The same situation may occur where a series or phase includes western wheat-grass and the needle grasses. An assessment of wildlife values is required as part of the analysis for any control program.

(3) Conifer species existing on sites producing more than 20 cu.ft./acre if the area has been managed as rangeland for some time and the long term objective is to manage for range.

(4) In rangelands where the invading trees are less than 3-feet high, prescribed fire may be the preferred treatment. Mechanical methods may be used in areas where trees are over 3-feet high, including removal for Christmas tree purposes.

h) Shrub Management

(1) Management of shrubs, a limited, naturally occurring resource on the Forest, will be based upon an approved AMP or specific assessment that includes management area wildlife habitat needs, a cost-effective analysis, and procedures that address the causes as well as the symptoms.

(2) Sagebrush control programs may occur outside of big game, and sage grouse winter range, consistent with management area goals. On winter ranges for big game and sage

grouse, sagebrush control may occur after an analysis that provides for wildlife habitat is developed for the winter range.

e. Noxious Farm Weed Control

1) An integrated pest management approach to noxious weed treatment will be used with control emphasized on new starts, priority areas, and areas of minor infestations. Holding actions will be implemented on areas of existing large infestations. Noxious weed infestations will be inventoried periodically to monitor existing and new infestations. This effort will include cooperation with livestock producers, grazing associations, county weed boards, state agriculture departments, other Federal agencies, state and Federal research organizations, and adjacent landowners.

2) The priorities of control efforts will be: a) on areas where small infestations, including new starts, can be eliminated, contained, or reduced in size, b) containment of large infestations, and c) control of the entire infestation. Emphasis will be given to treatment on a drainage basis in cooperation with all landowners.

3) Only those chemicals which are labeled under state and Federal laws for target species, and which experience and research have proven effective for weed control, will be used. Chemical treatment will be avoided in areas where such treatment will have a significant impact on water resources, key wildlife habitat or unique vegetation. Isolated new noxious weed starts will be controlled to prevent further expansion into these habitats. Where chemicals are used, techniques will be utilized to reduce the amount applied per acre. All pesticide applicators on National Forest System lands will be commercially certified under the applicable Federal or state law. The use of chemicals will be in agreement with NEPA requirements.

4) Biological control techniques which become available and are proven safe and effective will be favored over chemical methods. Research efforts by universities and research stations will be encouraged and new feasible technology resulting from this research will be applied.

5) The Forest will work with county weed boards to recognize and eliminate the problems of spreading noxious weeds as a result of haying practices within road right-of-ways.

6) Pre- and post-evaluations of effectiveness will be completed on all weed control projects.

7) In areas on National Forest System land where hay used for recreation and Outfitter/ Guide horses is allowed, only certified, weed-free hay or palletized feed will be used.

f. Grasshopper or Cricket Control

The Animal Plant Health Inspection Service (APHIS) has the delegated responsibility for control of range pests on NFS lands. Pesticide use proposals will be completed for all projects. Any proposed action must be evaluated through an environmental analysis to determine the impacts on other resources in accordance to MOU with APHIS. NFS lands will not be treated unless all infested lands (private, State, or Federal) which make up a natural unit are treated. Pre- and post-treatment evaluation will be conducted by APHIS.

6. Timber

a. Timber Harvest -- Suitable Forest Land

1) The 10-year Timber Sale Schedule will be updated annually. Cumulative impacts on wildlife of past, present, and future timber activities will be considered as part of the assessment for the 10-year timber program.

2) Timber management activities will be designed and applied to maintain a variety of age classes. Size and shape of individual treatment units will be guided by characteristics of the stand and area and consideration of all resource objectives. The size of openings created by even-aged silvicultural systems will normally not exceed 40 acres. Creation of larger openings will require public involvement and/or Regional Forester approval as described in the Management Standards and guidelines expressed in the Northern Regional Guide.

3) K-V funding may be utilized for improving timber, wildlife, watershed, range, recreation, visual, and fisheries management practices.

4) The utilization of small diameter material and sawlog by-products will be encouraged. Commercial harvest for firewood and other small products will be used to accomplish timber stand improvement where appropriate.

5) Insect and disease infected timber will be managed in coordination with other resources. Strategies to treat and prevent insect and disease problems include providing for age-class diversity, early slash cleanup, and stocking control.

6) A timber sale analysis prepared prior to each treatment will include the following wildlife considerations as a minimum:

a) Evaluation of the cumulative effects within the sale area within a larger area of influence using the wildlife diversity standards for that management area.

b) Identification of wildlife goals for the sale area.

c) Identification of opportunities for using Knutson-Vandenberg collections to protect or enhance habitat.

d) Determine what roads constructed as part of the sale will be closed after operations are completed.

7) Apply silvicultural practices that will keep losses due to insects and disease to an acceptable level.

b. Timber Harvest-- Unsuitable Forest Lands

1) Unsuitable Forest lands will not be managed for regulated timber production. Harvest of wood or plant products may occur to further management area goals. In sensitive areas such as visual corridors, developed recreation areas, woody draws, and riparian zones, harvest of wood products will occur only to the extent necessary to maintain or enhance the special values of the areas.

2) Timbered areas on the National Grasslands will be managed with the objective of perpetuating those stands to further the management area goals.

c. Firewood

1) Firewood harvesting of dead or down timber is an accepted management practice; however, local conditions and management area goals may preclude this practice in some areas. Priority for available firewood will be: a) personal use firewood and b) commercial firewood.

2) Harvest of live trees for firewood may be used to meet management area goals. Standing dead trees (snags) may be reserved from harvest to provide wildlife habitat. Optimum spacing will be 2 snags/acre.

3) There will be a charge permit for the harvesting of personal and commercial firewood. The option exists to designate free-use areas for harvesting personal firewood based on supply, demand, and management of resources.

d. Christmas Trees

Christmas tree harvesting may be allowed on the National Forest Districts but will not usually be allowed on the National Grasslands. A charge permit will be required for personal and commercial use Christmas trees except when free-use is needed to achieve management area goals.

e. Plant Materials for Ornamental Purposes

Extraction of indigenous plant materials will be allowed under permit, either free-use or charge, depending upon the location and demand. The permit will designate the area, and the kind, size, and amount of plant material to be removed as well as the method of extraction. Plant materials will not be removed if inconsistent with management area goals, such as developed recreation sites or research natural areas. The opportunity to extract plant materials will be limited if it is expected to create unfair competition to local private nurseries. Removal of threatened and endangered or State-protected plant species will not be allowed.

7. Watershed (Soil and Water Resources), Air Quality

a. Soil and Water Quality Management

1) Soil and water resources will be managed to maintain or improve quality of watershed, including soil productivity and water quality. Best Management Practices will be applied to project activities to assist in meeting or exceeding state water quality standards (see FSH 2509.22).

2) Soil and water resources of selected drainages on each Ranger District will be monitored to characterize current conditions and verify trends resulting from resource use. Parameters measured include, but are not limited to, general vegetative condition and trend, percent ground cover, and evidence of soil loss. Where live water exists water quality will be measured for turbidity, microbiology and benthic community.

3) The Forest will cooperate with the States of Montana, North Dakota, and South Dakota to protect, conserve, and enhance water consistent with other land and resource management plan objectives, through the use of improved technology, cooperative planning and application of BMP's. Water originating on National Forest System lands will meet State Water Quality Standards except where it cannot be improved due to natural geologic conditions. Stream channel surveys of appropriate third order and larger streams will be conducted as needed to monitor project activities and to document previous effects of management activities and to set benchmarks.

4) In cooperation with the appropriate Federal and State agencies, selected water wells will be monitored for ground water contamination and/or disruption caused by mineral activity (See further discussion in the MINERALS section of this document).

5) All freshwater aquifers will be protected from contamination by such things as oil and gas drilling and brine water injections. It is especially critical to protect the deep Fox Hills aquifer during oil and gas activities. Drillers must use fresh water until well below the Fox Hills formation; casings must be checked to assure integrity during production, injection and any other uses, for as long as the well exists.

Groundwater contamination from timber manipulation and from livestock grazing is considered a tow probability. Recreational use does cause a hazard of contamination of ground and surface water by human waste. This is mostly concentrated in the Beartooth Mountains where we enforce regulations contained in the Absaroka-

Beartooth Wilderness Management Plan to minimize the hazard. Livestock are fenced away from wells and springs which could be fouled by their presence. Drinking water sources are tested at regular intervals in order to assure human safety.

The Custer National Forest has a Contingency Plan for use and direction in the event of a serious oil or gas emergency. This document is available for review and it is expected to protect the resources to the best level of technical ability.

6) The Forest will file to acquire water rights for present and anticipated future water uses on the Custer National Forest. Important water uses include, but are not limited to:

Domestic-Household
Domestic-Recreational
Instream Flow
Irrigation
Fish and Wildlife
Recreation
Livestock Water
Forest Improvement or Protection

7) Watershed rehabilitation, as identified in a Watershed Needs Inventory, on file in the Supervisor's Office, will be scheduled so that the backlog of land needing treatment will be eliminated by year 2000.

8) The Forest and the Soil Conservation Service will continue to compile soil inventory data in an expedient manner until all National Forest System lands are completed and published by the National Co-op Soil Survey. Land type inventory on the Beartooth Mountains is the Forest's responsibility to complete.

9) Weather modification projects will be supported only after environmental impacts studies indicate that favorable results would occur and where no significant adverse effects would occur.

10) A watershed cumulative effects feasibility analysis will be required of projects involving significant vegetation removal, prior to including them on implementation schedules, to ensure that the project, considered with other activities, will not increase water yields or sediment beyond acceptable limits. Such analysis will also identify opportunities, if any exist, for mitigating adverse effects on water related beneficial uses, including capital investments for fish habitat or watershed improvement.

11) The effects of brine spill treatments will continue to be evaluated in coordination with North Dakota State University and from results of treatments on a number of spills in the Little Missouri National Grasslands. A system will be developed to determine which are the most effective and economical to treat a variety of situations.

12) Snow courses will be protected from adverse change. Any activities proposed that may influence snow courses will be coordinated with the Soil Conservation Service.

b. Air Quality

1) Air quality will be protected by cooperating with Montana, North Dakota, and South Dakota Air Quality Bureaus in the Prevention of Significant Deterioration (PSD) program and State Implementation Plans (SIP). Requirements of the PSD, SIP, and State of Montana, North Dakota, and South Dakota Smoke Management Plans will be met whenever the FS has authority to do what is required. The Forest will cooperate with states, other agencies, and organizations in identifying, evaluating, proposing solutions, and monitoring air quality problems associated with activities permitted on National Forest and National Grassland surface.

2) The Forest will coordinate with state and federal agencies to reduce impacts to air quality and loss of energy resources due to the flaring of gas from oil wells. Generally, the Forest Service recommendation will be to only allow flaring during production testing of wells and to require either connection to a pipeline or reinjection once production is established. Exceptions would be considered in some situations such as where low volumes of gas are being produced and where there is limited or no opportunity to connect to a pipeline or to reinject.

Emissions such as H_2S, and SO_2 from oil and gas development, and other mineral development activities are primarily regulated by other agencies and the state. Information will be provided as needed to the using public to identify hydrogen sulfide hazards from oil production.

3) The objective is to maintain air quality at or above levels required by federal and state laws, regulations, and standards. Air that passes over National Forest System lands will not be degraded below allowable increments by activities under Forest Service control. State and local governments and appropriate federal agencies will also be consulted and involved in monitoring and controlling air pollution originating on nonfederal lands and affecting air quality on federal lands. Standards developed in the Cooperative Smoke Management Plan will be used for prescribed burning activities in the applicable states.

c. Riparian/Woody Draw Management (see Management Areas M and N)

Riparian areas and woody draws are recognized for their unique values and will be protected, managed, and improved. Management direction for riparian areas and woody draws is contained in Management Areas M and N. Most of this Management Area is not mappable but the direction

will be used whenever these lands are encountered during Forest activities.

8. Minerals and Geology

a. Cooperative Relations

1) The Forest will coordinate and cooperate with local, state, and other federal agencies, as needed, to facilitate the development of mineral resources occurring beneath lands administered by the Forest Service and to minimize the environmental and socio-economic impacts associated with the extraction and marketing of those resources.

2) Contact and coordination will be made with mining and oil and gas interest groups, such as the American Mining Congress, Montana Mining Association, Northwest Mining Association, Rocky Mountain Oil and Gas Association (RMOGA), Independent Petroleum Association of Mountain States (IPAMS), and International Association of Geophysical Contractors (IAGC) to investigate procedures and processes which will facilitate the exploration and development of energy and non-energy mineral resources, with least impacts to surface resources, occurring beneath the lands administered by the Forest Service.

b. Geophysical Operations

1) Geophysical operations will be allowed, if impacts and required mitigation measures are in keeping with management area goals. Coordination with operators will facilitate geophysical operations and insure environmental impact mitigation. Geophysical operations that cause surface disturbance are prohibited in Research Natural Areas and on known National Register eligible cultural resource sites where there are no suitable mitigation measures.

2) Minimal impact techniques (i.e.,vibroseis or portable operations) may be required to mitigate unacceptable environmental impacts. Surface disturbance from geophysical operations will be minimized. Generally, new road construction will not be allowed. Geophysical operations may be restricted or prohibited on key big game winter range during the critical period, depending on the type of operation and seasonal conditions.

3) Water furnished for geophysical operations will normally come from private sources. However, by written authorization, it may be furnished from Forest ponds and wells when it is available and does not significantly conflict with established use.

4) A fire plan will be made a part of the permit for activities to be conducted during the established fire season.

c. Federal Oil and Gas Leasing, Exploration, and Development (including minerals related special use permits)

1) The Forest response to oil and gas leasing, exploration, and development on lands will be timely and with due regard for environmental protection. The Forest will respond to oil and gas actions within the time frames required by the annual program of work and memorandums of understanding.

2) Area mineral development analysis will be developed for areas of high oil and gas potential to facilitate development of the area in agreement with Forest-wide and Management Area direction in a timely manner and to minimize adverse impacts. They will have an environmental analysis which refines the transportation and other resource needs based on project level data. Management requirements and constraints contained within existing area development analysis will be continued, except where there is a conflict between these analysis and the Forest Plan. The Forest Plan will supersede the area analysis subject to valid existing rights.

3) Leasing stipulation considerations are discussed by individual management areas elsewhere in this plan.

4) Oil and gas drilling permit stipulations will, at least address, the following minimum concerns where applicable. Other specific resource considerations may be necessary, and this specific direction can be found under each management area direction of this plan. Other agencies and industry will be consulted in developing additional or supplemental stipulations to minimize environmental impacts.

a) The use of closed systems will be preferable to reserve pits. However, when used, reserve pit location, construction and use will be analyzed and the potential for leakage and structural failure will be minimized.

b) All trash will be dumped into a screened trash pit, hauled away to an approved landfill, safely burned, or disposed of onsite where environmental safeguards can be met.

c) The siting of oil and gas facilities and developments in sensitive areas identified in an environmental analysis will be discouraged and possibly prohibited, especially in areas of mass failure hazard and along river bottoms and areas subject to high flooding hazard.

d) The siting of oil and gas activities and developments will avoid administrative research areas and study exclosures whenever possible.

e) Drilling pads will be designed to divert surface water off of or away from the pad to minimize erosion and water accumulation.

f) Salt water tanks will be located to minimize the potential for contamination due to a salt water spill.

g) Oil and gas production facilities will be designed to contain potential oil and saltwater spills.

h) Surface and subsurface developments will be sited, constructed, painted, and maintained to achieve minimum visual impact. Surface developments will be earthtone colors.

i) Fencing may be required to exclude livestock from portions of the drilling/production area.

5) Drilling site rehabilitation practices and standards will consider the containment of reserve pit residues, drainage and erosion control needs, vegetative species to be used, and fencing to enhance rehabilitation.

6) Activities considered to be lease rights will be administered under the drilling permit whether located on or off the Federal lease. See "Lands" discussion for activities off-lease.

7) The placement of field offices on leased land will not be permitted unless they are essential to the production operations on the lease. When permitted, the size of the facilities will be kept to a minimum to accommodate the needs for which the facilities are requested.

8) A fire plan will be made a part of the permit for activities to be conducted during the established fire season.

d. Mineral Rights Reserved or Outstanding (Private minerals under Federal surface)

1) Where National Forest System surface ownership overlies mineral rights outstanding or where the mineral estate is otherwise reserved to private ownership, Forest Service land management practices and guidelines for oil and gas exploration and development will be applied to the extent allowed by deeded rights, through the application of law, and by negotiation.

2) In order to better facilitate mineral development activities and to minimize resource damage to NFS lands, the Forest will, through negotiation, develop a memorandum of understanding with large holders of mineral rights outstanding.

3) Roads and well pads for accessing "mineral rights outstanding" will be authorized by an operating plan for the portion over the private minerals patent, and authorized by special use permit outside the patent.

4) Pipelines and related facilities for disposal of saltwater produced from outstanding private minerals under Federal Surface will be authorized by an operating plan within the boundaries of the mineral patent. No fee will be charged.

5) Oil and gas "Special Uses," related to outstanding or reserved mineral rights, will follow current Forest Service guidelines and practices as discussed in the "Lands" section.

6) Coal development management practices and guidelines will be applied within the intent of the Surface Mining control and Reclamation Act of 1977 and applicable State government regulations.

e. Saltwater Spills

1) Industry will be encouraged to prevent future salt water spills through self-regulation and self-policing, and through the education of employees and subcontractors on the nature and severity of the problem. The Forest Service will encourage and pursue research to help mitigate this problem.

2) All instances of damage to Forest Service System lands from saltwater generated through gas and oil exploration and production will be investigated in coordination with other appropriate Federal and State agencies.

3) Areas contaminated by produced waters will be rehabilitated by responsible party to the standards that existing technology allows. The methods considered could range from chemical treatment to soil replacement. The short-term goal of treatment will consist of establishing a grass cover within three growing seasons. The long-term goal will be the restoration of the area to the condition that existed prior to damage. Treatment of the contaminated soil in place is the generally preferred method.

f. Resource Damage from Toxic Drilling Fluids

1) The Forest will coordinate investigative and corrective actions with appropriate Federal and State agencies, industry, and with private consultants as needed for all cases of suspected resource damage involving the release of toxic materials from existing or abandoned drilling sites.

2) The Forest will attempt to identify the cause of toxic release damage, will require correction of existing problems where feasible, and will work with industry to develop methods to reduce the likelihood of future occurrence of toxic materials damage.

g. Coal Leasing and Licensing

1) Surface coal mining on the Custer National Forest lands that were reserved from the Public Domain is prohibited by the Surface Mining Control and Reclamation Act (SMCRA) of 1977. Coal leasing of these lands for mining by underground methods will not be recommended except where the coal resource has been identified by the Bureau of Land Management as being part of a Logical Mining Unit and a bypass of Federally owned coal would result.

2) Coal leasing on the National Grasslands of the Forest will not be recommended except where the coal resource has been identified as being part of a Logical Mining Unit and a bypass of Federally owned coal would result.

3) Areas to be recommended for potential bypass coal leasing will be evaluated on the basis of:

a) Criteria established by appropriate regulation.

b) Management concerns and constraints.

c) Surface owner consent (if applicable).

d) Land reclaimability.

4) Recommendations to issue coal licenses for local household use may be made, subject to the provisions of SMCRA, other appropriate regulations, and where it can be shown to be environmentally acceptable.

5) The Forest Service will cooperate and coordinate with State and Federal agencies to develop management practices that consider other resource needs where development is proposed.

h. Leasable Minerals Exclusive of Oil and Gas, and Coal

1) The Forest response to the leasing, exploration, and development of Federally-owned minerals exclusive of oil, gas, and coal will be timely and with due regard for environmental protection. The Forest will respond to leasing actions within the timeframes required by the annual program of work and memorandums of understanding.

2) Exploration and development of fluid minerals will follow applicable practices as found in the following sections of this chapter: c. Federal Oil and Gas Leasing, Exploration and Development; e. Saltwater Spills; and f. Resource Damage From Toxic Drilling Fluids.

3) Exploration and development of leasable solid minerals will follow the operations subject to U.S. Department of Agriculture rules and regulations and listed under the Locatable Minerals section of this chapter.

i. Common Variety Mineral Materials

1) The Forest may make pit run aggregate resources available for free use by local, State, Federal government agencies, and to private concerns for use on Forest Development Roads; and on a charge basis for private roads within the administrative or proclaimed boundaries of the Forest if the material is obtained from non-Bankhead-Jones Act lands (currently the laws prohibit selling mineral materials from Bankhead-Jones Act lands). If the quantity of material available exceeds the projected needs within the boundaries, it may be made available for use outside the boundaries. Free use will be allowed by a free use minerals material permit and charge use by a mineral materials contract permit. The use of a common variety mineral material source will require the following:

a) A mining and reclamation plan must be submitted. This may not be required for the removal of small quantities of aggregate, rock, or petrified wood.

b) The preparation of an environmental analysis for the proposed removal activity unless the activity can be permitted as a categorical exclusion.

c) Forest Officer approval of the plans must be obtained prior to issuance of the permit/ contract. The permit shall include operating directions, restrictions, and stipulations as deemed necessary.

d) The appropriate fees and bonds shall be collected by the Forest Service.

e) A fire plan will be made a part of the permit for activities to be conducted during the established fire season.

2) Mineral material removal sites will be managed to achieve minimal environmental impacts, to maximize safe operations, and to meet all of the stipulations of the plans and permits/ contracts. To meet these ends, mineral material removal sites will:

a) Be located so as to create the least visual impact.

b) Follow these safety provisions:

(1) No vertical walls over ten (10) feet in height will be left at the end of each day's operation.

(2) During periods of nonuse, including weekends, pit walls of active sites will be reduced to minimum slope of 1:1.

(3) Fencing may be substituted for requirement (2).

(4) Warning signs around the margins of the pit will be required when deemed necessary by the responsible Forest Officer.

c) Be contoured and sloped during the period of nonuse so as to prevent soil erosion and siltation of nearby water sources.

d) Be rehabilitated within 6 months of the termination of use.

3) Annual production reports will be required for all permits issued for a term exceeding 1 year.

4) Small amounts of rock with a value as specified by regulations may be disposed of at no

charge with a free use permit or without a permit in designated areas. The collection of petrified wood may be allowed with a free use permit unless there are known cultural or scientific values associated with the site, or otherwise restricted. The collection and removal of petrified wood shall be permitted according to the following rules and guidelines:

a) The maximum amount of petrified wood that one person can collect per day is 25 pounds in weight, provided that the maximum total amount in 1 calendar year shall not exceed 250 pounds. Permits may be issued to museums, educational institutions, and similar groups for larger amounts.

b) No explosives or power equipment may be used for the excavation or removal of petrified wood obtained under free use privilege. This prohibition of power equipment includes but is not limited to tractors, bulldozers, plows, powershovels, and semitrailers.

j. Locatable Minerals

1) Exploration and development of minerals will be facilitated subject to the General Mining Law of 1872 and subsequent regulations in 36 CFR 228 developed by the Secretary of the Agriculture.

2) Mineral management activities will be coordinated with appropriate Federal, state, and local governmental agencies and industry. Proposed mining operations that require the preparation of an EIS/Record of Decision Notice will be acted on promptly in order to reduce delays and develop alternatives that are reasonable and environmentally sound. Operations will be administered as prescribed in that document. The Record of Decision Notice will become Forest Management Direction for that project. Processing of patent applications will be initiated within one year of receipt and will be completed in a timely manner.

3) A Notice of Intent/Plan of Operation will be prepared by the proponent in accordance with regulation 36 CFR 228 and Forest Service Manual. A "proposed plan of operations" is required if the proposed operations will likely cause significant disturbance of surface resources, such as earth moving or the cutting of trees. Assistance and interpretation of these requirements will be supplied to the operator to facilitate the preparation of the Notice of Intent/Plan of Operation. The following are summaries of required actions:

a) Air Quality -- The operator shall comply with applicable Federal and state air quality standards, including the requirements of the Clean Air Act, as amended. The Forest shall encourage the design, location, and installation of mechanical equipment in a manner which will minimize noise pollution.

b) Water Quality -- The operator shall comply with applicable Federal and state water quality standards, including regulations issued pursuant to the Federal Water Pollution Control Act, as amended.

c) Solid Wastes -- The operator shall comply with applicable Federal and state standards for the disposal and treatment of solid wastes. All garbage, refuse, or waste shall either be removed from National Forest lands, or disposed of, or treated so as to minimize so far as is practicable its impact on the environment and the Forest surface resources. All tailings, dumpage, deleterious materials or substances and other waste produced by operations shall be deployed, arranged, disposed of, or treated so as to minimize adverse impact upon the environment and Forest surface resources.

d) Scenic Values-- The operator shall, to the extent practicable, harmonize operations with scenic values. Appropriate measures to consider may include: vegetative screening, painting, and the design and location of structures and improvements.

e) Fisheries and Wildlife Habitat -- In addition to complying with water quality and solid waste disposal standards required by this section, the operator shall take all practical measures to maintain and protect fisheries and wildlife habitat which may be affected by the operations. A determination will be made of the effects upon any plant or animal listed or proposed as threatened or endangered or their habitats. Based on the findings of this determination, appropriate restrictions will be included in the operating plan to meet the intent and purposes of the Endangered Species Act and Eagles Act of 1940.

f) Roads -- The operator shall construct and maintain all roads so as to assure adequate drainage and to minimize or, where practicable, to eliminate damage to soil, water, and other resource values. Unless otherwise approved by the authorized officer, roads no longer needed for operations or other management needs shall be closed to normal vehicular traffic; bridges, culverts, and other road structures shall be removed; cross drains, dips or water bars shall be constructed; and the road surface shall be shaped to as near naturally appearing as practicable, then stabilized.

g) Reclamation-- Upon exhaustion of the mineral deposit or at the earliest practicable time during operations or within 1 year of the conclusion of operations, unless a longer time is allowed by the authorized officer, the operator shall, where practicable, reclaim the surface disturbed in operations by taking such measures as will prevent or control on-site and off-site damage to the environment and Forest surface resources. Among such measures shall be the following:

(1) Control of erosion and landslides.

(2) Control of water runoff.

(3) Isolate, remove, or otherwise control toxic materials.

(4) Reshape and revegetate disturbed areas where reasonable and practicable.

(5) Rehabilitate fisheries and wildlife habitat.

(6) Drilling mud from drilling operation shall be permanently confined and mudpits will be back-filled and graded.

h) Fire-- A fire plan will be made a part of the approval for activities to be conducted during the established fire season.

i) Cultural Resources -- A cultural resource examination will be conducted by the Forest Service or a Forest Service approved consultant prior to any surface disturbing activity and appropriate protection measures included in the plan of operations.

4) The claimant and the Forest Service will cooperatively review all proposed construction for mining camps and camps currently in operation, to ascertain if they meet the following requirements:

a) Occupancy and other building construction shall be authorized on claims for mining purposes only. Such construction and occupancy must be permitted under an approved plan of operations.

b) All buildings or other improvements shall be located, constructed, maintained, and used in a manner that meets the visual quality objectives of the area. Temporary buildings to be utilized at one location in excess of one season must be compatible with the area.

c) Improvements and the adjacent grounds shall be maintained in a clean and sanitary condition. Garbage and refuse shall be disposed of in a manner agreed to between the mining company and the Forest Service. Buildings and debris will be removed and the site restored upon abandonment of camp.

d) All buildings, toilets, garbage pits, and other structures shall be located to prevent pollution of the water in streams or lakes and shall be constructed, operated, and maintained in a sanitary manner.

e) Fire extinguishers and other fire-fighting apparatus as directed by a fire plan shall be located at designated locations.

f) Debris shall be cleared away within a radius of 25 feet of gasoline, oil, grease, or other highly flammable material storage.

g) Common variety mineral materials and timber on the claim shall be used only in support of claim development or as approved by the Authorized Forest Officer.

5) Exploratory (temporary) road standards may be found in the FACILITIES Section of this Chapter.

6) Standards for mining claims within the Absaroka-Beartooth Wilderness are found in Management Area I.

k. Paleontological Resources

1) A systematic paleontological resource inventory program will be implemented so that occurrence of paleontological resources can be identified for possible protection, enhancement, and study of their scientific value. The removal and study of paleontological resources on the Forest requires the issuance of a permit pursuant to the Antiquities Act of 1906 (34 Stat. 225). Such permits will be available to individuals, museums, universities, colleges, or other recognized scientific or educational institutions, or to their duly authorized agents upon request from the Forest Supervisor. The inventory will be prepared and maintained by using the following guidelines:

a) Paleontological Resource Sensitivity Map -- The map will delineate those formations and locations that possess a high to moderate potential of containing paleontological resources of significant value. Information derived from the literature, knowledgeable individuals, field surveys, and site reports can be used.

b) Paleontological Resource Field Reconnaissance Report and Map -- This report and map will be prepared for any significant ground-disturbing activity. This may be most easily accomplished by incorporating it into the cultural resource survey. The map will identify the areas surveyed and the survey findings.

c) Paleontological Resource Site Report and Map Overlay -- A site report will be prepared for all known paleontological resource sites and as a followup to all positive field reconnaissance reports. If the field reconnaissance report is positive, a site report will promptly be prepared for any report of a vertebrate paleontological resource discovery and for any paleontological resource that has been designated as possessing significant scientific value or that may appear to possess unique or significant scientific value. A prompt response can be delayed if the integrity of the discovery and/or location can be ensured through project redesign or other adequate mitigating measures approved by the Forest Supervisor. Site reports for paleontological resources designated as common and/or nonsignificant need not be a priority for preparation. The accompanying map will identify the locations at which paleontological resources have been found and for which a site report has been prepared.

d) In general, a paleontological resource find or site will be judged significant if it:

(1) Is a vertebrate.

(2) Provides important information regarding development of biological communities or demonstrates unusual or spectacular circumstances in the history of life.

(3) Is a rare species and is in danger of being depleted or destroyed and/or is not found in other geographic locations. Other criteria may be added by individual Districts to cover local situations such as petrified forests or concentrations of petrified stumps.

2) Paleontological resource evaluation will be made. In some cases, the use of out-Service consultants may be necessary.

3) Significant paleontological resources on the Forest will be protected from inadvertent or intentional damage or destruction. Protective measures may include:

a) Avoidance or relocation of ground-disturbing activities.

b) Physical onsite measures such as fences or grates.

c) Posting or signing.

d) Protection of site locational information.

e) Law enforcement measures such as patrolling and investigation of unauthorized activities regarding the disturbance or removal of significant paleontological resources.

4) Site protective measures will be employed only where their use or presence will not degrade a significant paleontological resource, and such measures will require Forest Supervisor approval prior to implementation.

5) Significant paleontological resource sites will be enhanced and interpreted, when feasible for the education and enjoyment of the public when such development will not degrade the paleontological resource or conflict with other resource considerations.

9. Rural Community and Human Services

a. The Forest will provide direct and indirect employment opportunities through personnel programs and through jobs created by user groups as they utilize National Forest resources. The Forest will increase opportunities for minorities, senior citizens, the handicapped, and the disadvantaged to enjoy the National Forest. The Forest will work with Job Services and educational institutions in Montana, North Dakota, and South Dakota to utilize programs such as CETA, Work Study, and others. The Forest will emphasize the volunteer program for the dual purpose of work accomplishment and the training and experience.

b. The Forest and Ranger Districts will continue contacts with tribal governments to identify opportunities for lending assistance. As needs arise, the Forests and Districts will support tribal governments efforts to develop and manage their natural resources.

10. Lands

a. Landownership Adjustment

1) Ownership adjustments will be made Forest-wide to improve the efficiency and effectiveness of resource management of National Forest System lands, and interests in lands, for public benefit. The land adjustment program will be coordinated with State and other Federal agencies.

2) Land areas which have important public values such as significant recreation use or opportunity, key wildlife habitat, valuable commodity potential, or areas containing historical or archeological values will generally be retained. Blocks of forested lands within the Great Plains will generally be retained in public ownership. The merit of any adjustment proposal will be judged according to whether it will benefit the overall management of the National Forest System. Benefits differ on National Forest Districts from National Grasslands Districts. The following actions are considered benefits:

National Forest Districts:

(1) Lands or interests in lands will be consolidated to improve ownership patterns and resource management within proclaimed boundaries. Federal lands within existing wilderness will be consolidated by acquiring interior private lands and/or interests in lands, including patented mining claims.

(2) Public Domain lands adjacent to National Forest boundaries in Montana may be added without Congressional action. Additions in South Dakota require Congressional action.

(3) Adjustments will be utilized to secure needed rights-of-way.

(4) Non federal lands within 6 miles of the Forest boundary may be acquired by exchange utilizing the General Exchange Act.

National Grassland Districts:

(1) Adjustments will be made which maintain a dispersed ownership pattern that best demonstrates and encourages good land management practices on all lands. Some consolidation for improved demonstration management and administration is desirable, but consolidating ownership into large blocks is not consistent with the Bankhead-Jones Farm Tenant Act.

(2) Interchange of lands with the Corps of Engineers along the south shore of Lake Sakakawea in North Dakota.

(3) Ownership adjustments which include action on title claims (encroachments or trespasses) to lands or interests in lands acquired by the United States in the National Grasslands. Claims will be promptly and objectively investigated.

(4) Ownership adjustments will be sought through consolidation of mineral rights.

(5) Adjustments will be pursued with members of National Grassland Grazing Associations whose private land is surrounded by Federal land, with no opportunity to consolidate base property except through the ownership adjustment procedure.

(6) In general, lands or interests in lands will not be exchanged out of Federal ownership if the result of the adjustment will be to encourage ploughing of native grassland. Adjustments will only be considered where the lands received by the United States will have high values for public recreation, are key wildlife habitat areas or are in other similar special areas and these advantages outweigh the disadvantages resulting from the potential farming.

(7) Federal land will not be exchanged if it contains problem areas of incipient or active blowouts, active gully erosion, or other destructive soil processes exist which may endanger adjacent lands, or which will require extensive treatment for control.

(8) Federal lands or interests in lands will be considered for adjustment if they are either isolated by location or management unit boundaries, needed and suitable for urban development, or unsuited to the type of management prescribed for the National Grasslands.

(9) Non-federal lands or interests in lands can be acquired if they are needed to influence good management and successful administration of the area, or to demonstrate proper resource conservation on similar associated private lands.

(10) Non-federal lands that have a high potential for subdivision development which could be in conflict with the goal for that area will be given a high priority for acquisition.

(11) The adjustment is expected to improve working relations and administration with grazing associations and permittees. No attempt will be made to completely block out National Grassland from private land. Fencing responsibilities will be covered by a written agreement.

3) Opportunities will be sought to interchange administration of Public Domain land and National Forest System land or interests in lands where resource protection and conservation clearly will benefit, or where more economical and effective protection and management of public forest or watershed lands or interests in lands will result. Interchange will be recommended only if it can be clearly shown that the public interest will be materially benefited. If small, scattered parcels come under FS jurisdiction, they will generally be used as adjustment base.

4) Minor landownership and occupancy problems will be resolved within the authority of the Small Tracts Act as well as other appropriate authorities.

5) In order for National Forest System land or interests in lands to be available for disposal, one or more of the following criteria will be met (by relative priority):

a) *On National Forest Districts, the parcel is:*

(1) Landlocked by private land or interests in lands or partly so, and has no or limited access.

(2) Intermingled with patented mining claims or homestead patents.

(3) A fee reservation strip which is no longer of benefit to the public.

(4) Occupied by permitted private improvements of significant value.

b) *On National Grassland Districts, the parcel is:*

(1) Isolated outside the administrative boundaries of the National Grasslands.

(2) Pertinent to solving rights-of-way conflicts.

(3) Pertinent in reducing landline location surveys.

(4) Occupied by permitted private improvements of significant value.

(5) Administered by another Federal agency, identified for disposal by that agency, and can be included in the Forest Service adjustment base or retained on NFS lands.

(6) Isolated by private land or interests in lands and does not meet the objectives of the Bankhead-Jones Farm Tenant Act or does not have other high public value.

(7) Adjacent to townsite that is not needed for Forest Service administrative or management purposes.

6) In order for other land or interests in lands to be considered for acquisition, one or more of the following criteria will be met (by relative priority).

a) *On National Forest Districts, the parcel is:*

(1) Inside a Classified Wilderness areas(s).

(2) Isolated by Federal land or nearly so.

(3) Pertinent in solving rights-of-way conflicts.

(4) Key wildlife habitat, high in recreational value, high in potential commodity value, adjacent to water, high in historical and/or archeological values, or unique in its vegetative cover.

(5) Needed for administrative site purposes.

(6) Necessary for resource management that can best be accomplished by being in public ownership.

(7) Being administered by State agencies within the boundary of the National Forest, and acquisition will improve management efficiency.

(8) Pertinent in reducing landline location surveys.

b) *On National Grassland Districts, the parcel is:*

(1) Key wildlife habitat, high in recreational value, adjacent to water, high in potential commodity value, high in historical and/or archeological values, or unique in its vegetative cover.

(2) Pertinent in solving rights-of-way conflicts.

(3) Pertinent in reducing landline location surveys.

(4) Needed for administrative site purposes.

(5) Necessary for resource management that can only be accomplished by the parcel being in public ownership.

(6) Being administered by other Federal or State agencies or private parties within the administrative boundaries of the National Grasslands, and acquisition will improve management efficiency.

b. Special Use Permits

1) General Management

a) Decisions to grant special use permit will be based on an environmental analysis.

b) New electronic sites will not be established unless further analysis determines they are clearly in the public interest.

c) Facilities which only benefit private use may be authorized under permit but appropriate fees will be charged.

d) Convenience enclosures and special use pastures where feasible, will be included in an existing allotment or made part of an independent allotment, at the time of termination or evaluation. When this is not feasible, a new permit or amendment will be issued. Permits not terminated or included in an existing allotment, or made part of an independent allotment, will be converted to convenience enclosures.

e) Exchange of use of private-owned land for use of National Forest System land is no longer authorized.

f) Agricultural facilities will remain in public ownership and not be authorized under a permit. Public ownership of improvements is necessary to ensure their continued availability or effective implementation of range management programs on Forest lands.

g) New permits will not be issued for cultivation (excluding hay) or exchange of land use.

h) New permits will not be granted for convenience enclosures except as an interim measure in the settlement of newly discovered trespass or in an amicable transition of use subsequent to landownership adjustment. The permit will include fence and related facilities and annual rental fees will be assessed.

i) New range facilities needed for the management of Forest lands will become the property of the United States upon completion, even when they are constructed with private funds on NFS lands. New range facilities built on NFS lands to service private lands are the property of the permittee. A special use permit will be required and an annual rental fee will be assessed.

2) Energy and Mineral Related Special Uses

a) Special use permits will be granted and administered to facilitate the development of mineral resources on National Forest System lands, consistent with adequate environmental protection. Forest Service policy, and long-term public interests.

b) Minerals related special use permits will be processed in accordance with the Management Standards in the MINERALS AND GEOLOGY Section of this document.

c) Pipelines and related facilities for transportation of products after separation and metering either on or off lease will require special use permit and be charged for under appropriate Forest Service procedures. Exceptions to this will be those facilities specifically identified as a lease right under the Mineral Leasing Act as amended.

d) Facilities including roads for development and production of mineral rights outstanding under Federal surface will be authorized under a plan of operations when located on the

mineral patent, but will require a special use permit when located off the mineral patent. Appropriate charges will be made unless the road is needed as part of the Forest's planned transportation system.

e) Roads built on leases being developed are considered a lease right and authorized through the drilling permit. When located off the lease, new road construction will require a special use permit and appropriate fees will be charged unless the road is needed as part of the planned Forest transportation system.

f) On "mineral rights reserved," a reserved minerals permit authorizes the road and pad within the boundaries of the reservation and a special use permit authorizes the off lease portion of the road. Charges for the well pad and for the portion of the road within the boundaries of the private mineral estate will be as stated in the applicable deed and Federal rules and regulations.

g) Pipelines and related facilities located on lease for disposal of saltwater produced from Federal minerals and disposed on lease or from Federal leases having the same owner will be authorized by a Bureau of Land Management permit and no fee will be charged. This policy will also apply to unitized operations for both Federal and private minerals and to enhanced recovery operations. Portions of saltwater facilities outside of unitized leases, and off leases owned by the same lessee, will require a non-commercial special use permit with appropriate fees assessed.

h) All commercial saltwater disposal operations will require a special use permit with fees established for both surface use and down-hole water disposal.

i) Noncommercial disposal of saltwater produced from a private mineral estate under either Federal or private surface may utilize Federal surface outside the mineral patent, if it minimizes overall surface or subsurface impacts on Federal land and demonstrates sound land management. No disposal fee will be charged for noncommercial saltwater disposal in these cases.

j) Pipelines and related facilities for disposal of saltwater produced from mineral rights reserved by Federal surface will be authorized under special use permit and the fee collected will be according to the provisions in the mineral deed.

k) Pipelines and related facilities for disposal of saltwater produced from mineral rights outstanding under Federal surface will be authorized by an operating plan within the boundaries of the mineral patent. No fee will be charged.

l) Rig stacking will be allowed if compatible with the management objectives stated in this plan.

3) Power and Telephone Lines Special Uses

a) Commercial power and telephone lines for all uses may be authorized by special use permit and, appropriate annual rental fees charged.

b) All new or replacement telephone and power transmission or distribution lines will be underground except where prohibited by technical circumstances. Proposed deviations must be authorized by the Forest Supervisor. All transformers for underground power will be pad-mounted and earth-tone colors.

c) Technically required overhead powerlines will be routed to minimize visual impacts and to conform to approved corridors. They will be designed or constructed to minimize the risk of raptor electrocution.

d) Continuous or dusk-to-dawn lighting will not be allowed on facilities. Exceptions may be flight safety lighting of towers or lines.

c. Rights-of-way (ROW) Acquisition

1) The Rights-of-way Acquisition Program (roads, trails, and range improvements) will be developed and implemented in response to resource management programs and access needs on a 2-year basis. It will be coordinated with each Ranger District, reviewed, and updated annually.

2) The following criteria will generally be used to set priorities for acquisition of road rights-of-ways identified in the Forest Transportation Plan:

a) Arterial and collector routes to National Forest System land.

b) Key access to National Forest System lands.

c) Rights-of-way that a landowner is willing to grant or donate to the appropriate public road agency.

d) Rights-of-way that a user is willing to secure for permanent access in the name of the appropriate public road agency.

3) Mineral operators will be encouraged to acquire public ROW on identified Forest Development Roads across private lands. They will be required to provide administrative access to the Forest Service as a minimum.

d. Withdrawal of Lands from Mineral Entry

The study of lands currently withdrawn will be done per the criteria and management direction found in Appendix IV evaluation. The results of the preliminary review and schedule for completion are also found in Appendix IV.

f. Landline Location

Priorities for landline location will be as follows:

1) Define boundaries needed for high priority resource programs.

2) Continue the joint Forest Service and BLM corner remonumentation program.

3) Identify and post key public access points.

4) Establish landline needed to resolve unauthorized occupancy.

5) Identify and post other National Forest System boundaries not included above.

6) Identify and post Wilderness boundaries.

11. Facilities

a. Transportation

1) Transportation System Planning

a) Forest transportation planning identifies the means to best meet the access needs for all resources and has been completed as part of this plan. It specifies the corridors for arterial and collector roads within and adjacent to the Forest. The jurisdiction of the existing roads as well as the expected jurisdiction of proposed routes are also identified. Copies of the Forest Transportation Plan Maps are a part of the planning records and are available at Ranger District Offices and at the Supervisor's Office.

b) Project area transportation analysis will identify local road locations and jurisdiction and the need to modify the Forest development road system. Public jurisdiction will be obtained on all Forest development roads.

c) Connecting routes generally will be limited to state and county road systems, major collectors, and arterials as identified in the Forest Transportation System Plan. Existing low standard segments of connecting routes may be retained for non-commercial use. These are roads which are part of the current Forest Development Road System and are adequate only for limited amounts and types of traffic.

d) Routes which should be part of the State or county road system will be identified and the appropriate public agency will be encouraged to assume jurisdiction. State or county routes through management areas requiring low development will be discouraged.

e) Local roads constructed for a single resource purpose will be closed to public use and obliterated and rehabilitated at the end of their use period.

f) Local roads constructed for intermittent use by a single resource will be closed to public use.

g) Forest System roads that have been upgraded or are proposed for upgrading from primitive to commercial standard for the primary purpose of oil development will not necessarily be retained or maintained at commercial standard subsequent to decline or cessation of oil activity. Forest System roads to be retained at high standards will be specifically identified in the area transportation analysis or project proposal. Those not needed will be reduced to a standard compatible with the proposed use. Decisions on retention and maintenance of all other Forest System roads will be made on a case by case basis when upgrading is proposed.

2) Transportation System Construction

a) Roads will be located, designed, and constructed to provide for safety, cost efficiency, resource needs and protection, and public access.

b) Road construction on projects for the Capital Investment program will be proposed based on the following criteria:

(1) Provide for public access to National Forest System lands currently inaccessible or accessed with substandard roads.

(2) Develop access where rights-of-way have been obtained and the Transportation Plan shows access is needed for resource management and/or public use.

(3) Support timber access needs.

c) Final road inspections and acceptance on all road construction projects will be required.

d) Construction on Forest development roads will comply with the following engineering criteria:

(1) Design criteria will be as shown in Forest Service manuals and handbooks, and will meet Forest Service specifications for Forest development roads. Road standards will be no higher than that necessary for safety and the proposed use.

(2) Traffic management will be considered as an alternative to building double-lane roads.

(3) Erosion control measures for all roads will be part of the design package. These measures will address specific items and how they will be treated.

(4) Any road planned for closure at the end of an activity shall have rehabilitation needs identified prior to its construction.

(5) Use of a road will not normally be authorized until all phases of construction have been completed, inspected, and accepted, except for revegetation. Lease deadlines, frozen ground, and similar items beyond control, may warrant exceptions if resource protection can be ensured.

(6) Low water crossings or improved

fords may be utilized on the FDR system under either of the following two circumstances:

(a) If the cost savings are substantial in relation to the potential traffic mix, volumes, safety, and need for continuous access.

(b) If other crossing alternatives are less suitable from a resource protection standpoint.

e) Specific resource mitigation needs associated with road construction are discussed under the various resources sections in this document.

3) Transportation System Operation and Maintenance

a) The Forest Transportation System shall be managed to provide for administration and protection of the resources and the needs, health, and safety of the public.

b) Road management programs will include maintenance, signing, and traffic control. Traffic control includes the issuing of orders which close or restrict the use of any Forest development road or trail. Reasons for closures include, but are not limited to, game management, fire danger, public health or safety, and resource damage.

c) Jurisdiction of all roads within the Forest System will be determined and maintenance responsibilities identified followed by actions necessary to insure compliance. All system roads will be maintained to a minimum of Level I road maintenance standard for protection of the resources and the investment. Roads needed for resource management will be maintained to a level consistent with use. County cooperative agreements will be reviewed annually, and updated, as needed. Dust abatement requirements on Forest Development roads will be determined by the responsible Forest Officer using Forest Service Manual criteria as a guide. Impacts on resources will also be considered in determining the need for and type of dust abatement to be used. Saltwater produced by oil wells will not be used for dust abatement.

d) Adequate signing will be provided on all roads for the safety and convenience of the Forest user, using the following criteria:

(1) Signs will be installed as shown on the signing schedule, and existing signs will be maintained.

(2) Temporary signs meeting Forest standards may be allowed on a permit basis where existing signs are inadequate.

(3) The priorities for signing will be (a) heavy use areas, (b) arterial routes, (c) collector routes, and (d) local routes.

(4) When signing arterial routes that primarily access large land areas or connect with other routes, signing should be oriented to providing direction for this type of travel. The following guidelines are to be used:

(a) Routes will be signed with warning and/or regulatory signs according to the Manual on Uniform Traffic Control Devices (MUTCD).

(b) Route markers will be used.

(c) Guide signs shall be addressed to key destinations. The number of lines on a sign should be limited to two or three lines, and standard abbreviations used.

(5) When signing collector roads that tie arterial routes to local roads and terminal facilities, signing will be oriented toward directing the user to a specific site or area. The following guidelines will apply:

(a) Regulatory signs installed will meet MUTCD requirements for the signs and the installations. The amount of warning and/or regulatory signing needed will depend on traffic volumes.

(b) Route markers should be used to identify the entire route.

(c) Guide signs are to address destination points or areas. The number of lines on a sign should be limited to two, if possible. If several collectors serve an area, select and sign the most practical route.

(6) When signing local roads that usually connect to terminal facilities and generally serve a specific resource activity, the following guidelines will be used:

(a) Low speeds and low traffic volume normally require some warning and/or regulatory signs. Those needed will comply with MUTCD.

(b) Route markers will be used.

(c) Guide signs need only identify the terminal facility.

4) Nonsystem Road Construction

a) Special use permit roads will be constructed and maintained to provide continuous resource protection, consistent with management area goals. Such roads will be obliterated and rehabilitated at the end of their use period unless needed for other resources management. Design standards will be dependent on expected traffic volumes and class of vehicles. Oil and gas development roads will normally be built to appropriate Forest Development road standards. Exceptions to this may be approved by the Forest Supervisor.

b) In those cases where suitable terrain exists, District Rangers may offer industry their

choice of either temporary or permanent road construction standard during the drilling phase (depending on season of year) of well development. When such a temporary road option is exercised, the final designed road shall be constructed within 30 days after the completion of a well, or if a dry hole, additional erosion control measures may be required on the temporary road within 30 days pending final rehabilitation. The final road plans shall be approved before the permit is issued in all cases.

c) Road width will be kept to the minimum necessary for safe effective use and will not usually exceed 14 feet single-lane standard. Turnouts are optional and determined on a case-by-case basis. Soil stability will be enhanced by limiting clearing to the essential width necessary to meet safe traffic needs. Clearing and disposal specifications shall consider such things as visual requirements, soil and water filtering effects, and big game travel paths. Borrow sources must be approved prior to use.

d) Road gradients will be low, except for short pitches, to take advantage of topography. On constructed roads, maximum sustained grades are not to exceed 8 percent and pitch maximum should not exceed 10 percent nor be over 300 feet in length without Forest Supervisor approval.

e) Entrances and exits at stream crossing will be carefully located to prevent destroying the integrity of the stream and road. A ford may be an acceptable crossing at stable stream bottom locations. Minimizing salutation will be of utmost importance when locating roads near streams. Culverts installed in live streams will be installed on the stream gradient to provide for fish passage where needed unless conditions prevent it. Culverts will be installed at drainageways, small creeks, and springs. They will be removed upon completed use of road and the drainage way reopened.

f) See the Mineral and Geology section of this document for the guidelines concerning the use of common variety minerals for road construction.

g) Dust abatement requirements on roads will be determined by the responsible Forest Officer using Forest Service Manual criteria as a guide. Impacts on resources will also be considered in determining the needs for and type of dust abatement to be used. Salt water produced by oil wells will not be used for dust abatement.

b. Utility Corridors

The acceptance of utility corridors is defined in each management area. The criteria used to determine this is found in Appendix VIII. However, major utility transportation facilities should be located in or adjacent to existing corridors.

c. Water Storage and Transmission

Dams constructed on National Forest System lands shall be designed, constructed, and maintained to standards ensuring safe and satisfactory performance. The Federal Guidelines for Dam Safety (National Dam Inspection Act of 1972) shall be followed.

12. Law Enforcement and Fire Management

a. Law Enforcement

1) Prompt enforcement of applicable laws and regulations will be provided with emphasis on prevention and cooperation. The law enforcement activities will be accomplished, and at the same time will project a favorable image while enforcing the laws, statutes, and decisions relating to the protection of the rights of the citizens and the government.

2) Law enforcement agreements will be maintained with cooperating counties in which the National Forest System lands occur. The Forest will train and maintain at least one Forest officer on each Ranger District who is qualified in Advanced (Level II) law enforcement. At least two full range law enforcement authority (Level IV) positions will be maintained Forestwide.

b. Fire Management

1) Prevention, Detection, Suppression

a) The control objective appropriate suppression response and use of prescribed fire will vary and are found in each management area.

b) Using Level II and Level III analyses as guides, the Forest will develop and implement a Fire Management Action Plan that meets resource objectives and includes the following:

(1) Fire detection and suppression strategies to respond to threats to life and property, public safety, and resource values.

(2) Appropriate suppression response to control, contain, or confine all wildfires, (see Glossary for definitions), compatible with resource values involved.

(3) Fires threatening private land, human life, property, or improvements will be controlled as soon as possible.

(4) Direction for the use of prescribed fire, planned and unplanned ignitions will be developed and implemented to meet resource goals and objectives.

(5) Consideration of natural fire cycles, in fire-dependent and/or fire-related ecosystems when assigning appropriate suppression responses or when preparing resource management prescriptions.

2) Interagency Coordination

a) Cooperation will be provided in interagency fire management efforts in eastern Montana. The Forest will cooperate in interagency training programs, and remain a full member of the Montana Indian Fire Fighter Committee to promote training and qualifications of Indian fire suppression crews. An interagency coordination facility in Billings, Montana, will continue to be supported. The Forest will continue to function as the coordinating unit for the Eastside Interagency Overhead Team.

b) Support services will be provided within the scope of the National Interagency Incident Management System (NIIMS) as needed to assist the fire suppression efforts of the BLM, the BIA, and the states of Montana, North Dakota, and South Dakota.

c) Protection agreements with other agencies will be continued.

d) Continue the cooperative protection agreement with the Bureau Land Management (BLM) and Bureau Indian Affairs (BIA) on the Ashland Ranger District.

e) Continue to cooperate with State and County fire detection and suppression agencies.

3) Interstate Coordination

a) The Forest will provide cooperation and leadership on the National Forest System lands in North and South Dakota to emphasize fire prevention and protection.

b) Those portions of the North Dakota State Wildland Fire Protection Plan that apply to the National Grasslands in North Dakota will continue to be implemented. Plan revisions and updates will be coordinated with the State Forester.

c) A strong leadership role in fire management will be maintained, with Grazing Associations in the National Grasslands continuing to provide suppression service. The Forest Service will provide a resource liaison to the Grazing Association on fires in the National Grasslands which continue beyond initial attack.

d) The Forest will work closely with energy development companies to foster prevention of industrial fires and to update strategies annually for achieving prompt and safe initial attack. Appropriate fire suppression responses on the National Grasslands will be coordinated between the Grazing Associations and industry when industrial and rangeland fires are associated. Primary responsibility for fire prevention on the National Grasslands will be maintained by the Forest. When a wildfire expands beyond the control capability of the Grazing Association and it is mutually agreed that Forest Service suppression personnel must become involved (other than incidental support), the management of the fire will revert to the Forest Service.

4) Fuels Management

a) A combination of treatments will be used that will most efficiently meet the fuels management direction of each management area. The Forest will consider the use of prescribed fire, using both planned and unplanned ignition as a management tool. Unplanned ignitions may be used throughout the Forest to meet management area goals when proper fire prescriptions have been developed and approved by the Forest Supervisor. When prescribed fire-planned ignition is part of a treatment, it will be carried out at a time and within a prescription that will minimize impacts on air quality and soil damage, achieve the desired results, and conform to the Northern Region Fuel Management and Treatment Guides.

b) Management activities that may increase fuel hazards will be analyzed to determine what level of treatment is appropriate. The cleanup or treatment of slash and debris resulting from any project will continue to be considered as a cost of the operation. Projects that cannot provide adequate debris treatment to meet management goals and objectives will not be undertaken. Fire hazards will be reduced by cost-efficient means.

CHAPTER III

MANAGEMENT AREA DIRECTION

The National Forest System lands within the Custer National Forest have been divided into 20 management areas, each with different management goals, resource potential and limitations. The management areas are shown on the accompanying maps, which can be used for reference. There are two management areas on the Forest that are not mapped on all Districts. These two management areas include the riparian areas and woody draws and are not mapable due to map scales. The management area maps of record consist of a set of larger scale (3/8 inch per mile) maps on file in the Forest Supervisors Office.

Except for Congressionally established boundaries or special administrative boundaries, management area boundaries are not firm lines and do not always follow topographic features, such as ridges or drainages, or administrative boundaries. The boundaries represent a transition from one set of opportunities and constraints to another with management direction established for each. The boundaries are flexible to assure that the values identified are protected and to incorporate additional information gained from further on-the-ground reconnaissance and project level planning. Boundaries can be adjusted up to one quarter of a mile to facilitate management with Forest Supervisor approval.

The Forestwide management direction included in Chapter II of this Plan applies to all management areas.

This chapter describes each management area and lists the goals, management standards, schedule of management practices, and monitoring requirements for each area. The schedule of management practices are not intended to act as limits but will be monitored to test for long-term application.

MANAGEMENT AREA A
69,589 ACRES

Sheyenne National Grasslands .....69,589 acres

A. Description

This management area is located on the Sheyenne National Grassland in eastern North Dakota. The Sheyenne Ranger District is one of the few areas of public land in eastern North Dakota. This area is managed in cooperation with the Sheyenne Valley Grazing Association and its 86 members. The Sheyenne National Grassland is surrounded by cultivated farmland. Most of these lands were acquired through the Bankhead-Jones Act. The proposed North Country National Scenic Trail that spans from New York State to Lake Sakakawea in western North Dakota crosses through this area.

This management area falls in the sandhill phase of the tall grass prairie, encompassing the ecosystems of oak savanna, mixed grass prairie (wet and dry), choppy sandhills and aquatic with a variety of vegetative production potential. These components have made much of this land unsuitable for cultivation. Livestock grazing has been a traditional use. There is a serious noxious weed infestation in the management area. The soils are considered very fragile in response to surface disturbance and wind erosion. There are plants in the management area that are proposed to be classified as rare species by the U.S. Fish and Wildlife Service. There is a variety of wildlife habitats, mostly upland birds and small mammals. This management area supports the majority of the population of greater prairie chickens in North Dakota and is the only population of these birds in the Northern Region. These areas have not been leased for oil and gas and to date there has been little if any interest in leasing.

B. Goal

To provide for continued livestock grazing and to improve wildlife habitat through intensive range management, with emphasis on livestock production except in areas of key wildlife habitat where emphasis will be on key habitats and species. Every effort will be made to avoid or mitigate resource conflicts. If the responsible official determines that conflicts cannot be adequately mitigated, he/she will resolve the conflicts in accordance with management area goals and if necessary in consultation with affected parties.

C. Management Standards

THE FORESTWIDE MANAGEMENT DIRECTION INCLUDED IN CHAPTER II OF THIS PLAN APPLIES TO THIS MANAGEMENT AREA.

1. Recreation

a. The recreation setting will be semi-primitive nonmotorized, roaded-natural appearing and rural. No specific dispersed campsites will be established or maintained. Minimum impact camping will continue to be emphasized.

b. Portions of the area may be permanently and/or seasonally closed to off-road vehicle (ORV) use due to wildlife considerations or fragile soils.

c. Requests for special uses permits will be considered on a case-by-case basis, with due regard to range, wildlife and soil considerations.

d. The visual quality objectives will include Retention, Partial Retention, and Modification. Management activities will be designed and implemented to blend with the natural landscape.

e. The Forest will cooperate with other groups and agencies in the location and construction of the North Country National Scenic Trail in North Dakota. The Forest Service will locate and construct its portion of the Trail across National Forest System lands on the Sheyenne Ranger District.

f. If proposed state parks are established adjacent to District boundaries, connector trails may be constructed to access the North County Trail.

g. Two or three developed recreation sites may be constructed along the North Country National Scenic Trail as the level of use warrants.

2. Wildlife and Fish

a. Range management practices including manipulation of lowland vegetation, will provide adequate residual nesting cover for upland birds. Manipulation of lowland vegetation may occur on a limited case-by-case basis during the nesting period.

b. Direct wildlife habitat improvement will be accomplished through thinning and burning of timber to encourage the production of hard and soft mast.

c. Waterfowl production projects will be coordinated with livestock use to provide beneficial use for both wildlife and livestock.

3. Range

a. Intensive grazing systems are preferred with the objective of improving range condition to good with a stable upward trend. Ecosystems may be maintained in a seral stage of plant succession if it is determined that doing so better meets the goals of the management area.

b. Allocation of forage for livestock may include a combination of lowland, midslope, and upland types. Allocation of lowland forage will be dependant upon manipulation of lowland vegetation in coordination with other resource needs.

c. Brush and forb types will be assessed for their importance to wildlife habitat (by identifying the percentage available for control) before control is initiated.

4. Timber

This management area is classified as unsuitable for timber production, however, forested areas will be managed to perpetuate or enhance existing wildlife habitat and livestock forage values. Management activities in the wooded areas may include removal of wood products, such as saw-logs, posts, and fuelwood or transplant material. These quantities will be unprogrammed and incidental to other resource needs. Silvicultural systems such as individual tree selection or shelterwood will predominate. Oak stands may be thinned or rogued to stimulate mast production and provide fuelwood.

5. Watershed

Emphasis will be given to blowout rehabilitation and other areas of soil disturbance such as off-road vehicle damaged areas.

6. Minerals and Geology

If oil and gas lease applications are received for this area:

a. Lease stipulations and timing restrictions will be applied to protect key wildlife and/or habitats (see Key Species/Critical Timing Periods in Forest Direction Wildlife section).

b. No surface occupancy stipulations will be applied to slopes exceeding 20 percent and to areas of fragile soils and mass failure hazards.

c. Development if it occurs, will be staged to prevent development of the entire management area at one time. Limited Surface Use stipulations will be used to accommodate this objective.

7. Lands

Special uses will be considered as long as they are consistent with the goals of the area.

8. Facilities

a. Generally, the existing road system is adequate for present resource management needs. Short segments of new roads may cross this area to facilitate the management area goals in this or adjacent management area(s).

b. Roads may be reconstructed and/or maintained to provide for public safety and resource protection and management.

c. Utility/energy windows or corridors may be located within this management area.

9. Fire Management

a. Wildfire Management

1) The control objective is to hold 90 percent of fire starts to less than 25 acres. Control objective acres are determined from suppression capability and the value of the resource at risk.

2) The appropriate suppression responses will be to contain, control, or confine as appropriate to meet control objectives.

b. Prescribed Fire

Planned ignitions may be used for range and wildlife enhancement, fuels and debris reduction. Unplanned ignitions will not be used as a management tool on the National Grasslands.

See the Glossary for the definitions of the above terms.

D. Schedule of Management Practices

Activity	Decade 1 (Proposed Average Annual)	Decade 2 (Proposed Average Annual)
Range		
Improvements		
Nonstructural	4,000 (acres)	4,500 (acres)
Structural (new)	15	15
Noxious Weed Containment		
CP (acres)	3,150	3,150
RBF (acres)	1,050	1,050
Wildlife and Fish		
Wildlife Habitat Impr. (struct.)	1	3
(acres)	2	6
Soil and Water		
Improvements (acres)	30	20
Trail		
Construction (miles)	2.5	0

E. Monitoring and Evaluation Requirements

The monitoring items applicable to this management area are listed below and displayed in Table III-1 at the end of this chapter. The evaluation criteria are displayed in the Monitoring Action Plan (Chapter IV, Table IV-1).

Monitoring Items

A3 Off-Road Vehicle Use
A5 Visual Resource Mgmt.
C3 Wildlife Mgmt.--Indicator Species
C5 Wildlife Mgmt.-- Livestock Related

C9 Wildlife Mgmt.--Residual Nesting Cover
D1 Livestock Numbers (Forage Utilization)
D2 Range Condition and Trend
D6 Noxious Weed Infestation
G1 Minerals Activities--Geophysical
G5 Minerals Activities--Reclamation
G6 Minerals Activities--Common Variety
G7 Minerals Activities-Locatables
G8 Minerals Activities-Unauthorized Use
L1 Road/Trail Construction
L2 Public Access
L3 Road Mgmt. Closure/Rehab.

In addition to these items there are 20 more monitoring items that are Forestwide in nature (Table III-1).

MANAGEMENT AREA B
1,210,700 ACRES

Beartooth Ranger District	52,252 acres
Sioux Ranger District	104,152 acres
Ashland Ranger District	218,799 acres
Grand River Ranger National Grasslands	161,013 acres
Little Missouri National Grasslands	674,484 acres

A. Description

This management area falls in all Ranger Districts of the Forest, except the Sheyenne District because of the limited to non-existent opportunity for the development of oil and gas resources. The physical description of this management area varies as the land within the Districts varies across the states of Montana, North Dakota and South Dakota. Generally speaking, this management area includes open grasslands, grassy slopes, ridges and mosaics which have timber stands interspersed with grasslands. The range-lands that occur in this management area have a known high potential for livestock forage production and livestock grazing has been the traditional use dating back to the times of free-roaming bison. There is habitat for various game and non-game species, such as whitetail and mule deer, antelope, uplands birds and prairie dogs. Scattered oil and gas production is occurring in this management area, although not all lands have been leased to date. There is a high probability that development and production will take place in the next ten years. It is estimated that the total area affected by the Limited Surface Use stipulation in management areas B and D is in the range of 10,000 to 15,000 acres. This is in addition to those areas where development will be restricted by other lease stipulations (i.e. 40 percent slopes or woody draws). The productive forest lands within this area are classified as suitable for timber production. It includes habitat for various game and nongame species, such as white tail and mule deer, antelope, upland birds, and prairie dogs.

B. Goal

To provide for the continuation of livestock grazing, implementation of intensive range management systems and the facilitation of minerals and energy development with consideration of other resource needs. In areas not considered key for wildlife, adverse impacts to the wildlife habitat will be mitigated where feasible, but not to the exclusion of range and mineral/energy management and development activities. In key wildlife areas, the habitat may not be adversely impacted from development activities. If the responsible official determines that resource conflicts cannot be adequately mitigated, he/she will resolve the conflicts in accordance with management area goals and if necessary in consultation with affected parties.

C. Management Standards

THE FORESTWIDE MANAGEMENT DIRECTION INCLUDED IN CHAPTER II OF THIS PLAN APPLIES TO THIS MANAGEMENT AREA.

1. Recreation

a. Semi-primitive motorized, and roaded natural recreation opportunities will be provided.

b. Visual quality objectives will include Retention, Partial Retention and Modification and management activities will be designed and implemented to blend with the natural landscape. The visual quality objective as assigned to the areas or as determined through the environmental analysis will be met by the development activities, subject to valid existing rights.

c. The VQO of Retention is assigned to the seen area of the Little Missouri Scenic River. The seen area from the Theodore Roosevelt National Park is assigned the VQO of Partial Retention. See the Minerals and Geology section of this management area for the implications to oil and gas development.

2. Wildlife and Fish

a. Emphasis will be to maintain existing fish and wildlife habitats. These habitats will be improved where improvement would be consistent with other resource needs. Established uses will have priority on existing livestock ponds where a fishery is being considered as long as the established use is still needed.

b. Coordination will be maintained with Ducks Unlimited, other private, state and Federal agencies to develop a waterfowl habitat improvement program. Identified waterfowl projects will also consider the potential for fisheries development.

3. Range

a. Intensive grazing systems are preferred with the objective of improving range condition to

good or better. Ecosystems may be maintained in a seral stage of plant succession if it is determined that doing so better meets the management objectives for the area.

b. A high density of structural range improvements is expected as a result of developing intensive range management systems. Structural range improvements such as fences, stock-water facilities, or corrals, will be used to improve livestock distribution and facilitate rangeland administration.

c. Non-structural improvements will be utilized where necessary to improve forage production and/or cover for livestock and wildlife. Priority will generally be given to areas in less than satisfactory range condition.

4. Timber

a. Forested areas will be managed to perpetuate or enhance livestock forage and wildlife habitat values. Management activities may include removal of wood products such as saw-logs, posts and fuelwood or transplant materials. Wildlife and range resources will be protected or enhanced.

b. Silvicultural systems may include either even aged or uneven aged systems. Regeneration systems may be appropriately applied to meet management area goals.

5. Minerals and Geology

a. Geophysical Operation

Geophysical operations will be facilitated in this management area by supplying resource data to the operator, identifying areas of potential conflict and specifying seasonal or timing restrictions. The intent will be to aid the operator in his effort to complete the geophysical operation. Site specific mitigation measures will be part of the permit authorizing the activity.

b. Oil and Gas Development

1) In areas of high potential for develop-menu, area development plans, including an environmental analysis, will be made that are guided by the goal of this management area. In order to facilitate oil/gas development and identify resource conflicts and necessary mitigation measures, the area development plan will address the following:

a) estimated timetable of predicted development

b) transportation systems that are adequate for timely and economic oil/gas development

c) potential well sites that create acceptable environmental impacts

d) identification of specific areas that are particularly sensitive to activities associated with oil and gas development

e) additional resource information to be utilized in environmental analyses tiered to the area plan

f) methods to speed up the permitting process to facilitate development

2) When application is made to develop a lease, an environmental analysis will be made and tiered to an area plan, if one exists for the area. This analysis will determine if the expected environmental impacts will be consistent with the goal of the management area. Mitigation measures, such as those that follow, will be determined through the environmental analysis and will be a part of the permit authorizing the activity. Some of these concerns may be addressed by stipulations already contained in the lease.

a) Minimizing adverse impacts to the range resource by actions such as dust abatement, limiting size of drill pads and other surface disturbances on suitable range, locating roads and other facilities to minimize disturbances to livestock distribution.

b) Minimizing impacts to key wildlife habitat, such as:

(1) Limiting activity and/or facility development in areas known for their value to big game species, such as small complexes of canyon or heads of canyons associated with woody draws and areas that offer valuable vegetative diversity and seclusion.

(2) Limiting activity and or facility development within 100 feet of prairie dog towns and 200 feet of grouse dancing grounds.

(3) Locating facilities off-site.

(4) Utilizing electric pump motors or down hole pumps, gated access or directional drilling.

(5) Implementing to the extent possible the surface use/timing restrictions found in the Key Species/Critical Timing Periods in the Forest Direction Wildlife section of this document.

c. New Lease Stipulations

When existing leases expire or terminate, the area will be reviewed and the following stipulations applied to the new lease where appropriate:

1) A No Surface Occupancy stipulation will be applied to areas with slopes exceeding 40 percent, fragile soils, and/or mass failure hazard. An exception is the south slope of the Pryor Mountains of the Beartooth District where the slope restriction applied to slopes over 30 percent.

2) A No Surface Occupancy Restriction (by location) stipulation will be applied to areas:

a) within 100 feet of prairie dog towns.

b) within 200 feet of grouse dancing grounds.

c) with graves and grave yards.

d) within the foreground seen area of the Little Missouri Scenic River if the visual quality objective of Retention cannot be met by using conventional methods.

e) within the foreground and middle-ground seen area of the Theodore Roosevelt National Park if the visual quality objective of Partial Retention cannot be met by using conventional methods.

3) A Limited Surface Use stipulation will be applied to areas known for their value to big game species, such as small complexes of canyon or heads of canyons associated with woody draws and areas offering valuable vegetative diversity and seclusion. These areas are usually small, less than one square mile. See Appendix V. Development in these areas will only be recommended for approval when the operator can demonstrate that the area is essential for the operation and an operating plan is provided that sufficiently mitigates adverse impacts. This stipulation may require actions such as off-site production facilities, electric pump motors or down hole pumps, gated access and directional drilling to minimize disturbance to key habitats.

4) If a Limited Surface Use stipulation will not sufficiently provide for the mitigation of wildlife habitat impacts, a No Surface Occupancy stipulation will be applied.

6. Lands

Special uses may be considered as long as they are consistent with the goal of the area.

7. Facilities

a. Where possible, existing roads will be utilized for mineral activities. The arterial and collector system will be maintained for public use. Roads may be reconstructed to provide public safety and resource protection and management. Roads will not be constructed on slopes of 40 percent or greater. Exception may be made for short distances, i.e. one-quarter mile or less, where this will minimize the total impacts to the area.

b. Utility/energy windows or corridors may be located within this management area.

c. Oil and gas development within this management area could occur in scattered areas resulting in approximately one to two miles of road per square mile on initial entry and up to six miles per square mile with secondary and tertiary recovery within the activity area.

8. Fire Management

a. Wildfire Management

1) The control objective is to hold 90 percent of fire starts to less than 50 acres.

2) The appropriate suppression responses may vary from contain to confine or control based on location and fire danger.

b. Prescribed Fire

Planned ignitions may be used for range and wildlife enhancement, fuels and debris reduction. Unplanned ignitions will not be used as a management tool on the National Grasslands, but may be used on National Forest Districts to enhance range and wildlife values and restore the natural fire frequency. Acceptance and use of unplanned ignitions will be with a plan approved by the Forest Supervisor. The fire management plan will address specific requirements of the site, weather, expected fire behavior, and fuel conditions necessary for declaring an unplanned ignition a prescribed fire.

D. Schedule of Management Practices

Activity	Decade 1 (Proposed Average Annual)	Decade 2 (Proposed Average Annual)
Range		
Improvements		
Nonstructural		
RBF (acres)	2,000	1,750
CP (acres)	4,100	3,850
Structural		
RBF (structures)	45	45
CP (structures)	56	60
Noxious Weed Control		
P&M (acres)	1,800	1,800
CP (acres)	2,200	2,200
Wildlife and Fish		
Wildlife Habitat Impr. (struct.)	5	18
(acres)	190	407
Fish Habitat Impr. (struct.)	10	15
Habitat affected (acres)	4	6
Soil and Water		
Improvements (acres)	60	60
Road		
Construction (miles)	to be determined at project analysis	
Reconstruction (miles)	to be determined at project analysis	

E. Monitoring and Evaluation Requirements

The monitoring items applicable to this management area are listed below and displayed in Table III-1 at the end of this chapter. The evaluation criteria are displayed in the Monitoring Action Plan (Chapter IV, Table IV-1).

Monitoring Items

A3 Off-Road Vehicle Use
A5 Visual Resource Mgmt.
C1 Wildlife Habitat Mgmt.--Oil and Gas Related
C3 Wildlife Mgmt.--Indicator Species

C5 Wildlife Mgmt.--Livestock Related
C7 Wildlife Mgmt.--Prairie Dog Mgmt.
C10 Instream Habitat and Fish Numbers
D1 Livestock Numbers (Forage Utilization)
D2 Range Condition and Trend
D6 Noxious Weed Infestation
E1 Suitable Land Evaluation
E2 Reforestation
E3 Size of Openings
E4 Silvicultural Assumptions
E6 Timber Yields and Acres Harvested
F1 Water Quality
F2 Soil/Water Improvements
F5 Air Quality--H_2S/SO_2 Emissions
G1 Minerals Activities--Geophysical
G5 Minerals Activities--Reclamation
G6 Minerals Activities-Common Variety
G7 Minerals Activities-Locatables
G8 Minerals Activities-Unauthorized Use
L1 Road/Trail Construction
L2 Public Access
L3 Road Mgmt. Closure/Rehab.

In addition to these items there are 20 more monitoring items that are Forestwide in nature (Table III-1).

MANAGEMENT AREA C
71,189 ACRES

Beartooth Ranger District ..... 25,435 acres
Sioux Ranger District ..... 16,320 acres
Grand River National Grassland ..... 874 acres
Little Missouri National Grasslands ..... 28,560 acres

A. Description

This Management Area includes specific areas known to be important for the perpetuation of selected wildlife species (elk, bighorn sheep, raptors, grouse, and grizzly bear). Elk habitat is defined in terms of wallows as part of the breeding complex occurring in moist sites within dense timber, calving areas in open meadows surrounded by timber, and winter range, usually occurring on southeast facing grassy slopes with some tree cover. These areas are located on the Beartooth District in south-central Montana. Bighorn sheep habitat and elk habitat in North Dakota is somewhat more difficult to define as it occurs in the badland/prairie complexes in the Little Missouri National Grasslands in western North Dakota and is usually undeveloped by management activities. This management area includes bighorn sheep habitat that is currently occupied, as well as identified potential release areas. The entire rimrock ecosystem of the Sioux District, falling in the corner of southeastern Montana and northwestern South Dakota, is the vital habitat for raptors. This is a rocky landform elevated about the surrounding grass/timber complex and includes sandstone and limestone cliffs.

The following chart shows these areas and the specie(s) of wildlife for which the area will be managed:

B. Goal

To manage these key wildlife habitat areas for the optimum quality and diversity that the land can offer. Other resource activities will be modified to maintain or improve the existing habitat. If the responsible official determines that resource conflicts cannot be adequately mitigated, he/she will resolve the conflicts in accordance with management area goals and if necessary in consultation with affected parties.

C. Management Standards

THE FORESTWIDE MANAGEMENT DIRECTION INCLUDED IN CHAPTER II OF THIS PLAN APPLIES TO THIS MANAGEMENT AREA.

1. Recreation

a. No specific dispersed campsites will be established or maintained. Minimum impact camping will continue to be emphasized.

b. Portions of big game range will be closed to off-road vehicles seasonally as determined by on-the-ground evaluation.

c. Vehicles including snowmobiles may be restricted on big game winter range as needed to meet wildlife needs.

d. Visual quality objectives will include Retention, Partial Retention and Modification and

STATE	RANGER DISTRICT	AREA	SPECIES	COMMENTS
Montana	Beartooth	Line Creek Plateau	Elk	
"	"	Slough Creek	Grizzly	Management Situation I travel corridor
South Dakota	Sioux	Wildlife exclosures	Grouse	One area 640 A. One area 160 A. Many small (1 A) areas
North Dakota	Medora	Bullion Buttes	Bighorn Sheep	These areas are known to be current habitat or release site
"	"	Dutchman's Barn	Bighorn Sheep	
"	"	Elkhorn Ranch Site	Bighorn Sheep	
"	"	Moody Plateau	Bighorn Sheep	
"	"	Wannagan Creek	Bighorn Sheep	
North Dakota	McKenzie	Burnt Creek	Elk	
"	"	Lone Butte	Bighorn sheep	

management activities will be designed and implemented to blend with the natural landscape. The VQO for the seen area from Theodore Roosevelt National Park is determined to be Partial Retention. The VQO for the seen area from the Little Missouri Scenic River is determined to be Retention.

2. Wildlife and Fish

a. Emphasis will be placed on improving the wildlife habitat.

b. Implementation schedules will be developed for this management area and will be coordinated with other federal and state agencies and grazing associations. They will address:

1) Habitat and population goals for wildlife species

2) Quantity and quality of vegetation (i.e., residual nesting cover or thermal cover) necessary to meet the identified habitat and population goals

3) Management practices, including direct habitat improvement projects and mitigation measures of other resource activities, necessary to provide desired conditions

4) Methods to maintain or improve a diversity of habitats to provide for a variety of wildlife species in addition to the emphasis species

5) Methods to integrate the management direction from Management Areas M (Riparian areas) and N (Woody draws) into an overall management program

c. Management practices to be undertaken to maintain or enhance wildlife habitat may including any of the following:

1) Rejuvenation of plant species by prescribed fire

2) Protection of fragile habitats by fencing

3) Development of water sources

4) Timber harvesting to meet wildlife habitat needs

5) Development of food plots

6) Retention and creation of snags

d. The Line Creek Elk habitat area will be managed to improve elk winter range to good or better conditions. Other uses are allowed to the extent that they do not conflict with elk use.

e. Raptor habitat management will include activities such as nest site creation through blasting openings in rock faces or constructing artificial perch sites. The major thrust of management will be to protect the habitat during critical periods from activities that may reduce the value. Raptor research and habitat studies will be encouraged and data collected will be used to develop future raptor management practices.

f. Vegetative manipulation techniques will be used to increase the abundance and vigor of plants determined as key for elk and bighorn sheep forage. Winter ranges will be managed to improve the quantity and quality of forage and to provide adequate cover (thermal and hiding), if necessary, individual guidelines will be developed.

g. If potential bighorn sheep release areas are re-evaluated and determined not suitable for stocking, the area will revert to management area D or J, consistent with the adjoining land.

h. All activities proposed within Management Situation I for grizzly bear (Slough Creek) will be consistent with the direction presented in the publication "Guidelines for Management involving Grizzly Bears in the Greater Yellowstone Area." Grizzly Bear Management Situation I areas are not to be leased for oil and gas.

3. Range

a. Livestock grazing use will be modified as needed to meet wildlife habitat needs. By allocating forage to big game habitat needs, there may be limited AUM's available for domestic livestock in the key portions of these areas. Current allotment status will be retained. Stocking and season of use may be adjusted where needed to enhance wildlife habitats. On key areas, deferment of grazing from April 15 to July 15 every other year will be considered.

b. Range improvements may be constructed on the key portions of these areas in accordance with the implementation plans for wildlife and fish management.

c. Noxious weeds will be controlled by an integrated control program. Where the use of chemicals is needed further analysis using NEPA procedures may be required.

4. Timber

a. The timber resource will be managed only to protect or enhance existing and potential habitat of key wildlife habitat or fish species.

b. Fuelwood harvesting will be permitted to the extent that it meets resource goals of the area.

c. This management area contains lands suitable for timber management.

5. Minerals and Geology

a. Geophysical operations may be restricted or prohibited during critical time periods (see Key Species/Critical Timing Periods in Forest Direction Wildlife section) depending on type of operations and seasonal conditions. An environmental analysis will identify the necessary mitigation measures to minimize adverse impacts. These will be specified in the permit

authorizing the activity. Minimal impact techniques may be required. Geophysical activities will not be permitted on the Line Creek elk herd management area of the Beartooth Ranger District during big game rifle hunting season.

b. For lands currently under lease, an environmental analysis will be made to identify the necessary mitigation measures to minimize the adverse impacts to wildlife habitat. These measures will be a part of the permit authorizing the mineral management activity. Such measures may include, but are not limited to:

1) Limiting activities and/or facility development in areas known for their value to big game species, such as small complexes of canyon or heads of canyons associated with woody draws and areas offering valuable vegetative diversity and seclusion

2) Considering actions such as off-site production facilities, electric pump motors or down hole pumps, gated access and directional drilling to minimize disturbances to key habitat

3) Limiting activity and/or facility development within 100 feet of prairie dog towns and 200 feet of grouse dancing grounds.

c. When existing leases expire or terminate, the new lease will contain a No Surface Occupancy stipulation. For areas not accessible by directional drilling, mineral withdrawal will be considered.

d. Permits will not be issued for the removal of mineral materials.

e. New pipelines and/or transmission lines will not be constructed except to serve private and/or State lands/minerals or Federal mineral leases existing on the implementation date of this Plan. However, the existing pipeline corridor crossing the Moody Plateau on the Medora Ranger District will be retained and utilized as necessary.

6. Lands

a. Special uses may be considered as long as they are consistent with the goals of the area.

b. Isolated parcels of private or state lands within this management area will have a high priority for acquisition (by exchange) if offered by a willing landowner. This is particularly true of areas containing key wildlife habitats.

7. Facilities

a. Roads will be routed to minimize loss of wildlife and fish habitat. At the end of their use period, the roads will be obliterated and rehabilitated or put to bed for future use. Construction will not be permitted during critical periods for wildlife and fish. New road designs will include provisions to enable restrictions of use, i.e. gates or barricades.

b. Any road proposed in occupied grizzly bear habitat will be evaluated through a cumulative effects analysis for grizzly bears.

c. Existing county and Forest Service arterial and collector roads will be maintained and reconstructed/upgraded as necessary. This may include realignment or relocation to meet public safety requirements, reduce erosion or reduce/ eliminate conflicts with wildlife and fish habitat.

d. Beartooth District

1) Travel is permitted on FR 3009 yearlong.

2) The need for jeep roads in Mill Draw, Ruby Draw, Gold Creek and the NF Line Creek will be analyzed using input from interested groups and agencies.

3) All other roads in this management area on Beartooth District will be closed from December 1 to May 15.

e. Remaining Districts

Existing roads will be evaluated for their effect upon wildlife habitat and may be closed or seasonally restricted.

f. New energy/utility corridors will be avoided in this area. Existing corridors will be retained.

8. Fire Management

a. Wildfire Management

1) The control objective is to hold 90 percent of fire starts to less than 100 acres.

2) The appropriate suppression responses will be contain, control and confine, except on the National Grasslands where confine will not be appropriate.

b. Prescribed Fire

Planned ignitions may be used to meet short-term and long-term wildlife goals. Unplanned ignitions will not be used as a management tool on the National Grasslands. Unplanned ignitions may be used as prescribed fire on National Forest Districts under an approved fire management plan to enhance wildlife habitat values.

D. Schedule of Management Practices

Activity	Decade 1 (Proposed Average Annual)	Decade 2 (Proposed Average Annual)
Range		
Improvements		
Nonstructural		
RBF (acres)	25	25
CP (acres)	50	50
Structural		
RBF (structures)	1	1
CP (structures)	1	1
Noxious Weed Control		
P&M (acres)	50	50
CP (acres)	50	50

Activity	Decade 1 (Proposed Average Annual	Decade 2 (Proposed Average Annual)
Wildlife and Fish		
Wildlife Habitat Impr. (struc.)	6	10
(acres)	8	15
Fisheries Habitat Impr. (structures)	1	2
Soil and Water Improvements (acres)	10	10

E. Monitoring and Evaluation Requirements

The monitoring items applicable to this management area are listed below and displayed in Table III-1 at the end of this chapter. The evaluation criteria are displayed in the Monitoring Action Plan (Chapter IV, Table IV-1).

Monitoring Items

A3 Off-Road Vehicle Use
C1 Wildlife Habitat Mgmt.--Oil and Gas Related
C3 Wildlife Mgmt.--Indicator Species
C5 Wildlife Mgmt.--Livestock Related
C10 Instream Habitat and Fish Numbers
D1 Livestock Numbers (Forage Utilization)
D2 Range Condition and Trend
D6 Noxious Weed Infestation
E1 Suitable Land Evaluation
E2 Reforestation
E3 Size of Openings
E4 Silvicultural Assumptions
E6 Timber Yields and Acres Harvested
F1 Water Quality
F2 Soil/Water Improvements
F5 Air Quality--H_2S/SO_2 Emissions
G1 Minerals Activities--Geophysical
G5 Minerals Activities--Reclamation
G6 Minerals Activities-Common Variety
G7 Minerals Activities-Locatables
G8 Minerals Activities-Unauthorized Use
L1 Road/Trail Construction
L2 Public Access
L3 Road Mgmt. Closure/Rehab.

In addition to these items there are 20 more monitoring items that are Forestwide in nature (Table III-1).

MANAGEMENT AREA D
301,044 ACRES

Beartooth Ranger District ..... 63,434 acres
Sioux Ranger District. ..... 25,950 acres
Ashland Ranger District ..... 136,680 acres
Little Missouri National Grasslands ..... 74,980 acres

A. Description

This multiple-use management area includes the areas that are important to the perpetuation of selected wildlife and fish species. These selected wildlife species vary by Ranger District and by area and govern specific management direction by area and by Ranger District. These selected species are not indicator species, but are species for which management is prescribed for by area and by Ranger District.

This management area exists on all Ranger Districts, except the Sheyenne and Grand and Cedar River National Grasslands. It encompasses nearly all of the ecosystems found on the Custer National Forest and National Grasslands. This area highlights the habitat needs for the selected species, which will be of primary concern. However, all other wildlife and fish species (non-selected) which occur within the specific areas, will be considered. Included are timbered areas, grass/timber complexes and rangelands. Water sources include stockwater ponds, reservoirs, live stream and creeks. There are also valuable oil and gas reserves underlying these areas, particularly in North Dakota. To compensate for this, a special stipulation has been developed for new leases. It is estimated that the total area in Management Areas B and D, in addition to those areas where development will be restricted by other lease stipulations, i.e. slopes over 40 percent, woody draws and similar situation, affected by this stipulation is between 10,000 to 15,000 acres.

The link that ties heterogeneous parcels of land together is the habitat that it provided for the various select species often times on intermingled or adjacent private lands and the coordination of management activities that will be necessary to maintain or improve the habitat condition.

Ranger District or Grassland	Selected Species
Beartooth Ranger District	Elk, Bighorn Sheep, Black Bear, Moose
Sioux Ranger District	Whitetail, Turkey, Mule Deer
Ashland Ranger District	Mule Deer
Little Missouri National Grassland	Sharptailed Grouse, Elk, Mule Deer

B. Goal

To maintain or improve the long-term diversity and quality of habitat for the selected species identified by Ranger District as well as accommodating other resource management activities such as timber harvest, livestock grazing, and oil and gas development. Some short-term habitat impacts may be necessary to achieve long-term wildlife goals. This goal will be achieved through direct wildlife habitat improvement, as well as selecting, scheduling and implementation of cultural practices associated with other multi-resource management activities. Efforts will be made to avoid or mitigate resource conflicts. If the responsible official determines that conflicts cannot be adequately mitigated, she/he will resolve the conflict in accordance with the management area goal and, if necessary, in consultation with affected parties.

C. Management Standards

THE FORESTWIDE MANAGEMENT DIRECTION INCLUDED IN CHAPTER II OFTHIS PLAN APPLIES TO THIS MANAGEMENT AREA.

1. Recreation

a. The travel plan for these areas will provide reasonable access for public recreation, hunting, and range maintenance and administration, but will confine motorized vehicles to specific roads and trails during critical periods to protect wildlife and other resources.

b. Access control structures may be used to protect occupied, sensitive habitat areas. Access control might extend outside the boundary of the management areas if necessary to provide a buffer from traffic.

c. Visual quality objectives will include Retention, Partial Retention and Modification and management activities will be designed and implemented to blend with the natural landscape. The VQO of Retention is assigned to the seen area of the Little Missouri Scenic River. The seen area from the Theodore Roosevelt National Park is assigned the VQO of Partial Retention.

2. Wildlife and Fish

a. Emphasis will be placed on maintaining or improving wildlife habitats.

b. Implementation guidelines will be developed as needed to meet the intent of the goal for this management area and will address:

1) Habitat and population goals for the selected species.

2) Quality and quantity of vegetation, i.e. residual nesting cover or thermal cover, necessary to meet the identified habitat and population goals.

3) Management practices, including direct habitat improvement projects and mitigation measures of other resource activities, necessary to provide the desired conditions.

4) Methods to maintain or improve a diversity of habitats to provide for a variety of wildlife species in addition to the emphasis species

5) Methods to integrate the management direction from management areas M (riparian areas) and N (woody draws into an overall management program.

3. Range

a. On key wildlife areas (refer to the Glossary for a definition of terms), range management will be aimed at mitigating adverse impacts to wildlife. On the remainder of the management areas, range management practices will be consistent with the wildlife habitat needs.

b. Grazing systems in appropriate areas will be encouraged which provide adequate residual nesting cover for sharptail grouse.

c. Prescribed fire may be used for enhancement or maintenance of range forage productivity and diversity for livestock and/or wildlife. Prescribed fire plans and prescription will be approved prior to any prescribed fire.

d. Noxious weeds will be controlled using an integrated system of control. On those areas where chemicals are used additional analysis by an appropriate NEPA procedure may be needed.

4. Timber

a. This management area contains lands considered suitable for timber management. Timber management activities will be guided by silvicultural prescriptions based upon stand examinations and wildlife analysis. Silvicultural prescriptions will identify timber treatments that will perpetuate or improve key wildlife habitat and livestock forage. Silvicultural prescriptions may include either even aged or uneven aged systems. Productive forest lands within this area are suitable for timber production.

b. Knutson-Vandenberg funds collected from sale of forest products will first be programmed for regeneration as required by law. Other wildlife habitat improvement treatments will receive priority for funding after regeneration concerns are met.

c. Wildlife analysis for stand treatment and harvest will include:

1) Evaluation of the cumulative impacts as part of the analysis for each timber sale.

2) Identification of wildlife objectives for the area.

3) Identification of opportunities for applying Knutson-Vandenberg Act collections to protect or enhance habitat.

4) Analysis of wildlife values and impacts including, but not limited to, the following: forage cover ratios pre-and post-sale; snag densities; access roads to be closed; winter range requirements; and roost areas.

d. Silvicultural treatments in the Ponderosa Pine stands in North Dakota will be done only to perpetuate the pine stands.

e. Cutting of junipers for posts or removal of hardwoods for firewood will be allowed for local use, but only where hiding and thermal cover for wildlife species are maintained and/or where desirable to silviculturally improve the stands, except in the Pryor Mountains of the Beartooth District where cutting of juniper is prohibited.

5. Minerals

a. Geophysical Operations

1) Geophysical operations will be facilitated in this management area by supplying resource data to the operator, identifying areas of potential conflict and specifying seasonal or timing restrictions. The intent will be to minimize adverse impacts to other resources. Site specific mitigation measures will be part of the permit authorizing the activity.

2) Geophysical operations using explosives and/or helicopters may be prohibited on key elk winter range and bighorn sheep areas during the period of use (See Key Species/Critical Timing Periods in the Forest Direction Wildlife section).

b. Oil and Gas Development

1) In areas of high potential for development, area development plans will be developed that are guided by the goals of this management area. In order to facilitate oil and gas development and identify resource conflicts and necessary mitigation measures, the area plan will address the following:

a) Estimated timetable of predicted development

b) Transportation systems that minimize adverse impacts to wildlife habitat

c) Potential well sites that minimize adverse impacts to wildlife habitat

d) Identification of specific areas that are particularly sensitive to activities associated with oil and gas development

e) Additional resource information to be utilized in environmental analyses tiered to the area plan

2) When application is made to develop a lease, an environmental analysis will be made and tiered to an area plan, if one exists for the area. This analysis will determine if the expected environmental impacts will be consistent with the goal of the management area. Mitigation measures, such as those that follow, will be determined through the environmental analysis and will be a part of the permit authorizing the activity. Some of these concerns may be addressed by stipulations already contained in the lease.

a) Minimizing adverse impacts to the range resource by actions such as dust abatement, limiting size of drill pads and other surface disturbances on suitable range, locating roads and other facilities to minimize disturbances to livestock distribution.

b) Minimizing impacts to key wildlife habitat, such as:

(1) Limiting activity and/or facility development in areas known for their value to big game species, such as small complexes of canyon or heads of canyons associated with woody draws and areas that offer valuable vegetative diversity and seclusion.

(2) Limiting activity and or facility development within 100 feet of prairie dog towns and 200 feet of grouse dancing grounds.

(3) Locating facilities off-site.

(4) Utilizing electric pump motors or down hole pumps, gated access or directional drilling.

(5) Implementing to the extent possible the surface use/timing restrictions found in the Key Species/Critical Timing Periods in the Forest Direction Wildlife section of this document.

c) The visual quality objective as assigned to the areas or as determined through the environmental analysis will be met by the development activities, subject to valid existing rights.

3) The VQO of Retention will be met within the seen area of the Little Missouri Scenic River. The VQO of Partial Retention will be met within the seen area of the Theodore Roosevelt National Park. If these objective cannot be met by using existing techniques, a No Surface Occupancy stipulation will be used in the new leases for the areas.

c. New Lease Stipulations

When lease applications are received or existing leases expire or terminate, the area will be reviewed and the following stipulations applied to the new lease where appropriate:

1) A No Surface Occupancy stipulation will be applied to slopes exceeding 40 percent and to areas of fragile soils with a mass failure hazard.

2) A Surface Occupancy Restriction stipulation will be applied to the following areas (NSO by location):

a) within 100 feet of prairie dog towns

b) within 200 feet of grouse dancing grounds

c) graves and grave yards

3) An activity coordination stipulation will be required to restrict the number and/or location of concurrent drilling activities where intensive development or cumulative impacts may significantly affect other key resources.

4) Tracy Mountain-Moody Plateau and Bullion Butte-Ponderosa Pine areas of the Medora Ranger District will require a No Surface Occupancy stipulation. However an exception will be granted if oil and gas production is established on an adjacent private/state lands; if this occurs, surface occupancy will be allowed on the adjacent spacing unit of federal ownership in order to protect the federal mineral estate

5) On the National Grassland District, a Limited Surface Use lease stipulation will be applied to areas that due to their ecological make-up (i.e. vegetative diversity, steep slopes, and exposure), seclusion and unique ecosystem relationships (i.e. a small complex of canyons or heads of canyons associated with woody draws), provide high value wildlife habitat, which could be significantly disrupted by the siting of oil and gas development facilities. These areas are generally small, i.e. less than a square mile. Site specific application of this stipulation will consider the goal for the management area. Development in these areas will only be recommended for approval when the operator can demonstrate that the area is essential for his operations and can provide an operating plan which will sufficiently mitigate the impacts. Mitigation may necessitate such things as off-site production facilities, electric pump motors/down hole pumps, gated access, or directional drilling. See Appendix V for an example. If at the time of developing lease recommendation, it is apparent that the impact associated with siting facilities could not be mitigated, then a No Surface Occupancy stipulation may be applied to these relatively small areas.

d. Mineral Materials

The removal of mineral material in the Tracy Mountain-Moody Plateau and Bullion Butte-Ponderosa Pine areas will not be permitted unless needed for existing county or forest roads.

6. Lands

a. Isolated parcels of private or state land within these management areas will have high priority for acquisition (by exchange) if offered by a willing landowner.

b. Special uses may be permitted if they are consistent with the goals of this area.

7. Facilities

a. Access roads needed to meet legal obligations will be provided as required, but roads will be routed to minimize loss of wildlife habitat. Roads will not be constructed on slopes of 40 percent or greater. Exceptions may be made for short distances, i.e. one-quarter mile or less where this will minimize the total impacts to the area.

b. Roads programmed for construction or reconstruction in the Capital Investment program will be scheduled to provide flexibility in the use of timber harvest as a tool for wildlife habitat improvement.

c. Existing county and Forest Service arterial and collector roads will be maintained and reconstructed/upgraded as necessary. This may include road realignment/relocation where necessary to meet public safety requirements and/or reduce erosion problems associated with these roads.

d. Energy/utility corridors may be located within this area.

e. Underground pipelines and powerlines will be allowed in this Management Area, but construction activities will be prohibited during key wildlife use periods (see Key Species/Critical Timing Periods in Forest Direction Wildlife section) and may require rehabilitation using plant species favored by Wildlife for cover and/or forage.

8. Fire Management

a. Wildfire Management

1) The control objective is to hold 90 percent of fire starts to less than 50 acres

2) The appropriate suppression response may vary from contain, to control, to confine

b. Prescribed Fire

Planned ignitions may be used for range improvement and wildlife habitat, timber stand maintenance, fuels reduction, sanitation, main raining vegetation, and associated wildlife habitat dependent on periodic fire. Unplanned ignitions will not be used as a management tool on the National Grasslands. Unplanned ignitions may be used as prescribed fire on National Forest Districts under an approved fire management plan. See the Glossary for definitions of these terms.

D. Schedule of Management Practices

Activity	Decade 1 (Proposed Average Annual)	Decade 2 (Proposed Average Annual)
Range		
Improvements		
Nonstructural		
RFS (acres)	100	100
CP (acres)	280	280
Structural		
RBF (structures)	3	3
CP (structures)	6	6
Noxious Weed Control		
P&M (acres)	100	100
CP (acres)	100	100
Wildlife and Fish		
Wildlife Habitat Impr. (struc.)	25	60
(acres)	30	80
Fish Habitat Impr. (struc.)	2	4
Soil and Water		
Improvements (acres)	50	50
Timber		
Final Harvest (MBF)	40	
Acres Affected	8	
Overstory Removal (MBF)		400
Acres Affected		76
Road		
Construction (miles)		.5
Reconstruction (miles)		.5

E. Monitoring and Evaluation Requirements

The monitoring items applicable to this management area are listed below and displayed in Table III-1 at the end of this chapter. The evaluation criteria are displayed in the Monitoring Action Plan (Chapter IV, Table IV-1).

Monitoring Items

A3 Off-Road Vehicle Use
A5 Visual Resource Mgmt.
C1 Wildlife Habitat Mgmt.--Oil and Gas Related
C3 Wildlife Mgmt--Indicator Species
C5 Wildlife Mgmt.--Livestock Related
C7 Wildlife Mgmt.--Prairie Dog Mgmt.
C9 Wildlife Mgmt.--Residual Nesting Cover
C10 Instream Habitat and Fish Numbers
D1 Livestock Numbers (Forage Utilization)
D2 Range Condition and Trend
D6 Noxious Weed Infestation
E1 Suitable Land Evaluation
E2 Reforestation
E3 Size of Openings
E4 Silvicultural Assumptions
E6 Timber Yields and Acres Harvested
F1 Water Quality
F2 Soil/Water Improvements
F5 Air Quality--H_2S/SO_2Emissions
G1 Minerals Activities--Geophysical

G5 Minerals Activities--Reclamation
G6 Minerals Activities-Common Variety
G7 Minerals Activities-Locatables
G8 Minerals Activities-Unauthorized Use
L1 Road/Trail Construction
L2 Public Access
L3 Road Mgmt. Closure/Rehab.
P1 Fuel Treatment Outputs
P4 Insect and Disease

In addition to these items there are 20 more monitoring items that are Forestwide in nature (Table III-1).

MANAGEMENT AREA E
233,024 ACRES

Beartooth Ranger District ..... 23,381 acres
Sioux Ranger District ..... 11,243 acres
Little Missouri National Grasslands ..... 198,400 acres

A. Description

These are areas of high mineral potential and existing mineral development activities, including developed oil fields in the Little Missouri National Grasslands, the Stillwater Complex on the Beartooth District and the oil development in the North Cave Hills of the Sioux District. The lands of the Little Missouri National Grasslands encompass the highly erodable badlands along the Little Missouri River and the resilient mid-grass prairie lying above the badlands. The Stillwater Complex, containing the largest concentration of platinum-group elements known to exist in the United States, is from 1 to 5 miles wide and 28 miles long, crossing the Boulder and Stillwater River valleys. The portion crossing the Stillwater River valley is a part of the Beartooth District in south-central Montana and is the only portion in this management area. The remainder of the Complex falls on the Gallatin National Forest. The North Cave Hills lie in northwest South Dakota and are characterized by forested areas composed of sandstone buttes and hill rising 300-1000 feet above the surrounding grasslands.

B. Goals

To facilitate and encourage the exploration, development and production of energy and mineral resources from the National Forest System lands. Other resources will be considered and impacts will be mitigated to the extent possible through standard operating procedures, and, on a limited basis, through special lease stipulations necessary to manage key surface resources. Energy/mineral development will not be precluded by these resource concerns within legal constraints. Efforts will be made to avoid or mitigate resource conflicts. If the responsible official determines that conflicts cannot be adequately mitigated, she/he will resolve the conflict in accordance with the management area goal and, if necessary, in consultation with affected parties.

C. Management Standards

THE FORESTWIDE MANAGEMENT DIRECTION INCLUDED IN CHAPTER II OF THIS PLAN APPLIES TO THIS MANAGEMENT AREA.

1. Recreation

a. The recreation setting will generally be roaded natural and rural, although small areas of semiprimitive motorized will occur throughout the area.

b. The Visual Quality Objective will include Retention, Partial Retention and Modification Short-term degradation will likely occur during mineral development that will not meet the assigned VQO of the area. Emphasis will be on rehabilitation immediately after the development phase and at the completion of production.

c. The VQO of Retention is assigned to the seen area of the Little Missouri Scenic River. The seen area from the Theodore Roosevelt National Park is assigned the VQO of Partial Retention.

2. Wildlife and Fish

Key wildlife habitats will be considered in the environmental analyses for mineral development activities. Habitats that will be considered include grouse dancing and strutting grounds, raptor nesting sites, prairie dog towns and key big game habitats. To the extent that mineral development is not unreasonably encumbered, specific mitigating measures will be made to reduce impacts on wildlife habitats from surface-disturbing activities.

3. Range

a. Specific mitigating measures will be made to reduce impacts on livestock forage values from surface-disturbance activities, to the extent that the development activities are not unduly restricted. Relocating existing range improvements will be done as necessary to accomplish oil and gas development.

b. Intensive grazing systems are preferred with the objective of improving range condition to "good" or better. Temporary reductions in stocking may be necessary due to reductions or loss of suitable range. Non-structural improvements will be given priority where necessary to offset forage losses as a result of oil and gas development.

4. Timber

a. Forested areas will be managed to perpetuate or enhance existing livestock forage and wildlife habitat values. The management area contains areas suitable for timber management.

b. Unprogrammed amounts of wood products may be harvested with the objectives of perpetuating or enhancing long-term values of range, wildlife, and visual values.

c. Silvicultural systems that emphasize individual or group selection methods will predominate. Other systems may be appropriately applied to meet the Management Area goal.

d. Where possible, forest products will be sold that would otherwise be lost or damaged due to oil and gas development. This would include situations, such as the clearing needed for roads and pipelines for oil development.

5. Minerals end Geology

a. Geophysical Operations

Geophysical operations will be facilitated in this management area by supplying resource data to the operator, identifying areas of potential conflict and specifying seasonal or timing restrictions. The intent will be to aid an operator in his effort to complete the geophysical operation.

b. Oil and Gas Development

1) Current, as well as secondary and tertiary, of the oil and gas resources will be facilitated.

2) Area development plans will be prepared for areas with a high potential for development, if one has not already been completed. These plans will contain an environmental analysis, be guided by the goal of this Management Area and will address the following:

a) Estimated timetable for predicted development.

b) Transportation systems that are adequate for timely and economic oil and gas development, consistent with sound surface management considerations.

c) Potential well sites minimizing environmental impacts.

d) Identification of specific areas that are particularly sensitive to activities associated with oil and gas development.

e) Additional resource information to be utilized in environmental analyses, tiered to the area plan.

f) Methods to speed up the permitting process to facilitate development.

3) When an application is received to develop a lease, an environmental analysis will be done and tiered to the area plan, if one exists for the area. This analysis will determine if the expected environmental impacts will be consistent with the goal of the Management Area. Mitigation measures, such as those that follow, will be determined through the environmental analysis and will be a part of the permit authorizing the activity. Some of these concerns may be addressed in stipulations already contained in the lease:

a) Minimizing adverse impacts to the range resource by actions such as dust abatement, limiting size of drill pads and other surface disturbances on suitable range, locating roads and other facilities to minimize disturbances to livestock distribution.

b) Minimizing impacts to key wildlife habitat, such as:

(1) Limiting activity and/or facility. development in areas known for their value to big game species, such as small complexes of canyon or heads of canyons associated with woody draws and areas offer valuable vegetative diversity and seclusion. (See sample area displayed in Appendix V.)

(2) Limiting activity and or facility development within 100 feet of prairie dog towns and 200 feet of grouse dancing grounds·

(3) Locating facilities off-site.

(4) Utilizing electric pump motors or down hole pumps, gated access or directional drilling·

(5) Implementing to the extent possible the surface use/timing restrictions found in the Key Species/Critical Timing Periods in the Forest Direction Wildlife section of this document.

4) The visual quality objective as assigned to the areas or as determined through the environmental analysis will be met by the development activities, subject to valid existing rights.

c. New Lease Stipulations

When existing leases expire or terminate, the area will be reviewed and the following stipulations applied to the new leases where appropriate:

1) No Surface Occupancy stipulation to areas with slopes of 40 percent or greater, fragile soils, and/or mass failure hazard.

2) Surface Occupancy Restriction stipulation requiring timing considerations as shown in the Key Species/Critical Timing Periods in Forest Direction Wildlife section. These distances may be reduced if the area is screened by topography or vegetation.

d. Locatable Minerals

Hardrock mining proposals will require a specific environmental assessment or environmental impact statement. These will be coordinated with other federal agencies who have direct responsibilities for minerals on National Forest Systems lands, state and local governments and industry, as appropriate. Additional direction is found in the Locatable Minerals section of Forestwide direction of this document.

6. Facilities

a. Road construction will be primarily for the development of oil and gas resources and locatable minerals. Roads will not be constructed on slopes of 40 percent or greater. Exceptions may be made for short distances, i.e., one-quarter mile or less where this would minimize the total impacts to the area. Road densities will average about two miles per square mile during initial development. Secondary and tertiary recovery could increase this mileage to a total of five to six miles per square mile.

b. Arterial and collector roads when constructed will be maintained for public use.

c. Energy/utility windows or corridors may be located within this area.

7. Lands

Special uses may be considered as long as they are consistent with the goals for the area.

8. Fire Management

a. Wildfire Management

1) The control objective for this management area will be to hold 90 percent of fire starts to less, than 30 acres.

2) The appropriate suppression responses will vary between control and contain, based on factors such as location and fire danger. The suppression response of confine is not appropriate in this management area.

b. Prescribed Fire

Planned ignitions may be used for range and wildlife enhancement, fuels and debris reduction. Unplanned ignitions will not be used as a management practice.

D. Schedule of Management Practices

Activity	Decade 1 (Proposed Average Annual)	Decade 2 (Proposed Average Annual)
Range		
Improvements		
Nonstructural		
RBF (acres)	200	200
CP (structures)	1,000	1,000
Structural		
RBF (structures)	5	5
CP (structures)	10	10
Noxious Weed Control		
P&M (acres)	50	50
CP (acres)	180	150
Wildlife and Fish		
Wildlife Habitat Impr. (acres)	17	44
Soil and Water		
Improvements (acres)	50	50
Road		
Construction (miles)		
Reconstruction (miles)		

E. Monitoring and Evaluation Requirement

The monitoring items applicable to this management area are listed below and displayed in Table III-1 at the end of this chanter. The evaluator criteria are displayed in the Monitoring Action Plan (Chapter IV, Table IV-1).

Monitoring Items

A3 Off-Road Vehicle Use
C1 Wildlife Habitat Mgmt.--Oil and Gas Related
C3 Wildlife Mgmt.--Indicator Species
C5 Wildlife Mgmt.--Livestock Related
C7 Wildlife Mgmt.--Prairie Dog Mgmt.
D1 Livestock Numbers (Forage Utilization)
D2 Range Condition and Trend
D6 Noxious Weed Infestation
E1 Suitable Land Evaluation
E2 Reforestation
E3 Size of Openings
E4 Silvicultural Assumptions
E6 Timber Yields and Acres Harvested
F1 Water Quality
F2 Soil/Water Improvements
F5 Air Quality--H_2 S/SO_2 Emissions
G1 Minerals Activities--Geophysical
G5 Minerals Activities--Reclamation
G6 Minerals Activities--Common Variety
G7 Minerals Activities-Locatables
G8 Minerals Activities-Unauthorized Use
L1 Road/Trail Construction
L2 Public Access
L3 Road Mgmt. Closure/Rehab.
P1 Fuel Treatment Outputs
P4 Insect and Disease

In addition to these items them are 20 more monitoring items that are Forestwide in nature (Table III-1).

MANAGEMENT AREA F
7,563 ACRES

Beartooth Ranger District .....7,433 acres
Sioux Ranger District ..... 65 acres
Ashland Ranger District ..... 16 acres
Little Missouri National Grasslands ..... 39 acres

A. Description

This Management Area includes all of the developed recreation sites on the Forest as well as most of the access corridors to and from the sites. This also includes those sites within other Management Areas. The following table shows the distribution of sites and access corridors in this management area across the Forest:

District	No. of Sites	State
Beartooth	30	Montana
Sioux	4	Montana
	2	South Dakota
Ashland	4	Montana
Medora*	3	North Dakota
McKenzie*	2	North Dakota

*These Districts are in the Little Missouri National Grasslands

These sites occur in various settings from the high mountains to the prairie and badland environment, and to the pine hills. Some dispersed recreation activities may occur within the corridors and in the vicinity of the developed sites. Other resource activities may also occur in this Management Area providing that the recreation opportunities and settings are either enhanced or unaffected.

B. Goal

To provide a spectrum of recreation opportunities and settings in and around developed sites and the access corridors to the sites in the categories of Semiprimitive Non-motorized/Motorized, Roaded Natural Appearing and Rural. Resource management conflicts are resolved in favor of maintaining or enhancing the recreation opportunities including the visual setting.

C. Management Standards

THE FORESTWIDE MANAGEMENT DIRECTION INCLUDED IN CHAPTER II OF THIS PLAN APPLIES TO THIS MANAGEMENT AREA.

1. Recreation

a. Proposed management activities will consider the impact on attractive features, accessibility, remoteness, visual characteristics, discord elements and how they affect the quality of the recreation setting. Detrimental effects to any of these components will not be allowed.

b. District activity schedules will be developed to establish service levels and priority of expenditures and site closures, if necessary. Facilities will be maintained to meet standards established for that site. Appropriate operation and maintenance practices are outlined in the publication "Cleaning Recreation Sites."

c. Recreation use fees for Beartooth Ranger District will be set in coordination with the Greater Yellowstone area land managers. Other District fees will be in coordination with Regional trends. Collection of recreation use fees will be maximized through compliance checks and lengthening fee seasons.

d. Closing facilities will be considered if public safety or sanitation cannot be provided or if operation of the site is not deemed to be comparatively cost effective.

e. Administrative costs on low-use sites will be reduced by utilizing the Pack-It-In/Pack-It-Out policy and encouraging community and volunteer involvement in maintenance of facilities.

f. Vegetation in the developed sites will be managed to maintain the appropriate recreation setting, including planting new plant material to supplement existing vegetation as well as preventive measures for insect and disease control when necessary.

g. Existing developed recreation sites may be brought up to designed capacity if demand warrants. To prevent overuse and crowding, limitations will be applied to campground stays, and possibly a permit system will be implemented.

h. Permits for existing special use recreation activities, such as youth camps, recreation. residences, and ski areas, will be continued. The ski area and organization camp permits will be governed by approved Master Plans and current laws and regulations.

i. Visual Quality Objectives in the foreground viewing area from a developed site or along an access corridor will be either Retention or Partial Retention.

j. The Existing Visual Condition will not drop below the current situation and in any circumstances in which the EVC is in class 4, 5, or 6, rehabilitation will take place.

k. The recreation setting will vary among the developed sites from semi-primitive, motorized, roaded-natural, and rural. Sites will be characterized by predominately natural, or natural-appearing environments to a substantially modified natural environment.

l. One new developed recreation facility may be developed on the Beartooth Ranger District as warranted by demand.

2. Wildlife and Fish

Management activities that contribute to the opportunity of wildlife and fish related recreation are encouraged. This includes activities such as fish pond development, wildlife observation points, waterfowl habitat improvement or nature/ wildlife interpretation trails.

3. Range

a. Livestock grazing will not be allowed in developed sites, unless it can be accommodated before or after the recreation use season and is instrumental in the management of the site. Grazing along access corridors may occur, creating a limited traffic hazard that can be identified by warning signs.

b. Noxious weeds may be treated with chemicals but timed when the least impact to the general public can be expected and the impacts defined in an appropriate NEPA document.

4. Timber

a. Harvest within developed recreation sites will normally be for removal of hazardous trees and protection of improvements. Timber within the recreation corridors is suitable for timber management as long as the goal of the management area can be met.

b. Post, poles, fuelwood, sawlogs, and other wood products may be harvested from within developed sites and along access corridors providing that the recreation setting is maintained or enhanced, and the visual quality objective is achieved. Type of harvest, design of sale unit and slash treatment will be instrumental in meeting these requirements. Harvest activities will be scheduled to minimize impacts on the recreation experience.

5. Soil and Water

a. Impacts to soil and water from recreation use in developed sites and within access corridors will be monitored to assure limited effects on the watershed. Restrictions limiting occupancy and site use near streams and lakeshores may be necessary.

b. High intensity soil stabilizing efforts may become necessary to recondition sites trampled by concentrated activities.

6. Minerals

a. Geophysical Operations

Geophysical operations will be allowed in this management area, consistent with the goal. Timing, seasonal or location restrictions may be appropriate to avoid conflicts with recreationists and to maintain the recreation setting of the developed sites.

b. Oil and Gas Development

1) When an application is made to develop a lease in a developed recreation site, an environmental analysis will be made to determine the expected impacts and conflicts with the goal of the management area. Mitigation measures will be identified and made part of the permit authorizing the activity to the extent that lease rights are not violated.

2) Mitigation measures may include actions such as timing, seasonal or location restrictions. The design of the development facilities, including pad size, storage facilities color and design, and access specifications will be appropriate to maintain the recreation setting, including noise abatement and meeting the Visual Quality Objective.

c. New Lease Stipulations

1) A No Surface Occupancy lease stipulation will be applied to all developed recreation sites.

2) A Surface Occupancy Restriction (timing) stipulation will be applied to all new oil and gas leases within 1/4 mile of developed sites from May 15 to September 15.

d. Locatable Minerals Development

1) Removal of mineral materials may be allowed within the access corridors for In-Service use or by free-use permit to another governmental agency.

2) Withdrawal from mineral entry under the General Mining Law of 1872, will be evaluated for developed sites based on the criteria contained in the Forest Management Direction for the review of existing withdrawals.

7. Lands

a. Conflicts with other uses will be resolved in favor of recreation uses and activities.

b. Special uses may be considered as long as they are consistent with the goals for the area.

8. Fire Management

a. Wildfire Management

1) The control objective will be to hold 90 percent of fires to less than 10 acres.

2) Appropriate suppression responses will be to control all wildfires. Contain and confine will not be appropriate.

b. Prescribed Fire

Planned ignitions may be used for slash and debris disposal, enhancement of visual quality and preventive measures to reduce wildfire intensity. Unplanned ignitions will not be used as a management practice.

See the Glossary for the definition of these terms.

9. Facilities

a. Roads will be maintained for safety, soil and water protection, and to provide for travel of passenger carrying vehicles.

b. If specific campgrounds are closed, the roads within them will also be closed.

c. Energy/utility corridors will be avoided in this area.

D. Schedule of Management Practices

Activity	Decade 1 (Proposed Average Annual)	Decade 2 (Proposed Average Annual)
Range		
Improvements		
Nonstructural		
RBF (acme)	10	10
CP (acres)	25	25
Structural		
RBF (structures)	1	1
CP (structures)	1	1
Noxious Weed Control		
P&M (acres)	25	25
CP (acres)	50	50
Soil and Water		
Improvements (acres)	3	3

E. Monitoring and Evaluation Requirements

The monitoring items applicable to this management area are listed below and displayed in Table III-1 at the end of this chapter. The evaluation criteria are displayed in the Monitoring Action Plan (Chapter IV, Table IV-1).

Monitoring Items

A1 Use in Developed Recreation Sites
A2 Dispersed Recreation Use
A5 Visual Resource Mgmt.

In addition to these items there are 20 more monitoring items that are Forestwide in nature (Table III-1).

MANAGEMENT AREA G
53,365 ACRES

Beartooth Ranger District ..... 10,265 acres
Sioux Ranger District ..... 3,700 acres
Ashland Ranger District ..... 39,400 acres

A. Description

This management area includes lands classified as suitable for timber management and fall only in the state of Montana because no land is classified as suitable for timber management in South Dakota and North Dakota. Ponderosa pine, lodgepole pine and Douglas-fir are the dominant tree species. Age classes run the entire spectrum. There is important habitat for mule deer, whitetail deer, and upland birds, and the needs of these species will be considered in timber sale layout and choice of silvicultural system to be used. Logging methods are determined by the topography of the site and there are steep slopes that will likely require cable logging. These will necessitate special consideration to maintain acceptable visual conditions. This management area may include small areas of ecosystems that are not suitable for timber management.

B. Goals

To manage these areas for the maintenance and improvement of a healthy diverse forest and as a source of wood products for dependent local markets. Silvicultural systems will consider other resource needs such as wildlife habitat, visual impacts, and livestock management. Efforts will be made to avoid or mitigate resource conflicts. If the responsible official determines that conflicts cannot be adequately mitigated, she/he will resolve the conflict in accordance with the management area goal and, if necessary, in consultation with affected parties.

C. Management Standards

THE FORESTWIDE MANAGEMENT DIRECION INCLUDED IN CHAPTER II OF THIS PLAN APPLIES TO THIS MANAGEMENT AREA.

1. Recreation

a. The recreation setting will primarily be roaded-natural and rural. Small areas of semiprimitive nonmotorized/motorized will occur, particularly where key wildlife habitat areas are protected from other resource activities.

b. Visual Quality Objectives will not exceed Modification. Areas of Retention and Partial Retention will be common.

2. Wildlife and Fish

a. Timber harvest proposals will analyze wildlife and fish values, and potential impacts, including but not limited to; forage/cover ratio (pre-and-post sale), snag densities, road management opportunities, winter range requirements, roost areas, streambank/shoreline vegetation, and siltation potential. Timber management practices will be assessed particularly as they affect diversity of vegetation. Mitigation measures will be identified and incorporated to the extent possible in that the goal of the Management Area is achieved.

b. Unique wildlife features such as elk wallows and nesting sites for key birds will be protected.

c. Cavity nesting habitat will be maintained by retaining two snags per acre, where they exist.

3. Range

a. Domestic livestock grazing may occur in this area and silvicultural systems used are to consider the effects of livestock grazing on regeneration.

b. Forage production realized through timber management activities will be treated as transitory range. Livestock use will not be encouraged if regeneration problems occur.

c. On the better growing sites in this area where it is desirable to regenerate the stand as soon as possible it maybe necessary to exclude grazing during this critical regeneration period.

4. Timber

a. Area analysis will be made that consider the following:

1) Proposed timber harvest levels and location

2) Expected oil and gas development

3) Transportation systems to service timber and oil and gas development needs

4) Other resource conflicts and possible mitigation measures. See other resource sections for direction regarding considerations and mitigation measures for this management area.

b. These areas analysis will include an environmental analysis to which projects can be tiered. The analysis will be guided by the goal of this Management Area.

c. The following standards are for managing the timber resource:

1) Even-aged management is the preferred silvicultural system but uneven-aged management may be used where such methods are more appropriate for meeting ecological requirements and management of the species. Clearcutting may be used where it is the optimum regeneration method and meets the objectives for the area.

2) Old growth will be managed to at least meet the habitat requirements for a minimum viable population of old growth dependent wildlife species.

3) Seasons of operations and contract period may be adjusted on a case-by-case basis to protect wildlife and soil and water values and reduce conflicts with recreation traffic.

4) Silvicultural systems that favor natural regeneration will be emphasized. The objective will be to regenerate harvested areas within five years.

5) Insect and disease infested timber will be treated with an appropriate silvicultural system in coordination with other resource values.

6) Precommercial thinning will be utilized in a cost-effective manner on areas with high site index. Prescribed fire, as well as other management tools may be used to thin stands.

7) Over stocked stands will be evaluated for wildlife needs prior to treatment.

5. Minerals and Geology

a. Geophysical Operations

Geophysical operations are not expected to be in conflict with the goal of this management area. However, an environmental analysis will be made to identify any potential conflicts and recommend mitigation measures that would be included in the permit authorizing the activity.

b. Oil and Gas Development

Development activities in this management area will be coordinated with the timber management activities where possible. The area development plans will address acceptable road and well site locations. The environmental analysis for an oil and gas development activity will be tiered to these plans where they exist. If no area plan is available, the analysis will be guided by the goal of this management area, will consider potential resource conflicts and identify mitigation measures to assure the goal is attained. These mitigation measures will be made a part of the permit authorizing the activity.

c. New Lease Stipulations

1) A No Surface Occupancy lease stipulation will be applied to slopes exceeding 40 percent and to areas of fragile soils with a mass failure hazard.

2) Surface Occupancy Restriction stipulations may be used in new leases to protect key wildlife and/or habitat (see Key Species/Critical Timing Periods in Forest Direction Wildlife section).

6. Facilities

a. Roads within this management area are generally multiple use reads, exceptions may be some of those constructed for minerals development. Roads will not be constructed on slopes of 40 percent or greater. Exceptions may be made for short distances, i.e. one quarter mile or less, where this will minimize the total impacts to the area.

b. Road management will be determined by the long-term needs of mineral and timber management. Locations will serve long-term use for all resources. Use and travel restrictions will be considered to benefit or reduce adverse impacts to wildlife. The roads will be a part of the Forest Transportation System and may be closed when not needed.

7. Fire Management

a. Wildfire Management

1) The control objective will be to hold 90 percent of fire starts to less than 25 acres.

2) Appropriate suppression responses will be contain, control, and confine

b. Prescribed Fire

Planned ignitions may be used for timber stand maintenance and thinning, slash disposal, natural fuel reduction, wildlife habitat maintenance and enhancement with an approved prescribed fire plan. Unplanned ignitions may be used as prescribed fire to meet management objectives under an approved fire management plan.

See the Glossary for the definition of these terms.

D. Schedule of Management Practices

Activity	Decade 1 (Proposed Average Annual)	Decade 2 (Proposed Average Annual)
Range		
Improvements		
Nonstructural		
RBF (acres)	50	50
CP (acres)	0	0
Structural		
RBF (structures)	3	3
CP (structures)	0	0
Noxious Weed Control		
P&M (acres)	15	15
CP (acres)	0	0
Wildlife and Fish		
Wildlife Habitat Impr. (struc.)	4	10
(acres)	10	25

Activity	Decade 1 (Proposed Average Annual)	Decade 2 (Proposed Average Annual)
Timber		
Final Harvest (MBF)	2,700	2,000
Acres Affected	299	188
Intermediate Harvest (MBF)	20	150
Acres Affected	6	78
Overstory Removal (MBF)	40	300
Acres Affected	9	53
Road		
Construction (miles)	2	2
Reconstruction (miles)	2	2

E. Monitoring and Evaluation Requirements

The monitoring items applicable to this management area are listed below and displayed in Table III-1 at the end of this chapter. The evaluation criteria are displayed in the Monitoring Action Plan (Chapter IV, Table IV-1).

Monitoring Items

A3 Off-Road Vehicle Use
A5 Visual Resource Mgmt.
C1 Wildlife Habitat Mgmt.--Oil and Gas Related
C3 Wildlife Mgmt.--Indicator Species
C5 Wildlife Mgmt.--Livestock Related
D1 Livestock Numbers (Forage Utilization)
D2 Range Condition and Trend
D6 Noxious Weed Infestation
E1 Suitable Land Evaluation
E2 Reforestation
E3 Size of Openings
E4 Silvicultural Assumptions
E6 Timber Yields and Acres Harvested
F1 Water Quality
F2 Soil/Water Improvements
F5 Air Quality--H_2 S/SO_2 Emissions
G1 Minerals Activities--Geophysical
G5 Minerals Activities--Reclamation
G6 Minerals Activities-Common Variety
G7 Minerals Activities-Locatables
G8 Minerals Activities-Unauthorized Use
L1 Road/Trail Construction
L2 Public Access
L3 Road Mgmt. Closure/Rehab.
P1 Fuel Treatment Outputs
P4 Insect and Disease

In addition to these items there are 20 more monitoring items that are Forestwide in nature (Table III-1).

MANAGEMENT AREA H
11,812 ACRES

Beartooth Ranger District……....11,812 acres

A. Description

This Management Area contains the lands recommended for wilderness classification. Lost Water Canyon in south-central Montana is on the Beartooth District and features a deep canyon with limited access opportunities due to the steep canyon walls. The area is virtually unaltered by man's activities. It lies within the Pryor Mountains which is a unique, unglaciated island above the prairie and is largely composed of limestone. There is little surface water and Douglas-fir is the dominant tree specie. A Research Natural Area falls within this Management Area. Lost Water Canyon meets the criteria of the 1983 Roadless Resource Inventory and encompasses 5,812 acres.

The remaining areas recommended for wilderness classification lie adjacent to the Absaroka-Beartooth Wilderness. Their inclusion into the wilderness system would refine the boundary of the Absaroka-Beartooth Wilderness for better administration and public identification. These areas individually do not meet the criteria of the 1983 Roadless Resource Inventory, but their proximity to the Wilderness and the known administrative concerns make them logical inclusions. These areas total 6,000 acres.

This recommendation is a preliminary administrative recommendation that will receive further review and possible modification by the Chief of the Forest Service, the Secretary of Agriculture, and the President of the United States. Final decisions on wilderness designation have been reserved by Congress to itself.

B. Goals

To retain the wilderness characteristics of these areas until a Congressional decision is made regarding wilderness classification. If classification is not made, the Lost Water Canyon will revert to management area J and the areas adjacent to the Absaroka-Beartooth Wilderness will be absorbed into the adjacent management areas.

C. Management Standards

THE FORESTWIDE MANAGEMENT DIRECTION INCLUDED IN CHAPTER II OF THIS PLAN APPLIES TO THIS MANAGEMENT AREA.

1. Recreation

a. These areas are closed to motorized vehicle use to avoid deterioration the existing environment.

b. Dispersed use will be allowed, but no support facilities will be constructed.

c. A portion of the Lost Water Canyon area is proposed as a Research Natural Area and those values will be protected (see Management Area L).

d. No new trails will be constructed.

e. Trail maintenance standards will provide for public safety and protection of the soil and water resource.

f. Tributary trails on the Beartooth Ranger District will be maintained.

g. The recreation setting will be primitive and semi-primitive non-motorized, mostly characterized by essentially unmodified natural environment.

h. The Visual Quality Objective is Preservation.

2. Wilderness

a. These areas will be managed to protect their wilderness characteristics.

b. Boundaries will be signed as needed to reduce the opportunity for unauthorized motor vehicle use and inform the public of the boundary location.

3. Wildlife and Fish

Coordination with the Peregrine Falcon Recovery Group will be made in surveys of suitable habitats and location of release areas.

4. Range

a. Grazing, except for recreation stock, will be prohibited.

b. If wild horses cause unacceptable soil and/or vegetation damage, corrective action will be taken to eliminate wild horse use and the damaged area will be rehabilitated. (Management Area Q contains the formal wild horse area, but some use will likely spill over into the Lost Water Canyon area.)

5. Timber

a. No commercial timber harvest will be permitted in this area as it is not considered part of the suitable timber base. Limited quantities of post and poles may be cut for maintenance of authorized recreation facilities within the proposed wilderness.

b. Firewood may be cut from dead or down trees for use within the wilderness but use of self-contained camping stoves will be encouraged.

6. Minerals and Geology

a. Geophysical Operations

Road construction will not be allowed for geophysical operations. If access is not feasible by off-road travel, portable techniques will be required.

b. Oil and Gas Development

When application is made to develop a lease, an environmental analysis will be made, guided by the goal of the management area. This will identify the potential conflict between the proposed activity and the intent of the managing the recommended wilderness. All efforts will be made to retain the wilderness characteristics of the area without violating lease rights. Minimum impacts development activities will be recommended and made a part of the permit authorizing the activity.

c. Lease Stipulations

When lease applications are received or existing lease expire or terminate, they will not be recommended for re-leased, or will be leased with a No Surface Occupancy stipulation, if it is necessary to lease to protect the Federal mineral estate.

d. Locatable Mineral Development

1) The area will remain open to mineral entry under the General Mining Law of 1872 until acted upon by Congress, but any planned operations will include measures to minimize adverse impacts to the wilderness resource. Roads will be allowed for mining activities under the General Mining Law if they are shown to be necessary and justifiable.

2) Mineral material removal will not be allowed.

3) Mineral withdrawal will be analyzed during the formal recommendation process with coordination with the Department of Interior.

7. Lands

a. Special use permits will not be allowed except those compatible with the Research Natural Area contained in the proposed Lost Water Canyon Wilderness area.

b. The Mystic Lake Boating Association special use permit will be phased out. Timing and removal requirements will be negotiated with current permit holders.

c. Energy/utility corridors will be excluded from this area.

8. Facilities

a. No new facilities are needed in this area at this time.

b. The two-track road (jeep trail) in the Pryor Mountains to Tony Island Spring will be closed.

c. Energy/utility corridors will be excluded from this area.

9. Fire Management

a. Where possible allow fires to play their natural role in the ecosystem. When fire threatens to escape the recommended wilderness area and threaten private lands or features, control action will be required.

b. A fire management program will be made in coordination with the Bureau of Land Management for the Lost Water Canyon area and the adjacent BLM administered lands.

c. Wildfire Management

1) The control objective will be to hold 80 percent of person-caused fires to less than 100 acres. Lightning-caused fires will be contained within the Management Area boundary.

2) Appropriate suppression responses will be to contain, control and confine wildfires in this management area.

d. Prescribed Fire

Planned ignitions will not be used as a management practice during this planning period. Unplanned ignitions may be used as prescribed fire under an approved fire management plan to perpetuate the wilderness character of the area.

D. Schedule of Management Practices

Activity	Decade 1 (Proposed Average Annual)	Decade 2 (Proposed Average Annual)
Soil and Water Improvement	1 Acre	1Acre

E. Monitoring and Evaluation Requirements

The monitoring items applicable to this management area are listed below and displayed in Table III-1 at the end of this chapter. The evaluation criteria are displayed in the Monitoring Action Plan (Chapter IV, Table IV-1).

Monitoring Items

A1 Dispersed Recreation Use
B1 Wilderness Use
C3 Wildlife Mgmt.--Indicator Species
C10 Wildlife Mgmt.--Instream Habitat and Fish Numbers
P2 Fire Mgmt. Wilderness Areas

In addition to these items there are 20 more monitoring items that are Forestwide in nature (Table III-1).

MANAGEMENT AREA I
943,377 ACRES

Custer National Forest (Beartooth Ranger District) ..... ….339,841 acres
Gallatin National Forest ..... 580,536 acres
Shoshone National Forest……..... ….23,000 acres

A. Description

The Custer National Forest portion of the Absaroka-Beartooth Wilderness lies in the Beartooth Mountains. This area is highly scenic with spectacular peaks and plateaus, interspersed with hundreds of high elevation lakes. Six major stream valleys, Rock Creek, West Fork of Rock Creek, East Rosebud River, West Rosebud River, Stillwater and West Stillwater River are the accesses into the steep northeastern slopes of this country. Trails lead to the high plateaus, where much of the country is over 10,000 feet above sea level. Granite Peak, the highest point in Montana, is in this Wilderness and sets at 12,799 feet above sea level. The mountains are made up almost entirely of granite and other igneous rock. Smaller, but significant amounts of metamorphic rock, also occur. This mass of mountains was originally overlaid by sedimentary rocks that were worn away as the whole mass was uplifted and erosion forces acted upon the mountains. Glaciers carved the peaks and valleys and small glaciers are still present in the heads of several drainages and on the north side of some peaks. This Management Area includes the entire Absaroka-Beartooth Wilderness, as it lies within the Custer and Gallatin National Forests. There are 339,841 acres of this Wilderness area that are administered by the Custer National Forest. Appendix II contains the entire direction for the Absaroka-Beartooth Wilderness and the following standards highlight key points contained in the Appendix. The Shoshone National Forest portion is a recent (1985) addition and is not included in these standards.

B. Goals

To promote and perpetuate the wilderness character and values of the area in accordance with the 1964 Wilderness Act.

C. Management Standards

THE FORESTWIDE MANAGEMENT DIRECTION INCLUDED IN CHAPTER II OF THIS PLAN APPLIES TO THIS MANAGEMENT AREA.

1. Recreation

a. A primitive recreation setting will be provided, including the opportunity for solitude with emphasis on no-trace camping ethics.

b. The visual quality objective is Retention.

c. As a general rule, no motorized vehicles are allowed within the Wilderness. Some special situations occur, in which motorized vehicle use is allowed such as search and rescue or related to valid mining operations.

d. Trail construction and/or reconstruction will be accomplished with minimal disturbance of the natural environment. Natural materials will be used to the extent practical when replacing trail structures. Existing system trails will be upgraded as needed.

e. Trails will be maintained for user safety and for protection of soil and water resources.

f. Special Use

1) Two recreation residence permits located near Sioux Charlie Lake on the Stillwater River will be terminated on December 31, 1999, and the improvements removed by December 31, 2000.

2) The Dayton Cabin, also located in the Sioux Charlie area is now owned by the Forest Service and will be removed.

g. All outfitter-guide permits will be made in accordance with the intent of the Wilderness Act, Forest Service Manual direction, Greater Yellowstone Area Outfitter Policy (GYOP), and the resource need of the A/B Wilderness.

h. There are two possible eligible RNA's that would provide six of the desired habitats:

Temporary Ponds
Low production potential lakes
Lakes with fish
Lakes without fish
Bog meadows
Pinus flexilis

All six of these occur in Upper Hellroaring Lakes Basin, Rock Creek drainage, and Upper Red Lodge Creek Plateau.

2. Wilderness

The Absaroka-Beartooth Wilderness is the only classified wilderness on the Custer National Forest. The intent of its management is for the use and enjoyment of the American people so as to leave the resource unimpaired for future use and enjoyment, to preserve their wilderness character, and to provide for the gathering and disseminating of information regarding their use. Research is conducted to provide knowledge to

manage and protect wilderness and unique ecological features.

3. Wildlife and Fish

a. Management of fish and wildlife will be guided by the Memorandum of Understanding between the Montana Department of Fish, Wildlife, and Parks and the Forest Service.

b. There are 103,724 acres of suitable grizzly bear habitat (Management Situation II) in this area. Each Management Situation carries with it actions for grizzly bear management. These actions and restrictions on other activities will be made in accordance with "Guidelines for Managing Grizzly Bears in the Greater Yellowstone Area."

c. Key species in the wilderness, elk and bighorn sheep, will be protected, provided for, and managed in accordance with existing laws and in coordination with state and Federal agencies.

d. The Beartooth High Lakes Fisheries Analysis will be used as guidance in developing a fisheries program for the Wilderness. Barren lakes, not previously stocked, were considered for stocking and it is mutually (Forest Service -- Montana Department of Fish, Wildlife, and Parks) agreed to that thirteen lakes can be stocked with no adverse effects on the wilderness or the scientific value.

4. Range

There will be no domestic grazing allotments in the East Unit. The existing sheep allotment in the Custer National Forest portion of the West Unit will be closed.

5. Timber

a. No commercial timber harvest is allowed in the wilderness.

b. Firewood may be cut from dead material which is on the ground for use within the wilderness, but use of self-contained camping stoves is encouraged.

6. Minerals and Geology

a. Lease Reviews

When existing leases expire or terminate, they will not be released because the Wilderness was withdrawn from mineral entry as of January 1, 1984.

b. Locatable Minerals

The Absaroka-Beartooth Wilderness was withdrawn from mineral entry, subject to existing valid rights, as of January 1, 1984. Mining activity is allowed to continue after January 1, 1984, on existing mining claims. The Forest Service will work with claimants to minimize impacts to the wilderness resource. Road access will be allowed for mining activities conducted under the General Mining Law of 1872 if adequate need for the road can be demonstrated.

7. Lands

a. Allow vehicle access via existing jeep trail to private lands at Goose Lake. Access to valid claims will be determined as part of an approved operating plan.

b. The existing dam and reservoir at Glacier Lake and that portion of Mystic Reservoir existing in the wilderness are consistent with the Wilderness Act direction and will be retained. Other special uses will be considered as long as they are consistent with wilderness management.

c. All lands not staked and claimed as of December 31, 1983 under existing laws are withdrawn as of January 1, 1984.

8. Law Enforcement, Fire Management and Aviation

a. Law Enforcement

1) Law enforcement will be used as a tool to protect the characteristics of the wilderness and provide for the protection and enjoyment of the wilderness user.

2) Each District will be responsible for coordinating with local Search and Rescue agencies to enable search and rescue procedures to be expedited in a timely manner, and to provide for meeting of the Wilderness regulations.

3) Issue orders under the applicable Code of Federal Regulation (CFR) to provide enforcement power of the regulations established in this direction.

4) Sign Wilderness boundary where required to enforce Wilderness regulations.

5) Wilderness boundary signs will be readily visible.

b. Wildfire Management

A prescribed fire plan for the Absaroka-Beartooth Wilderness has been developed and is available for review in the Supervisor's Offices on the Gallatin and Custer National Forests and at local Ranger Stations.

Briefly the objectives and constraints in this fire management plan are: To allow some lightning fires to burn under prescribed conditions for perpetuation of the Absaroka-Beartooth Wilderness Ecosystem.

These objectives include:

- the maintenance of vegetative mosaics that are a result of fire,
- the maintenance of plant/animal relationships that have evolved with fire,
- the maintenance of genetic traits that certain species of vegetation have developed in response to fire,

- the maintenance of dead and living fuels in a natural state of continuity, arrangement, depth, and loading,

- a public awareness that fire is a natural and essential component of wilderness ecosystems.

Constraints associated with the plan require immediate suppression action if fires:

- are man caused,

- will cause irreparable damage to administrative, historical, or archaeological sites, or structures,

- threaten lands or resources outside wilderness boundaries,

- exceed fire danger prescriptions at ignition.

1) The control objective will be to hold 80 percent of person-caused fires to less than 500 acres.

2) Appropriate suppression responses will be contain, control and confine.

c. Prescribed Fire

Planned ignitions may be approved by the Regional Forester during this planning period. Unplanned ignitions will be used according to the Prescribed Fire Management Plan for the Absaroka/Beartooth Wilderness, approved July 16, 1982. A summary of the plan appears in Appendix II. The complete plan may be reviewed in the Forest Service offices in Red Lodge, Billings, Gardiner, Livingston, Bozeman, and Big Timber.

d. Aviation

The Forest Supervisor's, or acting, approval must be obtained before landing any aircraft for rescue or fire related missions. Aircraft landings for emergency purposes will be permitted.

9. Insect and Disease Control

Insect and disease will generally be permitted to run their natural course within this area. If it appears they will spread out of the wilderness and into areas that are managed for other values such as timber, control actions may be taken. Management activities to protect campgrounds, trail heads, and other high value recreation areas adjacent to the wilderness from losses to insects and disease will be taken.

D. Schedule of Management Practices

Activity	Decade 1 (Proposed Average Annual)	Decade 2 (Proposed Average Annual)
Soil and Water Improvements (acres)	3	3

E. Monitoring and Evaluation Requirements

The monitoring items applicable to this management area are listed below and displayed in Table III-1 at the end of this chapter. The evaluation criteria are displayed in the Monitoring Action Plan (Chapter IV, Table IV-1).

Monitoring Items

A1 Dispersed Recreation Use
B1 Wilderness Use
C10 Wildlife Mgmt.—Instream Habitat and Fish Numbers
F1 Water Quality
P2 Fire Mgmt.- Wilderness Areas

In addition to these items there are 20 more monitoring items that are Forestwide in nature (Table III-1).

MANAGEMENT AREA J
84,120 ACRES

Ashland Ranger District……...….40,000 acres
Little Missouri National Grasslands……..…..44,120 acres

A. Description

This management area is composed of areas to be managed in a Low Development Area (LDA) status.

NATIONAL FOREST:

The Cook Mountain and King Mountain areas of the Ashland District in southeastern Montana (previously known as Riding and Hiking Areas) and Tongue River Breaks (previously recommended for wilderness classification) are in this management area. These areas offer a unique opportunity for non-motorized recreation in a larger area that is mostly all available by vehicles. These mountains support a variety of vegetation. There is ponderosa pine on the moist north slopes, mixed broadleaf tree/shrub/grass species along the creek bottoms and lower slopes, open grassy hillsides, sandstone outcrops with sparse shrubs end grasses. Ridges show some exposed shales and sandstones. Rough topography has precluded much road and trail construction. In addition, the Tongue River Breaks area contains cultural sites which are of concern to the Northern Cheyenne tribe. The rugged terrain has kept this area basically unroaded and the vegetation is likewise as diverse as Cook Mountain and King Mountain. Strippable coal deposits lie beneath nearly all of the management area. The 1977 Surface Mining Control and Reclamation Act precluded any surface mining of this resource. Underground mining is not feasible as the coal lies very near the surface. There are existing oil and gas leases for these areas, but surface occupancy will not be allowed as the surface occupancy date of July 1, 1985, has passed and production was not established prior to that date. These areas meet the criteria developed for the 1983 Roadless Resource Review of National Forest System lands.

NATIONAL GRASSLANDS:

Five areas in the Little Missouri National Grasslands in western North Dakota are included in this management area. These are: Lone Butte, Horse Creek, Long X-Divide, Bennett-Cottonwood and Twin Buttes. Some, but not all, of these areas met the criteria for consideration as roadless areas in the 1983 Roadless Resource Review of National Forest System lands. Access is limited in these areas and oil development has not been very widespread. Some of these areas contain low standard roads that are listed as part of the National Forest Transportation System. These roads will remain as low standard system roads and not be upgraded unless necessary to provide access to legal existing rights for subsurface management. The soils are highly erosive and the vegetation is mixed grasses and pocket of junipers and green ash. Topography varies from rolling grasslands to typical badlands that are rugged and steep. Oil and gas leases exist on some of these areas. Leases containing stipulations for No Surface Occupancy date shown in the minerals section will not be available for mineral exploration or development. Other leases may or may not have No Surface Occupancy cut-off stipulations. Some areas contain some split estate minerals and ingress and egress may be requested and will be permitted. There are a number of situations that could occur that will preclude management as Low Development Areas. As these situations occur they will be dealt with as possible under existing legal commitments. However, the long-term intent will be to minimize the impacts of development to meet the intent of minimizing the effects of oil and gas development in these areas.

B. Goals

NATIONAL FOREST:

To maintain these areas in a LDA setting, to let natural processes play their role in most cases. The intent of management will be to constrain activities in such a way that human use leaves little permanent or long-lasting evidence.

NATIONAL GRASSLANDS:

The long-range intent is to protect these areas from development by oil and gas and maintain these areas in a low development area status.

C. Management Standards

THE FORESTWIDE MANAGEMENT DIRECTION INCLUDED IN CHAPTER II OF THIS PLAN APPLIES TO THIS MANAGEMENT AREA.

1. Recreation

a. Recreation development will be limited to parking, sanitation, and horse holding and handling facilities. Signing of legal access to this area will be developed as needed to direct public use to the area.

b. On the Ashland Ranger District, this area will be closed to motorized vehicle use.

c. Trails may be constructed to reduce soil and watershed damage.

d. The Visual Quality Objective is Retention.

e. The recreation setting will be semi-primitive non-motorized characterized by predominantly natural environment.

f. In the Little Missouri National Grasslands, area closures may be used to control general travel, but use of two wheel track roads will be permitted,

g. Trail or recreation facilities will be located to avoid adversely affecting cultural sites.

h. Native American religious concerns will be taken into account in management of the Tongue River Breaks. A consultation process will be established to assess Northern Cheyenne views on activities which might affect ancestral cultural sites. The area will be managed to assure compliance with the American Religious Freedom Act.

2. Wildlife end Fish

Portions of this area contains key wildlife habitats and habitat improvement projects that do not detract from the low development area character of the area may be undertaken.

3. Range

a. Livestock grazing will continue. Adjustments in animal numbers or length of grazing season will be determined through Allotment Management Planning.

b. Structural range improvements may be constructed but their impact on the roadless and cultural resource characteristics of the area must be minimized.

c. Noxious weed control may be carried out in this area as needed. Use of motorized vehicles for noxious weed control will be allowed.

d. Motorized vehicles may continue to be used for administration of grazing systems and construction and repair of structural range improvements.

4. Timber

a. Timber harvest will generally not occur in this area. Sale of miscellaneous forest products can be used as a management tool to enhance wildlife habitat as long as roading is not required.

b. Harvest of limited quantities of posts and poles may be permitted for construction or maintenance of authorized recreation or range facilities within the management area.

c. Timber may be harvested to control or prevent substantial mortality from insect and disease epidemics.

5. Minerals and Geology

a. Geophysical Operations

Road construction will not be allowed for geophysical projects. If access is not feasible by off-road travel, portable techniques will be required.

b. Oil and Gas Development

1) The No Surface Occupancy cut-off dates for all areas that were either Riding and Hiking Areas or Essentially Roadless Areas (ERA's) have been passed and will be honored. Development of existing leases past the No Surface Occupancy date will be permitted only to protect the federal mineral estate or to honor older leases which do not contain a No Surface Occupancy stipulation.

2) Access to and development of state or private minerals will be allowed with the intent to minimizing impacts to the low development area subject to the rights of the mineral owners.

3) If application is made to develop a lease the activity will be limited to adjoining spacing units (generally 160 or 320 acres) as necessary to protect the Federal mineral estate, subject to valid existing rights.

c. Oil and Gas Leasing

When lease applications are received or existing oil and gas leases expire or terminate, they will not be recommended for re-leasing, or leased with No Surface Occupancy (NSO) stipulation, unless it is necessary to protect the Federal mineral estate.

d. Locatable Minerals and Mineral Materials

1) Road access will be provided for mining activities conducted under the General Mining Law of 1872 if the need for the road is necessary.

2) Mineral material removal will not be allowed.

6. Lands

Special uses may be permitted within this area as long as they are compatible with management of the low development area character of the area. Underground facilities that do not require a permanent road for maintenance may be permitted provided that significant cultural resources are avoided. Ownership adjustment of surface and subsurface ownership may be used to meet the intent of the goal for this area.

7. Facilities

a. No new facilities are needed within these areas for resource management except possibly to meet existing minerals lease commitments. However, boundaries can be adjusted up to one fourth mile to allow for development of linear facilities (such as roads or powerlines) along the edge of the area.

b. Energy/utility corridors will be avoided in the area.

8. Fire Management

a. Wildfire Management

1) The control objective for this management area is to hold 90 percent of fire starts to less than 50 acres.

2) The appropriate suppression responses may vary from control to confine based on location, or fire danger. The suppression response of "confine" is not appropriate for that portion of the management area on the National Grasslands.

b. Prescribed Fire

Planned ignitions may be used to maintain or enhance range condition, and treatment of natural and activity fuels.

Unplanned ignitions may be used as prescribed fire under an approved fire management plan to perpetuate near natural conditions on the National Forest Districts. Unplanned ignitions will not be used as a management practice on the National Grasslands.

See Glossary for definitions of these terms.

D. Schedule of Management Practices

Activity	Decade 1 (Proposed Average Annual)	Decade 2 (Proposed Average Annual)
Range		
Improvements		
Nonstructural		
RBF (acres)	25	25
Structural		
RBF (structures)	1	1
Noxious Weed Control		
P&M (acres)	10	10
Wildlife and Fish		
Wildlife Habitat Impr. (acres)	3	9
Soil and Water		
Improvements (acres)	4	4

E. Monitoring and Evaluation Requirements

The monitoring items applicable to this management area are listed below and displayed in Table III-1 at the end of this chapter. The evaluation criteria are displayed in the Monitoring Action Plan (Chapter IV, Table IV-1).

Monitoring Items

A1 Dispersed Recreation Use
A4 Cultural Resource Inventory and Compliance
C3 Wildlife Mgmt.--Indicator Species
C5 Wildlife Mgmt.--Livestock Related
D1 Livestock Numbers (Forage Utilization)
D2 Range Condition and Trend
G7 Minerals Activities-Locatables
G8 Minerals Activities-Unauthorized Use

In addition to these items there are 20 more monitoring items that are Forestwide in nature (Table III-1).

MANAGEMENT AREA K
6,505 ACRES

Little Missouri National Grasslands…… ……..……..…6,505 acres

A. Description

A portion of the Blue Buttes area contains significant cultural and scenic values that warrant special management consideration. Included in this Management Area are significant religious sites for the Low Hat Clan of the Hidatsa Tribe. The area is very rich in archeological resources dating from historic to prehistoric. The Core Area, or primary area of concern is as follows: NE1/4 and N1/2SE1/4 Sec.4, SE1/4SE1/4 Sec.9, S1/2SW1/4 Sec.10, E1/2 Sec.21, W1/2 Sec.22, T151N, R95W. The area contains one of the westernmost extensions of the eastern hardwoods. This hardwood complex also attracts a wide diversity of bird life some of which may be unique to the Little Missouri National Grasslands.

This area is recommended for classification as a Special Interest Area under section 36 CFR 294.1.

B. Goals

To protect the scenic, cultural, archeological and wildlife resources that occur in the area. Conflicts that cannot be successfully mitigated will be resolved in favor of preserving these resources.

C. Management Standards

THE FORESTWIDE MANAGEMENT DIRECTION INCLUDED IN CHAPTER II OF THIS PLAN APPLIES TO THIS MANAGEMENT AREA.

1. Recreation

a. Recreation use will not be encouraged and developed recreation sites will not be developed in the area.

b. Dispersed use will be permitted in this area but may be limited by seasonal restrictions as needed to protect other values.

c. The area will be closed to off-road vehicle use to protect the scenic and other values of the area. Local landowners and permittees will be given a continuing permit for access. Closure devices will be required on all roads accessing this management area.

d. No trails are proposed.

e. Protect the scenic value of the area of concern recognizing that the impact of some existing uses can be mitigated but not all can be eliminated.

f. The existing visual conditions will be maintained and where possible improve the appearance of nonconforming features such as oil and gas development facilities by painting them earth tone colors.

g. This area is recognized as the birthplace of the Low Hat Clan of the Hidatsa Tribe and consultation will be made with Low Hat Clan members before approving projects that may impact their traditional use of the area.

h. The Visual Quality Objective is Retention.

2. Wildlife and Fish

a. This area contains one of the westernmost extension of eastern, hardwoods in North Dakota. This unique vegetative situation may contain an unusual population of wildlife species that warrant special consideration.

b. Prescribed burning and other vegetative management practices will be allowed where needed to improve wildlife habitat but will be timed to protect cultural values.

3. Range

a. Range improvements will be constructed after a cultural resource review and the report will be included in the allotment management plan (AMP).

b. Noxious weed control will be done by an integrated system and where chemical use is prescribed additional analysis using a NEPA process may be required.

4. Timber

a. The area does not contain lands that are considered suitable for timber management. The removal dead or down material for personal fuelwood may be permitted provided the values of the area are not compromised.

b. Vegetation management may include silvicultural treatments to improve wildlife habitat.

5. Minerals and Geology

a. Geophysical Operations

1) Geophysical operations will be restricted to the period October 15 to May 15 to minimize activities that may eliminate the opportunity for Native American traditional uses.

2) Surface disturbances expected from geophysical operation will be minimized to reduce the risk of impacting or destroying cultural values. Mitigation measures will be a part of the permit authorizing the activities.

3) Portable exploration techniques will be preferred. Vehicles will be restricted to existing roads unless authorized by permit.

b. Oil and Gas Development

1) It will be recommended to the Bureau of Land Management that no drilling permits for existing leases be approved within the defined core area because of Native American religious concerns.

2) Oil well drilling will be restricted to the period October 15 to May 15 to minimize activities that may eliminate the opportunity for Native American traditional uses.

3) Unneeded access roads will be closed and remaining roads will be gated to reduce incidental (not minerals related) traffic.

4) Noise pollution will be minimized.

c. New Lease Stipulations

1) As leases expire or terminate, the Core Area will not be recommended for re-leasing or will contain a No Surface Occupancy stipulation.

2) Any new oil and gas leases outside the core area will contain a No Surface Occupancy stipulation.

6. Lands

Special uses that require ground disturbance, a permanent structure, or generate noise, will be discussed with local Native Americans and be in keeping with the management area goals prior to approval.

7. Facilities

a. Roads not needed for permanent access will be closed and rehabilitated.

b. Energy/ utility corridors will be avoided in this area.

8. Fire Management

a. Wildfire Management

1) The control objective is to hold 90 percent of fire starts to less than 25 acres.

2) The District Cultural Resource Specialist will be contacted before any surface disturbing activity is done during fires suppression.

3) The suppression response to a wildfire may vary from contain to control depending upon such things as fire location, and fire conditions. The suppression response of confinement is not appropriate for this management area.

b. Prescribed Fire

Planned ignitions may be used to enhance range and wildlife values during the period October 15 to May 15. Unplanned ignitions will not be used as a management practice.

See the Glossary for definitions of the above terms.

D. Schedule of Management Practices

Activity	Decade 1 (Proposed Average Annual)	Decade 2 (Proposed Average Annual)
Range		
Improvements		
Nonstructural		
CP (acres)	25	25
Structural		
CP (structures)	1	1
Noxious Weed Control		
CP (acres)	15	15
Wildlife and Fish		
Wildlife Habitat Impr. (acres)	3	9
Soil and Water		
Improvements (acres)	21	15

E. Monitoring and Evaluation Requirements

The monitoring items applicable to this management area are listed below and displayed in Table III-1 at the end of this chapter. The evaluation criteria are displayed in the Monitoring Action Plan (Chapter IV, Table IV-1).

Monitoring Items

A3 Off-Road Vehicle Use
A4 Cultural Resource Management
A5 Visual Resource Management
D1 Livestock Numbers (Forage Utilization)
D2 Range Condition and Trend
F5 Air Quality- H_2S/SO_2 Emissions
G1 Minerals Activities- Geophysical
G5 Minerals Activities- Reclamation
G7 Minerals Activities- Locatables
G8 Minerals Activities- Unauthorized Use
L3 Road Mgmt. Closure/Rehab.

In addition to these items there are 20 more monitoring items that are Forestwide in nature (Table III-1).

MANAGEMENT AREA L
1,310 ACRES (plus 1,756 acres in LWC*)

Sheyenne National Grassland.....255 acres
Beartooth Ranger District.....1,756 acres*
Ashland Ranger District.....363 acres
Sioux Ranger District.....60 acres
Little Missouri National Grassland.....632 acres

*(The Proposed Lost Water Canyon RNA acreage (1,756) is included in the proposed Lost Water Canyon Wilderness)

A. Description

Existing and proposed Research Natural Areas are found throughout the Forest and Grasslands. Following is a list of established, proposed, and candidate RNA's.

Name and Description	Status*	RD	Acres
Poker Jim	Established	Ashland RD	363
This RNA represents the following habitat types in Montana: Ponderosa Pine/Bluebunch wheatgrass, Ponderosa Pine/Snowberry, Ponderosa Pine/Chokechery, and Bluebunch wheatgrass/Western wheatgrass.			
Two Top-Big Top	Established	Medora RD	100
This RNA represents a perched relic prairie in North Dakota with the following habitat types: Western wheatgrass, Needle-and-thread and a localized Big Sage type in addition to Badlands slope communities.			
Limber Pine	Proposed	Medora RD	532
This propose RNA represents the habitat types in Montana: Douglas-fir/Idaho fescue, Douglas-fir/ Ninebark, Douglas-fir/ Elk sedge, Alpine fir/Alpine lematis, andalpine fir/Prickly gooseberry and a Type I stream.			
Lost Water Canyon	Proposed	Beartooth RD	1,756
This proposed RNA represents the habitat types in Montana: Douglas fir/Idaho fescue, Douglas-fir/Ninebark, Douglas-fir/ Elk sedge, Alpine fir/Alpine lematis, and Alpine fir/Prickly gooseberry and a Type I stream.			
White Rock Springs	Candidate	Sioux RD	60 ap.
This candidate RNA may have a representative habitat type of beaver ponds in Montana.			
Red Lodge Plateau	Candidate	Beartooth RD	undetermined
This candidate RNA in Montana may contain the alpine habitat type.			
Upper Hellroaring	Candidate	Beartooth RD	undetermined
This candidate RNA in Montana may contain the following habitat types: Alpine temporary ponds, low production potential lakes, lakes without fish, and bog meadows.			
Deer Draw	Candidate	Sioux RD	undetermined
This candidate RNA in South Dakota may contain the habitat type of special faunal populations.			

Name and Description	Status*	RD	Acres
Sheyenne Terrace #1	Candidate	Sheyenne RD	160
This candidate area in North Dakota contains the following habitat types: American elm - Green ash and Bur oak, as well as river and wetlands communities in an area fed by springs.			
Sheyenne Terrace #2	Candidate	Sheyenne RD	95
This candidate area in North Dakota may contain the Beaver pond type.			
Black Cottonwood Area	Candidate	LMNG	undetermined
This area contains a disjunct stand of black cottonwood.			
Bullion Butte Escarpment	Candidate	LMNG	undetermined
This area may contain several rare plant species.			
Burning Coal Vein	Candidate	LMNG	undetermined
This area contains unique geologic structures as well as Rocky Mountain juniper that has developed a columnar growth form.			
Denbigh Experimental Forest	Candidate	LMNG	undetermined
This area contains undisturbed rolling prairie.			
Ice Caves Geological Area	Candidate	LMNG	undetermined

*Established: Formally approved as an RNA.
Proposed: Submitted for approval.
*Candidate: Geographic area identified with no formal action on proposal.
Areas will be studied for suitability and reports prepared for those meeting the Northern Regions criteria for consideration.

B. Goals

To provide an opportunity for research, study, observation, and monitoring of natural-occurring ecological processes. They will be protected against activities which directly or indirectly modify ecological processes.

C. Management Standards

THE FORESTWIDE MANAGEMENT DIRECTION INCLUDED IN CHAPTER II OF THIS PLAN APPLIES TO THIS MANAGEMENT AREA.

1. Recreation

a. Recreation use will not be encouraged.

b. Activities in RNA's will usually be limited to non-manipulative or approved research, observation, and study. However, if grazing, timber, and fire management has been a traditional use and natural processes are not interrupted, then the activity will be allowed to continue.

c. Use of RNA's will be permitted for research by qualified scientists and for approved educational purposes. Educational use will generally be at the college upper class or graduate level.

d. Public use of RNA's will be discouraged by not signing the areas or identifying the areas on maps distributed to the general public. Area closures will be made if necessary.

e. Evaluation of areas that appear suitable for classification will be evaluate using the analysis and documentation required by the Forest Service. RNA reports will continue to be prepared and submitted for approval or rejection.

f. Proposed and candidate RNA's will be managed as Research Natural Areas until classified. If proposed and candidate RNA's are not classified the Forest Plan will be amended to assign them to another Management Area.

g. Trails will not be constructed within these areas.

h. No special use occupancy or range improvement construction will be permitted.

i. The Visual Quality Objective will be Prerervation.

2. Wildlife and Fish

Wildlife habitat improvement projects will not be permitted in this area, except to meet the needs of approved research projects associated with the management of the Research Natural Area.

3. Range

Where grazing by large ungulates has occurred prior to settlement, grazing by domestic livestock may be considered among the options for minimizing natural disturbances when these disturbance processes cannot otherwise be maintained. When allotments are re-evaluated through the Allotment Management Planning process, an

attempt will be made to duplicate past grazing practices. Grazing systems will be designed to maintain the natural vegetative species and for specific research needs. Noxious weeds may be controlled to attempt to prevent their spread into or within the area. Only hand treatment will be permitted.

4. Timber

Timber harvest will not be permitted except to meet the needs of approved research projects.

5. Watershed, Air Quality, Riparian Zones, and Woody Draws

Natural ecological processes will be permitted to continue without manipulation by man.

6. Minerals and Geology

a. Geophysical operations will be required to use minimal impacts techniques. If unacceptable surface disturbance is expected, the activity will be prohibited.

b. When an application is received for a lease, an environmental analysis will be made guided by the goal of this management area. Potential resource conflicts will be identified, as well as mitigation measures that will insure the protection of the ecological processes under study. These measures will be made a part of the permit authorizing the activity, to the extent that lease rights are not violated. The intent will be to prohibit surface disturbance of the RNA.

c. When application is made to lease, or existing leases expire or terminate, a No Surface Occupancy stipulation will be applied to the new lease.

d. Where applicable or deemed necessary, the area will be withdrawn from mineral entry under the General Mining Law of 1872.

7. Lands

a. Special uses will not be permitted except those that may be associated with study of the Research Natural Area.

b. Mineral withdrawal will be recommended for these areas.

8. Facilities

a. Roads and other facilities will not be constructed in these areas.

b. Existing public roads may be retained. Reconstruction will be allowed for public safety and protection of the soil and water resource.

c. Energy/utility corridors will be avoided in this area.

d. Fencing will be permitted if needed to protect the area.

9. Fire Management

a. Wildfire Management

1) The control objective will be dependent upon the values at risk.

2) The appropriate suppression responses will be contain and control. The response of confine will be appropriate on the National Forest District only. It is not appropriate on the National Grasslands.

b. Prescribed Fire

Planned ignitions will not normally be used as a management tool. Possible exceptions could be debris disposal. Unplanned ignitions will not be used as a management tool on the National Grasslands. Unplanned ignitions may be used on National Forest Districts as a management tool to support the objectives of maintaining natural ecosystems.

See the Glossary for the definitions of these terms.

D. Schedule of Management Practices

Activity	Decade 1 (Proposed Average Annual)	Decade 2 (Proposed Average Annual)
Range		
Noxious Weed Control CP (acres)	5	5
Soil and Water Improvements (acres)	1	1

E. Monitoring and Evaluation Requirements

There are 20 monitoring items that can be applied to this area. These monitoring items are Forest-wide in nature. See Table III-1 at the end of this Chapter. Evaluation criteria are displayed in the Monitoring Action Plan (Chapter IV, Table IV-1).

MANAGEMENT AREA M

Sheyenne National Grasslands .....336 Acres
Beartooth Ranger District .....undetermined
Ashland Ranger District.....undetermined

A. Description

This management area includes the riparian ecosystem throughout the Forest. It occurs in nearly every other management area as it occurs throughout the Forest and is found in small narrow parcels and, for the most part, is not mapped. It is easily identified due to its mesic nature and in some cases surface water. These riparian areas are important in maintaining vital habitat for many wildlife and fish species, water quality and providing shade, water and forage for livestock. Stream channels and shorelines are often stabilized by the riparian zone.

B. Goals

Manage to protect from conflicting uses in order to provide healthy, self-perpetuating plant and water communities that will have optimum diversity and density of understory and overstory vegetation.

C. Management Standards

THE FORESTWIDE MANAGEMENT DIRECTION INCLUDED IN CHAPTER II OF THIS PLAN APPLIES TO THIS MANAGEMENT AREA.

1. Recreation

a. The recreation setting will be semi-primitive non-motorized. Where roads and/or trails exist, the setting may be semi-primitive motorized, roaded-natural appearing or rural.

b. Motorized use will be restricted to existing roads and trails.

c. Two canoe launch sites may be constructed on the Sheyenne Ranger District as use warrants.

d. Trails

1) Trail design will take advantage of natural features, topography and resources within the area, causing the least impact on the riparian zone.

2) Where use or existing trails is causing resource damage, the trail will be relocated or the damage eliminated by other means if the trail can not be relocated.

e. Visual Quality Objectives of the Management Area will be Retention and Partial Retention. The VQO of Retention is assigned to the seen area of the Little Missouri Scenic River. The natural-appearing landscape will remain dominant and most management activities will not be evident.

2. Wildlife and Fish

a. Wildlife and Fishery Management

1) The habitat for old growth/snag cavity dependent species will be maintained.

2) Adequate tree and shrub vegetation to contribute to stable bank and stream cover will be maintained unless project analysis indicates a need to reduce cover to meet fish or wildlife habitat objectives. Water quality will be protected or improved.

3) Adequate trees will be maintained within 30 feet of the streams to provide snag recruitment to the fishery streams to create pools for fish habitat.

4) A full range of other fish and wildlife habitat improvements will be provided within the constraints of water quality needs.

5) The minimum streamflow needed to sustain the biological community will be determined.

6) Stockponds and spring-fed tributaries will be assessed for fishery habitat potential.

7) Game and Fish departments will be cooperated with to collect data on these areas as needed.

8) No introduction of a species will be made that will compete directly with the native (indigenous) species.

b. Key Wildlife Species and Habitats

1) Where practical, suitable management techniques will be employed to develop or improve the riparian areas to provide suitable habitat for key species, i.e.

a) Creation of potholes in high water tables.

b) Fencing to protect areas.

c) Increase or decrease seasonal surface water.

d) Enhance wetland habitats.

2) Implementation plans from other Management Areas will include actions affecting this Management Area and Management Area N. The details of such plans will be coordinated among the affected Management Areas.

3. Range

a. Riparian zones will be evaluated and mapped during the range analysis phase of an allotment management plan.

b. Allotment Management Plans will specifically address the riparian areas and identify impacts livestock will have on these areas. Management practices such as fencing, grazing deferment, burning or planting may be tried on selected areas to determine their effectiveness in maintaining or improving the riparian zone conditions. Large scale fencing efforts to protect riparian areas are neither practical nor planned.

c. Structural range improvements will be located to attract livestock out of this management area.

d. Nonstructural range improvements will be done only to improve diversity of habitats or implement practices designed to restore the desired vegetative composition.

e. Noxious weed control through chemical application will be evaluated by an appropriate NEPA process and done by hand application to individual plants within 50 feet of riparian zones and open water.

4. Timber

a. This area contains lands suitable for timber management. Harvest timber products only if riparian, wildlife or fish habitat, visual values, and water quality can be improved or protected. Management objectives for these resources will guide the harvest unit size, method of harvest, and the amount of material removed.

b. Primarily uneven aged silvicultural management practices will be used to provide diversity in size and age distribution and species composition.

c. Clearcutting may be appropriate if the intent is to convert conifer stands to aspen or other hardwood species that are more valuable to wildlife and it is determined that clearcutting is the optimal harvest method to meet the objectives.

d. Silvicultural prescriptions will be used along fishery streams to insure that an adequate number of trees will be available to maximize the continual, natural development of pools necessary to meet the need of the individual fishery involved.

e. A river bottom site along the Sheyenne River (Sheyenne National Grassland) may be established as a demonstration woodlot to demonstrate sound timber management practices that enhance timber productivity, recreation, and wildlife values. Harvest to prevent the spread of insects and disease may occur in this area. Oak stands may be thinned or rogued to stimulate mast production and provide firewood. (The National Grasslands are not part of the suitable timber base.)

5. Minerals and Geology

a. No seismic shotpoints will be located within riparian areas.

b. Oil and gas development activities will be allowed on a limited surface use basis. An environmental analysis will be done to identify the mitigation measures necessary to protect the riparian area. Measures such as road design, well pad size and location or directional drilling, will be made a part of the permit authorizing the activity.

c. When a lease application is received, or existing lease expire or terminate, a limited surface use stipulation may be applied, if needed, to minimize surface disturbances.

6. Lands

a. Special uses may be considered as long as they are consistent with the goals of the area.

b. Isolated parcels of private or state land within this management area will have high priority for acquisition (by exchange) if offered by a willing landowner.

7. Facilities

a. Generally, roads will not be constructed in riparian areas except as needed to cross areas. Road construction across streams will be done in a manner that maintain the normal grade of the stream and minimizes road length and/or impacts within this area.

b. Road closures will be implemented as necessary to be compatible with the adjacent management area direction or to protect riparian or wildlife and fishery habitat values, other resources, or public safety.

c. Existing roads may be retained if necessary for resource management and reconstructed as needed for public safety and resource protection.

d. Energy/utility windows may be allowed in this management area as long as they are sited to cross the features.

e. Pipeline and powerline crossings will be confined to corridors and the number of riparian area crossings will be minimized. Corridors will be shaped to natural contours and revegetated to native vegetation.

f. Minimize the number of road and/or pipelines crossing this management area to minimize disturbance of this ecosystem.

8. Fire Management

a. Wildfire Management

1) The control objective will be to hold 90

percent of fire starts to less than 10 acres. Use minimal suppression equipment.

2) The appropriate suppression responses will be contain and control. Confine will not be an appropriate response. Minimal suppression equipment will be used.

b. Prescribed Fire

Planned ignitions may be used for debris cleanup. Operational broadcast burns may be used as a management tool. Unplanned ignitions will not be used as a management tool specific to the management area. Wildfires entering these areas will receive an appropriate suppression response.

See the Glossary for the definition of these terms.

D. Schedule of Management Practices

Activity	Decade 1 (Proposed Average Annual	Decade 2 (Proposed Average Annual)
Range		
Improvements		
Nonstructural		
RBF (acres)	5	5
CP (acres)	10	10
Noxious Weed Control		
P&M (acres)	25	25
CP (acres)	100	100
Wildlife and Fish		
Wildlife Habitat Impr. (struc.)	3	7
(acres)	4	11
Fisheries Habitat Impr.		
(structures)	2	4
Canoe Launch Sites	2	0

E. Monitoring and Evaluation Requirements

The monitoring items applicable to this management area are listed below and displayed in Table III-1 at the end of this chapter. The evaluation criteria are displayed in the Monitoring Action Plan (Chapter IV, Table IV-1).

Monitoring Items

A3 Off-Road Vehicle Use
C1 Wildlife Habitat Mgmt.--Oil and Gas Related
C3 Wildlife Mgmt.--Indicator Species
C4 Wildlife Mgmt.--Riparian and Woody Draws
C5 Wildlife Mgmt.--Livestock Related
C10 Wildlife Mgmt.--Instream Habitat and Fish Numbers
D1 Livestock Numbers (Forage Utilization)
D2 Range Condition and Trend
F1 Water Quality
F2 Soil/Water Improvements
F4 Watershed Condition-Riparian and Woody Draws
F5 Air Quality--H_2S/SO_2 Emissions
G1 Minerals Activities--Geophysical
G5 Minerals Activities--Reclamation
G6 Minerals Activities-Common Variety
G7 Minerals Activities-Locatables
G8 Minerals Activities-Unauthorized Use
L1 Road/Trail Construction
L2 Public Access
L3 Road Mgmt. Closure/Rehab.

In addition to these items there are 20 more monitoring items that are Forestwide in nature (Table III-1).

MANAGEMENT AREA N
(undetermined) ACRES

Sioux Ranger District.....undetermined
Grand and Cedar River National Grasslands .....undetermined
Little Missouri National Grasslands.....undetermined

A. Description

This management area contains the woody draws found primarily in North Dakota and South Dakota. It is defined as an area with an overstory of woody vegetation and an understory of grass, forbs, or shrubs. The woody draw must generally be approximately five hundred feet long to fall into this management area. Examples of woody draws are the juniper/green ash complexes found in the North Dakota prairies and badlands and the aspen inclusions in the pine hills of southeastern Montana and northwestern South Dakota. This management area does not include any lands on the Sheyenne District in North Dakota, the ponderosa pine stands on the Medora District in North Dakota, nor the conifer stands on the National Forest Districts. These areas provide important habitat for many wildlife species, game and non-game, as well as an important component (shelter and forage) for livestock grazing. All woody draws will be managed according to the direction that follows, unless specific direction is found in another management area regarding woody draws.

B. Goals

To provide healthy, self-perpetuating plant communities that will have optimum diversity and density of understory and overstory vegetation.

C. Management Standards

THE FORESTWIDE MANAGEMENT DIRECTION INCLUDED IN CHAPTER II OF THIS PLAN APPLIES TO THIS MANAGEMENT AREA.

1. Recreation

a. Generally, trails will not be constructed in the woody draws except as needed to cross the area.

b. All buildings, toilets, garbage pits, and other structures associated with developed sites shall be located to prevent infringement upon woody draw areas.

c. Motorized use will be restricted to existing roads and trail.

d. Trail development will be in harmony with the surrounding environment.

e. Design will take advantage of natural features, topography and resources within the area, causing the least impact on the woody draws.

f. Visual Quality Objectives of Retention will be met in this area except where crossed by roads. The VQO of Retention is assigned to the seen area of the Little Missouri Scenic River.

g. The natural-appearing landscape will remain dominant and most management activities will not be evident.

2. Wildlife and Fish

a. Habitat for old growth/snag cavity dependent species will be maintained.

b. Adequate tree and shrub vegetation will be maintained to contribute bank and stream cover unless project analysis indicates a need to reduce cover to meet fish or wildlife habitat objectives.

c. The Forest Service will cooperate with local game and fish departments to collect data on these areas as needed.

d. No species will be introduced that will compete directly with indigenous species.

e. Woody draws will be evaluated to determine existence of T&E species or the value of this area for possible use by these species.

f. Where practical, suitable management techniques will be employed to improve the woody draw areas.

3. Range

a. Woody draws will be evaluated and mapped during the range analysis phase of an allotment management plan.

b. Allotment Management Plans will specifically address woody draws and identify impacts livestock will have on these areas. Management practices such as fencing, grazing deferment, burning or planting may be tried on selected areas to determine their effectiveness in maintaining or improving the riparian zone conditions. Large scale fencing efforts to protect woody draws are neither practical nor planned.

c. Structural range improvements will be located to attract livestock out of this management area.

d. Nonstructural range improvements will be done only to improve diversity of habitats or implement practices designed to restore the desired vegetative composition.

e. Noxious weed control through chemical application will be done by hand application to individual plants.

4. Timber

a. Harvest timber only if woody draw wildlife and fishery habitat values can be improved or protected. Wildlife habitat management objectives will determine the harvest unit size and the amount of material removed.

b. Commercial and noncommercial cutting of firewood is permitted only if woody draw wildlife and fishery habitat values are improved or protected.

c. Uneven aged silvicultural management practices will primarily be use to provide diversity.

d. Timber harvest in areas classified as unsuitable will only be to maintain or perpetuate their special values.

5. Minerals and Geology

a. Geophysical operations will not generally be allowed in this management area. No seismic shotpoints will be located within woody draw areas.

b. Oil and gas development activities will be allowed on a limited surface use basis. An environmental analysis will be done to identify the mitigation measures necessary to protect the woody draws. The visual quality objective as assigned to the areas or as determined through the environmental analysis will be met by the development activities, subject to valid existing rights. These measures, such as road design, well pad size and location or directional drilling, will be made a part of the permit authorizing the activity.

c. When a lease application is received, or existing lease expire or terminate, a Limited Surface Use stipulation will be applied to minimize surface disturbances; e.g. design roads to cross these areas at right angles when possible and necessary to minimize impacts to adjacent areas.

6. Lands

a. Special uses may be considered as long as they are consistent with the goals of the area.

b. Isolated parcels of private or state land within this management area will have high priority for acquisition (by exchange) if offered by a willing landowner.

7. Facilities

a. Generally, roads will not be constructed in woody draws except as needed to cross areas. Road construction across streams will be done in a manner that maintain the normal grade of the stream.

b. Road closures will be implemented as necessary to be compatible with the adjacent management area direction or to protect woody draws, wildlife habitat, and other resources, or public safety.

c. Existing roads may be retained if necessary for resource management and reconstructed as needed for public safety and resource protection.

d. Energy/utility windows may be allowed in this management area as long as they are sited to cross the features to the extent possible.

8. Fire Management

a. Wildfire Management

1) The control objective is to hold 90 percent of fire starts to less than 10 acres. Use minimal suppression equipment.

2) The suppression response to a wildfire may vary from contain to control depending upon such things as fire location, and fire conditions. The suppression response of confinement is not appropriate for this management area.

b. Prescribed Fire

Planned ignitions may be used for wildlife habitat enhancement, and as a vegetative manipulation tool. Unplanned ignitions will not be used as a management tool specific to the management area. Wildfires entering these areas will receive an appropriate suppression response.

See the Glossary for definitions of the above terms.

D. Schedule of Management Practices

Activity	Decade 1 (Proposed Average Annual)	Decade 2 (Proposed Average Annual)
Range		
Improvements		
Nonstructural		
RBF (acres)	5	5
CP (acres)	10	10
Noxious Weed Control		
P&M (acres)	25	25
CP (acres)	100	100
Wildlife and Fish		
Wildlife Habitat Impr. (struc.)	8	16
(acres)	12	37
Fisheries Habitat Impr. (structures)	3	6
Habitat affected (acres)	2	4
Soil and Water		
Improvements (acres)	3	3

E. Monitoring and Evaluation Requirements

The monitoring items applicable to this management area are listed below and displayed in Table III-1 at the end of this chapter. The evaluation criteria are displayed in the Monitoring Action Plan (Chapter IV, Table IV-1).

Monitoring Items

A3 Off-Road Vehicle Use
A5 Visual Resource Mgmt.
C1 Wildlife Habitat Mgmt.--Oil and Gas Related
C3 Wildlife Mgmt.--Indicator Species
C4 Wildlife Mgmt.--Riparian and Woody Draws
C5 Wildlife Mgmt.--Livestock Related
C9 Wildlife Mgmt.--Residual Nesting Cover
C10 Instream Habitat and Fish Numbers
D1 Livestock Numbers (Forage Utilization)
D2 Range Condition and Trend
D6 Noxious Weed Infestation
F2 Soil/Water Improvements
F4 Watershed Conditions-Riparian and Woody Draws
F5 Air Quality--H_2S/SO_2 Emissions
G1 Minerals Activities--Geophysical
G5 Minerals Activities--Reclamation
G6 Minerals Activities-Common Variety
G7 Minerals Activities-Locatables
G8 Minerals Activities-Unauthorized Use
L1 Road/Trail Construction
L2 Public Access
L3 Road Mgmt. Closure/Rehab.
P1 Fuel Treatment Outputs

In addition to these items there are 20 more monitoring items that are Forestwide in nature (Table III-1).

MANAGEMENT AREA O
1,247 ACRES

Sioux Ranger District ..... ……1,247 acres

A. Description

This management area contains two National Natural Landmarks that were established upon recommendation by the USDA Forest Service and the USDI Park Service in 1977. Capitol Rock, sandstone formation resembling the Nation's Capitol building, encompasses 240 acres and is located in the Long Pines portion of the Sioux Ranger District in Montana. The other area is the Castles, also a sandstone formation that resembles a medieval castle and encompasses 1,005 acres. It is located in the Slim Buttes portion of the Sioux Ranger District, falling in South Dakota.

A portion of the Lost Water Canyon (recommended for wilderness classification and as a Research Natural Area) is listed in "A Survey of Potential Ecological Natural Landmarks of the Middle Rocky Mountains" dated June 1982. This report recommends 3,280 acres for consideration as a National Natural Landmark. There are no management activities scheduled that would threaten the integrity of this area and no additional direction beyond that contained in Management Area H and L are needed at this time.

B. Goal

To protect the unique geological and scenic features of the National Natural Landmarks and provide a recreation opportunity.

C. Management Standards

THE FORESTWIDE MANAGEMENT DIRECTION INCLUDED IN CHAPTER II OF THIS PLAN APPLIES TO THIS MANAGEMENT AREA.

1. Recreation

a. Signing and the media will be used to inform people of Capitol Rock and the Castles National Natural Landmarks.

b. Interpretive signing will be provided on Highway SD 20 in coordination with appropriate State agencies.

c. As use warrants, opportunities for dispersed recreation use will be developed to enhance use of the area and provide for public safety.

d. All development activities will be coordinated with the United States National Park Service.

e. The recreation setting will be roaded natural appearing.

f. The Visual Quality Objective is Retention. The landscape may be modified to facilitate public use and enjoyment of the area.

2. Range

Grazing by domestic livestock will continue but managed to protect the unique value of the area.

3. Timber

Trees will be cut only to remove diseased material and provide public safety in accordance with a plan prepared by the Forest Service in consultation with the U.S. Department of the Interior (Park Service).

4. Minerals and Geology

a. Geophysical operations will not generally be allowed in this Management Area. Shot-point locations will not be located in this area.

b. If oil and gas development activities are proposed in this Management Area, the intent will be to protect the unique geologic and scenic features. Mitigation measures will be identified through an environmental analysis and be made a part of the permit authorizing the activity, providing that lease rights are not violated.

c. When lease applications are received or existing leases expire or terminate, a No Surface Occupancy stipulation will be applied to the new lease.

d. Mineral withdrawal -- See the Lands section for this management area.

e. Removal of mineral materials will not be permitted.

5. Watershed and Air Resource Management

Watershed values will be protected to maintain scenic values and geologic integrity.

6. Lands

a. Special use permits for research, study, training, and other uses may be granted if they are compatible with Management Area goals.

b. Mineral withdrawal of the remainder of the Castles (Reva Gap is presently withdrawn) will be recommended.

c. Capitol Rock is presently withdrawn from mineral entry.

7. Facilities

a. Roads and trails may be permitted if they enhance the recreation opportunity. Utility corridors will not be permitted.

b. Energy/utility corridors will be avoided in this Management Area, except for the existing corridor through Reva Gap.

8. Fire Management

a. Wildfire Management

1) The control objective for this Management Area is to hold 90 percent of fire starts to less than 10 acres using minimal suppression equipment.

2) The suppression response to a wildlife may vary from contain to control depending upon such things as fire location, and fire conditions. The suppression response of confinement is not appropriate for this management area.

b. Prescribed Fire

Planned ignitions will not be used as a management tool. Unplanned ignitions will not be used as a management tool.

See the Glossary for definitions for the above terms.

D. Monitoring and Evaluation Requirements

The monitoring items applicable to this management area are listed below and displayed in Table III-1 at the end of this chapter. The evaluation criteria are displayed in the Monitoring Action Plan (Chapter IV, Table IV-1).

Monitoring Items

A3 Off-Road Vehicle Use
C9 Wildlife Mgmt.--Residual Nesting Cover

In addition to these items there are 20 more monitoring items that are Forestwide in nature (Table III-1).

MANAGEMENT AREA P
1,780 ACRES

Beartooth Ranger District .....607 acres
Sioux Ranger District .....223 acres
Ashland Ranger District .....749 acres
Little Missouri National Grasslands .....201 acres

A. Description

There are currently 30 administrative sites on the Forest included in this management area. Office buildings, warehouses and administrative pastures are examples of facilities in this management area. Twenty-five are on National Forest System lands, the remaining five are leased buildings.

B. Goals

To provide adequate facilities for the administration of the Custer National Forest.

C. Management Standards

THE FORESTWIDE MANAGEMENT DIRECTION INCLUDED IN CHAPTER II OF THIS PLAN APPLIES TO THIS MANAGEMENT AREA.

1. Recreation

a. Interpretive facilities may be used at these sites to inform the public.

b. Hunter camps are permitted at the Meyers Creek Station on the Beartooth Ranger District.

c. The Visual Quality Objective will not exceed Modification.

2. Range

a. Grazing by domestic livestock may be used to achieve other resource objectives or provide grazing for administrative pack and saddle stock.

b. Management direction will be developed for all administrative horse pastures.

c. Noxious weed control will be by an integrated management system. If chemicals are used their impacts will be evaluated in an appropriate NEPA document.

3. Timber

This area is not considered part of the suitable timber base. Timber harvest may be used to protect or maintain other values.

4. Minerals and Geology

a. No Surface Occupancy lease stipulations will be used to protect administrative sites with existing or planned improvements or capital investments. Sites currently withdrawn from mineral entry will be reviewed in accordance with the direction and schedule in Appendix IV.

b. Removal of mineral materials will not be allowed.

5. Facilities

a. Administrative sites be maintained for a well-kept appearance and will be signed for public recognition.

6. Lands

Administrative site withdrawn from mineral entry will be reviewed per the direction arid schedule found in Appendix IV.

7. Fire Management

a. Wildfire Management

1) The control objective is to hold 90 percent of fire starts to less than 10 acres.

2) The suppression response is control. The suppression responses of contain and confine are not appropriate for this management area.

b. Prescribed Fire

Planned ignition may be used for debris disposal and maintenance of administrative pastures. Unplanned ignitions will not be used as a management tool.

See the Glossary for definitions of the above terms.

D. Schedule of Management Practices

Activity	Decade 1 (Proposed Average Annual)	Decade 2 (Proposed Average Annual)
Range		
Improvements		
Structural		
RBF (structures)	1	1
CP (structures)	1	1
Noxious Weed Control		
P&M (acres)	5	5
CP (acres)	1	1

E. Monitoring and Evaluation Requirements

There are 20 monitoring items that can be applied to this area. These monitoring items are Forest-wide in nature (see Table III-1 at the end of this Chapter). Evaluation criteria ere displayed in the Monitoring Action Plan (Chapter IV, Table IV-1).

MANAGEMENT AREA Q
5,000 ACRES

Beartooth Ranger District ..... ……..5,000 acres

A. Description

This area contains the Wild Horse Territory in southeastern Montana, adjacent to the Wyoming state line. It includes that area from the east rim of Lost Water Canyon stretching eastward to the Custer National Forest boundary and is part of the Pryor Mountain Wild Horse Range (PMWHR) administered by the Bureau of Land Management (BLM). The area is characterized by steep-walled canyons, caves in limestone sidewalls, forested areas and dryland flats. The herd tends to utilize the grassland areas, but travels through the entire area in search for water as this resource is very scarce.

B. Goal

To provide for improved habitat conditions, including range and watershed, and for a healthy, viable wild horse population. Coordination with the BLM will be imperative for efficient and successful management of the entire Pryor Mountain Wild Horse Range.

C. Management Standards

THE FORESTWIDE MANAGEMENT DIRECTION INCLUDED IN CHAPTER II OF THIS PLAN APPLIES TO THIS MANAGEMENT AREA.

1. Recreation

a. Semi-primitive nonmotorized and semi-primitive motorized recreation opportunities will be provided. Motorized recreation opportunities will be limited to those existing along the Tillett Ridge Road.

b. The Bureau Land Management (BLM) and the Forest Service will coordinate to enforce Off-Road Vehicle (ORV) restrictions.

c. No trails will be constructed within the area.

d. The area will be managed with a Visual Quality Objective (VQO) of Retention.

2. Wildlife and Fish

a. The Forest Service will coordinate with the BLM, and other Federal/state agencies to maintain or enhance wildlife habitat and population numbers in a manner which is compatible with wild horses and overall habitat conditions.

b. In coordination with the BLM and the Peregrine Falcon Recovery Fund, the potential for introduction of the peregrine falcon into the area will be assessed.

3. Range

a. No grazing of domestic livestock will be permitted in the area.

b. The Forest Service will cooperate with the BLM on scheduled monitoring items to determine carrying capacity and/or vegetative conditions and trends. Vegetation and climatological data will be collected to refine carrying capacity estimates and document vegetative condition and trends.

c. New range improvements may be constructed provided they do not attract horses into the proposed Lost Water Canyon Wilderness. However, the horse trap on Tillett Ridge and the two enclosures will be retained.

4. Timber

No commercial timber harvest will be permitted in the area. Harvest of dead or down material for firewood and incidental selection cutting of posts and pole material for maintenance of improvements within the area may be permitted.

5. Minerals and Geology

a. Geophysical operations will be allowed, but minimal impact techniques will be required.

b. If oil and gas lease applications are received, they will be recommended for issuance with a No Surface Occupancy stipulation.

c. Removal of mineral materials will not be permitted.

6. Lands

a. Coordination will continue with the BLM as the lead agency for the administration of the area.

b. Actively pursue interchange of this Forest Service administered management area to the Bureau of Land Management (BLM) for BLM lands within or adjacent to Custer National Forest proclaimed boundaries that will improve Forest Service management effectiveness.

c. Special uses may be considered as long as they are consistent with the management area goal.

7. Facilities

a. The area will be considered as an "Avoidance Area" when considering the placement of utility corridors.

b. No new roads will be constructed.

c. The Tillett Ridge Road and the road to the Little Ice Cave will be maintained.

8. Fire Management

Efforts will be initiated by the BLM, USFS, and the NPS to develop a joint "natural fire" management plan.

a. Wildfire Management

1) The control objective is to hold 90 percent of fire starts to less than 100 acres.

2) The suppression response to a wildfire may vary from contain, to control to confine.

b. Prescribed Fire

Planned ignitions may be used with an approved plan coordinated with the Bureau of Land Management to enhance range conditions for wild horses. Unplanned ignitions may be used as prescribed fire under an approved plan coordinated with the Bureau of Land Management and National Park Service to enhance range conditions for wild horses.

D. Schedule of Management Practices

Activity	Decade 1 (Proposed Average Annual)	Decade 2 (Proposed Average Annual)
Soil and Water Improvements (acres)	1	1

E. Monitoring and Evaluation Requirements

The monitoring items applicable to this management area are listed below and displayed in Table III-1 at the end of this chapter. The evaluation criteria are displayed in the Monitoring Action Plan (Chapter IV, Table IV-1).

Monitoring Items

A3 Off-Road Vehicle Use
C1 Wildlife Habitat Mgmt.--Oil and Gas Related
D1 Livestock Numbers (Forage Utilization)
D2 Range Condition and Trend
D5 Wild Horse Management
G1 Minerals Activities--Geophysical
G6 Minerals Activities-Common Variety
G7 Minerals Activities-Locatables
G8 Minerals Activities-Unauthorized Use
L3 Road Mgmt. Closure/Rehab.

In addition to these items there are 20 more monitoring items that are Forestwide in nature (Table III-1).

MANAGEMENT AREA R
21,374 ACRES

Beartooth Ranger District .....21,374 acres

A. Description

This management area includes that portion of the West Fork of Rock Creek drainage that is outside of the Absaroka-Beartooth Wilderness and the developed recreation sites along the creek. A portion of the Burnt Mountain and Red Lodge Creek-Hellroaring areas are included in this management area. This area serves as a water source for the city of Red Lodge, Montana, and is characterized by steep mountain slopes on both sides of the canyon, covered with lodgepole pine with intermittent rock slides and grassy parks.

B. Goal

To protect and maintain high quality water for public domestic use.

C. Management Standards

THE FORESTWIDE MANAGEMENT DIRECTION INCLUDED IN CHAPTER II OF THIS PLAN APPLIES TO THIS MANAGEMENT AREA.

1. Recreation

a. Camping associated with dispersed use will be restricted to at least 100 feet from live streams.

b. A comprehensive education program geared specifically to improve waste disposal practices of Forest visitors, recreation special use permittees, and their guests will be instituted.

c. Vehicle travel is limited to the West Fork Rock Creek Road #71, Silver Run Road #1476, and the jeep trail up Nichols Creek. No motorized travel will be permitted on the Basin Lake Trail (Forest Trail #61).

d. All forest trails will be maintained to an adequate standard to prevent sedimentation into the West Fork of Rock Creek.

e. Management activities will be designed to meet a visual quality objective of Partial Retention and Retention.

f. Recreation special use residence permit holders will be required to install vault outdoor toilets and lime and cover old pits at the time of permit renewals.

g. Trail 61 (Basin Lakes Trail) will be closed to horse use except during fall big game hunting season.

2. Range

a. Only recreational livestock will be permitted on National Forest administered lands within the management area.

b. Noxious weed control methods must protect the water quality value of this area and be evaluated in an appropriate NEPA document.

3. Timber

Productive forest lands within this area are suitable for timber production. Small tree products such as posts, poles, fuelwood, Christmas tree, and transplant materials may be harvested. Timber management activities such as thinning, regeneration cutting, and selection cutting to enhance or perpetuate existing watershed, recreation and visual values or provide for public safety are permitted. Cutting activities will be managed to assure high water quality is maintained.

4. Soil and Water Quality

a. The Forest Service will coordinate with the appropriate agencies as necessary to insure that state water quality standards are adhered to (Best Management Practices are applied) and that current soil productivity and water quality are maintained.

b. Water quality will be monitored for both turbidity and microbiology.

5. Minerals and Geology

a. Geophysical Operations

1) Requests for geophysical permits will be evaluated on a case-by-case basis. Minimum impact techniques and timing restrictions may be required to insure protection of the watershed and minimize sound and visual disturbances to the recreation uses in the adjacent management area.

2) Geophysical activities will not be permitted from the opening of big game rifle season until the elk have left the upper meadows along the West Fork of Rock Creek Road.

b. Oil and Gas Development

1) Applications to develop leases will have an environmental analysis made to assess the potential conflicts with the proposed activity and the goal of this management area. Any mitigation measure found to be necessary will be made a part of the permit authorizing the activity. Examples such as the following may be appropriate:

a) Closed mud systems

b) Off-site disposal of drilling fluids

c) Dust abatement practices

3) Drilling and associated activities will be sited to provide a visual and/or sound barrier from developed recreation sites and access routes in the adjacent management area.

4) Drilling and associated activities will not be permitted from the opening of big game rifle season until the elk have left the upper meadows along the West Fork of Rock Creek Road.

c. New Lease Stipulations

1) No surface occupancy lease stipulation will be applied to slopes greater than 30 percent and to areas of fragile soils with a mass failure hazard.

2) A Limited Surface Use stipulation will be applied to all new oil and gas leases in the area to protect its special values. Required practices may include:

a) Closed mud systems

b) Off-site disposal of drilling fluids

c) Dust abatement

d. Locatable Minerals

1) Removal of mineral materials will be for in-service use only.

2) To the extent possible, water quality impacts from locatable mineral activities will be mitigated or minimized.

6. Lands

Special uses may be considered as long as they are consistent with the goals of the management area.

7. Facilities

a. The existing road system is adequate for resource management needs except for mineral resource development activities, in which case roads will not be constructed on slopes of 30 percent or greater. Exceptions may be made for short distances, i.e., one quarter mile or less, where this will minimize the total impact to the area.

b. The Nichols Creek road will be retained as a primitive road and portions relocated. Maintenance will be for protection of soil and water.

c. Any reconstruction on Road #71 will be limited to that necessary for safety and protection of soil and water.

d. Temporary approaches from existing roads will be allowed for timber management activities.

e. Roads to the existing recreation residences will be administered under special use permits.

f. The area will be designated as an Avoidance Area for any utility corridor because of incompatibility with surface uses in the municipal watershed.

g. The Silver Run Road will be closed at the first creek crossing and the old sheep drive to Ingles Creek will be closed to motorized vehicles.

h. Silver Run ski touring trail will be closed to all motorized vehicles yearlong unless specifically authorized.

8. Fire Management

a. Wildfire Management

1) The control objective is to hold 90 percent of fire starts to less than 25 acres.

2) The appropriate suppression response may vary from contain, to control, to confine.

b. Prescribed Fire

Planned ignitions may be used for hazard reduction, debris and slash disposal and maintenance of diversity for watershed values. Unplanned ignitions may be used under an approved plan to perpetuate stand diversity for watershed values. See the Glossary for definitions of the above terms.

D. Schedule of Management Practices

Activity	Decade 1 (Proposed Average Annual)	Decade 2 (Proposed Average Annual
Noxious Weed Control		
P&M (acres)	5	5
Wildlife and Fish		
Wildlife Habitat Impr. (struct.)	7	17
Soil and Water		
Improvements (acres)	2	2
Timber		
Final Harvest (MBF)	400	200
Acres Affected	76	37

E. Monitoring and Evaluation Requirements

The monitoring items applicable to this management area are listed below and displayed in Table III-1 at the end of this chapter. The evaluation criteria are displayed in the Monitoring Action Plan (Chapter IV, Table IV-1).

Monitoring items

C3 Wildlife Mgmt.--Indicator Species
C10 Wildlife Mgmt.--Stream Habitat and Fish Numbers
D1 Livestock Numbers (Forage Utilization)
D2 Range Condition and Trend
F1 Water Quality
F2 Soil/Water Improvements
G5 Minerals Activities--Reclamation
G7 Minerals Activities-Locatables
G8 Minerals Activities-Unauthorized Use

P1 Fuel Treatment Outputs
P4 Insect and Disease

In addition to these items there are 20 more monitoring items that are Forestwide in nature (Table III-1).

MANAGEMENT AREA S
796 ACRES

A. Description

Established in 1931, Denbigh Experimental Forest is located in north-central North Dakota in McHenry County. The Forest Service acquired 40 acres of the total 636 acres at that time, with the State of North Dakota retaining the other 596 acres. In 1971, the Forest Service acquired this acreage. However, since 1931, the entire section has been managed as one unit for experimental and other purposes. The original purposes for establishment included the following:

- Establish various tree species (primarily conifer) to determine which would grow well for subsequent shelterbelt plantings in the northern Great Plains.
- Determine which seed sources of these species were most adaptable in the northern Great Plains.
- Determine which methods for site preparation, planting, and care of seedlings would be best for shelterbelt purposes.

Currently about 60 percent of the experimental area has been planted. This area is extremely valuable since no other area like this has been established in the northern Great Plains.

The remainder of the experimental area, primarily in the northeast quarter and the southeast quarter, is natural prairie vegetation including several prairie grasses and small clumps of native aspen. In addition, a "natural forty" has been administratively set aside and reserved for botanical studies. Management of this area is accomplished cooperatively as defined in a Memorandum of Understanding dated July 7, 1983 by and between the Northern Region and the Rocky Mountain Forest and Range Experiment Station. Denbigh Experiment Station is a part of the Custer National Forest.

B. Goals

To provide a research area for development of genetically improved trees, faster growth, and improved hardiness, and to provide conifer seed for the North Dakota Forest Service nursery located 15 miles east at Towner. (See the original purposes for establishment listed above.)

C. Management Standards

1. Recreation

a. Dispersed recreation will be allowed to the extent that it will not interfere with ongoing research studies and seed collection activities.

b. The scenic trail will be maintained and the opportunity for schools to use the area for environmental education will continue to be provided.

c. Off-road vehicle use will not generally be allowed so that soil and vegetation damage is avoided.

d. Designation of the "Natural Forty" as a Research Natural Area will be recommended for the continuation of botanical studies.

e. The residence will be nominated for National Register of Historic Places.

2. Wildlife and Fish

This area is not managed for wildlife habitat but it does provide habitat for some species for all or portions of the year. Wildlife needs will be considered in the planning of all future management activities.

3. Range

a. Boundary fences will be maintained to exclude livestock.

b. Control of leafy spurge will continued as deemed necessary, especially along the boundary.

4. Timber

a. The responsibility of the research programs will remain with the Forest Service through a Memorandum of Understanding with the Northern Region and the Rocky Mountain Forest and Range Experiment Station's Forestry Sciences Laboratory in Lincoln, Nebraska.

b. The 5-Year Management Activity Schedule will be cooperatively updated annually to identify and prioritize research projects, improvements and maintenance. The opportunity will be continued to maintain the area for research for the development of genetically improved tree species for shelterbelt use.

c. Joint management of the area will continue wherein the responsibility of the Forest to protect the area from fire, insect and disease. Sanitation cuttings and thinning operations may be conducted as needed to maintain healthy stands.

d. Firewood cutting will be encouraged of down material following thinning and sanitation cuts.

5. Minerals and Geology

a. A No Surface Occupancy stipulation will be required on any leases made on the 40 acres of Federal minerals. On the remaining 596 acres, coordination will be made with the State of North

Dakota on state-owned minerals and the operators to minimize adverse impacts of mineral developments.

b. Removal of mineral materials will not be permitted.

6. Rural Community and Human Services

Assistance will be continued in improving the local economy by employing local people in project work under contract to the North Dakota Forest Service.

7. Lands

a. The present acreage will be retained. A possibility exists to obtain 80 acres of BLM land adjacent to the east boundary along the northeast corner.

b. Special uses may be considered as long as they are consistent with the management area goal.

8. Facilities

a. Buildings will be maintained to prevent deterioration.

b. Signs will be improved and maintained as necessary to inform the public of the area's identity and management.

c. The existing roads system is adequate for resource activities and will maintained. Access will be maintained for seed collection purposes.

d. Energy/utility corridors will be avoided in this area.

9. Fire Management

a. Wildfire Management

1) The firebreaks will be maintained to prevent damage from wildfire.

2) The control objective is aggressive control through agreement with the local fire departments to keep burned acreage to a minimum. The fire break contract with the North Dakota Forest Service will be continued.

3) The appropriate suppression response is control. The responses contain and confine are not appropriate for this management area.

b. Prescribed Fire

Planned ignitions may be used for debris and slash disposal, maintenance of seed collection stands in an open condition and treatment of undesirable vegetation, and rejuvenation of prairie vegetation diversity. Unplanned ignitions will not be used as a management tool.

See the Glossary for the definitions of the above terms.

MANAGEMENT AREA S (Continued)
160 ACRES

A. Description

The Souris Purchase unit, a 160 acre tract, was acquired in 1935. It is located 2 miles north of Towner in McHenry County, North Dakota, and is adjacent to the North Dakota Forest Service nursery. Over the years, a portion of this unit has been used for haying under a special use permit to one of the local ranchers. Currently, no recreation occurs on this tract. Wildlife using the area are essentially all nongame species. Management of this area is accomplished cooperatively as defined in a Memorandum of Understanding dated July 7, 1983 by and between the Northern Region and the Rocky Mountain Forest and Range Experiment Station. The Souris Purchase Unit is a part of the Custer National Forest.

B. Goals

To provide for the continuation of the established pine and juniper provenance (origin) studies through the Rocky Mountain Forest and Range Experiment Station's Forestry Sciences Laboratory in Lincoln, Nebraska.

C. Management Standards

1. Range

a. The special use permit on 50 acres of the area will continue.

b. Leafy spurge control will be continued as deemed necessary.

c. No grazing of domestic livestock will be permitted.

2. Timber

a. The 5-Year Management Activity Schedule will be cooperatively developed and reviewed annually to identify and prioritize research projects, improvements and maintenance.

b. The Rocky Mountain Forest and Range Experiment Station will continue the provenance studies of ponderosa pine and juniper.

c. The plantations will be protected from insects and disease.

d. Harvest of unprogrammed quantities of wood products will occur as needed to meet objectives of approved research projects and facility maintenance.

3. Minerals and Geology

a. A No Surface Occupancy stipulation will be required on any leases.

b. Removal of mineral materials will not be permitted

4. Lands

a. A land exchange will be considered to dispose of the lands west of the fence (25 acres) or west of the road (45 acres).

b. Special uses may be considered as long as they are consistent with the management goal.

5. Facilities

Energy/utility corridors will be avoided in management area.

6. Fire Management

a. Wildfire Management

1) The control objective is aggressive control through agreement with the local fire departments to keep burned acreage to minimum. The fire break contract with the North Dakota Forest Service will be continued.

2) The appropriate suppression response is control. The responses contain and confine as not appropriate for this management area.

b. Prescribed Fire

Planned ignitions may be used for debris and slash disposal, maintenance of seed collection stands in an open condition and treatment of undesirable vegetation, and rejuvenation of prairie vegetation diversity. Unplanned ignition will not be used as a management tool.

See the Glossary for the definitions of the above terms.

D. Schedule of Management Practices

Activity	Decade 1 (Proposed Average Annual)	Decade 2 (Proposed Average Annual)
Range		
Noxious Weed Control P&M (acres)	2	2

E. Monitoring and Evaluation Requirements (Denbigh and Souris)

The monitoring items applicable to this management area are listed below and displayed in Table III-1 at the end of this chapter. The evaluation criteria are displayed in the Monitoring Action Plan (Chapter IV, Table IV-1).

Monitoring Items

P1 Fuel Treatment Outputs
P4 Insect and Disease

In addition to these items there are 20 more monitoring items that are Forestwide in nature (Table III-1).

MANAGEMENT AREA T
26,742 ACRES

Beartooth Ranger District .....26,742 acres

A. Description

This Management Area includes all the seen area viewed from U.S. Highway 212 on the Beartooth District in south-central Montana. The seen area as defined in this management area begins as the highway enters the Forest north of Red Lodge Montana and roughly parallels the highway to the Montana/Wyoming state line in the main Rock Creek canyon. This does not include the highly developed recreation area along the creek bottoms. The canyon can be best described as a spectacular steep-walled creek valley. The mountains rise quickly from the valley floor, yet there are long vistas between peaks to view other jagged pinnacles and broad alpine plateaus. This highway, nicknamed the "Beartooth Highway" is a tourist attraction as well as a point of continual interest to the local population. There are hairpin turns and frequent turn-outs along the highway for viewing scenery. It reaches an elevation of 10,947 feet above sea level and offers expansive views for many miles.

B. Goal

To provide facilities, information and interpretation to Forest visitors regarding the human and natural history of the landscape seen from the highway corridor. The requirements of the Executive Order 5949 of 001932, which established a 250-foot right-of-way on e0ither side of U.S. Highway 212 that is free of entry, 0will be honored.

C. Management Standards

THE FORESTWIDE MANAGEMENT DIRECTION INCLUDED IN CHAPTER II OF THIS PLAN APPLIES TO THIS MANAGEMENT AREA.

1. Recreation

a. The Visual Quality Objective for this Management Area will be Retention.

b. Signs, visitor facilities and interpretative development may occur along the highway, but will be designed in harmony with the landscape.

c. Off-road vehicles, other than snow machines operating on snow, will be prohibited throughout the area.

d. The history and appearance of the 1948 burn in Upper Rock Creek will be preserved for study and interpretation.

e. The interpretative overlook at Rock Creek Vista will be maintained. During the current planning period the Forest will provide toilet facilities at Parkside.

2. Wildlife and Fish

Winter range improvement practices for elk, mule deer and bighorn sheep will be permitted, including burning. Mechanical improvement creating surface disturbances will not be allowed.

3. Range

Livestock grazing on the Rock Creek Allotment will be continued.

4. Timber

a. Timber harvest of posts, poles, and firewood will be permitted as long as it maintains or enhances the visual resource.

b. Fuelwood cutting in the old burn will be prohibited to preserve snags for their scenic and wildlife value.

5. Lands

a. Existing special use permits for Highway maintenance will be continued.

b. Special use permits for movies, photography, recreation and research will be permitted.

c. Occupancy type permits which will modify the appearance of the landscape will not be allowed.

6. Facilities

a. No new roads will be constructed to facilitate use of surface resources. Roads may be constructed to facilitate use of subsurface resources with due regard for visual quality and other resources.

b. Energy/utility corridors will be avoided in this management area.

7. Minerals and Geology

a. No road construction will be allowed for geophysical access. If necessary, portable geophysical techniques will be required.

b. When application is made to develop leases in this area, an environmental analysis will be made guided by the goal of this management area. Mitigation measures will be identified that reduce the potential for resource conflicts, providing that lease rights are not violated. The intent will be to retain the natural-appearing landscape and development activities will not evident to the casual forest visitor.

c. A Limited Surface Use stipulation will be applied to all new leases to insure that the visual quality objective of retention can be met.

d. A No Surface Occupancy stipulation will be applied to slopes greater than 40 percent or areas of fragile soil with a mass failure hazard.

e. Permits will not be issued for the removal of mineral materials except for incidental use of slough rock collected from ditches of U.S. Highway 212.

f. Road access will be provided for mining activities conducted under the General Mining Law of 1872 if the need can be justified in the plan of operations.

8. Fire Management

a. Wildfire Management

1) The control objective is to hold 80 percent of fire starts to less than 100 acres.

2) The appropriate suppression responses will be contain, control and confine.

b. Prescribed Fire

Planned ignitions may be used for debris disposal. Broadcast burning will not normally be used as a management tool. Unplanned ignitions may be used to perpetuate stand diversity under an approved fire management plan.

See the Glossary for definitions of the above terms.

D. Schedule of Management Practices

Activity	Decade 1 (Proposed Average Annual)	Decade 2 (Proposed Average Annual)
Range		
Improvements		
Structural		
RBF (structures)	1	0
Noxious Weed Control		
P&M (acres)	3	3
Wildlife and Fish		
Wildlife Habitat Impr. (acres)	7	17
Soil and Water		
Improvements (acres)	20	0

E. Monitoring and Evaluation Requirements

The monitoring items applicable to this management area are listed below and displayed in Table III-1 at the end of this chapter. The evaluation criteria are displayed in the Monitoring Action Plan (Chapter IV, Table IV-1).

Monitoring Items

A3 Off-Road Vehicle Use
A5 Visual Resource Mgmt.
C10 Wildlife Mgmt.--Instream Habitat and Fish Numbers
F1 Water Quality
G1 Minerals Activities--Geophysical
G5 Minerals Activities--Reclamation
G7 Minerals Activities-Locatables
G8 Minerals Activities-Unauthorized Use
L1 Road/Trail Construction
L2 Public Access
L3 Road Mgmt. Closure/Rehab.
P1 Fuel Treatment Outputs
P4 Insect and Disease

In addition to these items there are 20 more monitoring items that are Forestwide in nature (Table III-1).

TABLE III-1
MONITORING REQUIREMENTS APPLICABLE TO MANAGEMENT AREAS

The monitoring requirements from Chapter IV and the Monitoring Action Plan that apply to the individual management areas are listed below. The procedure outlined in Chapter IV and the Monitoring Action Plan will be followed to evaluate the data gathered during monitoring.

Monitoring Item	Management Areas A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
A1 Use in Developed Recreation Sites						X														
A1 Dispersed Recreation Use								X	X	X										
A2 Condition/Trend Developed Sites						X														
A3 0ff-Road Vehicle Use	X	X	X	X	X		X				X		X	X	X		X			X
A4 Cultural Resource Mgmt *																				
A5 Visual Resource Mgmt.	X	X		X	X	X	X				X			X						X
B1 Wilderness Use								X	X											
C1 Wildlife Habitat Mgmt--Oil and Gas Related		X	X	X			X		X							X	X		X	
C2 Wildlife Mgmt--T&E Species *																				
C3 Wildlife Mgmt--Indicator Species	X	X	X	X	X		X	X		X			X	X				X		
C4 Wildlife Mgmt--Riparian and Woody Draws													X	X						
C5 Wildlife Mgmt--Livestock Related	X	X	X	X	X		X			X			X	X						
C6 Wildlife Habitat Improvement Outputs *																				
C7 Wildlife Mgmt--Prairie Dog Mgmt		X		X	X															
C8 Wildlife Mgmt--Population Trends *																				
C9 Wildlife Mgmt--Residual Nesting Cover	X	X	X	X	X									X	X					
C10 Wildlife Mgmt--Instream Habitat and Fish Numbers								X	X				X					X		X
D1 Livestock Numbers (Forage Utilization)	X	X	X	X	X		X			X	X		X	X			X	X		
D2 Range Condition and Trend	X	X	X	X	X		X			X	X		X	X			X	X		
D3 Allotment Mgmt Plan Status *																				
D4 Grazing Permit Compliance *																				
D5 Wild Horse Management																	X			
D6 Noxious Weed Infestation	X	X	X	X	X	X	X							X						
E1 Suitable Land Evaluation		X	X	X	X		X													
E2 Reforestation		X	X	X	X		X													
E3 Size of Openings		X	X	X	X		X													
E4 Silvicultural Assumptions		X	X	X	X		X													
E6 Timber Yields and Acres Harvested		X	X	X	X		X													
F1 Water Quality		X	X	X	X		X		X				X					X		X
F2 Soil/Water Improvement		X	X	X	X		X						X	X				X		
F3 Watershed Condition *																				
F4 Watershed Condition--Riparian and Woody Draws													X	X						
F5 Air Quality--H_2S/SO_2 Emissions		X	X	X	X		X				X		X	X						
G1 Minerals Activities--Geophysical		X	X	X	X		X				X		X	X			X			X
G2 Minerals Activities--Leasing *																				
G3 Minerals Activities--Mineral Rights Reserved and Outstanding *																				
G4 Minerals Activities--Salt Water Spills *																				
G5 Minerals Activities--Reclamation		X	X	X	X		X				X		X	X				X		X
G6 Coal Leasing *																				
G6 Minerals Activities--Common Variety	X	X	X	X	X		X						X	X			X			
G7 Minerals Activities--Locatables	X	X	X	X	X		X			X	X		X	X			X	X		X
G8 Minerals Activities--Unauthorized Use	X	X	X	X	X		X			X	X		X	X			X	X		X
H1 Forest Issues--Existing *																				
H2 Forest Issues--New *																				
H3 Local Economics *																				
H4 Annual Budget *																				
H5 Returns to U.S. Treasury *																				
H6 Other Land Use Plans *																				
J1 Lands--R-O-W Accomplishment *																				
J2 Lands--Exchanges *																				
L1 Road/Trail Construction	X	X	X	X	X		X						X	X						X
L2 Public Access	X	X	X	X	X		X						X	X						X
L3 Road Management--Closure/Rehab.	X	X	X	X	X		X				X		X	X			X			X
P1 Fuel Treatment Outputs				X	X		X							X				X	X	X
P2 Fire Mgmt--Wilderness Areas								X	X											
P3 Air Quality/Smoke Mgmt. *																				
P4 Insect and Disease				X	X		X											X	X	X

* These monitoring items are Forestwide in nature and are not applicable to specific management areas.

CHAPTER IV
IMPLEMENTATION

A. Introduction

Implementation of the Custer National Forest Plan requires moving from an existing management program, with a budget and "targets" for accomplishment, to a new management program with a budget, goals, and objectives that provide a different way of addressing the issues and concerns people have voiced about Forest management. This Forest Plan establishes the direction for the Custer National Forest for the next 10 to 15 years, when used in conjunction with Forest Service Manuals and Handbooks and the Northern Regional Guide.

The remainder of this chapter explains how management of the Custer National Forest moves from the Current Direction and Existing Situation to the Proposed Action, all described in the Custer National Forest Plan and Environmental Impact Statement. The following sections describe aspects of implementation that are influenced by previous management activities and objectives; the relationship between project planning and this Forest Plan; the goals of and requirements for monitoring and evaluation; and the circumstances which could require the Forest Plan to be amended or revised.

The Forest Plan consists of this document, called the Custer National Forest and National Grasslands Plan, as well as associated documents and reports considered supplemental or appendices to this document. Programming, budgeting, workforce management, reviews, activities planning and public involvement and information, monitoring, and evaluation are all facets of land and resource management that will be governed by the direction contained within this Forest Plan and its associated documents.

B. Influence of Past Management on Future Options

Chapter III defines management direction for specific areas of the Forest. In some instances, this direction represents a change from current management direction. Where no previous management activities have occurred, the allocations of this Forest Plan can be put into effect from a neutral point. However, in areas where management activities have occurred to meet objectives other than those now specified, a transition period may be required to bring management fully into line with this Plan.

For example, the Forest Plan recommends the Lost Water Canyon area for inclusion in the National Wilderness System. Until Congressional action is taken to bring this area fully into line with the Forest Plan, the area will be managed as "de facto" wilderness. For other areas, the Forest Plan recommends low development area (roadless) management. All or parts of these areas have been leased for oil and gas exploration and development. The roadless character of these areas will be maintained if oil and gas development does not occur during the life of existing leases. As these leases expire, the area will not be released or if leased, leased with a no surface occupancy stipulation, thereby preserving the roadless character. It will take several years before all the existing leases that cover these areas expire. In addition to specifying management direction for areas of the Forest, this Plan schedules management activities. In some situations, previous management activities influence the scheduling of future activities. Examples of previous management activities that influence the scheduling of future activities are the existing 10-year timber sale program, the capital investment road construction program, mineral leases, approved wildlife transplants, and range improvements in existing allotment management plans that will be constructed under the Conservation Practices (CP) or the Range Betterment Fund (RBF) programs.

C. "Project Planning"

The Forest Plan serves as the single land management plan for the Custer National Forest. The Interim Management Direction for the Absaroka-Beartooth Wilderness and the Absaroka-Beartooth Wilderness Fire Management Plan are incorporated into the Forest Plan. All other land management plans are replaced by the direction in this Forest Plan.

Similarly, this Forest Plan directs the management of all resources on the Custer National Forest. All previous resource management plans are replaced by this document. Resource management objectives are discussed in Chapter II. Schedules of resource management practices for each management area are displayed in Chapter III.

Several documents designed to give further guidance to management activities have been or will be developed "under the umbrella of" this Forest Plan. They are:

Forest Travel Restrictions
Range Allotment Management Plan
Landownership Adjustment Schedule

Oil and Gas Area Analysis
Area Transportation Analysis
Fire Action Plan
Raptor Management Guidelines
Best Management Practices

The management direction provided by this Forest Plan comprises the sideboards within which project planning and activities take place. It defines management area goals and management standards that guide project activities toward achieving a desired future condition for the management area and, collectively, for the Forest. It specifies a schedule for project activities (management practices). It provides guidance concerning potential landtype and ecosystem constraints, including assumptions about the appropriate vegetation management practices for timber sale projects as well as other management practices. On-the-ground project analysis validates or invalidates the appropriateness of those assumptions.

Within this guidance, the projects are developed to most efficiently and effectively accomplish the management goals and objectives. All National Environmental Policy Act (NEPA) requirements will be complied with in all projects.

Project environmental analyses provide an essential source of information for Forest Plan monitoring. First, as project analyses are completed, new or emerging public issues or management concerns may be identified. Second, the management direction designed to facilitate achievement of the management area goals are validated by the project analyses. Third, the site specific data collected for project environmental analyses serve as a check on the correctness of the land allocation. All of the information included in the project file or environmental analyses is used in the monitoring process to determine when changes should be made in the Forest Plan.

As part of the project planning, site specific water quality effects will be evaluated and control measures designed to ensure that the project will meet Forest water quality goals; projects that will not meet state water quality standards will be redesigned, rescheduled, or dropped.

D. Monitoring and Evaluation

Monitoring and evaluation comprise the management control system for the Forest Plan. It will provide the decisionmaker and the public information on the progress and results of implementing the Forest Plan.

Monitoring and evaluation entails comparing the end results being achieved to those projected in the Plan. Costs, outputs, and environmental effects, both experienced and projected, will be considered.

To do this, a comparison will be made, on a sample basis, of overall progress in implementing the Plan as well as whether the overall relationships on which the Plan is based have changed over time. When changes occur, they will be evaluated as to their significance, and appropriate amendments or revisions will be made.

The goals for monitoring and evaluating this Forest Plan are to determine:

- how well the Forest is meeting its planned goals and objectives;
- if existing and emerging public issues and management concerns are being adequately addressed;
- how closely the Forest Plan's management standards are being followed;
- if outputs and services are being provided as projected;
- if the effects of implementing the Forest Plan are occurring as predicted, including significant changes in the productivity of the land;
- if the dollar and manpower costs of implementing the Forest Plan are as predicted;
- if implementing the Forest Plan is affecting the land, resources, and communities adjacent to or near the Forest;
- if activities, on nearby lands managed by other Federal or other governmental agencies, or under the jurisdiction of local governments, are affecting management of the Forest;
- if research is needed to support the management of the Forest, beyond that identified in Chapter II of the Forest Plan; and
- if there is a need to amend or revise the Forest Plan.

The monitoring requirements for this Forest Plan are outlined in Table IV-1, Forest Plan Monitoring Requirements. These requirements address the items to be monitored, data sources, expected precision and reliability, frequency of measurements (schedule end sample size), reporting period, and acceptable variability. Most of the monitoring items are applicable to specific management areas; a listing of applicable monitoring items is included in the direction for each Management Area (Chapter III).

Other monitoring items are more applicable to broad areas or are Forestwide in nature, and will be evaluated from such sources as the data base, Forest attainment reports, public involvement processes, and non-Forest Service sources. These items include:

C2 Wildlife Management -- T & E Species
C3 Wildlife Management-- Management Indicator Species

C4 Wildlife Management -- Riparian and Woody Draws
C10 Wildlife Management-- Instream Habitat
D1 Livestock Numbers
D6 Noxious Weed Infestations
E6 Timber Yields and Acres Harvested
F1 Water Quality
F3 Watershed Condition
F5 Air Quality
H1 Forest Issues -- Existing
H2 Forest Issues -- New
P4 Insect and Disease

Evaluation of data gathered during monitoring will be guided by the Decision Flow Diagram detailed in Figure IV-1. As indicated in the diagram, the results of this evaluation lead to decisions on further action of the following types:

- continuing the management practice
- referring the problem to the appropriate line officer for improvement of the application of the management practice;
- modifying the management practice as a Plan amendment;
- modifying the land management prescription as a Plan amendment;
- revising the schedule of outputs;
- revising the cost/unit output; or
- initiating revision of the Plan.

The document resulting from the use of the Decision Flow Diagram constitutes the evaluation report. As applicable, the following will be included in each evaluation report:

- A quantitative estimate of performance comparing outputs and services with those projected by the Forest Plan;
- Documentation of measured effects, including any change in productivity of the land;
- Unit costs associated with carrying out the planned activities as compared with unit costs estimated during Forest Plan development;
- Recommendations for changes;
- A list of needs for continuing evaluation of management systems and for alternative methods of management;
- A list of additional research needed to support the management of the Forest; and
- Identification of additional monitoring needs to facilitate achievement of the monitoring goals.

E. Amendment and Revision

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

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

Following is the Forest Plan Monitoring Requirements.

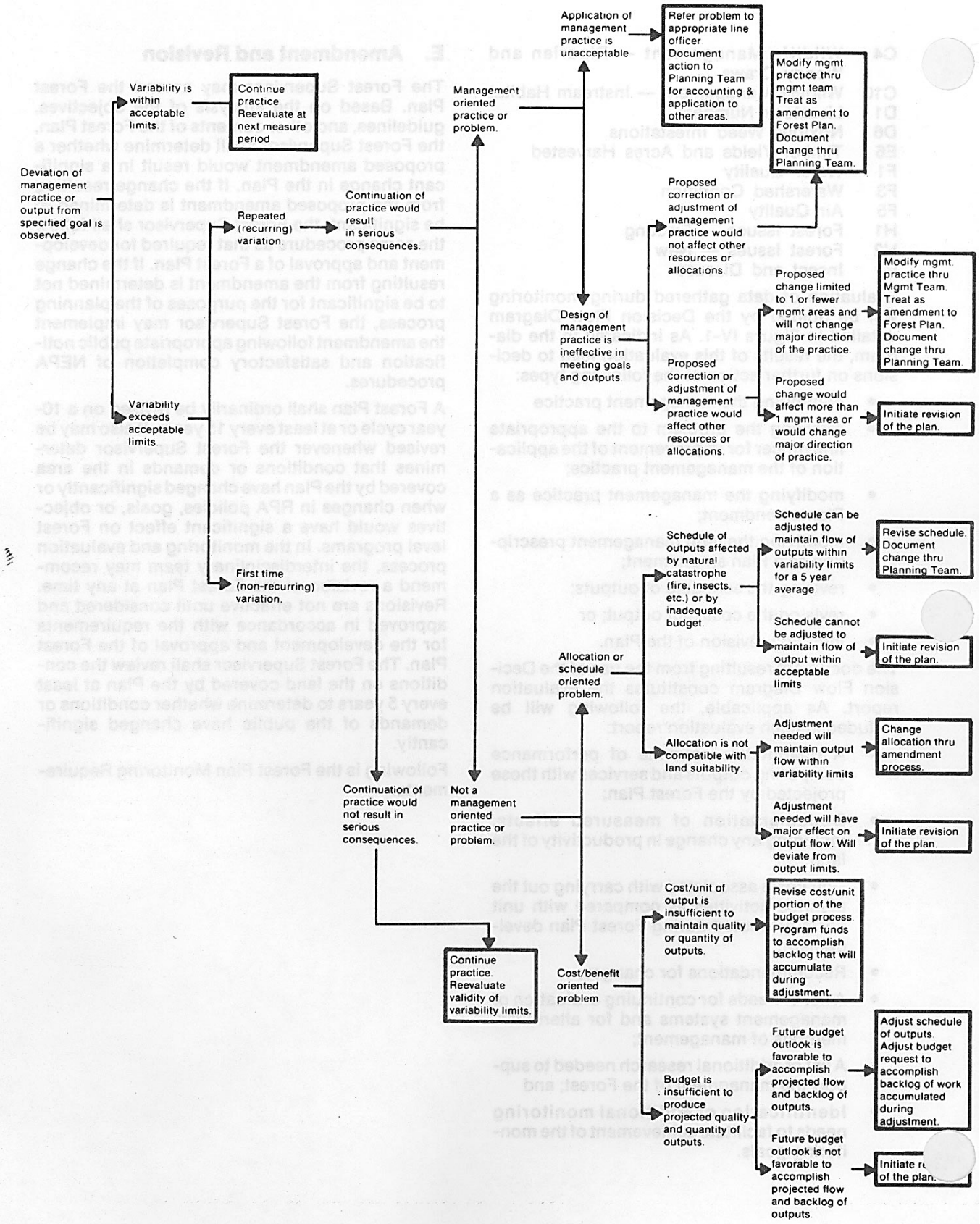

Deviation of management practice or output from specified goal is observed.
Variability is within acceptable limits.
Continue practice. Reevaluate at next measure period
Variability exceeds acceptable limits.
Repeated (recurring) variation.
Continuation of practice would result in serious consequences.
First time (non-recurring) variation.
Continuation of practice would not result in serious consequences.
Continue practice. Reevaluate validity of variability limits.
Management oriented practice or problem.
Not a management oriented practice or problem.
Application of management practice is unacceptable
Refer problem to appropriate line officer. Document action to Planning Team for accounting & application to other areas.
Modify mgmt practice thru mgmt team Treat as amendment to Forest Plan. Document change thru Planning Team.
Design of management practice is ineffective in meeting goals and outputs
Proposed correction or adjustment of management practice would not affect other resources or allocations.
Proposed change limited to 1 or fewer mgmt areas and will not change major direction of the practice.
Modify mgmt. practice thru Mgmt Team. Treat as amendment to Forest Plan. Document change thru Planning Team.
Proposed correction or adjustment of management practice would affect other resources or allocations.
Proposed change would affect more than 1 mgmt area or would change major direction of practice.
Initiate revision of the plan.
Allocation or schedule oriented problem.
Schedule of outputs affected by natural catastrophe (fire, insects, etc.) or by inadequate budget.
Schedule can be adjusted to maintain flow of outputs within variability limits for a 5 year average.
Revise schedule. Document change thru Planning Team.
Schedule cannot be adjusted to maintain flow of output within acceptable limits.
Initiate revision of the plan.
Allocation is not compatible with land suitability.
Adjustment needed will maintain output flow within variability limits
Change allocation thru amendment process.
Adjustment needed will have major effect on output flow. Will deviate from output limits.
Initiate revision of the plan.
Cost/benefit oriented problem
Cost/unit of output is insufficient to maintain quality or quantity of outputs.
Revise cost/unit portion of the budget process. Program funds to accomplish backlog that will accumulate during adjustment.
Budget is insufficient to produce projected quality and quantity of outputs.
Future budget outlook is favorable to accomplish projected flow and backlog of outputs.
Adjust schedule of outputs. Adjust budget request to accomplish backlog of work accumulated during adjustment.
Future budget outlook is not favorable to accomplish projected flow and backlog of outputs.
Initiate r of the plan.

TABLE IV-1
FOREST PLAN MONITORING REQUIREMENTS

Monitoring Item	Subject	Activity, Practice, or Effect to be Measured	Data Source	Expected Precision[1]	Expected Reliability[2]	Frequency of Measurements[4]	Reporting Period	Variability (±) Which Would Initiate Further Evaluation
	RECREATION							
A1		Actual use of developed and dispersed recreation by ROS Class. Actual use of sites and facilities compared with projected use levels.	RIM Report, Forest Plan Data Base, Actual Use Data	Mod	Mod	10% sample Annually	Annual	Less than 90% of projected use by ROS class
A2		Condition and trend in developed sites.	Inspections, Compare to standards for Site Plans	High	High	100% sample	Annual	Less than acceptable standards, public safety hazards not corrected by 1990, poor conditions not corrected by 2000.
A3		Off-road vehicle use and damage	Travel Plan	High	High	Annual	Annual	Use conflicts with Forest Management Areas goals
A4	Cultural Resources	Cultural resource inventory and protection compliance	Cultural Resource EA's,	High	High	Selected Sites and Projects Annually	Annual	Less than 10% accomplishment/ year
A5	Visual Resource	Monitoring the effects of land management activities and allocations on the visual resource	Established VQO's by MA; Acres in EVC:4 for the Forest	Mod	Mod	50% sample of selected MA's every 2 years.	2-Year	Greater than 10% increase above projected acres of EVC:4
	Wilderness							
B1		Monitor the effects of resource activities on the wilderness resource through the following parameters						
		1. Maintenance of existing quality of ecosystem	Inspections	Mod	Mod	100% sample of high use areas annually	Annually	Degradation of environment
		2. Absaroka/Beartooth and Lost Water Canyon Wilderness Direction	Annual Report	High	High	100% sample Annually	Annually	Failure to meet direction in Appendix II or direction in MA H and MA I
	Wildlife							
C1		Wildlife habitat changes from potential associated with road construction and oil and gas activities	Area Plans, EA's, Annual Wildlife Surveys and Reports	Mod	Mod	20% sample Annually	5-Year	Decrease of 10% or more in effective habitat identified in FORPLAN model
C2		Acres by habitat by condition for T&E species of: Grizzly Bear, Bald Eagle, Black-Footed Ferret, Peregrine Falcon	Recovery Plans, Progress Reports, EA's, Research	Mod	Mod	100% sample of effected area annually	2 years 5-Year	Greater than a 5% decrease in essential habitat and/or population of T&E species.
C3		Winter range capacity and population levels for:						
		— Elk (Line Creek and N.Dak.)	FW&P annual Reports, Program and Project EA's	Mod	Mod	100% sample Annually	3-Year	Decrease of 5% or more in 3 year population average
		— Bighorn sheep	FW&P annual Reports, Program and Project EA's	Mod	Mod	100% sample Annually	3-Year	Decrease of 5% or more in 3 year population average

Monitoring Item	Subject	Activity, Practice, or Effect to be Measured	Data Source	Expected Precision[2]	Expected Reliability[3]	Frequency of Measurements[4]	Reporting Period	Variability (±) Which Would Initiate Further Evaluation
		— Deer winter range	FW&P annual Reports, Program and Project EA's	Mod	Mod	100% sample Annually	3-Year	Decrease of 5% or more in 3 year population average
C4		Condition of key wildlife habitats with special emphasis on riparian and woody draw areas	Habitat Surveys Range Analysis, Project EA's	Mod	Mod	20% sample of major projects effecting habitats	2-Year	Greater than a 5% reduction in effective acres
C5		Wildlife and livestock conflicts in key areas	See C4 above	Mod	Mod	See C4 above	2-Year	Same as C4 above
C6		Wildlife habitat	Annual Accomplish. Reports	High	High	Annual	Annual	Less than 90% of planned annual accomplishment
C7		Prairie Dog Management	Surveys	High	High	3 years	3 years	Increase or decrease 10% in acres of of 10% in acres of prairie dog towns or 10% increase in prairie dog acres within individual allotments.
C8		Population trends of the following wildlife species:						
		— mule deer, whitetail deer, Mountain Goats, antelope	State F&G annual reports	Mod	Low	100% sample Annually	Annually	Decrease of 10% or more from previous 5 year average.
		— Furbearers (Bobcat, Coyote): Harvest levels	State F&G annual reports	Mod	Low	100% sample Annually	Annually	Decrease of 10% or more from previous 5 year average.
		— Special Interest Species (Golden Eagle, Prairie Falcon): Nesting Habitat	State F&G annual reports	Mod	Low	100% sample Annually	Annually	Decrease of 10% or more in occupied/ unoccupied habitat.
C9		Projected needs for residual nesting cover for prairie grouse	Wildlife Surveys, Range Utilization studies	Mod	Mod	Selected dancing grounds Annually	5-Year	Less than 90% of grouse dancing/ booming grounds have an average stubble height of 12 in. remaining within 1 mile rad.
C10		Fishery habitat and population trends (non-wilderness, warm-water fisheries)	Pond/Stream Surveys, Project EA's	Mod	Mod	Selected habitats Annually	5-Year	Less than 90% targets accomplished within 5 yr. period
	Range							
D1		Availability and use of forage for livestock grazing to meet projected outputs	Annual Reports	High	High	100% sample Annually	Annual	Less than 90% of projected outputs
D2		Range condition and trend	Range Analyses	High	High	All range allotments as field work is completed	10-Year	More than 5% increase in number of acres in downward trend over previous analysis.
D3		Allotment Management Plan Status	Annual Accomp. Report	High	High	100% sample Annual	Annual	Less than 95% of projected target accomplishment obtained.
D4		Grazing Permit Compliance	Allotment Inspection Reports	High	High	All range allotments as inspected	Annual	Less than 20% allotments inspected annually

Monitoring Item	Subject	Activity, Practice, or Effect to be Measured	Data Source	Expected Precision[2]	Expected Reliability[3]	Frequency of Measurements[4]	Reporting Period	Variability (±) Which Would Initiate Further Evaluation
D5		Wild Horse Territory Management	Range Surveys, Coordination	Mod	Mod	Entire area as field work with BLM	10-Year	More than 10% increase in acres is conducted of poor condition
D6		Noxious Weeds	Range Surveys Aerial Photos Project EA's	High	High	20% of acres treated Annually	5-Year	Greater than 10% increase in acres infested
	Timber							
E1		Evaluate availability of lands classified as suitable/unsuitable	Stage I exam. Timber Sale Reports	Mod	Mod	5-Year	5-Year	Greater than a 10% change in acreage classification
E2		Monitoring restocking within 5 years	Survival exams, TSMRS	High	High	1, 3, and 5 years	5-Year	All acres regenerated within 5 years
E3		Assure openings comply with size limits and are periodically evaluated for appropriateness	EA's, presale and admin. reviews, post project reviews	Mod	Mod	One sale annually	Annually	Project review by I.D. team indicates unacceptable results
E4		Assure silvicultural management prescription are best suited to management area goals with all impacts considered	Presale and administrative reviews, ID Team involvement	High	High	One sale annually	Annual	Departure from management prescription or FORPLAN allocation
E6		To validate timber yield projections both in terms of volume cut and acres harvested	Allowable Sale quantity Report	High	High	100% sample Annually	Annually	+20% in acres or volume cut
	Soil, Air, Water							
F1		Evaluate Changes in Surface Water Quality of Selected Streams	Daily Sample of 1 stream W.Fk. Rock Cr.	High	High	Daily for 3 year baseline (except winter)	Annually	Exceeds Standards for Municipal Water source
F2		Evaluate Changes in Surface Water Quality of Selected Streams	Annual grab sample (July or Aug) W.Fk. Rock Creek	High	High	Annually year baseline (except winter)	Annually	Significant deterioration - rise in heavy metal or drop in pH
F3		Evaluate Changes in Surface Water Quality of Selected Streams	Monthly sample of Stillwater River & Mtn View Cr. above Mine (Company data)	High	High	As required by State and Stillwater Mine EIS	Annually	Exceeds State or Federal Quality Standards. Varies from previous background data.
F4		Effects of timber sale related road construction	Operating plans Environmental Assessments	Mod	High	Annual	5 yr summary	Poor rehabilitation & unacceptable erosion
F5		Effects of mineral development and related surface disturbances	Area analysis Environmental Assessments	Mod	High	Annual observation of watershed in a mineral development area	Annually	Signs of excessive erosion, loss of vegetation, surface damage on 25% of well sites or roads
F6		Grazing effects on watershed condition - including riparian and woody draw, soil compaction and trend	Rangeland & Soil condition Analysis	Mod	Mod	72 Range Allotments as updated	Annual	Soil condition is lower than fair with upward trend or range condition less than good

Monitoring Item	Subject	Activity, Practice, or Effect to be Measured	Data Source	Expected Precision[2]	Expected Reliability[3]	Frequency of Measurements[4]	Reporting Period	Variability (±) Which Would Initiate Further Evaluation
F7		Validation of sediment yield assumptions used in Forest Planning	Sediment Yield	Mod	Mod	Stillwater River & W. Fk. Rock Cr.	Annual	± 20% of Beartooth Mtns. prediction, ± 50% of rangeland prediction
F8		Rehabilitation backlog	Watershed needs Inventory (3800 acres ±)	Mod	Mod	Annual review of needs and site specific increments	5-year	< 20% of planned work done if funds are available
F9		Air Quality Management H_2S and SO_2 emissions & smoke Management	EPA, USF&WS, State Monitoring data, USFS surface activities	High	High	Continuous monitoring on selected sites in or near known emission wells	Annual or more often as needed	Exceed requirements, State Implementation Plan, Smoke Mgmt. Plan and Federal Air Quality Standards
	Minerals							
G1		Geophysical Operations						
		— Permits processed	Applications for Special Use-Seismic	High	High	20% Sample Annually	Annual	Less than 95% of permit applications processed within 15 working days or 20 days if area is not covered by programatic EA.
		— Plans administered	Area Plans, EA's	High	High	20% Sample Annually	Annual	Less than 95% compliance with critical conditions of permits terms of the permits
G2		Oil and Gas Leasing, Exploration, and Development						
		— Lease application and offers reviewed	Leases Applications	High	High	100% Sample Annually	Annual	Less than 95% of lease applications/ offers reviewed within specified timeframes
		— Applications for permits to drill and sundry notices received and processed	APD's	High	High	100% sample Annually	Annual	Less than 95% of APD's/sundry notices processed within specified timeframes.
		— Compliance to conditions and terms of drilling permits	APD's/EA's	Mod	Mod	100% Sample Annually	Annual	Less than 95% compliance with FS recommended critical conditions and terms of permits
		— Verify projected oil and gas production estimates	BLM/USGS production logs	Mod	Mod	10% Sample within major fields Annually	5-Year	Less than 80% of projected production estimates
G3		Mineral Rights reserved or outstanding	Operating Plans/Notices of Intent	Mod	Mod	100% Sample Annually	2-Year	Less than 95% compliance with critical conditions and terms of operating plans
G4		Prevention of salt water spills and resource damage due to toxic drilling	Inspections, Incident Reports	Mod	Mod	100% Sample Continuous	Annual	When one of the following occurs: 1. Three unreported spills and the responsible party can be identified

Monitoring Item	Subject	Activity, Practice, or Effect to be Measured	Data Source	Expected Precision[2]	Expected Reliability[3]	Frequency of Measurements[4]	Reporting Period	Variability (±) Which Would Initiate Further Evaluation
								2. Two intentional spills on a drill pad 3. Three unintentional reported spills 4. Five spills from saltwater flowlines damaged due to human error
G5		Reclamation of resource damage due to salt water spills or toxic drilling fluids	EA's, Rehab Plans	High	High	On-going sampling of effected areas	5-Year	Less than 90% plant density as as compared to adjacent areas after 3 growing seasons.
G6		Coal leasing	Lease Applications	High	High	100% Sample Annually	5-Year	When coal bypassed would represent at least 1/80 of the total reserves in a Logical Mining Unit.
G6		Common Variety Minerals	Mineral Permits	High	High	10% Sample Annually	Annual	Less than 90% compliance with critical conditions and terms of the permits or operating plans
G7		Locatable Minerals						
		— Response to notice of intent, plans of operation. or patent application	Operating Plans Patent Applic.	High	High	100% Sample Annually	2-Year	Less than 50% of permits/plans/ applics processed within specified timeframes
		— Compliance to conditions and terms of permits, Plans of Operations or Notice of Intent	Permits, Plans of Operation	High	High	100% Sample Annually	5-Year	Less than 90% compliance with FS critical conditions and terms of permits
G8		Unauthorized Use	Mineral Claims	High	High	Continuing as needed	2-Year	Resolution exceeds 2 years for occupancy trespass
Human and Community Development and Budget								
H1		Verify resolution of existing issues	Public Involvement Sessions, I&I Plans	High	Mod	On-going	2-Year	Issues cannot be dealt with through minor shifts in allocations in Forest Plan or through Forest I&I Plan.
H2		Evaluate new or emerging issues or changing socioeconomic values	Public Involvement Sessions, I&I Plan	High	Mod	On-going	2-Year	Issues cannot be dealt with through minor shifts in Forest Plan or through Forest I&I Plan.
H3		Determine if local economic effects of the Plan are as predicted	Census data, local economic forcasts, Input Output Model	Low	Low	Once every 2 years	10-Year	Significant difference in actual compared to predicted
H4		Monitor cumulative effects of annual budget fluctuations	Current/Out Year Programing, and Annual Output Accomplishment	High	High	100% Sample Annually	Annual	When 1 of the following occur: 1. Loss of more than 10% in outputs or,

Monitoring Item	Subject	Activity, Practice, or Effect to be Measured	Data Source	Expected Precision[2]	Expected Reliability[3]	Frequency of Measurements[4]	Reporting Period	Variability (±) Which Would Initiate Further Evaluation
								2. Significant changes in Forest Plan allocations must made.
H5		Validate returns to the Treasure	Returns to U.S. Treasury	High	High	Annual	Annual	Projected returns are less than 80% of projected returns
H6		Impacts of Forest Plan implementation on other land manager's objectives	Forest I&I Plan, Other Agency Plans	Mod	Mod	On-going	5-Year	Adverse response/ impacts to other land managing agencies
	Lands							
J1		Right-of-way/Easement	R-O-W Plans Project Plans	High	High	100% Sample Annually	Annual	Less than 90% accomplishment of 5-year program
J2		Land Ownership Adjustment Accomplishment	Land Adjustment Plan	High	High	Annual	Annual	Less than 80% accomplishment of 5-year program
	Facilities							
L1		Road and Trail Construction/Reconstruction	Travel Inventory System	High	High	100% Sample Annually	Annual	Less than 80% accomplishment of 5 year program
L2		Public Access	Miles of Roads Open, Travel Inventory Systems, Access gained	High	High	On-going	Annual	±20% of target miles and public access open to public
L3		Road closure and rehab.	Miles of road closed/rehab	High	High	100% Sample Annually	5-Year	Less than 95% of roads identified as no longer needed closed within 2 yrs
	Protection							
P1		Fuel Treatment Outputs	Accomplishment Reports	High	High	100% Sample Annually	Annual	Less than 80% of programmed targets
P2		Fire management practices in Wilderness areas	Project EA's Forest Plan	Mod	Mod	100% Sample Annually	Annual	Significant adverse public criticism
P3		To assure that treatment of active and natural fuels can be treated within air quality standards	EA's, Project Reports	Mod	Mod	Annual	Annual	Less than 90% of outputs accomplished
P4		Insect and Disease Infestation	Post-sale reviews, I&D Surveys	Mod	Mod	On-going	5-Year	More than a 20% increase in acres infested or volume lost.
	Roadlessness	Acres in a roadless Condition (Includes Low Development Areas	Project EA's Area Analysis Plans	High	High	Annual	Annual	Roadless acres 10% less than anticipated

[2] Expected precision is the exactness or accuracy with which the data will be collected.
[3] Expected realibility is the degree the monitoring accurately reflects the total Forest situation.
[4] Frequency of measurements is the scheulde or sampling frequency.

CHAPTER V

SUMMARY OF THE ANALYSIS OF THE MANAGEMENT SITUATION

The analysis of the management situation determined resource supply potentials by establishing minimum and maximum production levels called benchmarks. A level was also established from which the costs and effects of applying regulation and policy constraints were measured. Production capabilities were determined for single resources and for a set of multiple resource outputs that maximized present net value. This analysis established the benchmark levels required by NFMA regulation 219.12e.

A. Benchmark Levels

Ten (10) benchmarks levels were developed to define resource supply potentials and economic relationships of the Forest. Production capabilities were determined for a minimum level, for single resources, and for a set of multiple resource outputs that maximize present net value (NFMA regulation 219.12e). A level was also established from which the costs and effects of applying regulation and policy constraints were measured. The computer model FORPLAN was used to help determine the resource supply potentials.

1. Constraints

Regulation and policy constraints applied to benchmarks has, in most cases, the effect of reducing the maximum resource supply potential. NFMA regulation 219.27 specifies that certain minimum management requirements be included in the planning process. The methods to meet these minimum management requirements includes developing standards and guidelines and appropriate management practices for management prescriptions; assignment of management prescriptions and intensities to analysis areas in FORPLAN; and applying specific constraints in FORPLAN.

2. Benchmark Descriptions

a. Maximize Present Net Value (Benchmark PNV)

This benchmark established the mix of resource uses and schedule of outputs and costs that maximized present net value using market and nonmarket assigned values. Minimum management requirements were met. There were no constraints on the timber harvest volume or flow. Information from this benchmark was used to help develop Alternative 3. This benchmark is displayed in this DEIS when a comparison of alternatives is made in order to provide a reference to the maximum present net value potential considered.

b. Maximize Timber (Benchmark TMA)

The maximum legal capability of the Forest to produce timber was determined by this benchmark. Timber production was maximized in decade 1 based on nondeclining flow and meeting minimum management requirements. This benchmark was not carried forward as an alternative because it does not adequately provide for multiple uses. It also is not responsive to the Forest issues and concerns. However, this benchmark was used to develop and test the range of alternative timber outputs.

c. Maximize Deer Habitat Potential (Benchmark WLD)

The purpose of this benchmark was to determine the greatest provided capacity in terms of effective habitat for deer. This maximum potential was established based on forage production and optimum forage/cover ratios produced through the reduction of competing uses and optimum timber harvest levels. This benchmark establishes the maximum provided capacity for deer, but it was not carried forward as an alternative since it does not adequately provide for multiple resource uses. It was used to help develop provided capacity in several of the alternatives.

d. Maximize Livestock Forage (Benchmark RGE)

This benchmark was designed to determine the maximum production of domestic livestock grazing considering only the minimum management requirements for the soil, water, and vegetation. Information from this benchmark was used to develop the RPA Alternative 2. This benchmark was not carried forward as an alternative because of high costs, adverse effects to wildlife, and limited response to other resource issues and concerns.

e. Maximum Recreation (Benchmark RVD)

Recreation allocations was maximized to analyze the potential of the Forest to produce recreation visitor days (RVD's) considering only the minimum management requirements for soil, air, and water. The benchmark was eliminated from detailed study because it does not adequately respond to the other resource issues and concerns.

f. Maximum Wilderness (Benchmark WAL)

Wilderness allocation was maximized in order to determine the benefits, costs, outputs and opportunity costs of wilderness. This benchmark was not carried forward as an alternative, but it was

used to formulate alternatives 5a, 5b, 5c, 6, 6a, 6b, 7b and 7C.

g. Maximum Oil Production (Benchmark OIL)

This benchmark established the maximum limits of the Forest to produce oil while meeting minimum management requirements for soil, water, and vegetation. This benchmark was not carried forward as an alternative because it produces unacceptable impacts on fisheries, wildlife, and local economies. The output levels were used in the formulation of alternatives 7, 7a, and 7b.

h. Maximum Market (Benchmark MIT)

The purpose of this benchmark was to provide a comparison of the changes in allocation and scheduling based solely on the values of the market outputs of grazing, barrels of oil, and timber harvest, and to determine the effects of nonmarket values on PNV. This benchmark was not carried forward as an alternative because it does not value the nonmarket outputs, such as recreation and wildlife. It was used as an analysis tool in the comparison of the alternatives.

i. Minimum Level (Benchmark MIN)

This benchmark defined the cost associated with public landownership and the resource outputs which are incidental to Forest management. This benchmark was not carried forward as an alternative since it does not provide for multiple use and is outside the jurisdictional authority of the Forest Service. It was used to compare inevitable costs and outputs of public ownership to those outputs induced through management direction and activities.

j. Current Direction (Benchmark CUF)

This benchmark defined the current level of goods and services expected in the future if existing unit plan management direction is followed with no budget constraint. This benchmark was not carried forward as an alternative; however, it was used to formulate Alternative 5 (No Action). Three other benchmarks were developed that were variations of the above. These benchmark levels examined these three concepts in relation to current direction: no additional wilderness, timber harvest at cumulative mean annual increment (CMAI), and current direction with a budget constraint.

B. Benchmark Analysis

Analysis of the benchmarks established upper and lower potential production levels for selected resources. Additional analysis was done to estimate projected use levels. The following resources were analyzed:

1. Recreation

The Forest's current recreation use is 798,125 Recreation Visitor Days (RVD's) that span the Recreation Opportunity Spectrum (ROS) (FSH 1909.12, Chapter 500) classes of Primitive (P), Semi-Primitive Non-Motorized (SPNM), Semi-Primitive Motorized (SPM), Roaded Natural Appearing (RNA), and Rural (R). There is no urban class of use on the Forest. Recreation use is also categorized into major groupings of developed and dispersed recreation which include all or some of the RCS classes.

2. Developed Recreation

Developed recreation sites, including campgrounds, picnic sites, organizational camps, recreational residences, and a ski area are adequate to meet projected use until 2010, capacity of 524,500 RVD's. Recreation use at these sites is currently 263,145 RVD's. Additional capacity can be developed at the existing sites after 2010; In addition, lands are available for allocation to developed recreation when use warrants it.

3. Dispersed Recreation

Dispersed recreation use, not including wilderness use, is currently 484,980 RVD's. The Forest's lands are capable of providing a total capacity of 2,750,100 RVD's. Projected use is not expected to exceed capacity, although the acres currently available for semiprimitive non-motorized recreation use will decrease over time if more lands are roaded.

4. Wilderness

The Forest currently has 339,841 acres of wilderness which has a capacity of 169,900 RVD's of primitive recreation. Current use is 150,700 and capacity is expected to be reached by 1990. The Forest has approximately 259,000 acres of inventoried roadless areas. In the Maximum Wilderness Benchmark (WAL), all of the roadless acres were allocated to a wilderness prescription which resulted in an additional 77,484 RVD capacity. This additional capacity would meet projected use until 2019.

5. Livestock Forage

The Analysis of the Management Situation benchmarks established upper and lower livestock forage production levels. Permitted use was 865,500 Animal Unit Months (AUM's) of domestic livestock grazing in 1983. The minimum level benchmark (MIN) would phase out livestock grazing on the Forest. The maximum range benchmark (RGE) indicates a grazing capacity of approximately 1,122,000 AUM's in 50 years.

The capacity of suitable rangeland to support livestock exceeds current and projected use. In the final analysis, the opportunity to provide for the grazing of livestock depends on range forage

production that results from intensive range management practices, timber management practices, and/or the degree to which available resources are committed to forage production.

Demand for permitted livestock grazing is expected to increase to the extent to which livestock grazing is made available. This is primarily due to the private land base availability within the Forest's zone of influence and the use of this private land for agricultural and grazing purposes. Lands administered by the Forest complement these private ranching operations and tend to "round out" the forage availability to support year-round management. Because of this, it is estimated that a significant increase in grazing fees would not result in a portion of the potential supply going unused.

6. Deer/Elk

Deer are the most important big game animal on the Forest. They are widely distributed and are closely tied to the riparian/woody draw zones. Management activities that disturb and/or disrupt these areas have the greatest effect on both white-tailed and mule deer.

The Beartooth Ranger District has the only measurable elk herd, numbering approximately 960 in 1980. This herd generally spends the summer months in high elevations and uses winter ranges that extend onto private ownerships. A small herd of elk exists on the Little Missouri National Grasslands in North Dakota. At present this herd numbers approximately 100 animals.

Current big game recreation visitor days is approximately 70,470, and projected use is expected to increase to 127,000 by the fifth decade.

7. Oil

With the exception of the Sheyenne Ranger District, the Absaroka-Beartooth Wilderness, Lost Water Canyon and the Pryor Mountains of the Beartooth District, nearly all of the lands on the Forest are currently leased for oil and gas or have leases pending. Currently, there are 49 oil fields within the administrative boundaries of the Forest, with an estimated annual production of 15 million barrels of oil. The Maximum Oil Benchmark (OIL) forecast an accumulative production of 350.9 million barrels of oil over the planning horizon with production ending in the fifth decade. Demand for energy resources is expected to increase to the extent that these resources are available.

8. Fisheries

Most of the 333 miles of streams on the Forest capable of supporting fish occur on the Beartooth District. However, many of these stream miles are in the wilderness and affected little by Forest management activities. There is a resident native strain cutthroat trout population in some of these upper reaches of the streams. Trout in the streams and lakes and ponds outside of the wilderness can be affected by management activities. These fisheries are affected by changes in the amount of sedimentation caused by timber harvest, road construction activities, livestock grazing, and stocking procedures.

The current cold water fish population is estimated at 406,250 catchable trout. The potential, which is based upon stocking all suitable lakes and ponds as well as altering habitats through structural and nonstructural improvements is estimated at an additional 126,000 catchable trout.

The Forest provides warm water fish habitat potential on all Districts except the Beartooth District. These areas are principally stock ponds that meet fish survival requirements. It is estimated that there are 150 acres of ponds with a warm water fisheries that provide approximately 22,500 catachable fish. The potential is estimated at an additional 97,500 catchable warm water fish.

These two types of fisheries would provide an opportunity for over 652,000 catchable fish on the Forest.

9. Timber

The Forest has an opportunity to manage for increased or decreased levels of timber production. The Forest is capable of exceeding current harvest levels and RPA objectives by increasing timber management funding levels and/or through increased allocation of lands for timber management emphasis. Mill capacity in the Forest's zone of influence has varied in the past few years as some sawmills have gone out of business. The Forest and private lands are the primary sources of raw materials. For the last 5 years, the Forest has harvested 1.5 MMBF annually.

The land base tentatively suitable for timber production has the capacity to meet all RPA targets for the next 50 years. By maximizing timber production, the Forest can produce 13.6 MMBF per year in the first decade with a sustained yield 13.6 MMBF per year. There is no timber harvest under the minimum level benchmark. Benchmark PNV maximizes PNV but does not harvest timber for 25 years.

10. Present Net Value

The maximum PNV of the Forest is $4.2 billion as defined by Benchmark PNV which meets minimum management requirements and precludes timber management from existing wilderness.

11. Discounted Cost

The minimum total discounted cost of $33 million is represented by the minimum level benchmark (MIN).

12. Employment

Current (1980) employment in the Forest's zone of influence is 235,141 jobs. This ranges from 234,233 (loss of 908 jobs) in Benchmark Minimum Level to 238,487 (gain of 3,346 jobs) in Benchmark PNV.

C. Opportunity to Meet Anticipated Needs

1. Wildlife

The outputs for wildlife are habitat capability and are expressed in numbers of animals. Elk, deer, and prairie grouse habitats are evaluated. Numbers used in this report for deer and elk represent a provided capacity (PC) that was developed based upon an "average year" concept whereby extremes of weather were eliminated. The PC is not meant to represent an actual count of animals. At any point in time, the actual population of animals may be higher or lower. Severe winters can reduce the populations substantially and mild winters could allow increases in numbers.

In evaluating the various benchmarks, the PC should be viewed only as an indicator. The most reliable use of the PC is to observe relative change. For example, in the maximum market analysis, the PC for deer shows a reduction in numbers in the second and third time periods as an indicated response to the development of oil and gas fields. The trend is more reliable than the actual numbers.

For the prairie grouse (sharptail and prairie chicken), the change in effective habitat acres is reflective of changes in the quality of the habitats for these birds. The lack of population information restricts more detailed analysis. However the effective acres concept is valuable. For example, current direction provides protection for dancing grounds. In order to evaluate impacts to the population it is necessary to analyze changes in nesting cover as well as protecting these grounds.

The threatened and endangered wildlife species including the grizzly bear and its habitat requirements, the bald eagle and the amount of essential habitat, the black-footed ferret and the identified essential habitat, and the essential habitat for the peregrine falcon are documented in the planning records located in the Forest Supervisors Office in Billings, Montana.

The current PC for elk is approximately 1000 which is 59 percent of the maximum potential. Basically, this is due to the limited livestock grazing and small timber program on the Beartooth District at this time. A slight decline in PC is estimated as minerals management activities begin to impact the habitat. The analysis for maximum wildlife showed that the Forest could provide for a 63 percent increase from current PC by 2030. Under the minimum level of management the elk PC increases from current levels to 1700 as competing uses are removed. It then declines to 1600 by the fifth decade. RPA does not assign a projection for elk on the Forest. However, the State of Montana has identified a desired goal for elk on the Montana portion of the Forest which is 900 by the year 2000. It appears that the potential exists to meet this projection within the maximum wildlife benchmark analysis.

In addition, North Dakota has a current elk population of approximately 100 animals and a desired population of 150 to 200. The elk were not included in the benchmark analysis, but it appears that the desired population could be met. The habitat needed for 150 to 200 animals includes acreage on private lands as well as adjacent Bureau of Land Management lands.

The current PC for deer is approximately 25,000 which is 61 percent of the maximum potential. It is anticipated that if continued, current management would provide the provided capacity for approximately 27,000 deer over time. Under a maximum wildlife program, the Forest can provide habitat for 41,000 deer which is 100 percent of potential. Under the minimum level of management, the deer PC increase to 30,000 as competing uses are removed.

2. Water

Current management of the Custer National Forest produces approximately 1,091,500 acre feet of water annually, largely from the Beartooth District. Ninety-five percent of that water meets or exceeds minimum quality standards. The remainder has unusually high natural levels of salts and/or sediment, and involves Districts other than the Beartooth. Maximum timber and range production would maximize water and sediment yields. Water yield would not rise more than 5 or 10 percent, but a larger percentage of the water would be degraded by sediment. Sediment yields from timberland would increase as a result of road construction and reconstruction during timber harvest. Sediment from rangeland would increase as greater percentages of forage are removed by domestic livestock and more of the soils surface is denuded. Minimum level management would produce the lowest volumes of water and sediment. This is due to no domestic livestock grazing or timber harvest. Current management will not meet RPA goals for water quality and quantity. Much of the sediment comes from badland areas with high levels of natural erosion. No specific management is targeted at reducing the volumes of suspended material. This is considered "natural geologic erosion" and is not generated by human activity.

Lands within badland ecosystems produce only about a third as much vegetative cover as on typi-

cal prairie land. In addition, the badlands are much steeper, more broken, and less permeable. Therefore, considerably more runoff is generated from this area.

Thirty percent of the land on all except the Sheyenne and Beartooth District is badland or similar ecosystems. Most of this land lies where annual runoff is about 50 acre feet annually/ square mile. Less flows from the Ashland District. If the badland ecosystem produces 50 percent more runoff than the well-vegetated units (1.5 inch vs. 1 inch per year), which seems reasonable in view of surface conditions, then they produce about 50,000 acre feet annually. This water is below minimum quality standards and there is no feasible way nor a valid reason to attempt to improve its quality.

RPA projections in 1982 are met if most other runoff water meets minimum quality standards. This is highly unlikely in view of current mineral activities, livestock grazing, and the acreages showing need for treatment on the Forest's Watershed Improvement Needs inventory.

Current management will not meet projected total volumes of runoff. Very little land or vegetation is disturbed per year on the Beartooth District where 89 percent of the Forest's runoff originates. Improving range conditions should theoretically reduce runoff.

The above rationale indicates that current total runoff will change very little and there will not be an increase in high quality water as was projected in the RPA projections.

Current water use on the Custer National Forest is much less than that produced. A considerable portion of the water is used on private land within the Forest boundary or within a short distance outside the boundary. All of it is used either consumptively or nonconsumptively farther downstream. Irrigation demand reduces and, in some cases, dries up some of the smaller streams within a few miles of the National Forest or National Grassland boundaries.

Eastern Montana and western North and South Dakota are semi-arid regions, and both surface water and ground water supplies are limited. Smaller streams often experience no measurable flow for more than a year at a time. Water produced on the Forest is of considerable concern because increasing population and industrial development outside the National Forest are expected to create needs for more than the available supply of water within 20 years.

3. Recreation

The Custer currently (1983) produces 798,125 Recreation Visitor Days (RVD) that span the Recreation Opportunity Spectrum (ROS from FSH 1909.12 Chapter 500) classes of Primitive (P), Semi-Primitive Non-Motorized (SPNM), Semi-Primitive Motorized (SPM), Roaded Natural Appearing (RNA) and Rural (R). There is no Urban class use on the Custer. ROS classes are defined in the Glossary.

The SPM (Semi-Primitive Motorized) and R (Rural) classes are combined for the purpose of this analysis. The management implications of either class are very similar. The physiography of the Forest allows access to much of the Forest, although this access is not always over a constructed roadway. Exceptions to this is the Beartooth Mountains and the portions of the Little Missouri Badlands. This situation creates capacity for recreation activities that is greater than what would be expected. The road construction, in conjunction with mineral development in the Little Missouri National Grasslands, has created Semi-Primitive Motorized (SPM) and Roaded Natural Appearing (RNA) opportunities that were not previously available.

The developed recreation component is primarily located on the Beartooth Ranger District, with the next highest use occurring on the Sioux Ranger District. The wildlife-related use, hunting, fishing, and nature study, occur on all parts of the Forest. Many areas of the Forest are noted as being some of the outstanding fishing end hunting areas of the states. This is particularly true of big game and upland bird hunting in western North Dakota and of waterfowl and upland bird hunting in South Dakota. It is generally assumed that the capacity on the Custer, especially for SPM and RNA activities far exceeds the use. The current limiting factors are assumed to be limited resident population, limited major highway/tourist routes and lack of attraction features. Overuse has not been and is not expected to be a recreation problem for the Custer as there are a number of management options available when use approaches capacity. The only area nearing capacity is the Absaroka-Beartooth Wilderness.

4. Timber

On the Custer National Forest, there are 156,731 acres considered as productive, available, and suitable for timber management. The average sale volume for the past 5 years has been 1.2 MMBF per year. The 1967 Timber Management Plan calculated an annual allowable harvest of 10.4 MMBF per year. This analysis determined a Long Run Sustained Yield (LRSY) of 13 MMBF per year. The benchmark analysis of current management establishes an annual harvest level of 5.95 MMBF for the first five years. This level decreases to 1.36 MMBF in 60 years. This is a LRSY of 4.2 MMBF. Traditionally the timber harvest program has not turned a reasonable benefit/cost ratio and the annual allowable harvest as determined by the 1967 Timber Management Plan has not been implemented. Extensive roading is needed to access the resource and the market

value of the timber has not been sufficient to support the roading. Mill locations also add to cost of timber harvesting by necessitating long haul distances.

The maximum timber analysis establishes an annual harvest of 13.6 MMBF in the first time period. This harvest level remains constant through the planning horizon (75 years), creating a LRSY of 19.4 MMBF. This level of harvest is only somewhat higher than what was projected in the 1967 Timber Management Plan, although this level has never been harvested. It is predicted that adverse impacts would occur to wildlife habitat, water and soil quality and the visual resources. The cost of roading required to harvest these levels would be very high as would be the operating and hauling costs.

The recommend RPA program ranges from an average annual harvest of 1 MMBF in 1985 to 8 MMBF in 2030 in programmed sales. The RPA projections could be met.

The demand for Custer National Forest timber is related to mill capacity and the National demand for Forest products. Due to the scattered nature of Districts and isolated locations of timber, mill dependency is tied to a District or portion thereof, rather than the Forest.

5. Noxious Weeds

Noxious weed infestations on the Forest and the intermingled private lands are an increasing problem. There are several Federal and State laws that give broad authority for or require control of such weeds.

The Forest has approximately 10,000 acres that are currently infested by noxious weeds. Leafy spurge is by far the predominant species with approximately 7,500 acres. The Forest, in cooperation with county weed boards, grazing associations, and permittees is currently treating approximately 3,000 acres per year at a cost from $35-$100 per acre depending upon the target species, chemicals used, quantity, and method of application. Projections from RPA are for control by direct funding only, but most control on the Custer is achieved through the Conservation Practices program on the National Grasslands.

Present control methods have been predominantly chemical. In spite of the acreage treated each year, the number of acres infested has tended to increase. Current management can be described as a "holding action" at best, designed to decrease the rate of spread until more effective control methods are found and developed.

6. Fire

The Forest has an average of 59 fires per year for the period 1970-79 with 85 percent being lightning-caused and 15 percent being man-caused. Fire suppression on the National Grasslands portion of the Forest is accomplished through cooperative agreement with the Grazing Associations.

Prescribed fire is used a management tool within existing budgets and management practices. The Forest prescribes burning for 400-500 acres annually for fuel treatment and 500-1500 acres for range improvement.

Current direction for prescribed fire and unplanned ignitions in the Absaroka-Beartooth Wilderness is addressed in the Interim Wilderness Plan. The Prescribed Fire Management Plan for the Absaroka-Beartooth Wilderness, which further describes the roles for fire, was approved July 16, 1982. The fire management direction of the Interim Plan and the Prescribed Fire Management Plan is included in the Forest Plan.

7. Insects and Disease

The Forest has about 27,800 acres of timber infested with Mountain Pine beetle or Spruce budworm. The southern portion of the Long Pines on the Sioux District has the serious infestation of Mountain Pine beetle with about 10,000 acres affected. In 1981, moderate to heavy defoliation was observed in Douglas fir stands in the Stillwater drainage in the Beartooth Mountains (about 12,000 acres) and the eastern portion of the Pryor Mountains (about 5,000 acres). Both of these areas are on the Beartooth District.

A survey in 1978 showed 28.2 percent of the lodgepole pinestands on the Beartooth District to be infested with dwarf mistletoe. Growth loss was estimated to be 8.8 cubic feet/acre/year in the infected stands, for an annual loss of 106 M cubic feet. Severe infestations of dwarf mistletoe may cause premature tree death.

The grassland ecosystems of the Custer have historically supported varying populations of grasshoppers and Mormon crickets. These insects, while being an important source of food for some wildlife species, can cause serious problems on range lands if left unchecked.

8. Visual Resources

The management of the visual resources is currently directed by the Unit Plans that cover all but one of the Ranger Districts. The Visual Management System (Agriculture Handbook No. 462) is the guiding document for integration of the landscape management. In most cases, the Visual Quality Objective (VQO), as recommended, has been adopted. In situations when the VQO could not be achieved, mitigation measures were taken to the extent possible to create changes that were in keeping with the natural-appearing landscape. A measure of this success is the amount of land that falls into the different Existing Visual Condition (EVC) Classes (reference to R-5 FSM 2383.4, Supplement 113, May 1983, Measure of Acomp-

lishment). The monitoring level on the Custer National Forest is EVC Class 4 (Disturbed). In 1980, this acreage stood at 122,189, or roughly 5 percent of the net land base. These acres had been modified to the point that the activities dominated the landscape and no further impacts would be considered acceptable. Rehabilitation was considered to be necessary.

The Minimum Level benchmark produces the least total acres in EVC Class 4 and in fact the acreage in this condition decreases over time unlike any of the other benchmarks. This is the result of removing all management activities from the land and allowing nature to reclaim the land. The improvement is not speedy nor thorough, but without adding to the existing visual impacts, the acreage in EVC Class 4 would actually decline.

9. Wilderness

Presently, the Forest contains 339,841 acres of classified wilderness. This area is the Custer's portion of the Absaroka-Beartooth Wilderness. The remainder of this Wilderness (580,536 acres) falls on the Gallatin National Forest. Through the RARE II inventory in 1979, three additional areas were recommended for wilderness classification. (No areas were recommended for further study.) These areas were: 1) Lost Water Canyon, 9,800 acres; 2) Tongue River Breaks, 16,600 acres; and 3) Twin Buttes (National Grasslands), 9,000 acres. Since that time, none have been classified by Congress. Due to a Ninth Circuit decision in late 1983 regarding the RARE II Final EIS, a reevaluation of the roadless resource and wilderness potential was required as part of each Forest's plan. The roadless resource total 258,280 acres on this Forest.

10. Human and Community Development Programs

Volunteers served 2506 hours on several Forest projects during FY 1983, up from 1,445 hours in FY 1981. One Senior Community Service Employment Program (SCSEP) enrollee served a total of 908 hours. One enrollee in the Youth Manpower program worked 26 hours. The Youth Conservation Corps was re-established in FY 1983 and one ten-person crew worked 3122 hours, or approximately 8 weeks. No Young Adult Conservation Corps program was on the Forest during 1983. Neither program will be in operation in 1984 or 1985. The Comprehensive Education and Training Act (CETA) program had 3 participants in 1983 and worked a total of 912 hours.

The maximum person hours that could be utilized has not been calculated. In the budget direction at the beginning of the 1980's, the Forest was directed to use H&CD programs to achieve 20 percent of desired targets.

The Forest has many opportunities to utilize H&CD programs to achieve Forest targets and provide an educational experience for those enrolled. Traditionally these employment and training programs are re-instituted as employment and economic conditions worsen. The extent to which this occurs is entirely dependent upon the appropriation of funds from Congress.

D. Evaluation of AMS Analytical Levels

1. Ability to Resolve Public Issues and Concerns

a. Public Issues

Through public involvement, review of past public involvement efforts, and in-Service advice, these public issues were identified.

ISSUE 1:

At what level of use and management intensity should livestock be managed on the Forest, considering public needs and demands for all resources?

Various intensities of range management are designed into the FORPLAN model, which allows an analysis of different ways to achieve desired levels of livestock grazing. It allowed an analysis of the other resource implications of managing the range resource for livestock use. The conclusions from the benchmarks such as the competition from wildlife and the incompatibility of mineral development aided in the development of alternatives that addressed a number of management strategies to achieve the desired level of grazing. In resolving this issue, other factors than those analyzed by the benchmarks were considered, primarily the demand by the private sector for grazing permitted cattle on the public lands. Past grazing agreements and traditional use of the range resource and public acceptance of a level of use and management intensity for livestock grazing. Of equal importance for consideration will be the cost of range developments and the mitigations required for multiple-use management of the land. Given these detailed concerns, the Forest has the ability to resolve this issue.

ISSUE 2:

In response to National demands for energy and strategic minerals, how can the Forest provide for mineral exploration and development while also providing for the needs of other resources?

The estimated timing and environmental impacts of developing the oil resource across the Forest is considered in every prescription and yield table in the FORPLAN model. The benchmarks identified the economic advantage of developing this resource and the impacts and influences upon other resources of the Forest. While there are limited management strategies to actually alter the rate of oil development on leased lands, alter-

natives will address various ways of protecting special values occurring on leased lands and methods to manage the development so that detrimental impacts are minimized. Locatable minerals are developed under the Mining Law of 1872 and the Forest will respond to Plans of Operation in a timely and responsible manner, per Forest Service policy, considering the other resources of the land. While this issue may not be resolved to everyones satisfaction it is resolved within the present guidelines and constraints available to the Forest.

ISSUE 3

How and where will the resource base, including riparian (stream-bank) zones and woody draws, be managed and protected for wildlife in view of competition from other resources?

These areas offer many special attributes for many species of wildlife and add much needed diversity to the lands of the Custer National Forest. Because they tend to be long and linear and cross many physical management boundaries, their management becomes especially difficult. By identifying the areas of the Forest where woody draws and riparian areas are particularly important, their integrity and importance can be retained and perhaps enhances. Research is ongoing to understand the natural progression of woody draws and possible management strategies to maintain or improve their condition. Alternatives will be developed that specifically protect and management for the wildlife importance of these areas. From these analyses, an acceptable method for managing these areas is expected to be achieved.

ISSUE 4

What are the long-term public and resource management access needs and how should they be resolved?

Resource and public access needs will depend on the management objectives for the different areas of the Forest. A transportation plan will be developed for each alternative outlining the needs and opportunities.

ISSUE 5

What is the long-range need for low development areas and how should they be managed?

Unit Plans for three of the Ranger Districts designated certain areas to remain essentially roadless for life of the Plans. Since that time (1974-1979) mineral (oil and gas) development has occurred in many of these areas and the "essentially road-less" name is simply no longer applicable. Also affecting these areas are the cut-off dates for releasing the mineral rights, at which time, leases were no longer offered although oil and gas development was nearby. While the National demand for energy resources is continuing, the future management of these areas must respond to this demand as well as other demands for undeveloped areas of public lands.

The Forest will be able to recommend the dissolution of some of the low development areas, if appropriate, as well as recommend areas for wilderness classification or management as low development areas. The resolution of the issue will depend ultimately upon the public and industry's acceptance of the Forest's recommendation.

E. Opportunities

Opportunities, those previously known and others discovered during the benchmark analyses, vary significantly across the Forest due to the vast diversity of the land and land uses. One opportunity that occurs across the entire Forest is the chance to improve the present net value of the Forest operation. The benchmarks surfaced resource and economic relationships previously unknown or misunderstood. The specific resource management opportunities for each Ranger District are described below. These opportunities will be taken into account in the development of alternatives.

1. Sheyenne Ranger District

The opportunity exists on this District to provide increased dispersed recreation to satisfy recreation needs within the Fargo-Moorhead metropolitan areas. The establishment of the North Country National Scenic Trail that travels from New York state to Lake Sakakawea in northwestern North Dakota will help provide that opportunity. The habitats for the prairie-fringed orchid (a proposed rare species by the U.S. Fish and Wildlife Service), Adder Tongue fern and the Dakota Skipper butterfly (a proposed threatened species by the U.S. Fish and Wildlife Service) are available on this District. One of the largest remaining populations of prairie chickens occurs on this District and is requiring special consideration in management activities. In cooperation with the Sheyenne Valley Grazing Association, this District has the opportunity to demonstrate sound rangeland management practices that will enhance livestock and wildlife benefits and provide increased protection to soil and watershed conditions. The tall-grass prairie offers the opportunity to use vegetation manipulation, including lowland burning and prescribed burning to increase palpability for livestock grazing and provide diversity for wildlife habitat. Occurrences of large infestations of noxious weeds, primarily leafy spurge, provide opportunities to continue cooperative research efforts towards effective integrated control methods.

2. Beartooth Ranger District

This District with its varied resources and diversity of land has a number of opportunities to:

- Continue to provide dispersed, developed and interpretative recreation settings and facilities, as well as cultural resources investigation and interpretation.
- Manage the Custer portion of the Absaroka-Beartooth Wilderness to provide primitive recreation opportunity in keeping with the Wilderness Act of 1964.
- Manage the Lost Water Canyon Proposed Wilderness to assure there will be no detrimental effects to its wilderness character or reduce its value as a Research Natural Areas.
- Coordinate Wild Horse Territory needs in the Pryor Mountain with the Bureau of Land Management.
- Manage the Line Creek area to assure adequate habitat for the existing elk herd.
- Investigate and protect habitat needs of the grizzly bear in Management Situation I and II.
- Coordinate habitat needs of raptors, elk and bighorn sheep with other resource management activities.

3. Sioux Ranger District

The Sioux Ranger District has the unique opportunity to demonstrate the interrelationships and interdependence of three major resources--range, timber and wildlife. The management activities in any one resource will have an effect upon the others and must be carefully done. Whitetailed deer, wild turkey and certain species of raptors are active inhabitants of the Sioux District and their habitat is critical to maintain. The opportunity for improving ownership patterns exists through land exchange program with the State of South Dakota and various individual private landowners. The recreation facilities of the District provide a much needed opportunity to the local rural communities. These need to be maintained and the opportunity continued. The opportunity to rejuvenate the ecological process across the District exists by using various control methods to eliminate pine encroachment into valuable rangeland.

4. Grand River Ranger District

This District has the opportunity to continue and improve the giant Canada goose nesting program, as well as the warm water fisheries program. The public needs to be made more aware of the potential recreation opportunity of these public lands. Range management has and will most likely continue to be the major emphasis on this District.

5. Ashland Ranger District

The opportunity exists on the Ashland Ranger District to utilize prescribed burning to retard pine encroachment, manipulate vegetation and reduce fuels buildup. The land exchange program is an effort to consolidate the Federal land into more manageable blocks of land and at the same time help the private landowner accomplish a more economical land base. A working circle of interested groups is planned for formation involving at least the Forest Service and the Northern Cheyenne tribe. This program will enhance the opportunities to manage and sell timber from the Federal, tribal and private lands.

6. Medora and McKenzie Ranger Districts (Little Missouri National Grassland)

The Little Missouri National Grassland presents a unique opportunity to demonstrate the intricate integration of three major resources: range, oil and gas and wildlife, especially bighorn sheep, deer and elk, as well as the protected raptor species of golden eagle and prairie falcon. These lands fall in the nationally significant Williston Basin oil province. The Little Missouri Badlands, a part of these two Ranger Districts, are unique to North Dakota and have characteristics that influence all phases of management. The scenic qualities of the Badlands provide the opportunities for a "Scenic River" designation for the Little Missouri River and continued recreation enjoyment of the adjacent Theodore Roosevelt National Park. Prairie dog colonies and noxious weeds are currently posing a threat to the productivity of the fertile rolling, short-grass prairie that comprises much of these two Districts. Livestock grazing in cooperation with Grazing Associations is a traditional use of these grasslands and a real opportunity exists to demonstrate the compatibility of sound grassland agriculture in the context of multiple use management.

CHAPTER VI

GLOSSARY

ACCESS	See Public Access.
ACRE-EQUIVALENT	A unit of habitat output related to fish or wildlife habitat improvement projects. Acre equivalents are based on the number of acres of habitat that are influenced by one habitat acre actually modified by the habitat improvement project.
ACRE-FOOT	A measure of water or sediment volume equal to the amount which would cover an area of 1 acre to a depth of 1 foot (325,851 gallons or 43,560 cubic feet).
ACTIVITY	A measure, course of action, or treatment that is undertaken to directly or indirectly produce, enhance, or maintain forest and range land outputs or achieve administrative or environmental quality objectives.
ACTIVITY FUELS	Debris generated by a Forest activity that increases fire potential such a firewood gathering, pre-commercial thinning, timber harvesting, and road construction.
ACTIVITY TYPE	The further description of the actions, measures, or treatments within an activity.
ADMINISTRATIVE FACILITIES	Those facilities, such as Ranger Stations, work centers and cabins, which are used by the Forest Service in the management of the National Forest.
AFFECTED ENVIRONMENT	The biological and physical environment that will or may be changed by actions proposed and the relationship of people to that environment.
AFTERMATH	A new growth of grass after one or more mowings.
AIRSHED	Basic geographic units in which air quality is managed.
ALLOTMENT	See Range Allotment.
ALLOTMENT MANAGEMENT PLAN	The document that contains the action program needed to manage the range resource for livestock grazing with consideration given to soil, watershed, wildlife, recreation, timber, and other resources on lands within a range allotment or on a wild horse or burro territory. Allotment management plans, territory plans, and where appropriate, coordinated resource management plans identify prescriptions and practices for the management of grazing and browsing lands for livestock and wild horses and burros.
ALLOWABLE SALE QUANTITY	The quantity of timber that may be sold from the area of suitable land covered by the Forest Plan for a time period specified by the plan. This quantity is usually expressed on an annual basis as the "average annual allowable sale quantity."
ALTERNATIVE	A combination of management prescriptions applied in specific amounts and locations to achieve a desired management emphasis as expressed in goals and objectives. One of several policies, plans, or projects proposed for decision making. An alternative need not substitute for another in all respects.
ALTRENATIVE, NO ACTION	An alternative that maintains established trends or management direction.
AMENITY VALUES	Resource use for which market values (or proxy values) are not or cannot be established.
ANALYSIS AREA	One or more capability areas combined for the purpose of analysis in formulating alternatives and estimating various impacts and effects.
ANALYSIS OF THE MANAGEMENT SITUATION	A determination of the ability of the planning area to supply goods and services in response to society's demand for those goods and services.

ANALYSIS PERIOD, LONG TERM	A time horizon of expenditures in an analysis that is two or more 5-Year RPA planning periods in duration. RPA, program, Regional Guide, and Forest plan analysis have long-term periods.
ANALYSIS PERIOD, SHORT TERM	A time horizon of expenditures in an analysis that is only several years in duration. A budget analysis is short-term.
ANIMAL UNIT MONTH (AUM)	The quantity of forage required by the equivalent of a 1000 pound mature cow for one month.
ANNUAL FOREST PROGRAM	The summary or aggregation of all projects for a given year that, for a given level of funding, make up an integrated (multi-functional) course of action on a Forest planning area.
AQUATIC ECOSYSTEM	A stream channel, lake or estuary bed, the water itself, and the biotic communities that occur therein.
ARTERIAL ROADS	Roads comprising the basic access network for National Forest System administrative and management activities. These roads serve all resources to a substantial extent, and maintenance is not normally determined by the activities of any one resource. They provide service to large land areas and usually connect with public highways or other Forest arterial roads to form an integrated network of primary travel routes. The location and standards are often determined by a demand for maximum mobility and travel efficiency rather than by a specific resource management service. Usually they are developed and operated for long term land and resource management purposes and constant service.
ASSESSMENT	The Renewable Resource Assessment required by the Resource Planning Act.
ASSET, CAPITAL	A natural resource, manmade structure, facility, or improvement in natural resources used as an input in production processes.
ASSET, RESIDUAL	The remaining value of a capital asset at the end of the time horizon of planning or analytical process.
AVAILABLE FOREST LAND	Land that has not been legislatively or administratively withdrawn from LAND timber production by the Secretary of Agriculture or Forest Service Chief.
AUM	See Animal Unit Month.
AVERAGE ANNUAL CUT	The volume of timber harvested in a decade, divided by 10.
BASE SALE SCHEDULE	A timber sale schedule formulated on the basis that the quantity of timber planned for sale and harvest for any future decade is equal to or greater than the planned sale and harvest for the preceding decade and this planned sale and harvest is not greater than the long-term sustained yield capacity.
BENCHMARK	Reference points that define the bounds within which feasible management alternatives can be developed. Benchmarks may be defined by resource output or economic measures.
BENEFIT-COST RATIO	Measure of economic efficiency, computed by dividing total discounted primary benefits by total discounted economic costs.
BENEFIT, DIRECT	A primary benefit that fulfills specified objectives of the policy, program, or project.
BENEFIT, INDUCED	A primary benefit from an output that is incidental to the objectives of the policy, program, or project.
BENEFIT, PRIMARY	A benefit accruing to resource owners from a primary output, which may be direct or induced, or a residual asset. Primary benefits are components of net public benefits.
BENEFIT, SECONDARY	A benefit accruing to parties other than the resource owners, including effects on local, Regional, and national economies and on consumers of outputs. Secondary benefits are not necessarily included in net public benefit.
BENEFIT (VALUE)	Inclusive terms to quantify the results of a proposed activity project or program expressed in monetary or nonmonetary terms.

BEST MANAGEMENT PRACTICES (BMP)	The set of practices in the Forest Plan which, when applied during implementation of a project, ensures that water related beneficial uses are protected and that State water quality standards are met. BMP's can take several forms. Some are defined by State regulation or memoranda of understanding between the Forest Service and the States. Others are defined by the Forest interdisciplinary planning team for application Forest-wide. Both of these kinds of BMP's are included in the Forest Plan as Forest-wide Standards. A third kind are identified by the interdisciplinary team for application to specific management areas; these are included as Management Area Standards in the appropriate management areas. A fourth kind, project level BMP's, are based on site specific evaluation and represent the most effective and practicable means of accomplishing the water quality and other goals of the specific area involved in the project. These project level BMP's can either supplement or replace the Forest Plan standards for specific projects.
BIG GAME	Those species of large mammals normally managed as a sport hunting resource.
BIG GAME SUMMER RANGE	Land used by big game during the summer months.
BIG GAME WINTER RANGE	The area available to and used by big game through the winter season.
BIOLOGICAL EVALUATION	A review of all Forest Service planned, funded, executed or permitted programs and activities for possible effects on endangered, threatened, proposed or sensitive species. A biological evaluation may be used or modified to satisfy consultation requirements for biological assessment of construction projects requiring an environmental impact statement. (See FSM 2600)
BIOLOGICAL POTENTIAL	The maximum possible output of a given resource limited only by its inherent physical and biological characteristics.
BIOLOGICAL GROWTH POTENTIAL	The average net growth attainable in a fully stocked natural forest stand.
BOARD FOOT	A unit of measurement represented by a board one foot square and one inch thick.
BROADCAST BURN	Allowing a controlled fire to burn over a designated area within well-defined boundaries, for reduction of fuel hazard, as a silvicultural treatment, or both.
BOARD FOOT/CUBIC FOOT CONVRESION	The mathematical ratio of the board feet contained in one cubic foot of timber. This ratio varies with tree species, diameter height and form factors.
BROWSE	Twigs, leaves, and young shoots of trees and shrubs on which animals feed; in particular, those shrubs which are utilized by livestock and big game animals for food.
CANOPY	The more or less continuous cover of branches and foliage formed collectively by the crown of adjacent trees and other woody growth.
CAPABILITY	The potential of an area of land and or water to produce resources, supply goods and services, and allow resource uses under a specified set of management practices and at a given level of management intensity. Capability depends upon current conditions and site conditions such as climate, slope, landform, soils and geology, as well as the application of management practices, such as silviculture or protection from fires, insects, and disease.
CAPABILITY AREA	A geographic delineation used to describe characteristics of the land and resources in integrated Forest planning. Capability areas may be synonymous with ecological land units, ecosystems or land response units.
CAPITAL INVESTMENT	Investment in facilities such as roads and structures with specially-appropriated funds.

CARRYING CAPACITY	1 (recreation): the amount of recreation use an area can sustain without deterioration of site quality; 2 (wildlife): the maximum number of animals an area can support during a given period of the year; 3 (range): the maximum stocking rate possible without damaging the vegetation or related resources. Carrying capacity may vary from year to year on the same area due to fluctuating forage production.
CAVITY	A hollow in a tree that is used by birds or mammals for roosting and reproduction.
CEQ	See Council of Environmental Quality.
CFR	Code of Federal Regulations.
CHARGEABLE VOLUME	Chargeable volume is all volume that is included in the growth and yield projections for the selected management prescriptions used to arrive at the "allowable sale quantity," based on Regional utilization standards.
CLEARCUTTING	Harvesting of all trees in one cut. It prepares the area for a new, even-aged stand. The area harvested may be a patch, stand, or strip large enough to be mapped or recorded as separate age class in planning. Regeneration is obtained through natural seeding, or through planting or direct seeding.
CLIMAX PLANT COMMUNITY	The final or stable biotic community in a developmental series.
CLOSURE	The administrative order that does not allow specified uses in designated areas or on Forest development roads or trails.
CMAI	See Culmination of Mean Annual Increment.
COEFFICIENT (COST, VALUE, YIELD)	The numeric units used to include costs, values, and outputs in the analysis model used in the formulation of the Forest Plan.
COLLECTOR ROADS	Roads constructed to serve two or more elements but which do not fit into the other two road categories (arterial or local). Construction costs of these facilities are prorated to the respective element served. These roads serve smaller land areas and are usually connected to a Forest arterial or public highway. They collect traffic from local Forest roads or terminal facilities. The location and standard are influenced by both long term multi-resource service needs and travel efficiency. Forest collector roads are operated for constant or intermittent service, depending on land use and resource management objectives for the area served by the facility.
COMMERCIAL FOREST LAND (SUITABLE TIMBER LAND)	Land that is producing, or is capable of producing, crops of industrial wood and (1) has not been withdrawn from this classification by Congress , the Secretary of Agriculture or the Chief of the Forest Service; (2) where existing technology and knowledge is available to ensure timber production without irreversible damage to soils productivity or watershed conditions; and (3) where existing technology and knowledge, as reflected in current research and experience, provides reasonable assurance that adequate restocking can be obtained within years after final harvesting.
COMMERCIAL TIMBER SALES	The selling of timber from National Forest lands for the economic gain of the party removing and marketing the trees.
COMMODITIES	Resources with commercial value; all resource products which are articles of commerce, such as timber, range forage and minerals.
COMMON MINERALS	See Minerals, Common Variety
COMMUNITY COHESION	The degree of unity and cooperation within a community in working toward shared goals and solutions to problems.
COMMUNITY STABILITY	The capacity of a community to absorb and cope with change without major hardship to institutions or groups within the community.
CONCERN	See Management Concern.

CONDITION CLASS	A descriptive category of the existing tree vegetation as it relates to size, stocking and age.
CONFINE	A fire suppression technique that restricts a fire within determined boundaries established either prior to the fire, during the fire, or in an escaped fire situation analysis.
CONGRESSIONALLY DESIGNATED AREAS	Areas established by Congressional legislation, such as National Wildernesses, National Wild and Scenic Rivers, and National Recreation Areas.
CONSERVATION PRACTICES	These are required land use practices on the National Grasslands that are imposed upon the persons or organizations holding grazing permits (including grazing agreements) in order to protect, improve, develop, and administer the land and thus assist in furthering the program of land conservation and good land utilization.
CONSTRAINT	A confinement or restriction on the range of permissible choices.
CONSUMPTIVE USES	Uses of a resource that reduce the supply. Examples of some consumptive uses of water are irrigation, domestic and industrial water use, grazing, and timber harvest.
CONTAIN	A fire suppression technique that surrounds a fire, and any spot fires therefrom, with control lines, as needed, which can reasonably be expected to check the fire's spread under prevailing and predicted conditions.
CORD	A unit of gross volume measurement for stacked roundwood based on external dimensions, generally implies a stack of four feet by four feet vertical cross section and eight feet long, contains 128 stacked cubic feet.
CORDUROY	A method of subgrade reinforcement often used on trails and for some roads whereby logs are placed perpendicular to the traveled way to support a surfacing material.
CORRIDOR (UTILITY CORRIDOR)	A linear strip of land which has ecological, technical, economic, social, or similar advantages over other areas for the present or future location of transportation or utility routes.
COST	The negative or adverse effects or expenditures resulting from an action. Costs may be monetary, social, physical or environmental in nature.
COST EFFICIENCY	The usefulness of specified inputs (costs) to produce specified outputs (benefits). In measuring cost efficiency, some outputs, including environmental, economic, or social impacts, are not assigned monetary values but are achieved at specific levels in the least cost manner. Cost efficiency is usually measured using present net value, although use of benefit-cost ratios and rates of return may be appropriate.
COST-SHARE	Refers to the process of cooperating in the joint development of a road system. The document executed through this process, called "Road Right-of-Way Construction and Use Agreement," specifies the terms of developing the transportation system for a specified land area.
COUNCIL ON ENVIRONMENTAL QUALITY	An advisory council to the President established by the National Environmental Policy Act of 1969. It reviews Federal programs for their effect on the environment, conducts environmental studies, and advises the President on environmental matters.
COVER/FORAGE RATIO	The ratio of tree cover (usually conifer types) to foraging areas (natural openings, clearcuts, etc.)
CRITICAL HABITAT	Specific areas within the geographical area occupied by the species on which are found those physical and biological features (1) essential to the conservation of the species and (2) which may require special management considerations or protection. Critical habitat shall not include the entire geographic area which can be occupied by the threatened and endangered species.
CUBIC FOOT	The amount of wood volume equivalent to a cube 1 foot by 1 foot by 1 foot.

CULMINATION OF MEAN ANNUAL INCREMENT (CMAI)	The point at which the volume increment for a tree or stand of trees has achieved it's highest mean value. Mean annual increment is based on expected growth according to the management intensities and utilization standards assumed in the Forest Plan. The CMAI is calculated by dividing the attained growth (volume) by it's corresponding age.
CULTURAL RESOURCES	The physical remains of human activity (artifacts, ruins, burial mounds, petroglyphs, etc.) and conceptual content or context (as a setting for legendary, historic, or prehistoric events, as a sacred area of native peoples, etc.) of an area of prehistoric or historic occupation.
CUTTING CYCLE	For a crop or stand, the planned interval of time between the beginning of one cutting period and the beginning of the succeeding cutting period.
DEMAND	The amount of output that users are willing to take at a specific price, time period, and conditions of sale.
DEMAND ANALYSIS	A study of the factors affecting the schedule of demand for a good or service including the price-quantity relationship, if applicable.
DEPARTURE	A schedule which deviates from the principle of nondeclining flow by exhibiting a planned decrease in the timber sale and harvest schedule at any time in the future.
DEPENDENT COMMUNITIES	Communities whose social, economic, or political life would become discernibly different in important respects if market or non-market outputs from the National Forests were cut off.
DEVELOPED RECREATION	Recreation that occurs where improvement enhance recreation opportunities and accommodate intensive recreation activities in a defined area.
DEVELOPED RECREATION SITES	Relatively small, distinctly defined area where facilities are provided for concentrated public use, i.e., campgrounds, picnic areas and swimming areas.
DIAMETER BREAST HEIGHT (DBH)	The diameter of a tree measured 4 1/2 feet above the ground.
DIRECTIONAL DRILLING	Drilling a well at an angle from outside an area, to tap oil or gas below the area.
DISCOUNT RATE	An interest rate that reflects the cost or time value of money. It is used in discounting future costs and benefits.
DISCOUNTING	An economic adjustment for the time value of money; mathematical reduction of costs and/or benefits which occur in the future to the present time for purposes of comparison.
DISPERSED RECREATION	That portion of outdoor recreation use which occurs outside of developed sites in the unroaded and roaded Forest environment i.e., hunting, backpacking and berry picking.
DISTRICT RANGER	The official responsible for administering the National Forest System Lands on a Ranger District.
DIVERSITY	The distribution and abundance of different plant and animal communities and species within the area covered by a land and resource management plan.
ECOGROUP	Ecosystems grouped on the basis of capabilities for the type of land uses that occur.
ECONOMICS	The study of how limited resources, goods, and services are allocated among competing uses.
ECOSYSTEM	A complete, interacting system of organisms considered together with their environment (for example; a marsh, a watershed, or a lake.)
ECOTONE	A transition or junction zone between two or more diverse communities (ecosystems).
EDAPHIC	The influence of soils on living organisms, particularly plants, including man's use of the land for plant growth.

EFFECTIVE ACRES	Acres of nesting cover suitable for prairie grouse.
EFFECTS	Physical, biological, social and economic results (expected or experienced) resulting from achievement of outputs. Effects can be direct, indirect and cumulative.
EFFICIENCY, ECONOMIC	The usefulness of inputs (costs) to produce outputs (benefits) and effects when all costs and benefits that can be identified and valued are included in the computations. Economic efficiency is usually measured using present net value, though use of benefit-cost ratios and rates-of-return may sometimes be appropriate.
ELK HIDING COVER	Vegetation, primarily trees, capable of hiding 90 percent of an elk seen from a distance of 200 feet or less.
ELK SECURITY COVER (EFFECTIVE ELK SECURITY COVER)	Elk hiding cover modified by open roads. The greater the density of open roads within an area, the less effective is the hiding cover in providing security for elk.
ENDANGERED SPECIES	Any species, plant or animal, which is in danger of extinction throughout all or a significant portion of its' range. Endangered species are identified by the Secretary of the Interior in accordance with the 1973 Endangered Species Act.
ENDING INVENTORY CONSTRAINT (EIC)	Constraint to ensure that the total timber volume left at the end of the planning horizon will equal or exceed the volume that would occur in a managed Forest.
ENVIRONMENTAL ANALYSIS	An analysis of alternative actions and their predictable short and long-term environmental effects which include physical, biological, economic, social, and environmental design factors and their interactions.
ENVIRONMENTAL ASSESSMENT	A concise public document for which a Federal agency is responsible that serves to: (1) Briefly provide sufficient evidence and analysis for determining whether to prepare an environmental impact statement or a finding of no significant impact. (2) Aid an agency's compliance with the National Environmental Policy Act when no environmental impact statement is necessary. (3) Facilitate preparation of an environmental impact statement when one is necessary.
ENVIRONMENTAL IMPACT STATEMENT, DRAFT (DEIS)	A detailed written statement as required by Sec.102(2)(C) of the National Environmental Policy Act.
ENVIRONMENTAL IMPACT STATEMENT FINAL (FEIS)	The final version of the public document required by NEPA. (see above)
EPHEMERAL STREAMS	Streams that flow only as a direct response to rainfall or snowmelt events. They have no baseflow.
EROSION	The group of processes whereby earthy or rocky material is worn away by natural sources such as wind, water or ice and removed from any part of the earth's surface.
ESSENTIALLY ROADLESS	Thirteen specific areas in North Dakota identified by the Rolling Prairie Unit Plan of 1975 and the Badlands Unit Plan of 1974. The essentially unroaded and open space of these areas were the characteristics that the special classifications intended to preserve.
EVEN-AGED MANAGEMENT	The application of a combination of actions that result in the creation of stands in which trees of essentially the same age grow together. Managed even-aged Forests are characterized by a distribution of the stands of varying ages (and, therefore, tree sizes) throughout the Forest area. The difference in ages between trees forming the main canopy level of the stand does not usually exceed 20 percent of the age of the stand at harvest rotation age. Regeneration in a particular stand is obtained during a short period at or near the time that a stand has reached the desired age or size for regeneration and is harvested.

	Cutting methods include clearcutting, shelterwood cutting, and seed tree cutting.
EXTRACTIVE USE	Use of natural resources that removes them from their natural setting.
FAMILY UNIT	A camp or picnic spot with table, fireplace, tent pad, and parking spot.
FEE SITE	A Forest Service recreation area in which users must pay a fee. Fee sites must meet certain standards and provide certain facilities as specified in the Forest Service Manual.
FINAL CUT	Removal of the last seed bearers or shelter trees after regeneration is considered to be established under a shelterwood system.
FLOOD PLAIN	The lowland and relatively flat area adjoining inland waters, including at a minimum, that area subject to a one percent or greater chance of flooding in any given year.
FORAGE	All browse and nonwoody plants available to livestock or wildlife for feed.
FORB	Any herbaceous plant other than true grasses, sedges or rushes.
FOREST AND RANGELAND RENEWABLE RESOURCES PLANNING ACT OF 1974	An act of Congress which requires the assessment of the nation's renewable resources and the periodic development of a national renewable resources program. It also requires the development, maintenance and, as appropriate, revision of land and resource management plans for units of the National Forest System (e.g. National Forest and National Grasslands).
FOREST LAND	Land at least 10 percent occupied by forest trees of any size or formerly having had such tree cover and not currently developed for non-forest use. Lands developed for non-forest use include areas for crops, improved pasture, residential, or administrative areas, improved constructed roads of any width, and adjoining road clearing and powerline clearing of any width. The term "occupied" when used to define forest land, will be measured by canopy cover of live forest trees at maturity. The minimum area for classification of forest land will be 1 acre or greater. Unimproved roads, trails, stream and clearings in forest areas are classified as forest if they are less than 120 feet in width.
FOREST LOCAL ROADS	Roads constructed and maintained for, and frequented by, the activities of a given resource element. Some uses may be made by other element activities, but normally maintenance is not affected by such use. These roads connect terminal facilities with Forest collector or Forest arterial roads or public highways. The location and standard, usually are determined by the requirement of a specific resource activity rather than by travel efficiency. Forest local roads may be developed and operated for constant or intermittent service, depending on land use and resource management objectives for the area served by the facility.
FOREST SUPERVISOR	The official responsible for administering the National Forest System lands in a Forest Service Administrative unit, which may consist of one or more National Forests or National Grasslands.
FOREST SYSTEM ROAD	A road wholly or partly within or adjacent to and serving the National Forest System and which is necessary for the protection, administration and utilization of the National Forest System and the use and developments of it's resources.
FORPLAN	A linear programing system used for developing and analyzing Forest planning alternatives.
FOREST-WIDE MANAGEMENT GUIDELINES	An indication or outline of policy or conduct dealing with the basic management of the Forest. Forest-wide management guidelines apply to all areas of the Forest regardless of the other management prescriptions applied.
FSH	Forest Service Handbook.
FSM	Forest Service Manual.

FUEL BREAK	A zone in which fuel quantity has been reduced or altered to provide a position for suppression forces to make a stand against wildfire. Fuel breaks are designated or constructed before the outbreak of a fire. Fuel breaks may consist of one or a combination of the following: Natural barriers, constructed fuelbreaks, manmade barriers.
FUELS	Include both living plants; dead, woody vegetative materials; and other vegetative materials which are capable of burning.
FUELS MANAGEMENT	Manipulation or reduction of fuels to meet Forest protection and management objectives while preserving and enhancing environmental quality.
FUELS TREATMENT	The rearrangement or disposal of natural or activity fuels to reduce the fire hazard.
FULL-SERVICE MANAGEMENT	The administration, operation and maintenance of developed recreation sites to establish standards with the objective to provide a pleasant recreation experience for the visitor and exceed the minimum health and safety needs of the visitors.
GAME SPECIES	Any species of wildlife or fish for which seasons and bag limits have been prescribed, and which are normally harvested by hunters, trappers, and fisherman under State or Federal laws, codes, and regulations.
GOAL	A concise statement that describes a desired condition to be achieved. It is normally expressed in broad, general terms and is timeless in that it has no specific date by which it is to be completed. Goal statements form the principal basis from which objectives are developed.
GOODS AND SERVICES	The various outputs, including onsite uses, produced by forest and rangeland renewable resources.
GRAZING ALLOTMENT	See Range Allotment.
GROUP SELECTION CUTTING	A cutting method to develop and maintain uneven-aged stands by the removal of small groups of trees to meet a predetermined goal of size distribution and species composition in remaining stands.
GROWING STOCK LEVEL	A relative stand density measure used to guide a management objective such as maximizing timber volume yields or optimizing big game thermal cover.
GUIDELINE	See Standard and Guideline.
HABITAT TYPE	An aggregation of all land areas potentially capable of producing similar plant communities at climax.
HABITAT TYPE GROUP	A logical grouping of habitat types to facilitate resource planning and public presentations.
HIDING COVER	Trees of sufficient size and density to conceal animals from view at 300 feet.
IMPACT ANALYSIS AREA	The delineated area subject to significant economic and social impacts from Forest Service activities included in an economic or social impact analysis.
IMPROVEMENT CUTTING	Removing trees of undesirable species, form, or condition from the main canopy in stands past the sapling stage to improve the composition and quality.
INDICATOR SPECIES	Species identified in a planning process that are used to monitor the effects of planned management activities on viable populations of wildlife and fish including those that are socially or economically important.
INDIRECT EFFECTS	Secondary effects which occur in locations other than the initial action or significantly later in time.
INDIVIDUAL TREE SELECTION HARVEST	A cutting method to develop and maintain uneven-age stands by the removal of selected trees from specified age classes over the entire stand area in order to meet a predetermined goal of age distribution and species in the remaining stand.
INDUSTRIAL WOOD	All commercial roundwood products except fuelwood.

IN-MIGRATION	The movement of human population into an area.
INSTREAM FLOWS	The minimum water volume (cubic feet per second) in each stream necessary to meet seasonal streamflow requirements for maintaining aquatic ecosystems, visual quality, recreational opportunities and other uses.
INTEGRATED PEST MANAGEMENT	A process for selecting strategies to regulate forest pests in which all aspects of a pest-host system are studied and weighed. The information considered in selecting appropriate strategy includes the impact of the unregulated pest population on various resource values, alternative regulatory tactics and strategies, and benefit/cost estimates for these alternative strategies. Regulatory strategies are based on sound silvicultural practices and ecology of the pest-host system and consist of a combination of tactics such as timber stand improvement plus selective use of pesticides. A basic principle in the choice of strategy is that it be ecologically compatible or acceptable.
INTENSIVE GRAZING	Grazing management that controls distribution of cattle and duration of use on the range, usually by fences, so parts of the range are rested during the growing season.
INTERCHANGE	The interchange of land management responsibility between two Government Agencies.
INTERDISCIPLINARY TEAM (ID TEAM)	A group of individuals with different training assembled to solve a problem or perform a task. The team is assembled out of recognition that no one scientific discipline is sufficiently broad to adequately solve the problem. Through interaction, participants bring different points of view to bear on the problem.
INTERMEDIATE HARVEST	Any removal of trees from a stand between the time of its formation and the regeneration cut. Most commonly applied intermediate cuttings are release, thinning, improvement, and salvage.
INTERMITTENT STREAM	A stream which flows only at certain times of the year when it receives water from springs or from some surface source such as melting snow.
INTERPRETATIVE SERVICES	Visitor information services designed to inform and educate Forest visitors improving their understanding, appreciation and enjoyment of National Forest resources.
INVENTORY DATA	Recorded measurements, facts, evidence, or observations on Forest resources such as soil, water, timber, wildlife, range, geology, minerals, and recreation which was used to determine the capability and opportunity of the Forest to be managed for those resources.
ISSUE	See Public Issue.
JURISDICTION	The right, power or authority to administer or control. As an example, a County has jurisdiction on County Roads and may manage them as they desire.
"KEY REACHES" OF WATERSHED SYSTEM	A representative stream segment that can be expected to be sensitive to water resource changes and which adequately reflects the effects of management of the stream channel, the water, and their beneficial uses.
KEY SUMMER RANGE	An area that is potentially capable of supporting big game during the summer use period.
KEY WILDLIFE AREA	Any area which is critical to wildlife during at least a portion of the year. This importance may be due to vegetative characteristics such as residual nesting cover, or behavioral aspects of the animals such as lambing areas. Key areas include: winter ranges, lambing/fawning/calving areas, dancing/strutting grounds, nesting areas, breeding grounds, elk wallows, riparian and woody draws, and roosting areas.
KEY WINTER RANGE	The portion of the yearlong range where big game find food and/or cover during severe winter weather.
LAND EXCHANGE	The conveyance of non-Federal Land or interests to the United States in exchange for National Forest System land or interests in land.

LANDLINE LOCATION	The legal identification, accurate location, and description of property boundaries.
LANDTYPE	An inventory map unit with relatively uniform potential for a defined set of land uses. Properties of soils, landform, natural vegetation and bedrock are commonly components of landtype delineation used to evaluate potentials and limitations for land use.
LANDTYPE GROUP	A logical grouping of landtypes that facilitate resource planning.
LEASABLE MINERALS	See Minerals, Leasable.
LEVEL I FIRE ANALYSIS	General fire management analysis to provide historical information that assists the interdisciplinary team in the analysis of the management situation and formulation of alternatives for the Forest Plan.
LEVEL II FIRE ANALYSIS	An analytical process which guides the implementation of fire management activities of the Forest Plan.
LINEAR PROGRAMMING	A mathematical method used to determine the optimal distribution of limited resources between competing demands when both the objective (e.g., profit or cost) and the restrictions on its attainment are expressible as a system of linear equalities or inequalities (e.g., y=a+bx).
LIMITED SURFACE USE STIPULATION	A mineral lease clause, which, if attached to a mineral lease, prohibits surface disturbing activities on the lease pending submission of a surface use and operations plan which is satisfactory to the BLM and the surface management agency for protection of special existing or planned uses. This stipulation may, when site-specific operations are proposed and analyzed, be modified if other less stringent mitigation is determined to be sufficient to protect the other resources.
LOCAL DEPENDENT INDUSTRIES	Local industries relying on National Forest outputs for economic activity.
LOCAL ROUTES	Local roads branch off the collector roads and are normally for a single use. They generally are dead end roads and maybe closed or obliterated when no longer needed by the single use.
LOCATABLE MINERALS	See Minerals locatable.
LOESS	A uniform and unstratified fine sand or silt transported by wind.
LONG-TERM SUSTAINED YIELD CAPACITY (LTSY)	The highest uniform wood yield from lands being managed for timber production that may be sustained under a specified intensity of management consistent with multiple use objectives.
M	Thousand
MM	Million
MAUM	Thousand Animal Unit Months.
MBF	Thousand Board Feet
MMBF	Million Board feet
MMCF	Million Cubic feet
MANAGEMENT ACTION	Any activity undertaken as part of the administration of the Forest.
MANAGEMENT AREA	An aggregation of capability areas which have common management direction and may be noncontiguous in the Forest. Consists of a grouping of capability areas selected through evaluation procedures and used to locate decisions and resolve issues and concerns.
MANAGEMENT CONCERN	An issue, problem, or a condition which constrains the range of management practices identified by the Forest Service in the planning process.
MANAGEMENT DIRECTION	A statement of multiple-use and other goals and objectives, the associated management prescriptions, and standards and guidelines for attaining them.

MANAGEMENT EFFECTS	Physical, biological, social and economic responses to management practices.
MANAGEMENT EMPHASIS	A management practice or combination of management practices designed to stress production of a particular type of output or mix of outputs.
MANAGEMENT INTENSITY	A management practice or combination of management practices and associated costs designed to obtain different levels of goods and services.
MANAGEMENT OPPORTUNITY	A statement of general actions, measures, or treatments that address a public issue or management concern.
MANAGEMENT PRACTICE	A specific activity, measure, course of action, or treatment. Proposed management practices are those scheduled in the first decade of Forest Plan implementation. Probable management practices are those scheduled in the second decade of Forest Plan implementation.
MANAGEMENT PRESCRIPTION	Management practices and intensities selected and scheduled for application on a specific area to attain multiple use and other goals and objectives.
MANAGEMENT SITUATION-I	Situation I is defined as areas that "contain grizzly population centers and components needed for survival and recovery of the species".
MANAGEMENT SITUATION-II	Areas that lack distinct grizzly bear population centers and highly suitable habitat does not generally occur, although some habitat components exist and grizzly bears may be present on occasions.
MANAGEMENT SITUATION-III	Grizzly presence is possible but infrequent. Developments such as campgrounds, resorts or other high human use associated facilities make grizzly bear presence untenable for humans and/or grizzlies.
MANAGEMENT STANDARDS AND GUIDELINES	See Standard and Guideline.
MARKET VALUE	The unit price of an output normally exchanged in a market after at least one stage of production, expressed in terms of what people are willing to pay as evidenced by market transactions.
MATURE TIMBER	Individual trees or stands of trees that in general are at their maximum rate in terms of the physiological processes expressed as height, diameter, and volume growth.
MAXIMUM RESOURCE POTENTIAL	The maximum possible output of a given resource limited only by its inherent physical and biological characteristics.
MEAN ANNUAL INCREMENT	The total volume increase in a tree or stand of trees up to a given age, divided by that age.
MINERAL ENTRY	The filing of a mining claim on Federal land to obtain the right to mine any locatable minerals it may contain. Also the filing for a mill site on Federal land for the purpose of processing off-site locatable minerals.
MINERAL WITHDRAWAL	A formal designation by the Secretary of Interior which precludes entry or disposal of mineral commodities under the mining and/or mineral leasing laws.
MINERAL EXPLORATION	The search for valuable minerals.
MINERAL PRODUCTION	The extraction of mineral deposits.
MINERALS, COMMON VARIETY	Deposits of sand, stone, gravel, etc. of widespread occurrence and not having distinct or special value. These deposits are used generally for construction and decorative purposes and are disposed of under the Materials Act of 1947.
MINERALS, LEASABLE	Those minerals which are disposed of under authority of the various mineral leasing acts. Minerals include coal, oil, gas, phosphate, sodium, potassium, oil shale, sulfur (in Louisiana and New Mexico), and geothermal steam. On acquired lands, all minerals are leasable except those classified as common variety.

MINERALS, LOCATABLE	Those minerals on Public Domain lands which are disposed of under the general mining laws. Included are minerals such as gold, silver, lead, zinc and copper which are not classed as leasable or salable.
MINIMUM MANAGEMENT REQUIREMENTS	Standards for resource protection, vegetative manipulation, silviculturist practices, even-aged management, riparian areas, soil and water and diversity, to be met in accomplishing National Forest System goals and objectives (see 36 CFR 219.27).
MINIMUM RESOURCE STANDARDS	Specific conditions of individual resources which must be maintained in order to meet minimum management requirements (36 CFR 219.27) and/or other legal requirements.
MINERAL RIGHTS	*Mineral Rights outstanding* are third party rights, an interest in minerals not owned by the person or party conveying the land to the United States. It is an exception in the deed which is the result of a prior conveyance separating title of certain minerals from the surface estate. *Reserved Mineral Rights* are the retention of ownership of all or part of the mineral rights by a person or party conveying land to the United States. Conditions for the exercising of these rights have been defined in the Secretary's "Rules and Regulations to Govern Exercising of Mineral Rights Reserved in Conveyances to the United States" attached to an d made a part of deeds reserving mineral rights.
MINIMUM VIABLE	See Viable Population.
MINING CLAIMS	A geographic area of the public lands held under the general mining laws in which the right of exclusive possession is vested in the locator of a valuable mineral deposit. Includes lode claims, placer claims, mill sites and tunnel sites.
MITIGATE	To lessen the severity.
MITIGATION	Avoiding or minimizing impacts by limiting the degree or magnitude of the action and its implementation; rectifying the impact by repairing, rehabilitating, or restoring the affected environment; reducing or eliminating the impact by preservation and maintenance operations during the life of the action.
MODIFICATION (VQO)	See Visual Quality Objective (VQO).
MONITORING AND EVALUATION	The periodic evaluation on a sample basis of Forest Plan management practices to determine how well objectives have been met and how closely management standards have been applied.
MOUNTAIN PINE BEETLE	A species of Bark Beetle that spends the major portion of their life cycle in a tree's cambium layer. Through a combination of the insect feeding on the cambium layer and the introduction of fungi which stop the resin flow, the tree is girdled and killed.
MULTIPLE USE	The management of all the various renewable surface resources of the National Forest System so that they are utilized in the combination that will best meet the needs of the American people; making the most judicious use of the land for some or all of these resources or related services over areas large enough to provide sufficient latitude for periodic adjustments in use to conform to changing needs and conditions; that some lands will be used for less than all of the resources; and harmonious and coordinated management of the various resources, each with the other, without impairment of the productivity of the land, with consideration being given to the relative values of the various resources, and not necessarily the combination of uses that will give the greatest dollar return or the greatest unit output.
NATIONAL ENVIRONMENTAL POLICY ACT (NEPA)	An act which encourages productive and enjoyable harmony between man and his environment; promotes efforts to prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man; enriches the understanding of the ecological systems and natural resources important to the Nation; and establishes a Council on Environmental Quality.

NATIONAL FOREST LANDSCAPE MANAGEMENT SYSTEM	The planning and design of the visual aspects of multiple use land management in such ways that the visual effects maintain or upgrade man's psychological welfare.
NATIONAL FOREST MANAGEMENT ACT (NFMA)	A law passed in 1976 as amendments to the Forest and Rangeland Renewable Resources Planning Act that requires the preparation of Regional and Forest plans and the preparation of regulations to guide that development.
NATIONAL FOREST SYSTEM	All national forest lands reserved or withdrawn from the public domain of the United States, all national forest lands acquired through purchase, exchange, donation, or other means, the national grasslands and land utilization projects administered under Title III.
NATIONAL RECREATION TRAILS	Trails designated by the Secretary of the Interior or the Secretary of Agriculture as part of the national system of trails authorized by the National Trails System Act. National recreation trails provide a variety of outdoor recreation uses.
NATIONAL REGISTER OF HISTORIC PLACES	A listing maintained by the National Park Service of areas which have been designated as being of historical significance. The Register includes places of local and State significance as well as those of value to the Nation as a whole.
NATIONAL WILD AND SCENIC RIVER SYSTEM	Rivers with outstanding scenic, recreational, geologic, fish and wildlife, historic, cultural, or other similar values designated by Congress under the Wild and Scenic Rivers Act for preservation of their free-flowing condition.
NATIONAL WILDERNESS PRESERVATION SYSTEM	All lands covered by the Wilderness Act and subsequent wilderness designations, irrespective of the department or agency having jurisdiction.
NATURAL BARRIER	A natural feature that will restrict livestock movements such as a dense stand of trees or downfall; or a feature that will stop the spread of fire such as a talus slope, water course, or areas otherwise devoid of fuel.
NEPA	See National Environmental Policy Act.
NET PUBLIC BENEFITS	An expression used to signify the overall long-term value to the Nation of all outputs and positive effects (benefits) less all associated inputs and negative effects (costs) whether they can be quantitatively valued or not. Net public benefits are measured by both quantitative and qualitative criteria rather than a single measure or index. The maximization of net public benefits to be derived from management of units of the National Forest System is consistent with the principles of multiple use and sustained yield.
NFMA	See National Forest Management Act.
NO ACTION ALTERNATIVE	The management direction, activities, outputs, and effects that are likely to exist in the future if the current plan would continue unchanged.
NONCHARGEABLE VOLUME	All volume that is not included in the growth and yield projections for the selected management prescriptions used to arrive at the allowable sale quantity. It also includes all volume removed from nonsuitable lands.
NONCOMMODITY OUTPUTS	See Output, Nonmarket.
NONCONSUMPTIVE USE	Those uses of resources that do not reduce the supply. Nonconsumptive uses of water include hydroelectric power generation, boating, swimming, etc.
NONDECLINING FLOW	The principle that the quantity of timber planned for sale or harvest for any future decade must be equal to or greater than the planned sale and harvest for the preceding decade, and this planned sale and harvest for any decade is not greater than the long-term sustained yield capacity.
NONDECLINING YIELD	See Nondeclining Flow.
NONEXTRACTIVE USE	Use which does not remove a resource from its natural setting.

NONGAME	Species of animals which are not managed as a sport hunting resource.
NONPOINT SOURCE POLLUTION	Sources from which the pollutants discharged are: (1) induced by natural processes, including precipitation, seepage, percolation, and runoff; (2) not traceable to any discrete or identifiable facility and (3) better controlled through the utilization of Best Management Practices, including process and planning techniques. This includes natural pollution sources not directly or indirectly caused by man.
NONSTOCKED	A stand of trees or aggregation of stands that have a stocking level below the minimum specified for meeting the prescribed management objectives.
NO-SURFACE OCCUPANCY STIPULATION	A mineral lease clause which, if attached to a mineral lease, prohibits the lessee from constructing well pads or otherwise occupying the land surface unless, upon site-specific review, it is determined by the authorized officer that the requirements of the stipulation can be modified if other less stringent mitigation is determined to be sufficient to protect the other resources.
OBJECTIVE	A concise time-specific statement of measurable planned results that respond to preestablished goals. An objective forms the basis for further planning, to define the precise steps to be taken and the resources to be used in achieving identified goals.
OBJECTIVE FUNCTION	A term used in linear programming describing the criteria to be optimized. Examples of objective functions are: maximize present net value, minimize cost or maximize timber.
OFF-ROAD VEHICLE	Any vehicle capable of being operated off an established road or trail, e.g., motorbikes, four-wheel drives, and snowmobiles.
OFFSET DRILLING	To drill a well adjacent to a previously drilled well, usually in the adjacent spacing unit.
OLD GROWTH TIMBER	See Overmature Timber.
OPPORTUNITY COST	An opportunity cost is value foregone. In this analysis it is a cost calculated as the difference between present net value of the alternative and the present net value of the maximum PNV increment.
OPTIMUM	The greatest level of production that is consistent with other resource requirements as constrained by environmental, social and economically sound conditions.
OUTPOST WELL	An outpost well is a well drilled a distance from a production well than a step-out but still on the same structural trend. (Distance could be a couple of miles.)
OUTPUT	A good, service, or on-site use that is produced from forest and rangeland resources. Definitions of Forest and rangeland output definitions, codes and units measure are contained in the Management Information Handbook (FSH 1309.11). Examples are: X06-Softwood Sawtimber Production -- MBF; X80-Increased Water Yield -- Acre Feet; W01-Primitive Recreation Use --RVD's.
OUTPUT, CONTROLLED	The amount of an output which management has the legal and practical ability to control with management activities.
OUTPUT, DIRECT	An output that fulfills specified objectives of the policy, program, or project being evaluated.
OUTPUT, INDUCED	A good, service, or on-site use which is incidental to the objectives of the resource activity. An example is the timber harvest activity which produces a primary output of board feet of timber and an induced output of acres of improved wildlife habitat because of the harvest activity.
OUTPUT, MARKET	A good, service, or on-site use that can be purchased at a price.
OUTPUT, NON-CONTROLLED	The amount of an output which will occur regardless of management activity.

OUTPUT, NONMARKET	A good, service, or on-site use not normally exchanged in a market.
OUTPUT, PRIMARY	A good, service, or on-site use that results from the completion of an activity, project or program that meets the specific objectives of the resource. Examples are board feet of timber, recreation visitor days, etc.
OVER-THE-COUNTER SALE	The selling of Forest products without bidding, as requested by the general public, usually for products such as fuelwood, corral poles, ornamental shrubs, etc.
OVERMATURE TIMBER	Individual trees or stands of trees that in general are past their maximum rate in terms of the physiological processes expressed as height, diameter and volume growth.
OVERSTORY	That uppermost canopy of the forest when there is more than one level of vegetation.
OVERTHRUST BELT	A complex geologic feature, extending from Alaska to Mexico, which resulted from compressional stresses within the earth, and which is characterized by abundant thrust faults. This zone passes through and includes all of western Montana.
PARTIAL RETENTION (VQO)	See Visual Quality Objective (VQO).
PARTICULATES	Small particles suspended in the air and generally considered pollutants.
PATENTED MINING CLAIMS	A patent is a document which conveys title to land. When patented, a mining claim becomes private property and is land over which the United States has no property rights, except as may be reserved in the patent. After a mining claim is patented, the owner does not have to comply with requirements of the General Mining Law of 1872 or implementing regulations. But must still comply with State regulations.
PERENNIAL STREAMS	Streams that flow continuously throughout most years.
PAYMENT IN LIEU OF TAXES	Payments to local or State governments based on ownership of Federal land and not directly dependent on production of outputs or receipt sharing. Specifically, they include payments made under the Payments in Lieu of Taxes Act of 1976 by the U.S. Department of the Interior.
PERMITTED GRAZING	Use of a National Forest range allotment under the terms of a grazing permit.
PERSON YEAR (WORK YEAR)	A person year equals 2,087 hours of work time. A person year may be one person working yearlong or several persons filling seasonal positions.
PLAN OF OPERATIONS	A written plan describing mining and mineral processing activities that will likely cause a significant surface disturbance. The plan is prepared by those engaged in activities, such as prospecting, exploration or mining, in the National Forest. This plan must be approved by a Forest Officer.
PLANNED IGNITIONS	A fire started by a deliberate management action under an approved plan to meet specific resource objectives.
PLANNING AREA	The area of the National Forest System covered by a Regional or Forest Plan.
PLANNING CRITERIA	Standards, tests, rules, and guidelines by which the planning process is conducted and upon which judgments and decisions are based.
PLANNING HORIZON	The overall time period considered in the planning process that spans all activities covered in the analysis or plan and all future conditions and effects of proposed actions which would influence the planning decisions. In the National Forest planning process, this is 150 years.
PLANNING PERIOD	A time interval for which inputs and outputs are identified in a planning process. Current RPA and National Forest Plan intervals are 5 and 10 years, respectively.

PLANNING RECORDS	Documents and files that contain detailed information and decisions made in developing the Forest Plan. Available at the Forest Supervisor's Office.
PNV	See Present Net Value.
POLETIMBER TREES	Live trees of commercial species at least five inches in diameter at breast height but smaller than sawtimber size, and of good form and vigor.
POLICY	A guiding principle upon which is based a specific decision or set of decisions.
POTENTIALLY (TENTATIVELY) SUITABLE LAND	Forest land (as defined in CFR 219.3) for which technology is available that ensures timber production without irreversible resource damage to soils, productivity, or watershed conditions; for which there is reasonable assurance that such lands can be restocked (CFR 219.14); and which is available for timber management.
PRACTICE	See Management Practice.
PRECOMMERCIAL THINNING	The selective felling, deadening, or removal of trees in a young stand primarily to accelerate diameter increment on the remaining stems, maintain a specific stocking or stand density range, and improve the vigor and quality of the trees that remain.
PREDATOR	One that preys, destroys, or devours -- usually an animal that lives by preying on other animals.
PREHISTORIC SITE	Archaeologic sites associated with American Indians and usually occurring before contact with Europeans.
PREPARATORY CUT	Removal of trees near the end of a rotation so as to permanently open the canopy and enlarge the crowns of seed bearers, with a view to improving conditions for seed production and natural generation, as typically in shelterwood systems.
PRESCRIBED BURNING	The intentional application of fire to wildland fuels in either their natural or modified state under such conditions as allow the fire to be confined to a predetermined area and at the same time to produce the intensity of heat and rate of spread required to further certain planned objectives (i.e., silviculture, wildlife management, etc.).
PRESCRIBED FIRE	A fire burning under specified conditions which will accomplish planned objectives in strict compliance with an approved plan and the conditions under which the burning takes place and the expected results are specific, predictable, and measurable.
PRESCRIPTION	See Management Prescription.
PRESENT NET VALUE (PNV)	The difference between the discounted value (benefits) of all outputs to which monetary value or established market prices are assigned and the total discounted costs of managing the planning area.
PRESENT NET WORTH	The discounted value of price times quantity less cost.
PRESERVATION (VQO)	See Visual Quality Objectives (VQO).
PRESUPPRESSION	Activities required in advance of fire occurrence to ensure effective suppression action. Includes (1) recruiting and training fire forces; (2) planning and organizing attack methods; (3) procuring and maintaining fire equipment; and (4) maintaining structural improvements necessary for the fire program.
PREVENTION OF SIGNIFICANT DETERIORATION OF AIR QUALITY (PSD)	A classification established to preserve, protect, and enhance the air quality in National Wilderness Preservation System areas in existence prior to August 1977 and other areas of National significance, while ensuring economic growth can occur in a manner consistent with the preservation of existing clean air resources. Specific emission limitations and other measures, by class, are detailed in the Clean Air Act (42 U.S.C. 1875 et 15q.).
PRICED OUTPUTS	Resource outputs that have market or assigned dollar values.

PRIMARY RANGE	Areas which animals prefer to use and over which they will graze when management is limited. The area on which overuse will occur before secondary range is used when animals are allowed to shift for themselves.
PRIMITIVE RECREATION SETTING	A classification of the recreation opportunity spectrum that characterizes an essentially unmodified natural environment of a size or remoteness that provide significant opportunity for isolation from the signs and sounds of man and a feeling of vastness of scale. Visitors have opportunity to be part of the natural environment, encounter a high degree of challenge and use a maximum of outdoor skills but have minimum opportunity for social interaction.
PRIMITIVE ROADS	Roads that came into existence with little regard for grade or drainage control, or were abandoned facilities from some prior use. They are sometimes created merely by repeated driving over an area. Such roads are rarely, if ever, maintained and then only by users. These roads are single lane, usually with native surfacing, and sometimes passable with four-wheel drive vehicles only, especially in wet weather.
PRIMITIVE SETTING	A large area (generally at least 5,000 acres) at least three miles from all roads, railroads or trails with motorized use. The area is essentially a natural environment unmodified by man.
PRODUCTION POTENTIAL	The capability of the land or water to produce life-sustaining features (forage, cover, aquatics).
PRODUCTIVITY	See Site Productivity.
PROGRAM DEVELOPMENT AND BUDGETING	The process by which activities for the Forest are proposed and funded.
PROPOSED ACTION	In terms of the National Environmental Policy Act, the project, activity, or action that a Federal agency intends to implement or undertake and which is the subject of an environmental analysis.
PRUNING	The removal of live or dead branches from standing trees.
PUBLIC ACCESS	Usually refers to a road or trail route over which a public agency claims a right-of-way available for public use.
PUBLIC INVOLVEMENT	A Forest Service process designed to broaden the information base upon which agency decisions are made by (1) Informing the public about Forest Service activities, plans, and decisions, and (2) Encouraging public understanding about and participation in the planning processes which lead to final decision making.
PUBLIC ISSUE	A subject or question of widespread public interest identified through public participation relating to management of National Forest System lands.
RANGE ALLOTMENT	A designated area of land available for livestock grazing upon which a specified number and kind of livestock may be grazed under a range allotment management plan. It is the basic land unit used to facilitate management of the range resource on National Forest System and associated lands administered by the Forest Service.
RANGE BETTERMENT FUNDS	Funds established by Title IV, section 401 (b)(1), of the Federal Land Policy and Management Act of 1976 to be used for range improvement. This consists of 50 percent of all money received by the United States as fees for grazing livestock on the National Forests in the 16 contiguous western States.
RANGE PRIMARY	See Primary Range.
RANGE SECONDARY	See Secondary Range.
RANGE, TRANSITORY	See Transitory Range.
RANGE IMPROVEMENT, NONSTRUCTURAL	Any practice designed to improve range condition or facilitate more efficient utilization of the range.

RANGE IMPROVEMENT, STRUCTURAL	Any structure or excavation to facilitate management of range or livestock.
RANGELAND	Land on which the climax vegetation (potential natural plant community) is predominantly grasses, grasslike plants, forbs, or shrubs suitable for grazing and browsing. It includes natural grasslands, savannas, many wetlands, some deserts, tundra, and certain forb and shrub communities. It also includes areas seeded to native or adapted introduced species that are managed like native vegetation.
RANGER DISTRICT	Administrative subdivision of the Forest supervised by a District Ranger.
RARE II	See Roadless Area Review and Evaluation II.
REAL DOLLAR	A monetary value that compensates for inflation.
RECEIPTS	Money collected from timber stumpage, livestock grazing, campgrounds, special use permits, and oil and gas lease rentals and royalties, and returned to the federal treasury.
RECORD OF DECISION	A document separate from but associated with an environmental impact statement that publicly and officially discloses the responsible official's decision on the proposed action.
RECREATION CAPACITY	The number of people that can take advantage of a recreation opportunity at any one time without substantially diminishing the quality of the experience sought after.
RECREATION EXPERIENCE LEVEL	A concept used in recreation management to delineate the range of opportunities for satisfying basic recreation needs of people. A scale of five experience levels ranging from "primitive" to "highly developed" is planned for the National Forest System.
RECREATION INFORMATION MANAGEMENT (RIM)	The Forest Service system for recording recreation facility condition and use.
RECREATION LIVESTOCK USE	The use of an area by animals, such as horses and mules, which are used primarily in conjunction with recreation activities.
RECREATION OPPORTUNITIES	The combination of recreation settings, activities, and experiences provided by the Forest.
RECREATION OPPORTUNITY GUIDE	A catalogue describing the recreation activities available on a particular Ranger District.
RECREATION OPPORTUNITY SPECTRUM (ROS)	A system for planning and managing recreation resources that recognizes recreation activity opportunities, recreation settings, and recreation experiences along a spectrum or continuum.
RECREATION PREFERENCE TYPE (RPT)	A term used to indicate the types of recreation experiences sought after by Forest users. They are overlapping portions of the total recreation preferences spectrum that the public may express demands for. RPT I. Orientations toward using natural, unmodified environment for the appreciation and understanding of natural phenomena; as a source of intellectual and/or physical challenges; for seeking solitude; and for esthetic stimulations. RPT II. Orientations toward using natural or semiprimitive environment in searching for and extraction of indigenous fish and/or game species, rocks, minerals, edible plants, etc., and for enjoyment of the physical surroundings in which such extractable objects are found. RPT III. Orientations toward using semiprimitive, lightly developed areas for relaxing in natural surroundings; as a source of tranquility and freedom from tension; and for esthetic stimulation.

	RPT IV. Orientation toward using moderately developed areas and surrounding environment for intentional social interaction and group learning experiences.
	RPT V. Orientations toward using highly developed areas for social interactions with many other people and for pursuits which allow for the expression of learned physical abilities.
RECREATION RESIDENCE	A house or cabin on National Forest land for seasonal recreational use that is not the primary residence of the owner.
RECREATION TYPES	*Developed Recreation* -- The type of recreation that occurs where modifications (improvements) enhance recreation opportunities and accommodate intensive recreation activities in a defined area.
	Dispersed Recreation --That type of recreation use related to and in conjunction with roads and trails that requires few if any improvements and may occur over a wide area. Activities tend to be day-use oriented and include hunting, fishing, berrypicking, off-road vehicle use, hiking, horseback riding, picnicking, camping, viewing scenery, snowmobiling, and many others.
RECREATION VISITOR DAY (RVD)	One visitor day equals 12 hours (one person for 12 hours, or 12 people for 1 hour, or any combination thereof).
REDUCED SERVICE MANAGEMENT	The administration, operation and maintenance of developed recreation sites to established standards with the objective to meet minimum health and safety needs of the visitor and keep the site open to public use.
REFORESTATION	The renewal of forest cover by seeding, planting and natural means.
REGENERATION	The renewal of a tree crop, whether by natural or artificial means. This term may also refer to the crop itself.
REGIONAL FORESTER	The official responsible for administering a single Region of the Forest Service.
REGIONAL GUIDE	A document developed to meet the requirements of the Forest and Rangeland Renewable Resources Planning Act of 1974, as amended, that guides all natural resource management activities and established management standards and guidelines for National Forest System lands of a given Region to the Forests within a given Region. It also disaggregates the RPA objectives assigned to the Region to the Forests within that Region.
REGULATED	The commercial forest land that is organized for timber production under the principle of sustained yield. The harvest of timber from this land is regulated to achieve multiple long range objectives, such as maintaining setting for recreational activities, rotating forage production areas and wildlife habitat, increasing water production yield and increasing the growth and utilization of timber for the Nation's supply.
REGULATIONS	Refers to the Code of Federal Regulations for implementing the National Forest Management Act, 36 CFR, Part 219.
RENEWABLE RESOURCES	Resources that are possible to use indefinitely, when the use rate does not exceed the ability to renew the supply. However, in the RPA program, the term is used to describe those matters within the scope of responsibilities and authorities of the Forest Service as required by the Forest and Rangeland Renewable Resources Planning Act of 1974. Consequently, the renewable resources include: timber, range, minerals; wildlife and fish, water, recreation, and wilderness.
RENEWABLE RESOURCES ASSESSMENT	An appraisal of the Nation's renewable resources that recognizes their vital importance and the necessity for long-term planning and associated program development. The Assessment meets the requirements of Section 3 of the Forest and Rangeland Renewable Resources Planning Act and includes analysis of present and anticipated uses, demands, and supplies of the renewable resources; a description of Forest Service programs and responsibilities; and a discussion of policy considerations, laws, and regulations.

RENEWABLE RESOURCES PROGRAM	The program for management and administration of the National Forest Service System, for Research, for Cooperative State and Private Forest Service programs, and for conduct of other Forest Service activities in accordance with Section 4 of the Forest and Rangeland Renewable Resources Planning Act.
RESOURCE ALLOCATION MODEL	A mathematical model using linear programming which will assign prescriptions to land areas and schedule implementation of those prescriptions simultaneously. The end purpose of the model is to find a schedule and prescription assignment that meets the goals of the Forest and optimizes some objective function such as "maximize PNV".
RESOURCE ELEMENT	A collection of activities from the various operating programs required to accomplish the Forest Service mission and which fulfill statutory or Executive requirements. There are seven resource elements: Recreation, Wilderness, Wildlife and Fish, Range, Timber, Water, and Minerals.
RESEARCH NATURAL AREA	An area in as near a natural condition as possible, which exemplifies typical or unique vegetation and associated biotic, soil, geologic, and aquatic features. The area is set aside to preserve a representative sample of an ecological community primarily for scientific and educational purposes; commercial and general public use is not allowed.
RETENTION (VQO)	See Visual Quality Objectives (VQO).
RIDING AND HIKING AREAS	Three specific areas identified in the Ashland Unit Plan in which special management requirements were developed in to preserve the area's characteristics for recreation purposes.
RIGHT-OF-WAY	Land authorized to be used or occupied for the construction, operation, maintenance, and termination of a project facility passing over, upon, under, or through such land.
RIPARIAN AREAS	Areas with distinctive resource values and characteristics that are comprised of an aquatic ecosystem and adjacent upland areas that have direct relationships with the aquatic system. This includes floodplains, wetlands, and all areas within a horizontal distance of approximately 100 feet from the normal high water line of a stream channel, or from the shoreline of a standing body of water.
RIPARIAN ECOSYSTEM	A transition between the aquatic ecosystem and the adjacent upland terrestrial ecosystem. It is identified by soil characteristics and by distinctive vegetative communities that require free or unbounded water.
ROAD CREDITS	Credits earned by timber purchasers and which are applied toward the sale price of timber in exchange for building the roads needed for access.
ROAD MAINTENANCE LEVELS	Road maintenance levels are as follows: Level 1: Basic custodial care as required to protect the road investment and to see that damage to adjacent land and resources is held to a minimum. The road is not normally open to traffic. Level 2: Same basic maintenance as Level 1 plus logging out, brushing out, and restoring the road prism as necessary to provide passage. Route markers and regulation signs are in place and useable. Road is open for limited passage of traffic, which is usually administrative use, permitted use, and/or specialized traffic. Level 3: Road is maintained for safe and moderately convenient travel suitable for passenger cars. Road is open for public travel, but has low traffic volumes except during short periods of time (e.g. hunting season). Level 4: At this level, more consideration is given to the comfort of the user. Road is usually surfaced with aggregate or is paved and is open for public travel. Level 5: Safety and comfort are important considerations for these roads which are open to public traffic and generally receive fairly heavy use (100 Average Daily Traffic or more). Roads have an aggregate surface or are paved.

ROAD MANAGEMENT	The combination of both traffic and maintenance management operations. Traffic management is the continuous process of analyzing, controlling and regulating uses to accomplish National Forest objectives. Maintenance management is the perpetuation of the transportation facility to serve intended management objectives.
ROADED NATURAL APPEARING RECREATION SETTING	A classification on the recreation opportunity spectrum where timber harvest or other surface use practices are evident. Motorized vehicles are permitted on all or parts of the road system.
ROADLESS AREA	A National Forest area which (1) is larger than 5000 acres or, if smaller than 5000 acres, contiguous to a designated wilderness or primitive area; (2) contains no roads and (3) has been inventoried by the Forest Service for possible inclusion in the wilderness preservation system.
ROADLESS AREA REVIEW AND EVALUATION (RARE) II	A comprehensive process, instituted in June 1977, to identify roadless and undeveloped land areas in the National Forest System and to develop alternatives for both wilderness and other resource management.
ROTATION	The planned number of years between the formation or generation of trees and their harvest at a specified stage of maturity.
ROUNDWOOD	The volume of logs or other round products required to produce lumber, plywood, woodpulp, paper, or other similar products.
RPA	See Forest and Rangeland Renewable Resources Planning Act of 1974.
RURAL RECREATION SETTING	A classification on the recreation opportunity spectrum that is characterized by substantially modified natural environment. Resource modification and utilization practices are to enhance specific recreation activities and to maintain vegetative cover and soil. Sights and sounds of humans are readily evident, and the interaction between users is often moderate to high.
SALE SCHEDULE	See Base Sale Schedule.
SALVAGE HARVEST	The cutting of trees that are dead, dying, or deteriorating (e.g., because they are overmature or materially damaged by fire, wind, insects, fungi, or other injurious agencies) before they lose their commercial value as sawtimber.
SANITATION HARVEST	The removal of dead, damaged, or susceptible trees, essential to prevent the spread of pests or pathogens and so promote forest hygiene.
SAWTIMBER	Trees containing at least one 12-foot sawlog or two noncontiguous 8-foot logs, and meeting regional specifications for freedom from defect. Softwood trees must be at least 9 inches in diameter and hardwood trees 11 inches in diameter at breast height.
SCENIC EASEMENT	A legal interest in the land of another which allows the easement holder specified uses or rights without actual ownership of the land; in this case, control of the use of land adjacent to public highways, parks, and rivers. It may provide something attractive to look at with in the easement area, an open area to look through to see something attractive beyond the easement itself, or a screen to block out an unsightly view beyond the easement area.
SCOPING PROCESS	An early and open process for determining the scope of issues to be addressed and for identifying the significant issues related to the proposed action. Identifying the significant environmental issues deserving of study and deemphasizing insignificant issues, narrowing the scope of the environmental impact statement accordingly. (Ref. CEQ regulations, 40 CFR 1501.7).
SCORIA	Porcellanite, one of the Salable minerals. Used widely for surfacing roads. Produced by nature through the pre-historic burning of coal/shale beds.
SEDIMENT	Solid material, both mineral and organic, that is in suspension, being transported, or has been moved from its site of origin by air, water, gravity, or ice.

SEED TREE CUTTING

The removal in one cut of most of the mature trees from an area, leaving only a small number of desirable trees to provide seed for regeneration.

SEEDLING/SAPLING

A size category for forest stands in which trees less than five inches in diameter are the predominant vegetation.

SEISMIC EXPLORATION

Seismic exploration is used to map underground geological features to obtain information on the earth's subsurface and to locate areas where accumulations of oil and gas might occur.

Seismic waves, generated at or near the surface, penetrate the earth's crust and reflect from subsurface rock layers back to the surface. The geophysicist receives a printed record or seismograph from which is measured the depth to various strata and from which subsurface structures with a potential for oil and gas accumulation can be determined such as faults, anticlines, and folds.

Portable -- Where access limitations, topography, or other restraints prevent use of trucks, portable operations can be performed. Two portable techniques exist for collecting data.

These are:

(1) Surface charge programs involve the detonation of a series of as much as ten-five pound charges to 25-50 pounds of explosives at shot points located at intervals along the seismic line. Surface charges can be placed directly on the ground, on snow, or on a variety of stakes or platforms. All necessary equipment to conduct the operation is transported by helicopters and then conveyed by foot travel.

(2) Various kinds of portable drills can be backpacked or delivered by helicopter to the area. A shallow subsurface portable program would involve drilling a pattern of approximately 16 holes, about 4 inches in diameter up to 50 feet deep, per mile of line. At this depth, a 10 to 40 pound charge of explosive is placed and detonated. Recording cables and geophones are laid out by foot travel.

With both of these portable techniques, shock waves generated by detonation are received and transmitted via geophones and cable to a recording device. Portable methods are generally used on more difficult terrain.

Conventional -- The conventional method of collecting seismic data includes the use of truck-mounted drills and vehicle-supported crews and generally involves off-road travel. This technique involves drilling 5 to 18 5-inch diameter holes per mile to a depth of 180 to 200 feet. At this depth, a 10 to 50 pound explosive charge is placed and detonated. Shock waves are received and transmitted via geophones and cable to a truck-mounted recording device. Due to terrain restrictions, this method has limited application on the Forest.

Vibroseis -- The vibroseis technique involves using truck-mounted hydraulic pads which generate energy waves through vibration rather than explosives. The vibrator method typically consists of four large trucks each equipped with a vibrator (a steel slab weighing about three tons) mounted between the front and back wheels. The vibrator pads (about 4 feet square) are lowered to the ground and vibrators on all trucks are triggered electronically from the recorder truck. Energy waves are received and transmitted via cable and geophones to a recorder truck. After the information is recorded, the trucks move forward a short distance and the process is repeated. The vibroseis operation is usually limited to roads and gentle terrain.

SELECTION CUTTING

The annual or periodic removal of trees as part of an uneven-age silvicultural system. Cutting can involve individual trees or small groups of trees to meet a predetermined goal of size and species composition in the remaining stand.

SEMI-PRIMITIVE RECREATION SETTING

A classification on the recreation opportunity spectrum that characterizes a predominately natural or natural appearing environment of a moderate to large size. Concentration of users is low, but there is often evidence of other area users. The area is managed in such a way that minimum onsite controls and restrictions may be present, but are subtle.

SENSITIVE SPECIES	Those plant or animal species which are susceptible or vulnerable to activity impacts or habitat alterations.
SEQUENTIAL BOUNDS	A set of constraints used in linear program models to establish the relationship of the quantity of an output to preceding and succeeding quantities of that output (e.g. the forage production in one time period cannot increase or decrease over ten percent from the forage production of the previous time period).
SERAL	A biotic community which is developmental; a transitory stage in an ecologic succession.
SHELTERWOOD CUTTING	The removal of a stand of trees through a series of cuttings designed to establish a new crop with seed and protection provided by a portion of the stand.
SILVICULTURAL EXAMINATION	The process used to gather the detailed in-place field data needed to determine management opportunities and direction for the timber resource within a small subdivision of a forest area such as a stand.
SILVICULTURAL PRESCRIPTION	The description of the stand and those cultural practices that are needed to manage the stand. The prescription may include direction for reforestation, thinning, weeding, or a variety of harvest systems to bring the stand into the desired condition.
SILVICULTURAL SYSTEMS	A management process whereby forests are tended, harvested, and replaced, resulting in a forest of distinctive form. It includes all cultural management practices performed during the life of the stand such as regeneration cutting, fertilization thinning, improvement cutting, and use of genetically improved tree seeds and seedlings to achieve multiple resource benefits. Systems are classified according to the method of carrying out the fellings that remove the mature crop and provide for regeneration and according to the type of Forest they produce.
SITE PREPARATION	A general term for a variety of activities that remove competing vegetation, slash, and other debris that may inhibit the reforestation effort.
SITE PRODUCTIVITY	Production capability of specific areas of land.
SLASH	The residue left on the ground after felling and other silvicultural operations and/or accumulating there as a result of storm, fire, girdling, or poisoning of trees.
SMALL GAME	Birds and small mammals normally hunted or trapped.
SNAG	A standing dead tree usually greater than 5 feet in height and 6 inches in diameter at breast height.
SOCIAL ORGANIZATION	The structure of a society described in terms of institutions, community cohesion, and community stability.
SOCIAL VARIABLE	A variable that measures the social impact of Forest Service management alternatives. Examples include population statistics, types of institutions, and personal opinion as reflected in attitudes or as demonstrated by behavior.
SOIL PRODUCTIVITY	The capacity of a soil to produce a specific crop such as fiber and forage, under defined levels of management. It is generally dependent on available soil moisture and nutrients and length of growing season.
SPATIAL FITTING	The computed-designated prescriptions state certain production values. Spatial fitting involves locating on the ground specific land areas suitable for various prescriptions within the various defined physiographic areas.
SPECIAL STIPULATIONS	Terms and conditions of use attached to leases where needed to protect specific resources or uses on National Forest System lands.
SPECIAL-USE PERMIT	A permit issued under established laws and regulations to an individual, organization, or company for occupancy or use of National Forest land for some special purpose.
STAGNATION	A condition where plant growth is markedly reduced or even arrested through, e.g., competition, state of the soil, or disease.

STAND	A community of trees or other vegetative growth occupying a specific area and sufficiently uniform in composition (species), age, spatial arrangement, and conditions as to be distinguishable from the other growth on adjoining lands, so forming a silvicultural or management entity.
STANDARD AND GUIDELINE	An indication or outline of policy or conduct.
STEP-OUT WELL	A well drilled adjacent to or near a proven well to ascertain the limits of the oil or gas reservoir. An outpost is a well drilled a further distance from a step-out but still on the same structural trend.(Distance could be a couple of miles.)
STIPULATIONS	Requirements that are part of the terms of a mineral lease. Some stipulations are standard on all Federal leases. Other stipulations may be applied to the lease at the discretion of the surface management agency to protect valuable surface resources and uses.
STOCKING	A measure of timber stand density as it relates to the optimum or desired density to achieve a given management objective.
STREAM ORDER	A measure of the position of a stream in the hierarchy of tributaries. (Stream as referenced here refers to perennial streams.) a. First-order streams are unbranched streams, that is they have no tributaries. b. Second-order streams are formed by the confluence of two or more first-order streams. They are considered second-order until they join another second-order or larger stream. c. Third-order streams are formed by the confluence of two or more second-order streams. They are considered third-order until they join another third-order or larger stream. Areas of previously undeveloped land divided into individual homesites and/or blocks of lots with streets or roads and open spaces.
SUBDIVISIONS	Areas of previously undeveloped land divided into individual homesites and/or blocks of lots with streets or roads and open spaces.
SUCCESSIONAL STAG	A phase in the gradual supplanting of one community of plants by another.
SUITABILITY	The appropriateness of applying certain resource management practices to a particular area of land, as determined by an analysis of the economic and environmental consequences and the alternative uses foregone. A unit of land may be suitable for a variety of individual or combined management practices.
SUITABILITY ANALYSIS	Process of identifying National Forest lands to be managed for timber production. Stage I identifies the biologically capable, administratively available, and technically suitable lands. Stage II consists of an economic analysis of costs and benefits of timber management on the lands identified in Stage I. Stage III provides the final assignment of suitable lands based on Forest objectives and economic efficiency.
SUITABLE FOREST LAND	Forest land (as defined in CFR 219.3) for which technology is available that will ensure timber production without irreversible resource damage to soils, productivity, or watershed conditions; for which there is reasonable assurance that such lands can be adequately restocked (as provided in CFR 219.14); and for which there is management direction that indicates that timber production is an appropriate use of that area.
SUPPLY	The amount of an output that producers are willing to provide at a specific price, time period, and conditions of sale.
SUPPORT ELEMENT	A collection of major Forest Service activities which complement the resource elements. There are five support elements: Protection, Lands, Soils, Facilities and Rural Community and Human Resources.
SUPPRESSION (FIRE SUPPRESSION)	Any act taken to slow, stop, or extinguish a fire. Examples of suppression activities include fireline construction, backfiring, and application of water or chemical fire retardants.
SYSTEM ROADS	See Forest System Road.

TARGET	A quantifiable output assigned to the Forest.
TEMPORARY ROAD	Those roads needed only for the purchaser or permittee's use. The Forest Service and the purchaser or permittee must agree to the location and clearing widths. Temporary roads are used for a single, short-term use, e.g to haul timber from landings to Forest development roads, access to build water developments, etc.
THERMAL COVER	Cover used by animals to ameliorate chilling effects of weather; for elk, a stand of coniferous trees 40 feet or taller with an average crown closure of 70 percent or more.
THREATENED AND ENDANGERED SPECIES	Any species, plant of animal, which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range. Threatened species are identified by the Secretary of the Interior in accordance with the 1973 Endangered Species Act.
THREE-STEP SHELTERWOOD	An even-aged silvicultural system in which the old crop (the shelterwood) is removed in three successive cuttings in order to provide a source of seed and/or protection for regeneration.
TIERING	Refers to the elimination of repetitive discussions of the same issue by incorporating by reference the general discussion in an environmental impact statement of broader scope. For example, a project environmental assessment could be tiered to the Forest Plan EIS.
TIMBER	A general term for the major woody growth of vegetation in a forest area.
TIMBER BASE	The lands within the Forest that are suitable for timber production.
TIMBER PRODUCTION	The purposeful growing, tending, harvesting, and regeneration of rotational crops of trees to be cut into logs, bolts, or other round sections for industrial or consumer use. For purposes of Forest planning, timber production does not include production of fuelwood or harvest from unsuitable lands.
TIMBER STAND IMPROVEMENT (TSI)	All noncommercial intermediate cuttings and other treatments to improve composition, condition, and volume growth of a timber stand.
TRAILHEAD	The parking, signing, and other facilities available at the terminus of a trail.
TRANSITORY RANGE	Land that is suitable for grazing use for a period of time. For example, on particular disturbed lands, grass may cover the area for a period of time before being replaced by trees or shrubs not suitable for forage.
TREE OPENING	An opening in the Forest cover created by the application of even-aged silvicultural practices. The Northern Regional Guide established size limitations and guidelines to determine when cut areas are no longer considered openings.
TRESPASS	The act of going on another's land or property unlawfully.
TWO-STEP SHELTERWOOD	An even-aged silvicultural system in which the old crop (shelterwood) is removed in two successive cuttings in order to provide a source of seed and/or protection for regeneration.
UNDERSTORY	The trees and other woody species which grow under a more or less continuous cover of branches and foliage formed collectively by the upper portion of adjacent trees and other woody growth.
UNEVEN-AGED MANAGEMENT	The application of a combination of actions needed to simultaneously maintain continuous high-forest cover, recurring regeneration of desirable species, and the orderly growth and development of trees through a range of diameter or age classes to provide a sustained yield of forest products. Cutting is usually regulated by specifying the number or proportion of trees of particular sizes to retain within each area, thereby maintaining a planned distribution of size classes. Cutting methods that develop and maintain uneven-aged stands are single-tree selection and group selection. Individual Tree Selection Cutting -- The removal of selected trees from specified size and age classes over the entire stand area in order to meet a predetermined goal of size or age distribution and species composition in the remaining stand.

	Group Selection Cutting -- The removal of small groups of trees to meet a predetermined goal of size distribution and species in the remaining stand.
UNPLANNED IGNITIONS	A fire started at random by either natural or human causes, or a deliberate incendiary fire. Acceptance of unplanned ignitions as a prescribed fire must be within an approved plan.
UNREGULATED HARVEST	This harvest is not charged against the allowable sale quantity. It includes occasional volumes removed that were not recognized in calculations of the allowable sale quantity, such as cull or dead material and noncommercial species and products. It also includes all volume removed from unsuitable areas. Harvests from unsuitable areas will be programmed as needed to meet multiple use objectives other than timber production and for improvement of administrative sites.
UNSUITABLE TIMBER LAND	Lands not selected for timber production in Step II and III of the suitability analysis during the development of the Forest Plan due to (1) the multiple-use objectives for the alternative preclude timber production, (2) other management objectives for the alternative limit timber production activities to the point where management requirements set forth in 36 CFR 219.27 cannot be met and (3) the lands are not cost-efficient over the planning horizon in meeting forest objectives that include timber production. Land not appropriate for timber production shall be designated as unsuitable in the Forest Plan.
UTILITY CORRIDOR	See Corridor
UTILIZATION STANDARDS	Standards guiding the use and removal of timber. They are measured in terms of diameter at breast height (d.b.h.) and top of the tree inside the bark (top d.i.b.) and the percentages of "soundness" of the wood.
VALUE, MARKET	The unit price of an output normally exchanged in a market after at least one stage of production, expressed in terms of what people are willing to pay as evidenced by market transactions.
VALUE, NONMARKET	The unit price of an output not normally exchanged in a market after at least one stage before consumption, and thus must be imputed from other economic information.
VEGETATION TREATMENT	Any activities undertaken to modify the existing condition of the vegetation.
VIABLE POPULATION	A population which has adequate numbers and dispersion of reproductive individuals to ensure the continued existence of the species population in the planning area.
VISITOR INFORMATION SERVICE (VIS) SITE	A site which provides interpretative information, (directional, historical, statistical) located at Forest historical sites, overlook sites, or special interest areas.
VISUAL QUALITY OBJECTIVE (VQO)	A desired level of scenic quality and diversity of natural features based on physical and sociological characteristics of an area. Refers to the degree of acceptable alterations of the characteristic landscape. Preservation: In general, human activities are not detectable to the visitor. Retention: Human activities are not evident to the casual Forest visitor. Partial Retention: Human activities may be evident, but must remain subordinate to the characteristic landscape. Modification: Human activity may dominate the characteristic landscape but must, at the same time, utilize naturally established form, line, color, and texture. It should appear as a natural occurrence when viewed in middle-ground or background. Maximum Modification: Human activity may dominate the characteristic landscape, but should appear as a natural occurrence when viewed as background.

	Enhancement: A short-term management alternative which is done with the express purpose of increasing positive visual variety where little variety now exists.
VISUAL RESOURCE	The composite of basic terrain, geologic features, water features, vegetative patterns, and land use effects that typify a land unit and influence the visual appeal the unit may have for visitors.
WALLOW	A depression, pool of water, or wet area produced or utilized by elk or moose during the breeding season.
WATER YIELD	The measured output of the Forest's streams.
WATER YIELD INCREASE	Additional water released to the Forest streams as a result of Forest management activities.
WEEDING	Generally a cultural operation eliminating or suppressing undisturbed vegetation, mainly herbaceous, during the seedling stage of a forest crop, thus reducing competition with the seedling stand.
WET AREAS	Sites, often occurring at the heads of drainages, such as wet sedge meadows, bogs, or seeps. They are often referred to as "moist sites" and are very important components of elk summer range. Sites near water are important because the forage they produce is highly nutritious and heavily utilized by elk.
WETLANDS	Those areas that are inundated by surface or ground water with a frequency sufficient, under normal circumstances, to support a prevalence of vegetative or aquatic life that requires saturated or seasonally saturated soil conditions for growth and reproduction. Wetlands include marshes, bogs, sloughs, potholes, river overflows, mud flats, wet meadows, seeps, and springs.
WILDERNESS	Federal land retaining its primeval character and influence without permanent improvements or human habitation as defined under the 1964 Wilderness Act. It is protected and managed so as to preserve its natural conditions which (1) generally appear to have been affected primarily by forces of nature with the imprint of man's activity substantially unnoticeable; (2) has outstanding opportunities for solitude or a primitive and confined type of recreation; (3) has at least 5,000 acres or is of sufficient size to make practical its preservation, enjoyment, and use in an unimpaired condition, and (4) may contain features of scientific, educational, scenic, or historical value as well as ecologic and geologic interest.
WILDERNESS STUDY	An analysis to determine an area's appropriateness, cost, and benefits for addition to the National Wilderness Preservation System.
WITHDRAWAL	An order removing specific land areas from availability for certain uses.
WOODY DRAWS	A classification of areas, particularly in grassland settings, where an overstory of woody vegetation in small drainages creates habitat for many wildlife species and shade/wind protection and forage for livestock. The vegetation is a result of higher moisture conditions than in the surrounding area but surface water if any, running thru the area is generally short term.
WORK YEAR EQUIVALENTS	This is 2,087 working hours. May be accomplished by one persons working yearlong or several people filling seasonal positions.
YARDING	The operation of hauling timber from the stump to a collecting point.
ZONE OF INFLUENCE	A delineated geographic area within which the present and proposed actions exert an important influence on residents and visitors.

APPENDIX I
CUSTER NATIONAL FOREST SUMMARY OF TIMBER INFORMATION AND TEN YEAR SALE SCHEDULE

Section 1 shows the land classification for the Custer National Forest. Section 2 shows the vegetative management practices. Section 3 shows the timber productivity classification. Section 4 shows the allowable sale quantity and timber sale program. Section 5 shows the present and future Forest condition. Section 6 shows the present Ten Year Timber Sale Schedule.

SECTION 1

LAND CLASSIFICATION SUMMARY

Ecosystems information identified in Unit Plans and in data collected for updating the 10-Year Timber Management Plan is used to determine timber suitability on the Forest. Following is the net acreage of the Forest according to its status classification:

Status	Net Acres
Custer (NF lands)	1,185,682
Denbigh Purchase Unit	596
Souris Purchase Unit	160
Cedar River NG	6,717
Grand River NG	155,370
Little Missouri NG	1,027,852
Sheyenne NG	70,180
Denbigh Exp. Forest	40
Total	2,446,542

Of the 2,446,542 acres on the Forest, only 1,185,682 acres are National Forest lands and available for consideration for the production of timber (only 156,731 acres are tentatively suitable for timber production). The rest of the lands that make up the Custer National Forest are either National Grasslands acquired by the Bankhead-Jones Farm Tenant Act or acquired for other specific purposes and are not designated for timber production.

Nonforest land was identified as all nonforested ecosystems as defined in Unit Plans. These ecosystems were based on habitat type information where available. Others were defined by various Forest specialists as listed in the Unit Plans. Lands not capable of producing industrial wood were determined before September 30, 1982.

Additional criteria were:

- Noncommercial photo-interpretative types which occur on Douglas- fir and ponderosa pine/bunchgrass habitat types (Pfister and others, 1977).

Identification of Lands Suitable for Timber Production	Acres
1. Nonforest land (Includes water)	506,804
2. Forest land	678,878
3. Land withdrawn from timber production	61,280
4. Forest land not capable of producing industrial wood	300,428
5. Forest land physically unsuitable	
--irreversible damage likely to occur	20,402
--not restockable within 5 years	140,037
6. Forest land -- inadequate information	0
7. Tentatively suitable forest land	156,731
8. Forest land not appropriate for timber production	
--multiple use objective	79,331
9. Unsuitable forest land	601,478
10. Total suitable forest land	77,400
11. Total national forest land	1,185,682

- Upper subalpine lands often forested, but with very slow growth and thus not capable of producing 20 cubic feet/acre/year.

- Technologically unsuitable lands include those which are available and capable, but have severe regeneration problems. They are on land types with shallow limestone soils or in rockland ecosystems with little soil development. These lands are presently forested, but there is no assurance that they could ever be regenerated except by natural means over a period of 50 to 100 years.

SECTION 2

VEGETATION MANAGEMENT PRACTICES

All vegetative management practices on forested lands will be preceded by a silvicultural examination, an on the ground analysis of the area, and a site-specific prescription written or reviewed by a certified silviculturist. The prescription process considers direction and objectives set forth in this appendix, Chapter II and III, site-specific factors, and a review of the applicable technical and scientific literature, as well as practical experience. The prescription will detail the actual vegetative manipulation to be implemented on a case-by-case basis. The standards for all silvicultural systems in the Northern Regional Guide will also be used in determining the silvicultural system to be implemented.

Silvicultural systems appropriate by habitat type are displayed at the end of this section. The silvicultural system is based on descriptions in "Forest Habitat Types of Montana," May 1977, Pfister et. al. On-the-ground examination may determine that other silvicultural systems are appropriate as approved by a certified silviculturist.

The silvicultural prescription process is a concurrent activity with the interdisciplinary team process in preparing projects. Prescriptions are formulated within Forest Plan guidance to achieve specific objectives of management areas. The full range of silvicultural systems (individual tree selection to clearcut) are available for use on the Custer National Forest. The selected vegetative management practices for individual sites will comply with management requirements listed in 36 CFR 219.27(b).

Refer to Chapters II and IV of the Final EIS for a complete discussion of silvicultural systems and environmental effects.

A. Clearcutting

Clearcutting, as a silvicultural system, will be employed to harvest timber under this plan. The method is selected on the basis of the physical and biological site factors, existing timber types, as well as overall economics. Clearcutting will be selected only when it is determined to be the optimal silvicultural system.

Clearcutting allows considerable flexibility in determining the character and composition of future timber stands. The species, degree of stocking, etc. can be controlled with various silvicultural techniques. This is especially useful in situations where existing stands are occupied by less valuable and undesirable species, or the current species composition is at high risk for losses due to insects or disease.

The clearcutting method, in general, is the most economical harvest system to employee. Since all merchantable timber is removed, the volume and value per acre treated and accessed is maximized.

Fuels treatment and subsequent silvicultural treatments are also less costly than with other systems, since there is a residual stand to be protected.

Clearcutting can be detrimental if applied to sites where physical conditions will change to extremes of heat and cold if the forest cover is totally removed. In these cases, regeneration efforts can be difficult and costly. Clearcutting may also be the most effective harvest method to achieve the desired multiple-use objectives of a stand. An example is a big game winter range where clearcutting is the most successful system for maximizing growth of suitable browse vegetation.

Following are general descriptions of sites and situations when clearcutting may be selected as the optimal harvesting method. Not all possible sites and situations are listed, however, since site-specific, on the ground analysis may identify situations where clearcutting may be the optimal method and conditions do not meet those in the following descriptions. It is also probable that clearcutting may not be the optimal method for all the lands that fit these broad descriptions.

- The moisture and temperature regimes of the site, following clearing, will be favorable for regenerating the desired species. In general, north and east aspects fit this category but conditions can vary by geographic location.

- The existing stand is stocked with species that are not desired in the regenerated stand because of disease or insect susceptibility, or the physiological condition of the existing overstory is such that natural regeneration is unlikely to occur.

- The change in forested appearance created by the harvest opening does not conflict with objectives for visual management.

- Management objectives for the area can be better achieved by clearing all of the trees in one operation (e.g., increasing browse and forage for wildlife or livestock).

B. Shelterwood

The shelterwood silvicultural system will also be used to harvest timber under this plan. In a shelterwood system, the basic objective is to have the second crop of trees started on a site, before all of the standing timber is removed.

Shelterwood systems are used in situations where the physical site conditions created by clearcutting would be too harsh for tree regeneration or would not be favorable to the establishment and growth of the desired species. The residual stand provides protection from temperature extremes or the site and modifies the climatic factors in general. The shelterwood system also offers the opportunity to reduce regeneration costs, if factors are suitable for establishing natural regeneration from the seed source provided by the residual stand.

Shelterwood systems can also be the most effective means of achieving multiple-use objectives in some instances. One example are those cases where visual quality objectives are retention or partial retention. In many cases the larger, more commercially valuable trees are left standing after the initial harvest entry. This reduces the volume and value per acre removed in the initial harvest entry, thereby increasing the unit costs of access and harvesting in many cases.

Once regeneration is established, removal of the residual stand requires careful harvest planning and implementation to protect the new crop of trees.

Following is a list of general factors that will be considered when determining whether or not the shelterwood system will be applied to a specific site. A site-specific silvicultural prescription may consider additional factors and timber sale conditions.

- The existing stand is stocked with species that are desired in the regenerated stand and the physiological condition of the trees is such that seed production and successful regeneration are likely to occur.

- The moisture regimes and temperatures on the site are such that without some shading and cover, conditions will become too harsh for tree regeneration. South and west aspects generally fit into this category, but conditions can vary by location.

- Management objectives for the area can best be achieved by maintaining some tree cover on the site until regeneration is established.

In prescribing shelterwood harvest methods, consideration will be given to future harvests required. The feasibility of removing the residual overstory from an established stand of seedlings, effectiveness of site preparation/slash treatment, and options such as artificial shading shall be considered when prescribing shelterwood harvests.

C. Selection Harvests

Individual tree and group selection harvest methods may be applicable to certain combinations of timber management and other resource objectives identified by the land assignments in this Plan. The most probable situations for implementing these silvicultural systems would be in riparian areas and in areas with visual quality objectives of retention or partial retention. Selection harvest methods should be evaluated when harvesting is scheduled in areas with these resource objectives.

The existing timber types, stand conditions and site characteristics are also critical factors that will be evaluated when considering the applicability of uneven-aged systems. Stands with high percentages of low vigor trees with little seed producing potential and species highly susceptible to disease and insect damage are examples of situations where uneven-aged management may not meet overall objectives.

D. Intermediate Harvests

Intermediate harvests such as commercial thinnings will generally be prescribed only in stands that have not reached the culmination of mean annual increment. Salvage or sanitation harvests may be considered as intermediate treatments in stands that have already culminated in growth, but cannot be harvested and regenerated because of multiple use constraints on scheduling (maintaining wildlife cover). This treatment may be considered in lodgepole pine stands that are considered high risk for mountain pine beetle infestation.

E. Timber Stand Improvement

Precommercial thinning, clearing, and weeding treatments will be used on sapling-sized stands where stocking exceeds the level necessary to meet the future stand objectives. Thinnings will be designed to promote stand diversity, while maintaining stand growth and yield projections at levels prescribed in the management prescriptions.

F. Reforestation

All cutover sites will be planned for regeneration. Hand planting may be prescribed in shelterwood units when natural regeneration is unlikely or expected to be inadequate to meet required stocking levels, or species change is needed. Natural regeneration may be prescribed, primarily in shelterwood units where regeneration is likely to occur within 5 years.

G. Silvicultural System by Habitat Type

The following silvicultural systems will generally be used. Selection harvest systems may be used in any of the following habitat types to achieve multiple use objectives such as improvement of wildlife habitat, maintaining the desired visual condition, or other objectives that are not aimed at optimizing timber growth.

Habitat Type	Appropriate Silvicultural Practice
PF/Agsp.	selection
PF/Feid	selection
Feid phase	selection
PF/Juco	selection
PP/Andr	selection
PP/Agap	selection
PP/Feid	selection
Feid phase	selection
PP/Syal	selection or shelterwood
Syal phase	selection or shelterwood
Bere phase	selection or shelterwood
PP/Prvi	clearcut, shelterwood, or seedtree
Prvi phase	clearcut, shelterwood, or seedtree
DF/Agsp	selection
DF/Feid	selection
DF/Phma	clearcut, shelterwood, or seedtree
Phma phase	clearcut, shelterwood, or seedtree
Caru	clearcut, shelterwood, or seedtree
DF/Vagl	clearcut, shelterwood, or seedtree
Vagl phase	clearcut, shelterwood, or seedtree
DF/Syal	clearcut, shelterwood, or seedtree
Caru phase	clearcut, shelterwood, or seedtree
Syal phase	clearcut, shelterwood, or seedtree
DF/Caru	clearcut, shelterwood, or seedtree
DF/Cage	clearcut, shelterwood, or seedtree
DF/Spbe	clearcut, shelterwood, or seedtree

Habitat Type	Appropriate Silvicultural Practice
DF/Aruv	clearcut, shelterwood, or seedtree
DF/Juco	shelterwood
DF/Arco	shelterwood
S/Phma	clearcut
S/Sest	clearcut
S/Libo	clearcut
S/Smst	clearcut
AF/Gatr	clearcut, shelterwood, or seedtree
Gatr phase	clearcut, shelterwood, or seedtree
AF/Libo	clearcut, shelterwood, or seedtree
Libo phase	clearcut, shelterwood, or seedtree
Xete phase	clearcut, shelterwood, or seedtree
AF/Vagl	clearcut, shelterwood, or seedtree
AF/Vasc	clearcut, shelterwood, or seedtree
Vasc phase	clearcut, shelterwood, or seedtree
AF/Alsi	clearcut
Af/Caru	clearcut
AF/Clps	shelterwood
AF/Arco	clearcut, shelterwood, or seedtree
AF/Rimo	shelterwood
AF/(WBP)/Vasc	selection
WBP-AF	selection
WBP	selection

SECTION 3

TIMBER PRODUCTIVITY CLASSIFICATION

Potential Growth (cubic feet/acre/year)	Suitable Lands (acres) [1]	Unsuitable Lands (acres) [2]
Less than 20	5,630	169,601
20 to 49	71,770	133,050
50-84	0	0
85-119	0	0
120-164	0	0
165-224	0	0
225+	0	0

SECTION 4

ALLOWABLE SALE QUANTITY AND LONG-TERM SUSTAINED YIELD CAPACITY

The Long-Term Sustained Yield Capacity (LTSY) for the Forest is 1.8 MMCF per year. Following is the Allowable Sale Quantity (ASQ) by 5-year period. (Volumes are in average annual.)

5-Year Period	ASQ MMCF	LTSY MMCF	ASQ MMBF	LTSY MMBF
1	.8	1.8	3.0	6.4
2	.8	1.8	3.0	6.4
3	.8	1.8	3.0	6.4
4	.8	1.8	3.0	6.4
5	.8	1.8	3.0	6.4
6	.8	1.8	3.0	6.4
7	.8	1.8	3.0	6.4
8	.8	1.8	3.0	6.4
9	.8	1.8	3.0	6.4
10	.8	1.8	3.0	6.4
11	.8	1.8	3.0	6.4
12	.8	1.8	3.0	6.4
13	.8	1.8	3.0	6.4
14	.8	1.8	3.0	6.4

SECTION 5

PRESENT AND FUTURE FOREST CONDITIONS

	Unit of Measure	Suitable Land	Unsuitable Land
Present Forest Growing Stock	MMCF	54.9	189.1[3]
	MMBF	192.2	662.0[3]
Live Cull	MMCF	NA	9.7[3]
	MMBF	NA	34.0[3]
Salvagable dead	MMCF	NA	24.0[3]
	MMBF	NA	84.0[3]
Annual Net Growth	MMCF	1.0[2]	-1,076.5[3]
	MMBF	3.6[2]	-3,767.8[3]
Annual Mortality	MMCF	NA	11.5[3]
	MMBF	NA	40.3[3]
Future Forest: Growing Stock	MMCF	63.3	
	MMBF	221.6	
Annual Net Growth	MMCF	1.3	
	MMBF	4.5	
Rotation age	Years[1]	90 to 120	

Age Class Distribution (% of suitable land)

Age Class	Present Forest	Future Forest
0-39	24.7	18.2
40-89	12.7	15.6
90-119	45.7	20.6
120-149	16.3	8.5
150+	0.6	37.1

[1] Average rotation age for regenerated stands on lands with timber emphasis.
[2] Does not take into account acres of harvest for period one.
[3] Numbers are based on previous inventory statistics (1966) and are only an estimate of what current FORPLAN outputs might be.
NA denotes information that is not available.

SECTION 6

TIMBER SALE PROGRAM FOR FY 1986-1995

The sale schedule will be annually updated to reflect new on-the-ground information and management changes, and as the first year is implemented a new tenth year will be added.

Fiscal Year 1986 Sale Name	Location	Mgmt. Area	Acres	Volume (MMBF)	Road Miles C	Road Miles R	Probable Harvest Method & Type
Stagville	T1N,R58E	G,D	270	1.6	.5	4.5	SW,ST,OR,Gr.Sel
Davis Prong	T6S,R44E	G,B	100	.6	0	0	SW,ST
Camps Pass	T35N,R47E	G	320	1.1	.2	5.3	SW,ST,Sel,OR
Small Sales				.7			

Fiscal Year 1987 Sale Name	Location	Mgmt. Area	Acres	Volume (MMBF)	Road Miles C	Road Miles R	Probable Harvest Method & Type
Park	T1N,R58E	G,D	180	.8	1	3	SW,ST,OR,Gr.Sel
Green Creek	T25,R17E	D	220	1.5	5.3	0	SW,ST,OR
Small Sales				.7			

Fiscal Year 1988 Sale Name	Location	Mgmt. Area	Acres	Volume (MMBF)	Road Miles C	Road Miles R	Probable Harvest Method & Type
Ward	T25,R61E	G,D	250	1.7	2	4.5	SW,ST,OR,Gr.Sel.
Hay Creek	T55,R443	G	200	1.1	.5	2.0	SW,OR,Sel.
Small Sales				.6			

Fiscal Year 1989 Sale Name	Location	Mgmt. Area	Acres	Volume (MMBF)	Road Miles C	Road Miles R	Probable Harvest Method & Type
Cub Creek	T7S,R45E	G	450	1.8	2	3	SW,ST,OR,Gr.Sel.
Dead Horse	T5S,R47E	G	200	.8	.5	3	SW,ST,OR,Gr.Sel.
Small Sales				.7			

Fiscal Year 1990 Sale Name	Location	Mgmt. Area	Acres	Volume (MMBF)	Road Miles C	Road Miles R	Probable Harvest Method & Type
Opeeche	T25,R58E	G	300	1.5	5.0	1	SW,ST,OR,Gr.Sel.
Fly-Wilbur	T35,R47E	D	300	1.2	.5	4	SW,ST,OR,Gr.Sel.
Small Sales				.5			

Fiscal Year 1991 Sale Name	Location	Mgmt. Area	Acres	Volume (MMBF)	Road Miles C	Road Miles R	Probable Harvest Method & Type
One Cook	T25,R45E	G,B	450	1.8	2	2	SW,ST,OR
Small Sales				.5			

Fiscal Year 1992 Sale Name	Location	Mgmt. Area	Acres	Volume (MMBF)	Road Miles C	Road Miles R	Probable Harvest Method & Type
Gundlach	T25,R58,59E	G,D	300	1.5	0	2	SW,ST,OR,Gr.Sel.
Small Sales				1.3			

Fiscal Year 1993 Sale Name	Location	Mgmt. Area	Acres	Volume (MMBF)	Road Miles C	Road Miles R	Probable Harvest Method & Type
Timber Creek	T65,R43E	G,B	375	1.5	0	3	SW,ST,OR
Small Sales				1.1			

Fiscal Year 1994 Sale Name	Location	Mgmt. Area	Acres	Volume (MMBF)	Road Miles C	Road Miles R	Probable Harvest Method & Type
Trenk	T1S,R57E	D	300	1.4	.5	4.0	SW,ST,OR,Gr.Sel.
Paget Sound	T45,R45E	D	375	1.5	1.0	3.0	SW,ST,OR
	T45,R44E						
	T55,R44E						
	T55,R45E						
Small Sales				.4			

Fiscal Year 1995 Sale Name	Location	Mgmt. Area	Acres	Volume (MMBF)	Road Miles C	Road Miles R	Probable Harvest Method & Type
Liscom Butte	T15,R46E	D	400	2.0	2	3	SW,ST,OR
Small Sales				.7			

Fiscal Year 1996 Sale Name	Location	Mgmt. Area	Acres	Volume (MMBF)	Road Miles C	Road Miles R	Probable Harvest Method & Type
Maverick	T25,R61E	D	425	1.7	.5	2	SW,ST,OR
	T35,R61E						
Small Sales				1.3			

10-YR. TOTAL	**29.8 MMBF (FY87 — FY96)**	
AVERAGE	**2.98 MMBF/YR**	

SW denotes Shelter Wood harvest
ST denotes Seed Tree harvest
OR denotes Overstory Removal harvest
Grp.Sel denotes Group Selection harvest
Sel. denotes Selection harvest

APPENDIX II

WILDERNESS MANAGEMENT DIRECTION
Absaroka-Beartooth Management Plan

INTRODUCTION

This appendix is intended to highlight the specific management direction developed in the Absaroka-Beartooth Wilderness Management Plan, a document prepared jointly by the Gallatin and Custer National Forests.

Copies of this document are available at the Supervisor's Offices of the Gallatin and Custer National Forest.

This appendix is useful as a quick reference to much of the specific direction in the A-B Management Plan but cannot substitute for the full plan in many respects. Readers are encouraged to consult the full A-B Management Plan to understand the issues being addressed, the management context, the rationale for specific management decisions, and the objectives of the specific management approaches.

The Absaroka and Beartooth Mountains that characterize the A-B Wilderness are two distinct mountain ranges with differing characteristics. For one example, the Absaroka Range is less rugged, and contains more grass and trees on lower, gentle slopes. The Beartooth Range is more high, rocky, and often barren. To adequately address the different problems associated with the two ranges, two separate management units have been identified.

An Interim A-B Plan was first put into effect in April of 1981. Since then and as a result of the forest planning effort, the management direction in this original document was revised with an addendum dated November, 1982. With these changes, the Interim A-B Plan was retitled the "A-B Wilderness Management Plan" and became the official management direction for the wilderness.

Also included is management direction on livestock grazing in wilderness areas. The last item in this appendix is the House of Representative Report 96-1126 of June 24, 1981. This is the most recent direction available, and is reprinted as it appeared in Forest Service Manual 2323.2, including the Manual's introduction.

MANAGEMENT DIRECTION FROM "ABSAROKA-BEARTOOTH WILDERNESS MANAGEMENT PLAN" (NOVEMBER 1982)

1. Water, Air, and Soils

Water, air, and soil quality will be monitored. Corrective action will be taken where degradation from other than natural causes occurs.

The effects of air pollution on the Wilderness caused by potential forest activities outside will be addressed in the environmental analysis process.

2. Fish and Wildlife

Management of fish and wildlife will be guided by FSM 2611.1-17, 4/79, R-1 Supp. 47, Memorandum of Understanding between the Montana Department of Fish, Wildlife and Parks and the Forest Service.

Fish stocking will be allowed to continue in lakes stocked prior to wilderness designation.

Barren lakes, not previously stocked, may be considered for stocking after it has been mutually (Forest Service - Montana Department of Fish, Wildlife and Parks) agreed and an environmental analysis conducted to identify the effect on scientific value and effects on the wilderness resource.

The collection of fish spawn, when needed by the Montana Department of Fish, Wildlife and Parks, will be allowed in accordance with the Memorandum of Understanding.

The Beartooth High Lakes Fisheries Analysis will be used as guidance in developing a fisheries program for the Wilderness.

Grizzly bears will be managed in accordance with the "Guidelines for Grizzly Bear Management in the Greater Yellowstone Area" and Forest guidelines or policy as they are developed.

Bighorn sheep populations will be monitored. Through the environmental analysis process, other land uses that could negatively impact the bighorn sheep population (i.e.location of grazing, trails, camps for management of livestock, and recreation uses) will be coordinated.

The North Yellowstone migratory elk herd uses approximately 2,900 acres of the Absaroka-Beartooth Wilderness for winter range. This area can probably winter 670 elk based on an estimated production of 500 lb. of forage per acre.

The herd will continue to be monitored to confirm or refine these figures. Monitoring will be under the Tri-Agency Cooperative Agreement for Elk Herd Management.

If elk herd numbers cannot be maintained, the potential to increase the forage yield in the Wilderness through habitat improvement will be assessed.

3. Vegetation

A fire management plan has been developed which restores natural fire to the Wilderness.

All feed that is packed into the Wilderness will be either certified weed free or processed feed (i.e. pelletized).

Visitors will be encouraged to remove burs and weed seeds from stock prior to entering the Wilderness. This will be accomplished through brochures and at trail-head information centers.

Develop a program of noxious weed control. Only the Chief of the Forest Service may approve such programs.

Maintenance of wilderness values will be a top priority in forage allocation.

4. Cultural Resources

Complete cultural resource reconnaissance survey.

Nominate significant sites to the National Register of Historic Places as appropriate (FSM 2360). However, designated sites will not be publicized.

Historical structures will be maintained as necessary to comply with Executive Order 11593 and National Historic Preservation Act of 1966 as amended.

5. Recreation

a. East unit

To increase solitude, group size will be limited to 15 people. Pack and saddle stock will be limited to three head per person to a maximum of 15 head of stock per trip.

In areas with limited forage, it will be encouraged that horses be grazed at least 200 feet from lakes and 100 feet from live streams.

Camps and campfires will be located 200 feet from lake shores, and 100 feet from live streams in the Rosebud and Rock Creek drainages.

Grazing of pack and saddle stock is restricted as follows:

- No open grazing in the Main Fork and Lake Fork and West Fork of Rock Creek and tributaries or in East Rosebud and West Rosebud and their tributaries.

Pack and saddle stock are not permitted on West Rosebud and Basin Lakes trails until fall deer and elk rifle season.

b. West Unit

Group size will be limited to 15 people or less. Pack and saddle stock will be limited to three head per person to a maximum of 25 head of stock per trip. District Rangers may approve greater numbers on a case-by-case basis.

From the Woodbine trail-head to the south end of Sioux Charley Lake, camps and campfires will be located at least 200 feet from lakes and 100 feet from streams.

c. Both Units

To indirectly distribute use:

- Users will be advised of high, moderate, and low use trail-heads through a map/brochure on the A-B Wilderness.

- Additional trail-head access will be acquired. Such access will avoid key wildlife areas.

For pack and saddle stock handling refer to section on Outfitters and Guides, Livestock Handling, (i) through (v).

All campsite improvements must be temporary in nature and will be removed after each public use.

Areas receiving continual use will be identified and a record will be maintained of such sites on code-a-site cards. Before such sites reach a deteriorated condition, they will be signed as closed or rehabilitated.

Revegetation of damaged sites will be with native plant species.

The maximum length of occupancy at one campsite is 15 days.

Grizzly bear occurrence and recreational use will be monitored to determine potential conflict areas on a seasonal case-by-case basis. Persons encountering bears will be encouraged to report to the Gardiner District Ranger the following:

- Sightings of grizzly bears, location of sightings, activities, and description of bears.

- Human encounter incidents.

- Confrontations with bears requiring evasive action to avoid contact.

- Any known deaths of bears, cause, and location.

To minimize the potential for bear/human conflicts, users will be encouraged to follow directions established in "Greater Yellowstone Grizzly Bear Guidelines" and Forest guidelines or policy as they are developed. All pets will be under the physical or voice control of their owners while in the A-B Wilderness. Forage will be allocated to protect wilderness values.

In some areas, grass is limited making it necessary to pack feed for stock. Those users prefer-

ring to pack feed are required to use processed feed or weed free hay only.

People will be encouraged (via brochures, trail-head information stations and contacts) to camp 200 feet from lake shores, 100 feet from live streams, and 15 feet from intermittent stream channels.

6. Outfitters and Guides

a. East Unit

All campsite improvements will be temporary in nature. All improvements will be dismantled at the end of the permitted use period and the native materials will be stacked horizontally out of view. Non-native materials will be removed from the National Forest.

No live trees may be cut for construction of improvements. No standing dead or green tree will be notched to facilitate the erection of an improvement.

No nails or wire will be used to fasten improvements to standing live or dead trees.

Equipment and supplies may not be cached during times other than the permitted period of occupancy except as noted in camp management plan.

Corral size will be limited to that necessary to meet actual need but in no case will the size exceed 1/3 acre. Only dead or down timber may be used to construct corrals. If standing materials are used, poles should be cut in such a manner that the absence from the stand is not conspicuous. Rope corrals are acceptable. Corrals will be located using the same criteria specified for camp locations. Sites should be well-drained and have hard ground where damage to trees, roots, and other vegetation will be minimized. Corrals will be allowed when authorized in conjunction with an approved "Outfitter Operations Management Plan."

Hitch-racks and hitch-ropes should be located using the same criteria outlined for locating corrals. Construction should prevent lateral slipping of halter ropes which allows the livestock to damage live trees.

Maximum size of parties including the outfitter and employees will be 15. Saddle and pack stock will be limited to three head per member of the party subject to a maximum of 15 head of stock per trip. Parties of less than five may utilize four head of stock per party member to a maximum of 15 head per trip. District Rangers may approve larger size parties on a case-by-case basis. Handling of stock will be accomplished through operation management plan and special permits.

b. West Unit

Most camp facilities will be temporary and shall be dismantled and stored out of sight at the end of the permitted use period. These include such things as tent frames, toilets, and nonfeed storage facilities. Non-native equipment and materials transported into the Wilderness will be taken out at the end of the season. Permanent horse handling facilities may be specified in the outfitter operation management plan if needed to reduce the impact on the wilderness resource. These facilities will normally be limited to a corral, hitch rack, and feed storage cache.

Live trees may be cut for use in the construction of improvements and for clearing purposes at the site of the improvements. Advanced approval of the District Ranger is required and trees will be marked by a forest officer. No standing dead or live trees will be notched to facilitate the erection of an improvement.

No nails or wire will be used to fasten improvements to standing live or dead trees.

Equipment and supplies may not be cached during times other than the permitted period of occupancy. The exception to this direction is that the large cook stoves (Monarch and Majestic) now in use may be permitted to remain in use and cached in the A-B Wilderness until the end of the 1990 authorized use season. Other stove caches will be permitted through the 1983 season. All other unauthorized cached materials must be removed by the end of the 1983 use season. One permanent horse feed cache will be allowed at each outfitter's base camp. It will consist of one 55 gallon barrel or similar container buried flush with the ground, the top of which may protrude no greater than four inches above the ground. Benches and table tops built of native materials may be stored along with the poles in a place authorized by the District Ranger.

Corral size will be limited to that necessary to meet actual need but in no case will the size exceed 1/3 acre. Rope corrals may be used but will be removed at the end of each use season. Semi-permanent pole corrals may be allowed if they are authorized in conjunction with an approved "Outfitter Operations Management Plan." Standing, downed, live, or dead trees may be used to construct the corrals. A forest officer will mark trees for cutting. If standing materials are used, poles should be cut in such a manner that the absence from the stand is inconspicuous. Corrals will generally meet guidelines for construction in operation management plan.

Corrals will be located using the same criteria specified for camp locations. Sites should be well-drained where damage to trees, roots, and other vegetation will be minimized.

Hitch-racks and hitch-ropes should be located using the same criteria outlined for locating corrals. Construction should prevent lateral slipping of halter ropes which allows the livestock to damage live trees.

Maximum size of parties including the outfitter and employees will be 15. Saddle and pack stock will be limited to three head per member of the party subject to a maximum of 25 head of stock per trip. Parties of less than five may utilize four head per party member. District rangers may approve larger size parties and a greater number of horses on a case-by-case basis.

Loose herding of stock is the desired method of grazing livestock provided the forage is available and the use can be confined to designated forage use areas.

Stock restrained on pickets or stakes will be moved frequently to prevent overuse of the forage and trampling of the site. As a rule of thumb, stock should be moved when the forage use is apparent. Pickets or stakes driven into the ground will be removed promptly.

c. Both Units

The A-B Outfitters and Forest Service representatives will meet annually to resolve problems and insure consistent administration.

Outfitter camps will be located a minimum of 200 feet from system trails and out of the foreground view if topographic or vegetative screening is available.

Outfitter camps will be located a minimum of 200 feet from lakeshore, 100 feet from live streams and 15 feet from intermittent stream channels.

Garbage and refuse will be completely burned. All unburnable material will be packed out of the wilderness.

Toilet pits will be intermittently covered with a layer of loose soil and will be covered with 12 inches of packed earth when use is terminated. The layer of packed soil will not extend above the surrounding ground level.

Loose trailing of pack stock or un-ridden saddle stock will not be permitted except at times and locations where it would be hazardous to have the livestock tied in a string.

Pack and saddle stock may be tied to trees for short periods provided rope and rub damage to the bark and trampling damage to the roots is not likely to occur. Hitch-racks or hitch-ropes will be utilized if stock is to remain tied for longer periods. No stock will be tied to live trees in camp.

Pack and saddle stock may not be held within 200 feet of lakeshores, 100 feet of live streams, and 15 feet of intermittent stream channels.

Outfitters and public will be encouraged to remove burs and other noxious weed seeds from stock prior to entering the Wilderness.

Planned livestock use will be shown on the Outfitter-Guide Permit.

Permittees required to provide supplemental or full feed in lieu of grazing will use processed feed or certified weed free hay.

Outfitter operating management plans will be prepared for all outfitter campsites. These plans as a minimum will specify type of authorized improvements, location of improvements, period of use and livestock handling practices.

Outfitters will utilize practices which minimize the possibility of grizzly bear/human encounters. Within areas delineated as Management Situation #1 habitat conflicts between the wilderness user and grizzly, bears will be resolved in favor of the bears. Conflicts outside Management Situation #1 will be resolved in accordance with Forest policy on grizzly bear management.

The Greater Yellowstone Outfitters Plan (GYOP) will reflect new direction or changes in direction established in this plan.

New permits will be at the discretion of the District Ranger after coordinating with adjacent Districts (even if proposed use is only in one district).

Range inventories will be completed and grazing allocations will be made as described in the section, Domestic Livestock Grazing.

Existing outfitter-guide camps not meeting the criteria outlined in this section will be corrected to make their use compatible with the A-B Wilderness. Corrections will be completed by September 30, 1985.

Outfitter-guide spike camps (see definition, GYOP) in the A-B Wilderness must be approved by the District Ranger. They will be unreserved and must be available for use on a "first-come, first-served" basis.

In cases where an outfitter's operation is impacted by natural fire an effort will be made to relocate the base camp.

For situations and definitions not covered in this direction, refer to the GYOP and FSM 2721.53, Outfitters and Guides.

7. Other Special Uses

Recreation residence permits held by William Nuessle and the Billings Cabin Club, located near Sioux Charlie Lake on the Stillwater River, will be terminated on December 31, 1999. Within one year after the termination, the holders will remove the improvements associated with the two permits. The concrete foundations may be left in place, but all other improvements must be removed. During the term of these permits, no additional construction will be allowed, but the holders will be permitted to maintain the cabins for structural safety. Should the cabins be destroyed or rendered essentially unusable from any cause, reconstruction will not be permitted.

The existing dam and reservoir at Glacier Lake under permit held by the State of Montana, and

that portion of the Mystic Lake hydroelectric project under permit to Montana Power Company, are consistent with the Wilderness Act direction and will be retained and continued.

Motorized equipment used on/to unpatented mining claims may be allowed if the need for that form of access is valid.

An environmental assessment (EA) or environmental impact statement (EIS) will be filed on all proposed access that will require alteration of the wilderness landscape. This EA or EIS will specify mitigation measures necessary to minimize the impacts of such use.

8. Livestock Grazing

Inventory the range resource and allocate available forage and space by the following priority:

- Plant reserves as well as for soil and watershed protection.
- Wildlife needs.
- Domestic livestock grazing on established grazing allotments.
- Forest Service administrative pack and saddlestock.
- Outfitter-guide and public pack and saddlestock.

Institute a system to control grazing of pack stock when necessary.

When forage is no longer available for recreation stock, the area will be signed as closed to grazing.

Domestic sheep and cattle grazing will be managed under allotment management plans in accordance with FSM 2323 which gives direction for livestock grazing in wilderness.

Allotment management plans will specifically identify:

- The use of motor vehicles, motorized equipment, or other forms of mechanical equipment.
- Range improvement structures and installations to be maintained, constructed, or reconstructed in achieving range management objectives, including maintenance standards.
- The means to handle emergencies.
- The grazing system to be followed.

The "Guidelines for Grizzly Bear Management in Greater Yellowstone Area" and Forest grizzly bear guidelines will be the basis for resolutions of any conflicts between domestic livestock and grizzly bears.

Grazing of recreation pack and saddle stock is addressed in the section on "Recreation." Grazing of outfitter-guide pack and saddle stock is addressed in the section on "Outfitters and Guides."

9. Prospecting, Mining

The wilderness has been withdrawn from mineral entry but on existing mining claims, prospecting and mining activities which may cause surface disturbance require an operating plan, including the following: Exploration where significant surface disturbance will occur, use of motorized equipment, motorized access, aircraft drop, or proposed aircraft landing. This plan will specify who is doing the work, where and when it will be done, why motorized equipment is needed, and what measures will be taken to protect other resources. The Forest Service will then prepare an environmental analysis on the proposed operating plan.

A performance bond and reclamation of disturbed land will be required.

All prospecting and mining applications, proposals, and operating plans will be evaluated to determine the effect of the proposed activity on the grizzly bear. Actions will be coordinated with the "Guidelines for Grizzly Bear Management in the Greater Yellowstone Area" within Management Situation #1. A biological review will be conducted of all proposed activities.

10. Private Land Within Wilderness

Private land within the wilderness will be purchased or exchanged as it becomes available.

States or persons and their successors in interest, who own land completely surrounded by the Wilderness shall be given such rights as may be necessary to ensure adequate access to that land (FSM 2320.3-6).

11. Fire

A prescribed fire plan for the A-B Wilderness has been developed and is available for review in the Supervisor's Offices on the Gallatin and Custer National Forests and at local Ranger Stations.

Briefly the objectives and constraints in this fire management plan are;

To allow some lightning fires to burn under prescribed conditions for perpetuation of the Absaroka-Beartooth Wilderness ecosystem.

These objectives include:

The maintenance of vegetative mosaics that are a result of fire.

The maintenance of plant/animal relationships that have evolved with fire.

The maintenance of genetic traits that certain species of vegetation have developed in response to fire.

The maintenance of dead and living fuels in a natural state of continuity, arrangement, depth, and loading.

A public awareness that fire is a natural

and essential component of wilderness ecosystems.

Constraints associated with the plan require immediate suppression action if fires:

are man caused,

become a threat to private land, human life, and property,

will cause irreparable damage to administrative, historical, or archeological sites, or structures,

threaten lands or resources outside wilderness boundaries,

exceed fire danger prescriptions at ignition.

12. Transportation System

An environmental analysis and transportation analysis will be completed assessing the need for public access within each of the following drainages. All the resources and impacts will be considered. Public involvement as well as coordination with the Department of Fish, Wildlife, and Parks will be included. If the environmental analysis supports a need for access, it will be limited to that necessary to meet the public need. The policy will be to acquire easements in lieu of fee. Access will be considered in the following drainages:

Hawley Creek
Red Lodge Creek
Mission Creek
Pine Creek
Emigrant Creek
Little Rocky Creek
Sixmile Creek
Palmer Creek

One access will be considered between Pine Creek and the East Fork of Mill Creek.

A transportation plan for the A-B Wilderness has been developed and identifies the existing and proposed trail system, access points, trail-heads, and parking areas.

A system will be established to monitor use of trails (i.e. a series of electric-eye counters).

The level of trail maintenance will vary with the amount, kind, and type of desired use (see Trails Handbook, FSH 7709.12, for the trail cleaning standards).

Available trail-head parking will be limited to the carrying capacity of the area served by the parking facility.

Trail systems accessing areas of essential grizzly habitat will be monitored to evaluate probability of bear/human encounters to determine need for warning signs, closures (temporary or permanent) to human "use" or relocation of trails to reduce threat to life and property and loss of grizzlies. (Refer to "Recreation" section for monitoring system.)

Regularly used nonsystem trails will be inventoried and evaluated for addition to the transportation system.

Bridges may be constructed when any of the following conditions exist:

No other reasonable route is available.

When crossing during the primary season of public use:

--Cannot be safely negotiated on foot.
--Cannot be safely forded by horses.
--Where less formal devices are frequently destroyed or damaged by flood waters.

Where necessary, movement of permitted livestock within or to designated grazing allotments will be facilitated with bridges.

13. Signing

Information boards will be installed at all major trail-heads. Primary wilderness trail-heads will have the high visitor intensity information boards. Less used trail-heads will have low visitor intensity information boards.

Trail-head information boards will contain information such as:

Rules and regulations.
Minimum impact camping information.
Trail information.
Pack and saddle stock information.
Spot for special information:
--Closures for site rehabilitation.
--Closure or warning about increased grizzly bear activity.
--Closure or warning about a natural fire burning.
--Hunting season opening and closing dates.

Nonconforming signs will be removed or replaced.

Trail markers will be used where trail location is confusing. Blazes will mark the trail route below timberline and will not be painted. Above timberline, rock cairns will be used.

An A-B Wilderness Sign Plan specifies the wording and location of all signs used in conjunction with the A-B Wilderness.

Trail-head signs will contain the trail name and may contain mileages to destination points along the trail.

Signs within the wilderness will be located at system trail junctions. Each will contain the trail name and an arrow pointing the direction of the trail named.

Wilderness boundary signs will be readily visible.

14. Information and Education

Wilderness rangers will be trained in no trace camping techniques and the good host concept.

Slide-tape and other visual aid programs and displays will be developed on the A-B Wilderness to aid in information and education programs.

A map/brochure will be developed that:

- displays the wilderness boundary.
- identifies high, moderate, and low use trails.
- explains the rules, regulations, and use restrictions and reference minimum impact camping information.
- explains ways to avoid bear/human confrontations.
- contains a statement to read "Domestic livestock grazing occurs in wilderness. For information on location and season of use, contact the local Forest Service district office."

The A-B Wilderness rules and regulations and public service announcements will be publicized in local newspapers and over radio stations.

Wilderness educational programs will be presented to schools, organizations, and others interested.

Local sporting goods stores will receive brochures and information about the rules and regulations in the A-B Wilderness.

15. Administration

Each winter, wilderness managers for the four districts and the Clarks Fork District of the Shoshone National Forest will meet to coordinate implementation of the A-B Wilderness direction, resolve management problems, and set up visitor information programs. The Gardiner District will set up the meetings.

The visitor carrying capacity of the Wilderness will be determined on an area priority basis.

Wilderness rangers will continue to be hired to aid in administration of the wilderness subject to budget levels.

Subject to approval of the proposed revision to 36 CFR 261.50E(6) the Forest Supervisors will issue special orders for the A-B Wilderness to implement the management direction.

The administrative improvements known as the Hellroaring, Slough Creek, Buffalo Fork, and Big Park Stations will be retained and maintained for administrative use unless historic or administrative analysis dictates otherwise.

The following structures or improvement will be removed from the Wilderness:

The fire lookout tower on the Gardiner District.

Breakneck park game enclosure.

Each District will be responsible for coordinating with local Search and Rescue agencies to enable search and rescue procedures to be expedited in a timely manner, and to provide for meeting of the wilderness regulations.

Yellowstone National Park and the Clarks Fork District of the Shoshone National Forest will be informed of management decisions so they can inform that portion of the public that enter the A-B Wilderness through portals under their administration.

A joint field communications system will be developed between the three National Forests and Yellowstone National Park utilizing the existing radio network.

16. Research

A research needs list inviting reputable research programs will be developed by priority of need. This list will be submitted to the Regional Research coordinator in Missoula.

All research conducted in the A-B Wilderness will be handled under a special use permit or agreement. A formal plan will describe the purpose, method location, duration of the proposed research, and the anticipated publication of results.

A list of studies being conducted or completed will be maintained at the Gallatin and Custer National Forest Supervisor's offices.

APPENDIX III

PROJECTED BUDGET REQUIRED TO IMPLEMENT THE FOREST PLAN (DOLLAR VALUES IN THOUSANDS OF 1985 $)

Funding Item	Description	Projected Budget[1]
00	General Administration	1959
01	Fire Protection	525
02	Fire Protection -- Fuels	125
03	Timber Prep/Administration	146
04	Timber Resource Planning	24
05	Timber Sivicultural Exams	65
06	Range	1221
07	Range (Noxious weeds)	159
08	Minerals	1155
09	Recreation	350
10	Wildlife and Fisheries	408
11	Soil and Water	1038
12	Maintenance Facilities	70
13	Special Uses	230
15	Land exchange and Ownership	95
16	Landline Location	129
17	Road Maintenance	334
18	Trail Maintenance	70
19	Coop Law Enforcement	15
20	REF/TSI -- Reforestation	0
21	REF/TSI -- Timber Stand Improvement	0
23	REF/TSI -- Genetic Tree Improvement	19
25	SCSEP	20
26	KV -- Reforestation	6
27	KV -- Timber Stand Improvement	20
28	KV -- Other	0
29	CWFS -- Other	0
31	Brush Disposal	26
32	Range Betterment Fund	324
33	Construction -- Recreation Facilities	60
34	Construction -- FA&O Facilities	286
35	Construction -- Engineer Support	360
36	Construction -- Capital Investment Roads	106
37	Construction -- Trails	26
38	Purchasers Credit	15
42	Land Status	10
43	Land Acquisition	10
	Total	9,406

[1] FY 78 is the base year for costs used in Forest planning. These values were obtained by using a multiplication factor of 1.60 to bring the values of 1978 to 1984.

APPENDIX IV
MINERALS WITHDRAWAL

On the Custer National Forest certain specific land areas have been withdrawn from mineral entry. These areas may be current administrative sites, developed recreation sites, or another specific area such as a scenic landmark. For the Forest Plan this appendix will serve the following purposes:

- In concert with the accompanying FEIS, this appendix establishes the criteria against which all existing and future withdrawals will be reviewed for either continuance, modification, or revocation.

- This appendix also establishes the schedule for the required review of existing withdrawals based on the following categories established in this initial review.

  1. *Continued Withdrawal:* Those lands already withdrawn from mineral entry which are recommended to be kept in this status.

  2. Modify Withdrawal: Those lands already withdrawn from mineral entry which should be considered for a modification in the withdrawal status.

  3. *Revoke Withdrawal:* Those lands the Forest feels should no longer be withdrawn from mineral entry. These may be old administrative sites that are no longer in use, or areas that were previously set aside for development but due to the lack of funds no development has occurred.

  4. *New Withdrawal:* Withdrawal of lands from locatable mineral entry and/or mineral leasing can be requested by the Forest Service to the Secretary of Interior. This request can be made for the protection of areas such as administrative sites, public recreation areas, areas containing significant cultural resources, paleontological resources, or areas containing unique values that would be lost due to mineral exploration and development activities. However, where possible the principle of withdrawal by appropriation will be used in place of formal withdrawal effected under Sec. 204 of the Federal Land Management and Policy Act of 1976 (P.L. 94-579). The principle of "withdrawal by appropriation" means that occupancy (i.e. buildings campground facilities, roads, etc.) and use constitutes appropriation of a site or area and protects it from entry under the General Mining Law of 1872.

For lands no longer identified as requiring protection, recommendations can be made to the Secretary of Interior to revoke all or part of the existing withdrawal to mineral entry. Such recommendations will only be made after necessary environmental analysis and documentation has been completed.

Withdrawal will be considered as long as it is consistent with the goal of the management area. Criteria and management direction to use in evaluation of existing and proposed withdrawals are specified below:

1) Evaluation Criteria

a) Is the area withdrawn or to be withdrawn as a Research Natural Area, interpretive or cultural site, scenic area, geologic area, botanical area, or otherwise unique area?

b) Is the area withdrawn or to be withdrawn as an administrative site?

c) is the area withdrawn or to be withdrawn currently occupied by significant capital improvements in which relocation or replacement would be impractical or impossible?

d) Is the area withdrawn or to be withdrawn as a road, trail, right-of-way, gravel pit, fire lane, utility line, cabin or other isolated improvement, fence, pasture, or campground?

e) Is the land being used for the purpose for which it (was/will be) withdrawn?

f) Are there alternative means of protecting the resource values of concern?

g) Are the values at risk of such a nature that a significant financial, social, or cultural loss could occur? If such values exist answer the following:

(1) What is the monetary value of the physical improvements at risk?

(2) What is the current and projected use demand?

(3) Is the resource unique or irreplaceable?

(4) What is the mineral potential?

TABLE IV-1
MINERALS WITHDRAWAL

I.D. Number	Withdrawal Name	Acres	Recommendation	Legal Description	Review Date
M012788	American Legion at Ekalaka	20.0	Revoke Withdrawal	T1N R58E	1988
M012788	Fort Howes Admin. Site	141.6	Revoke Withdrawal	T6S R46E	1988
M012788	Fort Howes Ranger Station	127.82	Revoke Withdrawal	T6S R45E	1988
M012788	Lantis Spring Camp	80.0	Revoke Withdrawal	T2S R61E	1988
M012788	Lions Club Youth Camp	40.0	Revoke Withdrawal	T8S R19E	1987
M012788	Meyers Creek Admin. Site	280.0	Revoke Withdrawal	T4S R15E	1987
M012788	Needmore Admin. Site	80.0	Revoke Withdrawal	T1N R58E	1988
M012788	Red Lodge Creek Admin. Site	240.0	Revoke Withdrawal	T7S R18E	1987
M012788	Rock Creek Admin. Site	320.21	Revoke Withdrawal	T8S R20E	1987
M012788	Sioux Charlie Camp	20.0	Revoke Withdrawal	T6S R14E	1987
M012788	Wickham Gulch Camp	80.0	Revoke Withdrawal	T3S R62E	1988
M012788	Whitetail Admin. Site	80.0	Revoke Withdrawal	T2S R47E	1988
M012788	Woodbine Camp	100.0	Revoke Withdrawal	T5S R15E	1987
M036030	Pine Grove Recreation Area	298.0	Revoke Withdrawal	T6S R17E	1987
M044188	Emerald Lake Camp	35.0	Revoke Withdrawal	T6S R17E	1987
M044188	Emerald Lake Recreation Area	360.0	Revoke Withdrawal	T7S R16E	1987
M044188	Emerald Lake Recreation Area	225.0	Revoke Withdrawal	T7S R17E	1987
M044188	Woodbine Camp	90.0	Revoke Withdrawal	T5S R15E	1987
M20669	Ekalaka Park Camp	50.0	Revoke Withdrawal	T1N R58E	1988
M20669	Macnab Park Campground	90.0	Revoke Withdrawal	T1N R59E	1988
M27716	Capitol Rock Scenic Landmark	240.0	Continue Withdrawal	T3S R62E	1988
M41574	Fishtail Creek Ranger Station	80.0	Revoke Withdrawal	T5S R16E	1987
M41574	Meyers Creek Ranger Station	240.0	Revoke Withdrawal	T4S R15E	1987
M41574	Red Lodge Creek Admin. Site	120.0	Revoke Withdrawal	T7S R18E	1987
M41609	Stillwater Admin. Site	160.0	Revoke Withdrawal	T5S R15E	1987
M41615	Red Lodge Cooke City	217.0	Revoke Withdrawal	T8S R19E	1987
M41615	Red Lodge Cooke City	796.6	Revoke Withdrawal	T9S R19E	1987
M41629	East Rosebud Ranger Station	102.95	Revoke Withdrawal	T6S R18E	1987
M41644	Line Creek Ranger Station	155.0	Revoke Withdrawal	T9S R20E	1987
M41653	Sage Creek Ranger Station	140.0	Revoke Withdrawal	T7S R26E	1987

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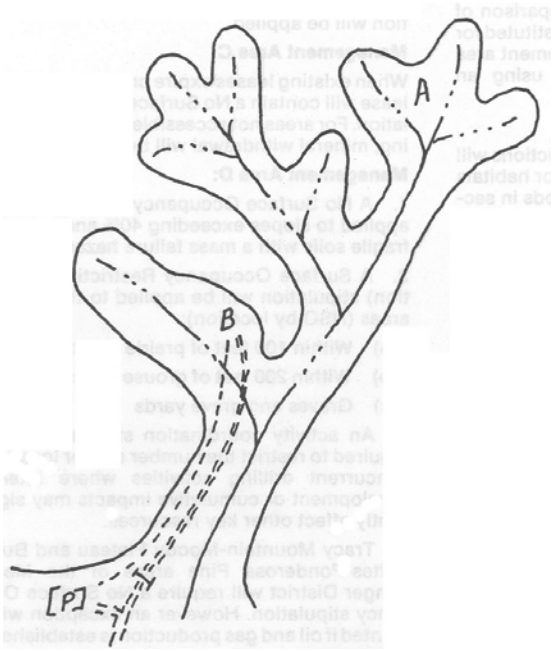
TABLE IV-1 (cont'd)
MINERALS WITHDRAWAL

I.D. Number	Withdrawal Name	Acres	Recommendation	Legal Description	Review Date
M41692	Shorty Creek Admin. Site	273.68	Revoke Withdrawal	T4S R45E	1988
M41695	Twenty Mile Admin. Site	160.0	Revoke Withdrawal	T5S R45E	1988
M43345	Needmore Admin. Site	240.0	Revoke Withdrawal	T1N R58E	1988
M29832	Big Ice Cave	90.0	Continue Withdrawal	T8S R27E	1988

APPENDIX V

LEASING STIPULATIONS



proposed well site	A
alternate well site	B
access road	====
access gate	I-I
flowline	— —
production facilities	[P]

The following is one situation example of how the Limited Surface Use Stipulation may be applied (refer to the above diagram):

The area consists of a canyon complex about one-half mile in length with steep side slopes and scattered juniper trees, shrubs, and grass vegetation. The bottoms consist largely of woody draws, and the general exposure is to the southwest. The unique ecosystem relationship provides key habitat for deer year around. If a company or operator proposes to drill a well with a preferred location of site A, the key values of the area could not be protected. Therefore, it may be necessary for the company or operator to propose an alternate location, site B. The use of site B may involve or necessitate directional drilling as well as other measures such as electric pump motors/down-hole pumps, off-site production facilities and access restricted (gated) to traffic essential for the maintenance of the facilities. If the operating plan for site B contains sufficient measures to protect the key values, and it can be demonstrated that the area is essential for operations, the operating plan would be recommended for approval.

Some examples of areas where this stipulation may be applied are T.143N., R.101W., Section 31, Billings County, North Dakota, and T.147N., R.102W., Section 15, McKenzie County, North Dakota.

LEASE STIPULATIONS BY MANAGEMENT AREA

The following section summarizes lease stipulations to be applied by Management Area. This section is provided as a help for comparison of leasing stipulations but is not to be substituted for a thorough review of the total management area direction. Leases will be reviewed using an appropriate NEPA process.

Management Area A:

1. Lease stipulations and timing restrictions will be applied to protect key wildlife and/or habitats (see Key Species/Critical Timing Periods in section II).

2. No surface occupancy stipulations will be applied to slopes exceeding 20% and to areas of fragile soils and mass failure hazard.

3. Development if it occurs, will be staged to prevent development of the entire management area at a one time. Limited Surface Use stipulations will be used to accommodate this objective.

Management Area B:

1. A No Surface Occupancy stipulation will be applied to areas with slopes exceeding 40%, fragile soils, and/or mass failure hazard. An exception is the south slope of the Pryor Mountains of the Beartooth District where the slope restriction applied to slopes over 30%.

2. A Surface Occupancy Restriction (by location) stipulation will be applied to areas:

a) within 100 feet of prairie dog towns.

b) within 200 feet of grouse dancing grounds.

c) with graves and graveyards.

d) within the foreground seen area of the Little Missouri Scenic River if the visual quality objective of Retention cannot be met by using conventional methods.

e) within the foreground and middleground seen area of the Theodore Roosevelt National Park if the visual quality objective of Partial Retention cannot be met by using conventional methods.

3. A Limited Surface Use stipulation will be applied to areas known for their value to big game species, such as small complexes of canyon or heads of canyons associated with woody draws and areas offering valuable vegetative diversity and seclusion. These areas are usually small, less than one square mile. Development in these areas will only be recommended for approval when the operator can demonstrate that the area is essential for the operation and an operating plan is provided that sufficiently mitigates adverse impacts. This stipulation may require actions such as off-site production facilities, electric pump motors or down hole pumps, gated access and directional drilling to minimize disturbance to key habitats.

4. If a Limited Surface Use stipulation will not sufficiently provide for the mitigation of wildlife habitat impacts, a No Surface Occupancy stipulation will be applied.

Management Area C:

When existing leases expire or terminate, the new lease will contain a No Surface Occupancy stipulation. For areas not accessible by directional drilling, mineral withdrawal will be considered.

Management Area D:

1. A No Surface Occupancy stipulation will be applied to slopes exceeding 40% and to areas of fragile soils with a mass failure hazard.

2. A Surface Occupancy Restriction (by location) stipulation will be applied to the following areas (NSO by location):

a) Within 100 feet of prairie dog towns

b) Within 200 feet of grouse dancing grounds

c) Graves and grave yards

3. An activity coordination stipulation will be required to restrict the number and/or location of concurrent drilling activities where intensive development or cumulative impacts may significantly affect other key resources.

4. Tracy Mountain-Moody Plateau and Bullion Buttes-Ponderosa Pine areas of the Medora Ranger District will require a No Surface Occupancy stipulation. However an exception will be granted if oil and gas production is established on an adjacent private/state lands; if this occurs, surface occupancy will be allowed on the adjacent spacing unit of federal ownership in order to protect the federal mineral estate.

5. On the National Grassland Districts, a Limited Surface Use lease stipulation will be applied to areas that due to their ecological make-up (i.e. vegetative diversity, steep slopes, and exposure), seclusion and unique ecosystem relationships (i.e. a small complex of canyons or heads of canyons associated with woody draws), provide high value wildlife habitat, which could be significantly disrupted by the siting of oil and gas development facilities. These areas are generally small, i.e. less than a square mile. Site specific application of this stipulation will consider the goal for the management area. Development in these areas will only be recommended for approval when the operator can demonstrate that the area is essential for his operations and can provide an operating plan which will sufficiently mitigate the impacts. Mitigation may necessitate such things as off-site production facilities, electric pump motors/down hole pumps, gated access, or directional drilling. If at the time of developing lease recommendations, it is apparent that the impact

associated with siting facilities could not be mitigated, then a No Surface Occupancy stipulation may be applied to these relatively small areas.

Management Area E:

1. No Surface Occupancy stipulation will be applied to areas with slopes of 40% or greater, fragile soils, and/or mass failure hazard.

2. Surface Occupancy Restriction stipulation requiring timing considerations as shown in the Key Species/Critical Timing Periods in section II will be applied where applicable. These distances may be reduced if the area is screened by topography or vegetation.

Management Area F:

1. A No Surface Occupancy lease stipulation will be applied to all developed recreation sites.

2. A Surface Occupancy Restriction stipulation (timing) will be applied to all new oil and gas leases within 1/4 mile of developed sites from May 15 to September 15.

Management Area G:

1. A No Surface Occupancy lease stipulation will be applied to slopes exceeding 40% and to areas of fragile soils with a mass failure hazard.

2. Surface Occupancy Restriction stipulations may be used to protect key wildlife and/or habitat (see Key Species/Critical Timing Periods in section II.)

Management Area H:

When lease applications are received or existing leases expire or terminate, they will not be recommended for re-leasing, or will be leased with a No Surface Occupancy stipulation, if necessary to lease to protect the Federal mineral estate.

Management Area I:

When existing leases expire or terminate, they will not be re-leased because the Wilderness was withdrawn from mineral entry as of January 1, 1984.

Management Area J:

When lease applications are received or existing oil and gas leases expire or terminate, they will not be recommended for re-leasing, or leased with No Surface Occupancy (NSO) stipulation, unless it is necessary to protect the Federal mineral estate.

Management Area K:

1. As leases expire or terminate, the Core Area will not be recommended for re-leasing or will contain a No Surface Occupancy stipulation.

2. Any new oil and gas leases outside of the Core Area will contain a No Surface Occupancy stipulation.

Management Area L:

When application is made to lease, or existing leases expire or terminate, a No Surface Occupancy stipulation will be applied to the new lease.

Management Area M:

When a lease application is received, or existing leases expire or terminate, a Limited Surface Use stipulation may be applied, if needed, to minimize surface disturbance.

Management Area N:

When a lease application is received, or existing leases expire or terminate, a Limited Surface Use stipulation will be applied to minimize surface disturbances; e.g. design roads to cross these areas at right angles when possible and necessary to minimize impacts to adjacent areas.

Management Area O:

When lease applications are received or existing leases expire or terminate, a No Surface Occupancy stipulation will be applied to the new lease.

Management Area P:

No Surface Occupancy lease stipulations will be used to protect administrative sites with existing or planned improvements or capital investments.

Management area Q:

If oil and gas lease applications are received, they will be recommended for issuance with a No Surface Occupancy stipulation.

Management Area R:

1. No Surface Occupancy lease stipulation will be applied to slopes greater than 30% and to areas of fragile soils with a mass failure hazard.

2. A Limited Surface Use stipulation will be applied to all new oil and gas leases in the area to protect its special values. Required practices may include:

a) Closed mud systems

b) Off-site disposal of drilling fluids

c) Dust abatement

Management Area S:

A No Surface Occupancy stipulation will be required on any leases.

Management Area T:

1. A Limited Surface Use stipulation will be applied to all leases to insure that the visual quality objective of retention can be met.

2. A No Surface Occupancy stipulation will be applied to slopes greater than 40% or areas of fragile soil with a mass failure hazard.

KEY SPECIES/CRITICAL TIMING PERIODS FOR WILDLIFE

The key species/critical timing periods for wildlife to be used in Surface Occupancy Restriction stipulations (Timing and/or by location) are as follows:

Bighorn Sheep

North Dakota

Breeding:	10/15 to 12/1
Lambing:	4/1 to 6/15
Winter Range:	12/1 to 4/1

Montana

Stillwater Herd

Winter Range:	11/1 to 6/1
Lambing:	6/1 to 6/15

Rock Creek Herd

Winter Range:	11/1 to 7/1 *

West Rosebud Herd

Winter Range:	11/1 to 5/1**
Lambing:	5/1 to 7/10

Pryors

Winter Range:	11/1 to 6/15***

* Lambing occurs on the winter range.
**This herd winters within the wilderness boundary, but moves to a lower elevation for spring range, and lambing occurs on this spring range.
***The Pryors herd appears to lamb on the winter ranges. However there appears to be little change in habitats used in winter or summer.

Elk*

Winter Range:	11/30 to 6/15*
Calving Areas:	6/1 to 7/1

*On the winter ranges on the Beartooth Ranger District especially on the Line Creek area, the elk move onto the winter ranges in late October. These areas are on high value during this period and harassment places unneeded stress on these animals.

Eagles

Nesting

Inactive Nests:	2/15 to 5/1
Disturb. Zones*:	No disturbance within 1/4 mile; (Surface Occupancy Restriction by location stipulation in oil and gas leases)
Active Nests:	2/15 to 7/15
Disturb. Zones*:	No disturbance within 1/2 mile; (Surface Occupancy timing Restriction from 1/4 to 1/2 mile from nest in oil and gas leases)

Falcons

Nesting:	3/15 to 7/20 or fledging
Disturb. Zones*:	No disturbance within 1/4 mile; (Surface Occupancy Restriction by location stipulation in oil and gas leases)

Merlins

Nesting:	3/15 to 7/15 or fledging
Disturb. Zones*:	No surface disturbance within 1/4 mile; (Surface Occupancy Restriction by location stipulation in oil and gas leases)

Prairie Grouse

Dancing grounds:	3/1 to 4/15
Disturb. Zones*:	No ground disturbing activity within 1/4 mile of dancing grounds; (Surface Occupancy Restriction by location in oil and gas leases).

*All disturbance zones are line of sight distances up to specific distance such as 1/2 mile.

LEASE STIPULATION FORMS

The following lease stipulation forms are those in current use. Form MT-3109-12 is attached to all leases and MT-3109-11 is attached to all leases that involve Federal surface ownership.

Form MT-3109-3 -- Oil and Gas Lease Stipulation.

This form is used to apply No Surface Occupancy, Surface Occupancy Restriction (by location), Surface Occupancy Restriction (timing), and Road Use Stipulations to a lease.

1. The No Surface Occupancy stipulation is used to preclude the siting of a well on steep slopes or in certain Management Areas.

2. The Surface Occupancy Restriction (by location) stipulation is used to restrict or preclude activities in areas that are difficult to describe legally (ie. within 1/4 mile of an eagle nest).

3. The Surface Occupancy Restriction (timing) stipulation is used restrict or preclude activities during certain times of the year and is normally used for big game ranges and high use recreation areas.

4. The Road Use stipulation is used to restrict or limit the use of certain roads to access activities.

Form MT 3109-6 -- Limited Surface Use Stipulation.

This form is used to apply a Limited Surface Use stipulation to a lease. This stipulation is normally

applied to areas that contain resources or a combination of resources that may or may not be affected by lease development depending on the exact location of the activity. It notifies the leasee that any activity within this area may require special mitigating measures-or possibly be denied if impacts can not be adequately mitigated.

Form MT-3109-7 -- Activity Coordination Stipulation.

This form is used to apply an Activity Coordination stipulation to a lease. This stipulation is used to limit the amount of activity that can occur in a given area at any one time. It is normally applied to areas where a fairly high level of activity would have a significant affect on a key resource within that area, such as some wildlife habitats.

Form MT-3109-12 -- Stipulations For Lands of The National Forest System Lands Under Jurisdiction of Department of Agriculture.

This form is attached to all new leases and is primarily used to insure the protection of cultural and paleontological resources, and to provide protection of resources that are not identified at the time stipulations are prepared. This stipulation also provides for the protection of many other resources or facilities, but does not provide for a legal description of the location of these resources or to the extent that they apply.

Form MT-3109-11 -- Oil and Gas Lease Special Stipulation For Custer National Forest.

This form, when attached to a lease, requires the lessee/operator to contact the District Ranger at least ten days prior to entering onto the lease for the purpose of conducting geophysical operations. The District Ranger may require reasonable mitigating measures to minimize any adverse impacts to other surface resources.

APPENDIX VI
GREATER YELLOWSTONE OUTFITTER AND GUIDE POLICY

The Greater Yellowstone Outfitter and Guide Policy document is available upon request from the Supervisor's Office, Custer National Forest, P.O. Box 2556, Billings, Montana 59103.

APPENDIX VII

WILDLIFE APPENDIX

INTRODUCTION

The concept of Management Indicator Species includes both biological indicators (those species which represent a whole group of other species that use the habitat similarly), as well as species of high interest, such as the major hunted species and those listed as threatened or endangered. The Custer National Forest has established a list of management indicator species and habitat indicators based upon National Forest Management Act (NFMA) regulation criteria which include the following categories:

Since there is a wide diversity of ecological communities on the Forest, more than one species was necessary to represent changes. The distribution and abundance of one species was not sufficient to cover the biological communities in all locations. State and Federal biologists and other professionals were consulted in the compilation of this list.

A. Threatened and Endangered Plants and Animals

Threatened and Endangered plant and animal species identified on State and Federal lists for the planning area.

THREATENED OB ENDANGERED SPECIES
(Federal Listing)

Grizzly Bear
Black-footed Ferret
Bald Eagle
Peregrine Falcon
Whooping Crane
Gray Wolf
Interior Least Tern
Piping Plover

THREATENED OR ENDANGERED PLANTS

There are no federally listed threatened or endangered plant species that might occur on the Forest.

1. Threatened and Endangered Species

a. Grizzly Bears

The Custer Forest contains areas that are suitable and probably occupied by grizzly bears. The Forest is a part of the Yellowstone Grizzly Bear Ecosystem (YGBE) which includes Yellowstone National Park and portions of the Gallatin, Shoshone, Bridger-Teton and Targhee National Forests. Management in this area is guided by an approved Grizzly Bear Recovery Plan (USDI, 1982) and the "Guidelines for Management Involving Grizzly Bears in the Greater Yellowstone Area" (USDA Forest Service, 1979).

The Grizzly Bear Recovery Plan identifies six grizzly bear ecosystems in the contiguous 48 states. Objective 4 of the recovery plan (page 1) states "Establish recovery of at least three populations in three distinct grizzly bear ecosystems in order to de-list the species in the conterminous 48 states". The plan states that the YGBE should be the first priority for recovery efforts due to the large data base and the ongoing research and management in the area.

Presently the Forest has 110,000 acres of occupied habitat for grizzly bears. A review of sightings and an analysis of habitats necessary for bears indicated that the Forest does not provide suitable habitat to accommodate bears on a year round basis, however enough suitable habitat is available in the Stillwater drainage to provide seasonal habitats for some bears. While there have been few sightings in recent years, the upper Stillwater is adjacent to areas that have high bear use, and there are no real barriers to prevent a bear from wandering onto the forest.

The Recovery plan for Grizzly bears indicates an occupied boundary that was drawn based upon the best information available concerning sightings that was available at that time. The analysis that was made as part of the planning effort was based upon habitat evaluation and updated observations and reports. Stratification into Management situations was consistent with the direction provided in the "Guidelines for Management Involving Grizzly Bears in the Greater Yellowstone Ecosystem" (The Guidelines). The Custer presently has 5,507 acres in Management Situation I, 110,511 acres in Management Situation II and no acres in Management Situation III.

Management Situation I (MS-I)

Definition: Situation I is defined as areas that "contain grizzly population centers and components needed for survival and recovery of the species".

Management Direction: Land uses will be made compatible with survival and recovery of the grizzly bear or those uses will be eliminated.

Management Situation II (MS-II)

Definition: Areas that lack distinct grizzly bear population centers and highly suitable habitat does not generally occur, although some habitat components exist and grizzly bears may be present on occasions.

Management Direction: An attempt will be made to make land uses compatible with grizzly bear needs. However when grizzly bear habitat

needs and other land uses are mutually exclusive, the other uses will prevail.

Management Situation III (MS-III)

Definition: Grizzly presence is possible but infrequent. Developments such as campgrounds, resorts or other high human use associated facilities make grizzly bear presence untenable for humans and/or grizzlies.

Management Direction: Grizzly/human conflict minimization is a high priority. Grizzly bear presence and factors contributing to their presence will be actively discouraged.

Estimates of grizzly bear densities are based upon the best information available but are still only estimates. Information from research indicates that the potential for bears in the YGBE is approximately 316 bears (one bear per 28 square miles). Recovery goals state that there should be at least 25 females with cubs of the year, and the reproductive rates should be 2.2 cubs per female.

The present grizzly bear population can only be estimated. In 1959, Craighead and others (1974) estimated the population of grizzly bears in the Yellowstone Ecosystem to be 222 bears. This is a density of one bear to 38 square miles of occupied habitat. Craighead and others (1976) documented a population increase from 1959 to 1967 from 222 to 245 bears, and then a decline from 1967 to 1974 from 245 to 136 bears. The most recent estimate of bears is 197 (Knight et.al. 1982) is 197. There is some concern that this estimate is too high.

Using a simple acreage calculation, the Custer National Forest could be able to support 6 bears under a maximum density (one bear per 28 square miles) or 5 bears under a density of one bear per 38 square miles.

Of the total acres of occupied habitat on the Forest (110,511 acres) 94% occur within the Absaroka-Beartooth Wilderness (103,724 acres). This wilderness was maintained in all alternatives. In addition, under all alternatives the acres of occupied habitat outside of wilderness (6787 acres) were maintained.

One of the identified limiting factors in the recovery of grizzly bears is the number of preventable grizzly bear mortalities. A preventable mortality is one which could have reasonably been avoided by management actions ,and is not a legal hunting mortality. In order to facilitate recovery, all forests in the YGBE have a target of zero preventable mortalities. There have been no reports of grizzly bear mortalities of any kind on the Forest.

b. Black-footed Ferret

At present, there are no known populations of black-footed ferrets (BFF) on the Forest. Since 1910, there have been 29 reports of BFF sightings or sign on the Forest. Two BFF's are known to have been taken from the Forest. One was taken from the Ash Creek drainage in 1936 and the other came from the confluence of Dantz Creek and Little Missouri River in 1969.

Since most sightings have occurred in or close to prairie dog towns, these areas are considered habitat for the ferret. As part of the endangered species program, the U.S. Forest Service in 1979 designated seven prairie dog towns as essential habitat. These designations were based on the following criteria: actual ferret sighting in a specific dog town and/or ferret sign (plugged burrows and/or ferret tracks) and large dog towns without ferret sign, but adjacent to towns that did have sign). These towns do not meet the minimum requirements set forth by Hillman as necessary to support a population of BFF's over time, ("Prairie Dog Distribution in Areas Inhabited by Black-footed Ferrets").

c. Peregrine Falcon

There is one historical and one probable peregrine eyrie on the Forest. Surveys in recent years,

YELLOWSTONE GRIZZLY BEAR ECOSYSTEM
OCCUPIED HABITAT ACRES

Administrative Unit	MS-I	MS-II	MS-III	Total
National Park Service	2,317,146	—	2,355	2,319,501
Bureau of Land Management		— — — Unstratified — — —		3,400
Private		— — — Unstratified — — —		54,845
Forest Service	1,670,606	1,545,163	24,600	3,240,369
Gallatin NF	413,209	354,339	1,100	768,648
Custer NF	5,507	105,004 (1,280 acres outside the Wilderness)	0	110,511
Shoshone NF	412,000	819,600	17,400	1,240,000
Bridger-Teton NF	678,500	50,500	5,100	734,100
Targhee NF	171,390	217,000	1,000	389,390
TOTAL	3,987,752	1,545,163	26,995	5,559,910

including a helicopter survey in 1984, have not provided confirmed sightings of a Peregrine falcon on the Forest. However, there have been consistent reports of possible sightings in the Pryor Mountains. The 1984 survey did find a peregrine approximately 5 miles from the Forest boundary. As part of the endangered species program, 120,800 acres were designated as essential habitat for the peregrine.

d. Bald Eagle

Populations of bald eagles use portions of the Forest as winter roost areas. There is no known nesting on the Forest in recent years, although one eagle did nest close to the forest boundary in 1982. In 1979, the Forest designated 41,500 acres as essential habitat for the eagle.

e. Whooping Crane

Portions of the Forest, principally the Little Missouri and the Grand River and Cedar River National Grasslands, underlay the migration routes of whooping cranes. The cranes may use these lands occasionally as resting areas during either the fall or spring migration. There have been two reports of whooping cranes on the forest, one in 1975 and one in 1961. Because of the occasional and sporadic use of the Forest by these birds no area has been designated as essential habitat. Protection is afforded to any bird that lands on the Forest.

f. Gray Wolf

As part of the Greater Yellowstone Ecosystem, the forest shares a joint boundary with Yellowstone National Park for a short distance and there are no topographic barriers that would prevent wolf movements onto the forest. Studies have concluded that there is not a viable population of wolves in the Greater Yellowstone Ecosystem and there are no reports of wolves on the forest. However the Yellowstone Ecosystem has been identified as potentially suitable for the recovery of the gray wolf. The elk herds of Yellowstone could provide a prey base for any wolves that might be re-introduced into the Park. None of these herds winter on lands administered by the Forest. Current evaluation indicates that there are no suitable winter habitats for wolves on the forest.

g. Interior Least Tern

There are no known reports of interior least terns on the Forest. Habitat for the bird consists of relatively large sandbars which are isolated from the shoreline. This habitat does not occur often on the Forest, however there may be some suitable habitat along the Little Missouri River.

h. Piping Plover

There are no known reports of piping plovers on the Forest. Habitat for the bird consists of bar, dry, sandy areas along streams and lakes. A minimum of suitable habitat exists on the Forest, generally along, or near the Missouri and Little Missouri Rivers.

B. Sensitive Species

This category contains species with special habitat needs that may be influenced significantly by planned management programs.

SENSITIVE SPECIES
(species listed on official State
Lists of Threatened or Endangered Species)

Buff-breasted Sandpiper -- South Dakota
Mountain Lion --South Dakota
Northern Swift Fox -- South Dakota
Osprey -- South Dakota
River Otter -- South Dakota
Sturgeon Chub -- South Dakota

The state departments of Fish and Game for South and North Dakota identified selected plant and animal species that they considered as sensitive for their states, and which could occur on the Forest.

SOUTH DAKOTA'S LIST OF SENSITIVE SPECIES

Accipter gentilis	northern goshawk
Ammodramus bairdii	Bairds's sparrow
Aquila chrysaetos	golden eagle
Aster pauciflorus	marsh alkali aster
Buteo regalis	ferruginous hawk
Buteo swainsoni	Swainson's hawk
Calcarius mccownii	McCown's longspur
Chaenactis douglasii	Douglas dusty maiden
Falco columbarius	merlin
Falco mexicanus	prairie falcon
Falco peregrinus	peregrine falcon
Gentiana affinis	Rocky Mtn. pleated gentian
Haliaectus leucocephalus	bald eagle
Haplopappus armerioides	skyline goldenweed
Lagurus curtatus	sagebrush vole
Lasionycteris noctivagens	silver-haired bat
Myotis evotis	long-eared myotis
Phalaenoptilus nuttallii	poor-will
Phrynosoma douglassi	eastern short-horned lizard
Plecotus townsendii	Townsend's big-eared bat
Sialia sialis	eastern bluebird
Spizella breweri	Brewer's sparrow
Vulpes velox	swift fox
Eriogonum visheri	Visher's buckwheat
Grus americana	whooping crane
Mustela nigripes	black-footed ferret

NORTH DAKOTA'S LIST OF SENSITIVE PLANT SPECIES

Aster sericeus
Astragalus gracilis
Athyrium filix-femina
Campanula aparinoides
Carex leptalea
Cypriped reginae
Dryopteris cristata
Dryopteris spinlosa
Eriophorum gracile
Galium labradoricum
Gymnocarpium dryopteris
Helianthemum bicknellii
Hypericum boreale

Liparis loeselii
Menyanthes trifoliata
Onoclea sensibilis
Ophioglossum vulgatum
Phlox alyssifolia
Physaria brassicoides
Pinus flexilis
Populus balsamifera ssp. trichocarpa
Pycnanthemum virginianum
Ribes inebrians
Salix pedicellaris

NORTH DAKOTA'S LIST OF HIGH INTEREST SPECIES

Fish

Pallid Sturgeon	Yellow Bullhead
Stone Roller	Flathead Catfish
Lake Chub	Logperch
Sturgeon Chub	River Darter
Hornyhead Chub	Lake Sturgeon
Pugnose Shiner	Walleye
Blacknose Shiner	Northern Pike
Rosyface Shiner	Small-mouth Bass
Northern Redbelly Dace	Large-mouth Bass
Pearl Dace	Salmon spp.
Blue Sucker	Rainbow Trout
Banded Killifish	Yellow Perch
Sicklefin Chub	Crappie
Central Mudminnow	Bluegill
River Shiner	White Bass
Blackchin Shiner	Channel Catfish
Finescale Dace	Paddlefish
Longnose Sucker	Sauger
Black Buffalo	Musky
Great Redhorse	

Amphibians and Reptiles

Mudpuppy	Prairie Skink
Gray Tree Frog	Smooth Soft-shelled Turtle
Sagebrush Lizard	False Map Turtle

Birds

Turkey	Yellow-rumped (Audubon's Warbler
Pheasant	Brewer's Sparrow
Sage Grouse	Redhead
Ruffed Grouse	Mallard
Golden Eagle	Blue-winged Teal
Giant Canada Goose	Gadwall
American Peregrine Falcon	Widgeon
Merlin	Shoveler
Least Tern	Green-winged Teal
McCowan's Longspur	Mourning Dove
Long-billed Curlew	Screech Owl
Poor-will	Pintail
Burrowing Owl	Cooper's Hawk
Swainson's Hawk	Marsh Hawk
Ferruginous Hawk	Sandhill Crane
Prairie Falcon	

Mammals

White-tailed Deer	Mink
Mule Deer	Beaver
Bighorn Sheep	Black Bear
Pronghorn	River Otter
Long-eared Myotis Bat	Mountain Lion
Black-footed Ferret	Elk
Northern Swift Fox	Hispid Pocket Mouse
Plain's Pocket Mouse	Oro's Kangaroo Rat
Black-tailed Prairie Dog	

Areas of unique plants and animals will be identified and all activities will be managed to retain habitat for these species. The known species of concern are:

SPECIES	LOCATION
Prairie Fringed Orchid	North Dakota
Adder's Tongue Fern	North Dakota
Missouri Ball Cactus	North Dakota
Black Cottonwood	North Dakota
Paper Birch	North Dakota, Chalk Buttes, Long Pines, and Slim Buttes, Montana
Dwarf Birch	North Dakota
Limber Pine	North Dakota
Relic Grasslands	South Cave Hills, South Dakota
Showy Lady Slipper	North Dakota
False Yarrow	North Dakota
Deer Draw	South Dakota

C. Major Interest Species

Major interest species are species that are commonly hunted, fished, or have special or unique habitat needs. Species commonly hunted, fished, or trapped are:

MAJOR INTEREST SPECIES

Elk
Mule Deer
Whitetailed Deer
Big Horn Sheep
Pronghorn Antelope
Sharptail Grouse
Prairie Chicken
Cutthroat Trout

1. Big Game

Hunting and fishing are the principal wildlife recreation that occurs on the Forest. In 1982, there were 154,500 recreational visitor days spent in the pursuit of game species. In addition, visitor time was spent observing wildlife and in nature study.

a. Elk

Elk are probably the most desired of all big game animals and interest in this species is high. Over 90 percent of the elk on the Forest are on the Beartooth Ranger District and the Forest provides for a population of about 950 elk. Forage on the winter range is considered to be the limiting factor. Only one winter range is located entirely on the Forest. The rest are at least partially in private ownership. Summer range is not considered limiting since the majority of it is located on high plateaus such as the Absaroka-Beartooth Wilderness where there are very few impacting activities. One elk herd winters on the Forest and summers in Wyoming on the Shoshone National Forest.

There is also a herd of elk in North Dakota on the Little Missouri National Grasslands. This herd currently contains 100 to 150 animals. The Forest

and the North Dakota Game and Fish Department are developing an elk management plan that will provide direction and goals for this unique herd. Although the area of suitable habitat for this herd is somewhat limited, it abuts additional suitable habitat administered by the Bureau of Land Management (BLM). Habitat management plans that will be developed to implement Forest direction will necessarily be coordinated with the State of North Dakota, and the BLM. The upper population limit that is acceptable by local ranchers is probably less than 200 animals.

b. Deer

Mule deer and whitetailed deer provide the largest share of hunting recreation on the Forest. The Forest has sizeable populations of both species. For most of the Forest, the summer and winter ranges for these species are similar. The animals do not migrate to a lower elevation at the onset of winter. Rather, they use the same habitats that they use the rest of the year. For most of the prairie habitats and some of the timber habitats, notably the Long Pines area of the Sioux Ranger District, cover is considered to be the single largest limiting factor in winter. The Beartooth Ranger District is more typical of deer habitats in the Rocky Mountains, where deer winter on lower elevation foothills and summer in high elevation pastures. On this District, forage on winter range is considered to be the limiting factor. Currently, the Forest provides habitat for approximately 27,000 deer, but has the potential to provide for 40,000 deer.

3. Upland Gamebirds-- Prairie Grouse

Sharptail grouse are widespread on the Forest, occurring on all Districts except the Beartooth Ranger District. Hunting interest in gamebird species is high, with the greatest interest occurring in North and South Dakota. The Sheyenne District provides 80 percent of the greater prairie chickens found in North Dakota. Habitat requirements for these two species are quite similar. Both sharptail and greater prairie chicken require a 12-inch height of vegetation for successful nesting. Since these species nest early in the spring, only vegetation from the previous year can meet their residual nesting cover requirements. This residual nesting cover was considered the limiting factor on populations of these species.

Currently, the Forest provides 200,000 acres of effective habitat with a potential of 361,000 effective acres for prairie grouse on the Forest. The correlation between acres of effective habitat and number of birds was not defined well enough to make estimations of populations.

4. Fisheries

The Custer National Forest has 3,713 acres of lakes and 333 miles of stream which are considered fishable. Approximately 49,950 fish (6 inches or longer) are produced in the streams on the forest and 378,000 catchable fish are produced in the lakes. These figures include both cold and warm water species. Fishing pressure within the Forest is 48,000 RVD's per year, with a harvest of 171,500 fish annually. This contributes approximately $760,000 to the economy each year. The opportunity for fishing and the sale of licenses are significant contributions to the States' economies.

Cold water species include cutthroat, rainbow, golden, brown and brook trout as well as grayling. The majority of these species occur on the Beartooth District. The District also contains a few populations of pure strain native cutthroat trout indigenous to the headwaters of some of the high mountain streams. The limited distribution of the pure strain cutthroat requires management consideration to maintain or expand its range. It was selected as the management indicator species for cold water habitats. Cold water fish habitat occurs in a few areas on other Districts, usually in suitable stock ponds.

Warm water species such as largemouth and smallmouth bass occur on all Districts except for the Beartooth District. The Forest is currently in a long-term survey to identify suitable warm water fish habitats and has worked with the various State agencies to stock various ponds with warm water fish. Recently, five ponds have been stocked with bass. The largemouth bass was selected as the indicator species for warm water habitat, under the assumption that if the habitats were suitable for this species, then they would be suitable for all warm water species considered for stocking.

D. Habitat Indicator Species

Species whose population changes are believed to indicate effects of management on other species of a major biological community or on water quality.

HABITAT INDICATOR LIST

Habitat	Indicator Species
Timber:	
old growth	goshawk
dog hair ponderosas pine	whitetail deer
aspen	ruffed grouse
open savanna	king bird (Ashland Ranger District)
	lark sparrow (Sioux Ranger District)
Riparian:	
tree	northern oriole
shrub	yellow warbler
Hardwood Draw:	
tree	ovenbird
shrub	rufus-sided towhee
Evergreen Shrubs:	
sagebrush	Brewers sparrow
Prairie Grasslands:	sharptail
	prairie chicken
	(Sheyenne Ranger District)
Aquatic:	
cold water	(Native strain) cutthroat trout
warm water	largemouth bass

APPENDIX VIII

UTILITY CORRIDOR PLANNING CRITERIA

The following is utility-transportation corridor planning criteria and defines exclusion areas, avoidance areas, and the window concept for identifying and selecting corridors. Also shown with the definitions are appropriate guidelines which will apply to the National Forest System lands:

1. Exclusion Areas-- Land areas determined to be unavailable for corridor allocation or facility siting. This includes existing and administratively proposed Wilderness.

2. Avoidance Areas-- Land areas that pose particular land use or environmental impacts which would be difficult or impossible to mitigate, this may vary by type of facility, and includes the following:

a. Areas where establishment and use of corridors conflict with land use/land management objectives such as:

1) Specially managed areas, such as areas designated for developed recreation, low development areas, research natural areas, and environmental education areas.

2) Environmentally sensitive areas such as geologic hazard, wetland, and certain wildlife habitat areas.

3) Archeological and historical sites.

4) Areas with specific visual objectives which conflict with facility placement.

5) Active coal mining units.

b. Areas with special or unique values that have been accorded specific and sometimes protected management status through "legislative" action. These values conflict with facility placement. Examples are:

1) National Natural Landmarks.

2) Wild, scenic, and recreational rivers.

3) Nationally classified trails.

4) State recreation areas.

c. Areas which have been identified by local government bodies (within their jurisdictional boundaries) as not suitable for the placement of linear facilities. Examples are:

1) Urban residential areas.

2) City parks.

3. Windows -- Usually short, narrow passageways through constrained areas which are the most feasible potential locations for linear facilities, considering engineering and/or environmental factors. Examples are:

a. Areas recognized as critical corridor segments because of physiographic or technical suitability.

b. Restricted passages identified as a result of allocation for exclusion or avoidance areas.

c. Existing critical corridor segments through sensitive areas, such as urban, residential areas, or areas of intensive land use.

APPENDIX IX

RANGE MANAGEMENT ACTIVITY SCHEDULE

The Forestwide management direction section of the Custer National Forest Plan contains the overall goals and objectives of the Range Management program for the Forest for at least the next 10-15 years. In addition to this, direction is also given for the management of the range resource by the various management areas. Each management area contains a schedule of management practices specific to that management area.

The purpose of this Appendix is to outline and schedule to the extent possible the management activities necessary to achieve the livestock grazing portion of the management direction. For the Range Management Program on the Forest, this involves the following major range related activities:

1. Preparation of Allotment Management Plans

This activity includes all work associated with the preparation, updating or revision of range allotment management plans (AMP). The unit of measure is the number of plans. This activity includes initial plans as well as updating existing plans. In relation to this management activity the Forest objectives are:

- Continue with the direction to complete all initial AMP's by 1988 utilizing the strategies developed from FS RAMIS.
- AMP's will be kept current through updating at a minimum of at least once every ten years.

Table IX-1, Activity Schedule for the Completion of Initial AMP's, will meet Objective 1.

In order to meet Objective 2 to update existing AMP's on a 10-year cycle, the schedule shown in Table IX-2 would need to be implemented.

It should be noted that generally, the first priority for the Forest is to complete an initial AMP on each range allotment before updating existing plans. In some situations, such as where resource damage is occurring, this priority may be changed through negotiation between the District Ranger and Forest Supervisor. Generally, AMP updates will begin after 1988. The following are examples of the criteria that will guide the selection of the AMP's to be updated:

a. In the case of resource damage, the existing management plan has failed to correct apparent resource problems.

b. The existing AMP is not functioning as designed and the overall range management pro-

Table IX-1

ACTIVITY SCHEDULE FOR COMPLETION OF INITIAL AMP'S

District	Year	Category #1	Category #2	Category #3	Category #4	Total
D-1	1985	0	2	1	1	4
	1986	0	2	1	1	4
	1987	0	3	0	1	4
	1988	0	3	0	0	3
		0	10	2	3	15
D-2	1985	0	0	3	0	3
	1986	0	0	3	0	3
	1987	0	0	2	0	2
	1988	0	0	3	0	2
		0	0	12	0	10
D-3	1985	0	0	1	1	3
	1986	0	1	0	1	2
	1987	0	1	0	1	2
	1988	0	0	2	1	2
		0	2	3	4	9
D-4	1985	0	0	2	0	2
	1986	0	0	1	0	1
	1987	0	0	0	0	0
	1988	0	0	0	0	0
		0	0	3	0	3
D-6	1985	0	1	4	0	5
	1986	0	0	5	0	5
	1987	0	0	5	0	5
	1988	0	0	5	0	5
		0	1	19	0	20
D-7	1985	0	4	9	1	14
	1986	0	4	9	0	13
	1987	0	4	9	0	13
	1988	0	3	9	1	13
		0	15	36	2	53
D-8	1985	2	1	5	4	12
	1986	2	0	5	5	12
	1987	2	0	5	4	11
	1988	2	0	5	4	11
		10	1	20	17	46

*Allotment categories 1-4 correspond respectively to the FRES Management Strategies A-D.

TABLE IX-2
SCHEDULE FOR UPDATING EXISTING AMP'S

District	Average Yearly AMP Updates
D-1	5
D-2	2
D-3	6
D-4	5
D-6	8
D-7	25
D-8	19

gram for the allotment fluctuates from year to year.

c. The existing AMP inadequately addresses the necessary range improvements to totally implement a grazing system.

d. A change in season of use or class of livestock necessitates a change in the overall management objectives for an allotment.

e. The current AMP documents the existing system and no changes in management are proposed.

2. Range Resource Inventory

This activity includes all work associated with inventory, reinventory and analysis of the range resources. It includes initial range analyses as well as updating existing range analyses. The unit of measure is acres.

The end result of a range allotment analysis is the allotment management plan. The various data collected forms the basis from which to make logical management decisions. Although many inventory items are required for the development of an initial allotment management plan, there are opportunities to vary the intensity of inventory for some items. The objective of the Forest is to utilize the best data available while providing the flexibility necessary to meet the on-the-ground needs. To meet the target of having initial plans completed by October 1, 1988, existing inventory data will be used. If additional inventory data is needed it will be collected at an intensity commensurate with the need. The levels of intensity which will be used are displayed in FSH 2209.21 Exhibit 1 Amendment 20, 8/81. A decision process for determining the minimum inventory intensity is displayed in Exhibit 2, FSH 2209.21 Amendment 20, 8/81. That key is a procedural guideline for determining the minimum level of inventory required.

3. Range Administration and Management

For the purpose of the Forest Plan this activity includes the work associated with allotment inspections and, in general, AMP monitoring.

The frequency of examination of an allotment will vary depending on the complexity of administrative and management concerns. Each allotment should be examined with sufficient frequency and intensity to make the following determinations:

a. The grazing permit, allotment management plan, and annual operating plan are being complied with.

b. Suitable progress is being made in meeting management objectives as specified in the AMP.

c. Detect need for change of direction or emphasis for subsequent annual operating plans or refinement and update of the AMP.

In general, 70 percent of the field season (5/1-11/1) to be spent by District range staff on field administration including: AMP compliance, range inspections, range improvements--new and existing, and range analysis.