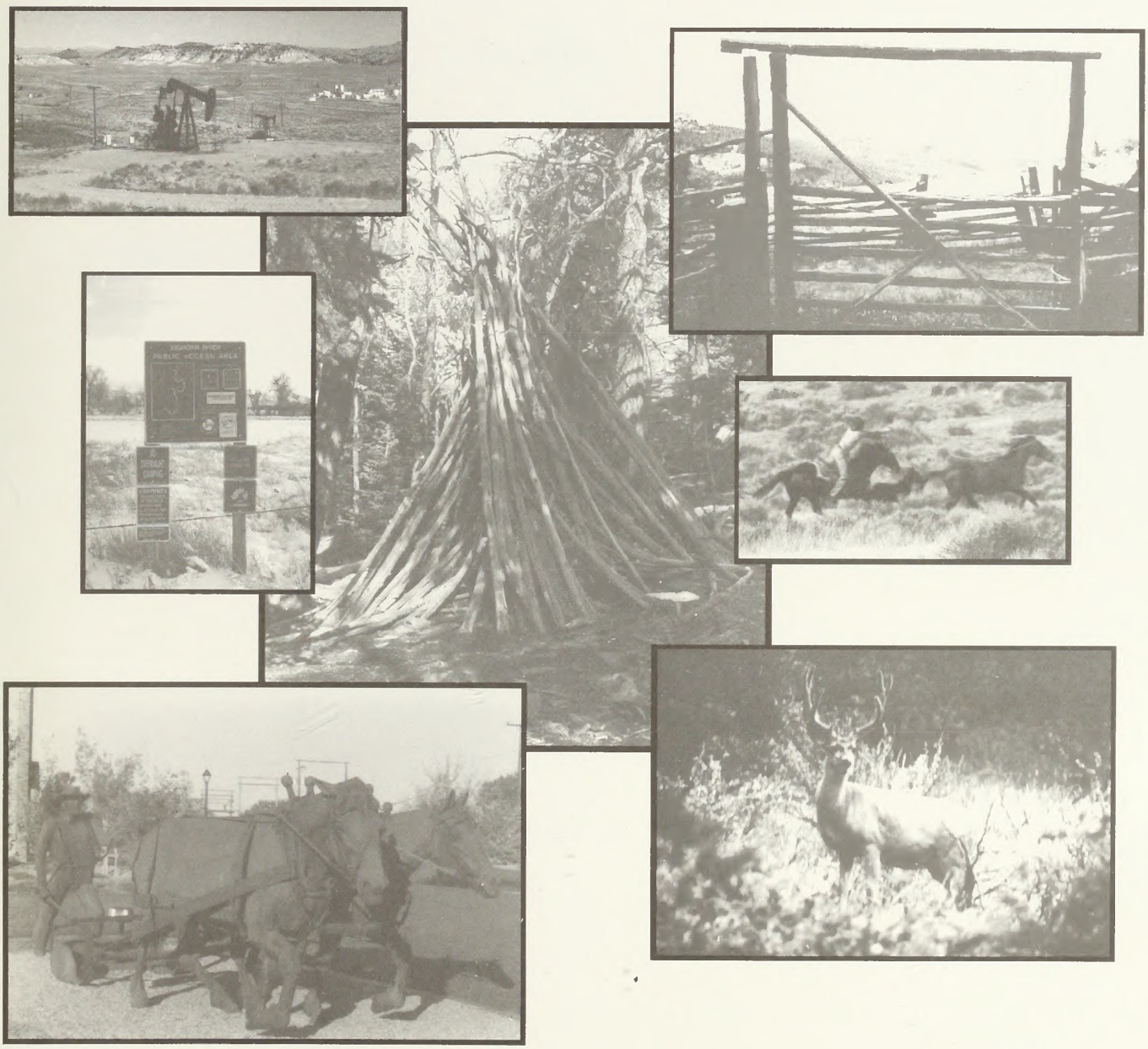
U.S. Department of the Interior
Bureau of Land Management
Wyoming State Office

Worland District Office

September 1998

RECORD OF DECISION and APPROVED RESOURCE MANAGEMENT PLAN for the Grass Creek Planning Area



MISSION STATEMENT

It is the mission of the Bureau of Land Management to sustain the health, diversity, and productivity of the public lands for the use and enjoyment of present and future generations.

BLM/WY/PL-98/025+4410

RECORD OF DECISION

and

APPROVED RESOURCE MANAGEMENT PLAN

for the

Grass Creek Planning Area
of the
Worland Bureau of Land Management Office

Prepared by:

United States Department of the Interior
Bureau of Land Management
Worland Office
Worland, Wyoming

September 1998

Wyoming State Director

14 September 1998
Date

TABLE OF CONTENTS

APPENDIXES

TABLES

FIGURES

MAPS

ABBREVIATIONS

ACEC	area of critical environmental concern
AMP	allotment management plan
APHIS	U.S. Department of Agriculture, Animal and Plant Health Inspection Service
BLM	U.S. Department of the Interior, Bureau of Land Management
BOR	U.S. Department of the Interior, Bureau of Reclamation
CFR	Code of Federal Regulations
CRM	coordinated resource management plan
DEQ	Wyoming State Department of Environmental Quality
DPC	desired plant communities
EIS	environmental impact statement
EPA	Environmental Protection Agency
FLPMA	Federal Land Policy and Management Act of 1976
FS	U.S. Department of Agriculture, Forest Service
HRM	holistic resource management plan
NEPA	National Environmental Policy Act of 1969
NRCS	U.S. Department of Agriculture, Natural Resource Conservation Service
RMP	resource management plan
SRMA	special recreation management area
VRM	visual resource management
WGFD	Wyoming Game and Fish Department
WSA	wilderness study area

RECORD OF DECISION
for the
GRASS CREEK RESOURCE MANAGEMENT PLAN ENVIRONMENTAL IMPACT STATEMENT

DECISION

The decision is to select and approve the attached Grass Creek Resource Management Plan (RMP) to guide the future management of the public lands and resources administered by the Worland Office of the Bureau of Land Management (BLM). The Grass Creek RMP supersedes all previous land-use planning decision documents for the Grass Creek Planning Area. The Grass Creek RMP was prepared pursuant to regulations (43 CFR 1600) for implementing the land-use planning requirements of the Federal Land Policy and Management Act of 1976 (FLPMA). An environmental impact statement (EIS) was prepared for the RMP in compliance with the National Environmental Policy Act of 1969 (NEPA). A copy of the EIS is on file in the Worland BLM office.

The decisions in the Grass Creek RMP provide general management direction and allocation of uses for the BLM-administered public lands and resources in the planning area. The selection and approval of the Grass Creek RMP is based upon the analysis of environmental impacts of four alternative management plans, public comments, and consultation with federal, state, and local governments and agencies, and upon the consideration of three planning issues: (1) Vegetation Management, (2) Special Management Area Designations, and (3) Public Land and Resource Accessibility and Manageability.

The attached Grass Creek RMP is the proposed RMP presented in the Grass Creek RMP Final EIS, published in June 1996, with minor editorial modifications to reflect agencywide policy changes and wording clarification. The Grass Creek RMP provides a balance between resource production on public lands and protection of the environment. It represents the BLM's preferred management plan alternative for the Grass Creek Planning Area and one of the environmentally preferred alternatives in terms of minimizing environmental impacts and guiding the uses of the public lands in the planning area. This alternative best meets the BLM's statutory mission under the Federal Land Policy and Management Act to provide for multiple use of the public lands, and identifies actions to protect resources and avoid or minimize environmental harm. Alternative C of the EIS, which would place more restrictions on land uses than the approved RMP, also qualifies as an environmentally preferred alternative.

WILDERNESS STUDY AREAS

The BLM's recommendations to the Secretary of the Interior on Wilderness Study Areas (WSAs) in the Grass Creek Planning Area have been made under separate documentation. These areas were addressed in separate wilderness EIS and wilderness report documents which are also on file in the Worland BLM office. The decisions regarding wilderness area designations are made by Congress. When Congress makes the wilderness decisions for the WSAs in the Grass Creek Planning Area, they will be incorporated into the Grass Creek RMP.

WILD AND SCENIC RIVERS

In the course of conducting the planning effort and preparing the Grass Creek RMP, public lands along all waterways in the planning area were reviewed to determine their eligibility for inclusion in the National Wild and Scenic River System. No public lands were found to meet the eligibility criteria. (See Appendix 1 to the RMP.)

WITHDRAWALS AND CLASSIFICATIONS

All coal and phosphate withdrawals and classifications on approximately 180,780 acres will be terminated and the lands will be returned to operation of the 1872 Mining Law.

SPECIAL MANAGEMENT AREA DESIGNATIONS

There are unique or important areas, values, and resources on BLM-administered public lands within the Grass Creek Planning Area that meet the criteria for protection and management under special management area designations.

Area of Critical Environmental Concern

The Upper Owl Creek Area of Critical Environmental Concern (ACEC) is designated on approximately 16,300 acres of BLM-administered public lands.

Special Recreation Management Areas

The BLM-administered public lands in the following areas are designated Special Recreation Management Areas (SRMAs). These are the Absaroka Mountain Foothills (comprising about 68,000 acres of public land), Badlands (comprising about 208,600 acres of public land), and Bighorn River (comprising about 1,200 acres of public land). The remainder of the BLM-administered public lands in the planning area are designated an Extensive Recreation Management Area (ERMA).

PROTESTS

Thirteen protests were submitted to the Director of the Bureau of Land Management during the 30-day protest period for the Proposed Grass Creek RMP. Each protest letter was responded to by the Director. Resolution of the protests did not result in changes to any of the proposed land-use planning decisions.

One other letter, addressed to the Worland District Office, was determined not to be a protest and was answered by the Wyoming State Director.

Altogether, ninety-one concerns or comments were raised. The major concerns and comments are listed below.

Marathon Oil Company submitted a protest citing eight concerns or comments. These addressed such things as BLM's response to public comments, the length of the protest period, NEPA compliance, the effects of ACEC designations and land-use restrictions on oil and gas development, and the basis for BLM's oil and gas resource potential determinations in the upper Owl Creek area.

The Wyoming State Grazing Board submitted a protest citing nine concerns or comments. These addressed such things as riparian area condition, consultation with grazing permittees, desired plant community objectives, cumulative impacts, and the definition of carrying capacity.

The Budd-Falen Law firm submitted a protest on behalf of Hillberry Cattle Company and Tim Hart citing four concerns or comments. These included comments that the proposed RMP favored wildlife and recreation over livestock grazing and that the proposed RMP was not in compliance with court decisions regarding Rangeland Reform.

The Wyoming Outdoor Council submitted a protest on behalf of itself and American Wildlands, Biodiversity Associates, Friends of the Wild Wyoming Deserts, Greater Yellowstone Coalition, Sierra Club, and the Wyoming Wilderness Association citing eighteen concerns or comments. These addressed such things as the Federal Advisory Committee Act, ACEC and wilderness designations, off- road vehicle impacts, water quality, air quality, visual resources, mitigation measures, alternatives for oil and gas leasing, multiple use, protection of ecological values, monitoring, and animal damage control.

The Meeteetse Conservation District submitted a protest citing eight concerns or comments. These involved such things as the conservation district's status as local government, the use of precipitation data for rangeland monitoring, the BLM's definition of carrying capacity, the development of desired plant community objectives, the "Clementsian" theory of range condition, and the use of oil and gas lease stipulations on split-estate lands.

The Wyoming Wool Growers Association submitted a protest citing one concern, that the proposed RMP was based on and tiered to the Rangeland Reform EIS.

The Big Horn, Hot Springs, Park, and Washakie county commissioners submitted a protest citing sixteen concerns or comments. These involved such things as the extension of comment periods, socioeconomic information and impacts, the effects of ACEC designation, consultation with local government, and the range of alternatives in the EIS.

The Gould Ranch Company submitted a protest citing five concerns or comments. These included such things as the importance of private land in maintaining wildlife habitat and the improvement of soil fertility by livestock grazing.

Mr. Randy Bruner of Marathon Oil Company submitted a protest with one concern disputing BLM's oil and gas resource potential determinations in the upper Owl Creek area.

The Meeteetse Multiple Use Association submitted a protest with one concern about the BLM's definition of carrying capacity.

The Petroleum Association of Wyoming submitted a protest citing three concerns or comments. These involved oil and gas resource potential determinations, the economic impacts of oil and gas lease restrictions, and the need for the BLM and the State Historic Preservation Office to comply with an agreement on the management of cultural resources.

A private individual submitted a protest citing six concerns or comments. These involved such things as removal of wild horses, BLM's assumptions regarding exploratory drilling for oil and gas, the analysis of standard oil and gas lease conditions, and the effects of predators on wildlife.

Another private individual submitted a protest citing two concerns or comments. These involved BLM's response to public comments and the redaction of personal information before comment letters were published in the final EIS.

Finally, the Wyoming Farm Bureau Federation wrote a letter to the Worland District Office citing nine concerns or comments. These involved such things as compliance with the state of Wyoming's strategic plan for agriculture, BLM's data on past grazing use, the lack of ecosystem maps in the EIS, trends relating to biological diversity, and the discussion of habitat fragmentation within the planning area.

CHANGE BASED ON ADMINISTRATIVE REVIEW

As a result of Administrative Review, a "no surface occupancy" requirement for oil and gas leasing will be applied in the immediate vicinity surrounding petroglyphs in the Meeteetse Draw area. (The immediate vicinity would include about 20 acres.) In the proposed RMP these areas had been recommended for closure to mining claim location and development and would be avoided for the construction of rights-of-way. This decision to require "no surface occupancy" establishes consistent management for the area and protection from major surface-disturbing activities.

ALTERNATIVES

Alternatives Considered in Detail

Each of the four alternative plans examined in detail in the Grass Creek RMP EIS provided a different emphasis for managing the planning area, and each resolved the planning issues differently.

Alternative A, the "no action" alternative, continued current management practices on the basis of existing land use plans.

Alternative B reduced the level of land use restrictions while emphasizing timber and livestock forage production, developed forms of recreation, and vehicle access.

Alternative C had higher levels of land use restrictions and emphasized wild horse management, wildlife habitat enhancement, and the interpretation of historic and cultural resources.

The Preferred Alternative (and Proposed Plan) placed greater emphasis on protection of the natural environment than Alternatives A and B while prescribing fewer restrictions on land use than Alternative C. This alternative was developed to balance production of commodity resources with protection of the environment.

Management Options Considered but Not Analyzed in Detail

Management options, which were considered but not analyzed in detail, were eliminating livestock grazing, eliminating timber harvesting, eliminating oil and gas leasing, use of only oil and gas standard lease terms and conditions, and maximum or unconstrained alternatives which would exclude other land and resource uses.

The Selected Plan

The Grass Creek RMP consists of the proposed RMP described in the final EIS, with minor editorial modifications to reflect agencywide policy changes and wording clarification, and with one change based on administrative review. The land use plans of local and state governments and other federal agencies in and around the Grass Creek Planning Area were considered during the planning process to insure the approved Grass Creek RMP will be compatible with them, to the extent consistent with federal law.

PUBLIC PARTICIPATION AND CONSISTENCY

Public participation occurred throughout the planning process. Both formal and informal involvement methods were encouraged and used. The public participation that occurred is described in Chapter 5 of the final EIS.

Government agencies, organizations, and individuals received copies of both the draft and final EIS documents. Comment letters were received at the draft EIS stage and the BLM's responses to those comments were printed in the final EIS.

The Wyoming Governor's Office was supplied 20 copies of the final EIS for review by state agencies. A letter from the Governor dated September 16, 1996 did not cite any consistency problems between the Proposed Grass Creek RMP and State of Wyoming plans and programs.

The U.S. Fish and Wildlife Service (FWS) concurred with the BLM's "no effect" conclusion on the Proposed Grass Creek RMP for threatened and endangered species. Since the proposed decisions are not being changed in any way that would reduce the protection of threatened or endangered species, the "no effect" conclusion still applies.

Some changes have been made in the fire management section and in the Glossary to reflect new federal

wildland fire management policy adopted by the Departments of Interior and Agriculture, with other Departments and federal agencies. References to "limited" and "full" wildfire suppression, along with Map 3 of the final EIS, have been dropped to comply with new elements of the policy. While continuing to emphasize firefighter and public safety, the policy highlights the beneficial uses of fire to manage natural resources, with federal agencies taking an "appropriate management response" to wildland fire, in place of limited or full suppression. (See Glossary.)

The Standards for Healthy Rangelands and Guidelines for Livestock Grazing Management for Public Lands Administered by the Bureau of Land Management in the State of Wyoming (approved August 12, 1997), are described in Appendix 2 to the RMP. The standards and guidelines were developed in compliance with the Department of the Interior's final rule for grazing administration, effective August 21, 1995. The Standards for Healthy Rangelands address the health, productivity, and sustainability of the BLM-administered public rangelands and represent the minimum acceptable conditions for the public rangelands. These standards apply to all public land resource uses addressed in the Grass Creek RMP. The Guidelines for Livestock Grazing Management provide for and guide the development and implementation of reasonable, responsible, and cost-effective management practices at the grazing allotment and watershed level. These guidelines apply specifically to livestock grazing management practices.

The public is invited to continue to participate in the implementation of the Grass Creek RMP through involvement in the activity or implementation planning phase of the planning process. This phase deals with site-specific and detailed decisionmaking and project implementation or approval in support of the general land-use planning determinations presented in the RMP.

The Grass Creek RMP is consistent with officially adopted plans, programs, and policies of other federal agencies and state and local governments, as well as those of the Department of the Interior and BLM.

MONITORING AND EVALUATION

Management actions and decisions of the Grass Creek RMP will be tracked and evaluated to determine their effectiveness and to determine if the objectives of the RMP are being met. If evaluation indicates that the RMP is not working as expected or needed, or if situations in the planning area change, it may become necessary to amend or revise the RMP. Intervals and standards for monitoring and evaluation will be established as necessary.

All mitigation measures identified directly or referenced or implied in the Grass Creek RMP are adopted. Additional or revised mitigation identified through activity or implementation planning or individual analysis, and that are in conformance with the RMP objectives, will be considered a supporting part of the Grass Creek RMP.

PUBLIC AVAILABILITY OF THIS DOCUMENT

Copies of the Grass Creek RMP are available on request from the Worland BLM office located at 101 South 23rd Street, Worland, Wyoming, Telephone (307) 347-5100, or by writing to the Bureau of Land Management, P.O. Box 119, Worland, Wyoming 82401-0119.

GRASS CREEK RESOURCE MANAGEMENT PLAN

INTRODUCTION

This resource management plan (RMP) provides the management direction for approximately 968,000 acres of public land surface and 1,171,000 acres of federal mineral estate administered by the Worland office of the Bureau of Land Management (BLM). This Grass Creek RMP supersedes all previous land-use planning documents for the Grass Creek Planning Area.

The Grass Creek RMP Planning Area includes portions of Big Horn, Hot Springs, Park, and Washakie counties in north central Wyoming. (See Map 1 located at the end of the "Planning and Management Decisions" section.) The RMP planning area includes the communities of Worland, Thermopolis, Basin, Meeteetse, Grass Creek, Hamilton Dome, Kirby, and Otto.

As provided by the Federal Land Policy and Management Act, the BLM has the responsibility to plan for and manage the public lands. As defined by the Act, public lands are those federally-owned lands, and any interest in lands (for example, federally-owned mineral estate) administered by the Secretary of the Interior, specifically through the Bureau of Land Management. Within the planning area boundary, there are varied and overlapping land and mineral ownerships. There are a few thousand acres of land administered by other federal agencies, and other lands and minerals owned and administered by private individuals and by local and state governments. Providing management for the surface of these lands is not within the BLM's jurisdiction and, in certain instances, management of the federal minerals under these lands is not an objective of the RMP. For example, the Grass Creek RMP will not include any management decisions for withdrawn federal lands administered by the Bureau of Reclamation (BOR). Therefore, any BLM administrative responsibilities for these lands, such as grazing or mineral leasing, are handled individually and are guided by the BOR's policies, procedures, and plans and in accordance with memoranda of understanding or cooperative agreements between the two agencies. The decisions in this RMP only apply to the approximately 968,000 acres of BLM-administered public land surface and 1,171,000 acres of BLM-administered federal mineral estate, as described in Table 1.

Table 1 is a summary of the administrative authority and ownership of land surface and mineral estate in the planning area.

Table 1
Land and Mineral Ownership in the Grass Creek Planning Area

	Areas the Grass Creek RMP Decisions COVER	Approximate Acreage
A.	Areas where BLM administers both the federal land surface and the federal minerals under those lands.[1]	960,000
B.	Areas of BLM-administered federal land surface where the minerals under those lands are owned by private individuals, the state of Wyoming, or local governments.[2]	8,000
C.	Areas of BLM-administered federal minerals where the surface of those lands is owned by private individuals, the state of Wyoming, or local governments.[3]	211,000
Total BLM-administered federal land surface to be covered by RMP decisions. (A + B)		**968,000**
Total BLM-administered federal minerals to be covered by RMP decisions. (A + C)		**1,171,000**
	Areas the Grass Creek RMP Decisions DO NOT COVER	
D.	Areas where the federal land surface is administered by the Bureau of Reclamation and the federal minerals under those lands are administered by the BLM.	4,700
E.	Areas where the land surface and the minerals under those lands are both owned by private individuals, the state of Wyoming, or local governments and the BLM has no administrative authority.	302,000
Total Surface Acres of All Lands in the Grass Creek Planning Area (A + B + C + D + E)		**1,485,700**

[1]Throughout this RMP these BLM-administered federal lands will be called "public lands." According to FLPMA, sec. 103(e), "The term 'public lands' means any land and interest in land owned by the United States within the several States and administered by the Secretary of the

Table 1 (Continued)
Land and Mineral Ownership in the Grass Creek Planning Area

Interior through the Bureau of Land Management, without regard to how the United States acquired ownership, except—(1) lands located on the Outer Continental Shelf; and (2) lands held for the benefit of Indians, Aleuts, and Eskimos."

[2]The surface of these lands will also be described as "public lands" in this RMP, although BLM will make no planning or management decisions for the minerals.

[3]The interest in these lands administered by BLM consists of the minerals. These will not be called "public lands" in this RMP but BLM's interest will be described as "BLM-administered minerals" or "BLM-administered mineral estate."

The multiple-use planning decisions in the Grass Creek RMP consist of management objectives and management actions, listed in the next section, which maintain environmental quality while meeting the foreseeable needs of the people and communities within the planning area. All public land and resource uses in the planning area must conform with the decisions, terms, and conditions of use described in this RMP. Detailed decisions for the implementation of specific projects will be made through activity planning and environmental review that will be completed prior to the implementation of the project. Likewise, the authorization of specific uses will be based on conformance with RMP decisions and completion of environmental analyses.

Maps 2 through 11, which are located at the end of the "Planning and Management Decisions" section, show the general management direction associated with the planning decisions and in some cases the location of important resources. With the exception of Map 11, the page-sized maps do not distinguish between private, state, and federal lands. However, it must be remembered that RMP decisions only apply to the approximately 968,000 acres of BLM-administered public land surface and 1,171,000 acres of BLM-administered federal mineral estate cited above. More detailed maps are on file at the Worland BLM office. The information on these maps is dynamic and subject to change as new information and data are acquired. Appendix material referenced in this RMP provides resource information and general guidance to be used for implementing the RMP decisions.

The Grass Creek RMP also incorporates the *Standards for Healthy Rangelands and Guidelines for Livestock Grazing Management for Public Lands Administered by the Bureau of Land Management in the State of Wyoming*, approved August 12, 1997. (Appendix 2.)

PLANNING AND MANAGEMENT DECISIONS (BY RESOURCE)

The planning and management decisions in the Grass Creek RMP resolve the planning issues and provide for sustained multiple-use management of the public lands and resources. The RMP decisions are presented in bold type.

Air Quality Management Decisions

Management Objectives

Maintain or enhance air quality, protect public health and safety, and minimize emissions resulting in acid rain or degraded visibility. Also see Appendix 2.

Management Actions

All BLM-initiated or authorized actions, such as the use of prescribed fire, will avoid violation of Wyoming and national air quality standards. This will be accomplished through the coordination of BLM-managed activities with the Wyoming Department of Environmental Quality (DEQ) and the U.S. Environmental Protection Agency (EPA).

Requirements will be applied to authorized actions on a case-by-case basis to alleviate air quality problems. These requirements could include such things as limiting emissions and covering conveyors.

Air quality standards are monitored by the Wyoming DEQ. **Air quality permits will be obtained from DEQ before prescribed fires are set on public land. Smoke and pollution will be minimized as described in the *Smoke Management Guidebook* (BLM 1985).**

The BLM will coordinate with the Wyoming DEQ and the EPA on developing air quality standards and guidelines as needed.

Cultural, Paleontological, and Natural History Resources Management Decisions

Management Objectives

Protect and preserve important cultural, paleontological, and natural history resources. Expand opportunities for scientific and educational uses of these resources. (See Map 2 and Appendix 2).

Protect and study rock art in the Meeteetse Draw and Coal Draw areas. Expand public education and interpretation in these areas, if appropriate, following additional consultation with Native Americans and the preparation of environmental analyses.

Management Actions

Site-specific inventories for cultural resources will be required before the start of surface- disturbing activities. Adverse effects on significant resources will be mitigated, or the resources themselves will be avoided by surface-disturbing activities.

Sites listed on the National Register of Historic Places will be appropriately protected. Any violations of the Archaeological Resources Protection Act will be investigated.

The BLM's consultation with the Advisory Council for Historic Preservation and the State Historic Preservation Office will be consistent with a cultural resources programmatic agreement signed in 1995.

Rock art, as well as other prehistoric and historic archaeological sites and districts associated with specific time periods or cultures, will be managed for scientific, public, and sociocultural use. General areas will be managed for research, with emphasis on interpreting former ecosystems. Specific sites or areas will be preserved for future study and use. Near rock art the use of heavy equipment to construct fire lines and the use of chemical and dye retardants will be restricted or prohibited.

The Legend Rock Petroglyph Site will be managed for public education in cooperation with the state of Wyoming.

A cooperative management agreement will be pursued with private landowners to enhance and conserve the Legend Rock Petroglyph Site.

In the Meeteetse Draw and Coal Draw areas, interpretive sites will be developed to highlight rock art, making use of scenic overlooks and interpretive signs and trails, if warranted, following additional consultation with Native Americans and the preparation of environmental analyses.

Additional public access will be pursued in the Meeteetse Draw area, if warranted, following consultation with Native Americans.

To protect Native American cultural values, the construction of rights-of-way will be avoided on public lands in the Meeteetse Draw area.

Portions of the town of Gebo and adjacent coal mining areas on public land will be managed for preservation and interpretation of cultural and historic values. Management could include actions like development of an interpretive road loop.

Other cultural resource interpretive sites will be developed, making use of scenic overlooks, signs, and walking trails. Sites could include historic trails such as the Thermopolis to Meeteetse Trail, the Fort Washakie to Red Lodge Trail, the Mexican Pass Trail, and the Jim Bridger Trail.

As appropriate, specific sites on public lands will be managed for their traditional Native American cultural values.

Historic resources in ten oil and gas fields will be managed for scientific and public use. The purpose will be to improve knowledge of the historic significance of the fields and facilitate the approval of future development and reclamation activities. The following fields will be included: Hamilton Dome, Grass Creek, Little Buffalo Basin, Walker Dome, Enos Creek, Golden Eagle, Gooseberry, Hidden Dome, Little Grass Creek, and Gebo.

Adverse effects will be avoided on public lands and resource values listed in National Park Service inventories of possible National Natural Landmarks. These lands and resources include paleontological and scenic values at Tatman Mountain and in the badlands north of Wyoming Highway 431.

Important paleontological resources will be managed for scientific and public use.

Potential effects on paleontological resources will be considered in site-specific environmental analyses before the authorization of surface-disturbing activities. As appropriate, site-specific inventories will be required where significant fossil resources are known or anticipated to occur.

Closing lands or restricting uses to protect paleontological resources will be evaluated case by case.

Surface-disturbing and disruptive activities associated with the construction and use of interpre-

tive sites and facilities will be subject to appropriate mitigation developed through use of the mitigation guidelines described in Appendix 3.

Fire Management Decisions

Management Objective

The objectives of the fire program are to: (1) cost-effectively protect life, property, and resource values from undesired wildland fire (see Glossary); and (2) use prescribed and wildland fire to achieve multiple-use management goals. Also see Appendix 2.

Management Actions

The "Worland District Fire Management Plan" will be maintained and revised, as necessary, and implemented. The plan will address fire management on a watershed or landscape scale, in order to meet desired plant community and other resource management objectives identified in this RMP and in future activity plans.

The use of minimal impact suppression techniques will restrict fire vehicles to existing roads and trails on public lands near the Legend Rock Petroglyph Site and within 0.25 mile of the high-water mark at Wardel Reservoir, to protect riparian habitat and a great blue heron rookery. Other travel restrictions will be considered in future activity planning.

The construction of fire lines will be avoided if natural fire breaks can be used.

The use of bulldozers generally is prohibited in riparian and wetland areas, in areas of significant cultural resources or historic trails, and in important wildlife birthing areas.

Fire retardant drops by air tankers are prohibited within 200 feet of water. Near rock art the use of heavy equipment to construct fire lines and the use of chemical and dye retardants will be restricted or prohibited.

Prescribed and wildland fire will be used to accomplish resource management objectives. These objectives include use of fire to rehabilitate old timber sale areas and recycle nutrients to the soil, reduce hazardous fuels, remove trees infested by the mountain pine beetle, rid timber sale areas of slash, maintain certain age classes of trees, improve timber stand diversity and productivity, improve riparian areas, modify sagebrush stands to benefit wildlife habitat, reestablish and invigorate aspen stands, improve watershed values, and remove sagebrush, juniper, and limber pine to increase livestock forage production.

When prescribed fires are planned, and when wildland fires are managed, the potential for habitat fragmentation will be evaluated. Actions that would disrupt or divide habitat blocks, other than temporarily, will be avoided.

When fire and mechanical or biological treatments can be used effectively to manage vegetation, they will be preferred over chemical treatments.

Surface-disturbing and disruptive activities associated with all types of fire management will be subject to appropriate mitigation developed through use of the mitigation guidelines described in Appendix 3.

Forestland Management Decisions

Management Objective

Maintain and enhance the health, productivity, and biological diversity of forest and woodland ecosystems. A balance of natural resource benefits and uses will be provided, including opportunities for commercial forest production. Also see Appendix 2.

Management Actions

Road construction for harvesting timber or for conducting forest management practices is prohibited on slopes greater than 25 percent, unless site-specific environmental analyses demonstrate that adverse effects can be mitigated or avoided.

Skidder-type yarding is prohibited on slopes greater than 45 percent. Other logging operations on slopes steeper than 45 percent are limited to technically, environmentally, and economically acceptable methods such as cable yarding.

Emphasis for silvicultural practices and timber harvesting will be placed on areas where forest health is the primary concern (including forests that are infested by mistletoe or mountain pine beetles). Forest management areas are shown on Map 3.

A variety of forest silvicultural and cutting methods will be used such as clearcutting, shelterwood, individual tree selection, and various regeneration treatments.

Severely mistletoe-infested stands will be clearcut. Stagnated and overstocked pole timber stands will be thinned if there is a chance that they would respond with further growth and produce wildlife thermal cover.

Overstocked seedling, sapling, and pole stands will be precommercially thinned on up to 800 acres to increase timber production and improve long-term wildlife thermal cover.

All harvest areas will be regenerated by natural or artificial means consistent with BLM policy. If at the end of fifteen years any clearcut area fails to regenerate naturally, planting and other methods will be used to assure regeneration unless converting vegetation to another type is the objective.

Emphasis for silvicultural practices and timber harvesting will be placed on conifer stands to increase the viable component of aspen, when possible. Other methods to improve aspen will include use of prescribed and wildland fire, noncommercial thinning of conifers, and fencing of aspen stands to protect them from wildlife and livestock use.

In important seasonal wildlife habitat areas, clearcuts generally will not exceed 300 yards (approximately 15 acres) in any direction. Wildlife escape cover will be maintained by keeping a corridor of timber around, or on one or more sides of, roads, clearcuts, parks, wetlands, and wallows. Trees and snags will not be cut if they provide important habitat for cavity or snag-nesting wildlife.

The BLM will evaluate the size, extent, distance from roads, and characteristics of forestland vegetation, when forest harvests are considered, to maintain or improve the effectiveness of residual wildlife security areas.

When harvests are planned, the potential for habitat fragmentation will be evaluated. Actions that would disrupt or divide habitat blocks, other than temporarily, will be avoided.

Slash disposal will be tailored to promote reforestation, minimize erosion, and allow ease of movement for wildlife.

Forest products will be sold from limber pine and juniper woodland areas to meet public demand for posts, poles, firewood, and specialty wood consistent with wildlife habitat requirements.

Harvesting firewood on public lands along desert waterways and the Bighorn and Greybull rivers is prohibited.

Prescribed and wildland fire will be used to improve aspen stands, regenerate old age forest stands, manage for desired successional stages and forest species composition, and rehabilitate harvest areas.

Surface-disturbing and disruptive activities associated with all types of forest management will be subject to appropriate mitigation developed through use of the mitigation guidelines described in Appendix 3.

Hazardous Materials and Wastes Management Decisions

Management Objective

Protect public health and safety and the environment on public lands, emphasize waste reduction and pollution prevention for BLM-authorized and initiated actions, comply with applicable federal and state laws, prevent waste contamination from any BLM-authorized actions, minimize federal exposure to the liabilities associated with waste management on public lands, and integrate hazardous materials and waste management policies and controls into all BLM programs. Also see Appendix 2.

Management Actions

For BLM-authorized activities that involve hazardous materials or their use, precautions will be taken to guard against releases into the environment. In the event of a release of hazardous materials on the public land, appropriate warnings will be provided to potentially affected communities and individuals, and precautions will be taken against public exposure to contaminated areas.

Sale, exchange, or other transfer of public lands on which storage or disposal of hazardous substances has been known to occur will require public notification of the type and quantity of the substances.

Public lands contaminated with hazardous wastes will be reported, secured, and cleaned up according to federal and state laws, regulations, and contingency plans, including the federal Comprehensive Environmental Response, Compensation, and Liability Act. Parties responsible for contamination will be liable for cleanup and resource damage costs, as prescribed by law.

Surface-disturbing and disruptive activities associated with all types of hazardous materials and waste management will be subject to appropriate mitigation developed through use of the mitigation guidelines described in Appendix 3.

Lands and Realty Management Decisions

Management Objective

Support the multiple-use management goals of the various BLM resource programs; respond to public requests for land-use authorizations, sales, and exchanges; and acquire access to serve administrative and public needs. Also see Appendix 2.

Management Actions

Access

The BLM will pursue public access on important roads and trails identified in the BLM transportation plan. The transportation plan will be updated as necessary and implemented to provide access to large blocks of public land or to smaller parcels of land having high public values.

The BLM will maintain or improve existing opportunities for public access in the upper Grass Creek area.

Emphasis will be placed on acquisition of access to public lands on the Bighorn and Greybull rivers to enhance recreational opportunities and wildlife management.

The BLM will pursue a combination of motorized and nonmotorized vehicle access in the Enos Creek, the upper Cottonwood Creek, and the upper South Fork of Owl Creek areas of the Absaroka Mountain foothills. Goals are to provide vehicle access to the South Fork of Owl Creek to improve fishing and other recreational opportunities and to acquire foot and horseback access to the Shoshone National Forest. All access will be limited seasonally and to specific routes as appropriate.

The BLM will pursue limited motorized vehicle access on roads in the Red Canyon Creek area consistent with an overall objective to emphasize primitive recreation.

Access to specific areas may be closed or restricted to protect public health and safety. Before access is upgraded in the vicinity of important cultural, paleontological, natural history, wildlife habitat, or other sensitive resources, the security and protection of these resources will be carefully considered.

Landownership Adjustments

Before any public lands are exchanged or sold, or before the BLM would attempt to acquire any other lands in the planning area, the BLM will consult with county commissioners and other representatives of local government in the affected areas. Other affected and interested citizens will be given opportunities to comment as well.

About 1,220 acres will be considered for suburban expansion, community landfills, industrial and commercial development, and other public needs near the communities of Worland, Thermopolis, Meeteetse, and Basin.

Agricultural trespass on public land generally will be resolved by prohibiting the unauthorized use; however, land sales, exchanges, or leases could resolve agricultural trespass in some cases. Leases might be used to develop the lands as wildlife food and cover areas.

Proposals for sale, exchange, or transfer of public land will be subject to criteria described in Appendix 4. Priority will be given to landownership adjustments that meet community needs. The preferred method of adjusting landownership is exchange.

Approximately 33,700 acres of public lands that are difficult or uneconomic to manage (Map 4) will have priority consideration for public sale, Recreation and Public Purposes Act patent, exchange, or transfer to another agency. Proposals for the sale, exchange, or transfer of other public lands in the planning area will be considered on a case-by-case basis.

Exchanges will be pursued to improve management of important seasonal wildlife habitat areas in the upper portions of Owl, Cottonwood, Gooseberry, and Grass creeks.

Exchanges will be pursued along Gooseberry Creek, the upper portions of Cottonwood and Grass creeks, the Bighorn and Greybull rivers, and on lands where other riparian areas occur. The purposes for these exchanges will be to block up public land, enhance public access, and improve public land manageability.

A cooperative management agreement will be pursued with private landowners to enhance and conserve the Legend Rock Petroglyph Site.

Cooperative agreements or land exchanges to improve wild horse management will be pursued on about 12,000 acres of privately-owned land.

Rights-of-Way

The planning area will be open for rights-of-way development. Proposals will be addressed on an

individual basis with emphasis on avoiding certain conflict or sensitive areas.

Two right-of-way corridors are designated. (See Map 5.) These will be the preferred locations for placement of future rights-of-way including transmission and distribution lines and communication sites.

The construction or modification of rights-of-way along Wyoming highways 120 and 431 will be evaluated individually to assure that adverse effects on scenic values are not increased.

To protect Native American cultural values, the construction of rights-of-way will be avoided on public lands in the Meeteetse Draw area.

Surface-disturbing and disruptive activities associated with all types of rights-of-way construction and maintenance will be subject to appropriate mitigation developed through use of the mitigation guidelines described in Appendix 3.

Withdrawals

All coal and phosphate withdrawals and classifications on approximately 180,780 acres will be terminated and the lands will be returned to operation of the 1872 Mining Law.

A locatable mineral withdrawal will be pursued on about 1,200 acres of public land to protect recreation and wildlife values on public river tracts along the Bighorn River. (See Map 6.)

Locatable mineral withdrawals will be pursued within 0.5 mile of the Legend Rock Petroglyph Site and in the immediate vicinity of rock art in the Meeteetse Draw area near Thermopolis.

A locatable mineral withdrawal will be pursued in the Upper Owl Creek ACEC on about 16,300 acres of public land to protect scenic values, wildlife habitat, soil, and water.

Livestock Grazing Management Decisions

Management Objective

Improve forage production and range condition to provide a sustainable resource base for livestock grazing while improving wildlife habitat, watershed protection, and forage for wild horses. Also see Appendix 2 and 5.

Management Actions

The level of livestock grazing on public lands, when combined with all other public land uses, will not be allowed to exceed the carrying capacity of the land. (See Glossary.)

Maximum allowable forage use by domestic livestock in the Fifteenmile Wild Horse Herd Management Area will be 3,370 AUMs per year. Wild horses are allocated 2,300 AUMs per year.

The amounts, kinds, and seasons of livestock grazing use will continue to be authorized until monitoring indicates a grazing use adjustment is necessary, or an environmental assessment indicates that a permittee's application to change grazing use is appropriate.

Adjustments in the levels of livestock grazing will be made as a result of monitoring and consultation or negotiation with grazing permittees and other affected interests (including local and state governmental entities, as appropriate). Adjustments may also result from land-use planning decisions to change the allocation of land uses or from transfers of public land to other agencies or into nonfederal ownership.

The level of livestock grazing may be reduced in areas with excessive soil erosion or poor vegetative condition, if identified by monitoring, or as necessary to provide for other multiple uses.

Livestock grazing monitoring intensity will vary, with higher levels occurring in "I" category allotments than in "M" and "C" category allotments. Livestock operators and other affected interests (including local and state governmental entities, as appropriate) will be asked to assist the BLM in developing objectives, in selecting key areas to monitor, and in gathering data.

Where practical, 20 public land tracts, comprising about 1,000 acres along the Bighorn River, will remain closed to livestock grazing, unless grazing is used for specific vegetation management objectives like the eradication of noxious weeds.

All BLM livestock grazing permittees and other interested parties, including local conservation districts, will implement management actions such as the use of grazing systems, land treatments, and range improvements consistent with the Guidelines for Livestock Grazing Management. (See Appendix 2.) Proposal and design of these actions will normally be developed through activity and implementation plans such as coordinated activity plans (CAPs), coordinated resource management plans

(CRMs), allotment management plans (AMPs), or holistic resource management plans (HRMs). The BLM will give priority to activity planning on "I" category allotments.

The placement of salt and mineral supplements on public lands is allowed outside riparian areas, and reclaimed or reforested areas, in locations designed to improve livestock distribution.

Important riparian habitat areas on public lands will be fenced to control the duration and timing of livestock use, if the condition of these areas is declining and other types of grazing management do not produce a favorable response. Access to water for use by livestock and wildlife will be provided.

When prescribed fire and mechanical or biological treatments can be used effectively to manage vegetation, they will be preferred over chemical spraying.

Grazing strategies (including the timing of grazing) will be designed to accommodate the growth requirements of "desired" species within plant communities. These strategies could also be used to control "undesirable" plants.

In Salt Desert Shrub and Salt Bottom plant communities that are grazed during the growing season, grazing strategies will be designed to allow a combined forage utilization of 25 to 35 percent of the current year's growth.

(Combined forage utilization includes all types of consumption or destruction of vegetation by livestock, wildlife, wild horses, insects, hail, surface-disturbing activities, etc. In addition, utilization will be measured and evaluated over time in the context of other monitoring information. Although utilization levels might vary from year to year, levels consistently exceeding those described would not be expected to meet watershed and other multiple-use requirements. Also see Appendixes 1 and 4.)

In other plant communities that are grazed during the growing season, grazing strategies will be designed to allow a combined forage utilization of 30 to 50 percent of the current year's growth.

In all plant communities that are grazed when plants are dormant, a combined forage utilization of up to 60 percent of the current year's growth is allowed.

In bighorn sheep habitat areas, grazing strategies will be designed so that combined utilization levels are kept near the lower end of the utilization objectives described above.

Domestic sheep grazing is prohibited within 2 miles of bighorn sheep habitat unless conflicts can be avoided or mitigated based on site-specific analysis. Existing uses will be allowed pending site-specific analysis.

In elk crucial winter ranges, grazing strategies will be designed so that combined utilization levels are kept near the lower end of the utilization objectives described above.

Water developments for livestock are prohibited in elk crucial winter ranges unless adverse effects can be avoided or mitigated based on site-specific analysis. Existing uses will be allowed pending site-specific analysis.

Livestock grazing strategies, including periodic rest of pastures in elk crucial winter ranges, will be applied as necessary.

Livestock grazing is prohibited in elk birthing habitat during birthing season (usually from May 1 through June 30) unless adverse effects can be avoided or mitigated based on site-specific analysis. Existing uses will be allowed pending site-specific analysis.

In moose winter and crucial winter ranges, grazing strategies will be designed so that combined forage utilization levels of woody riparian vegetation are between 30 and 50 percent of the current year's growth.

Livestock grazing will be managed to enhance riparian stream habitat within deer winter and crucial winter ranges.

Domestic sheep grazing is prohibited on pronghorn antelope crucial winter ranges unless adverse effects can be avoided or mitigated based on site-specific analysis. Existing uses will be allowed pending site-specific analysis.

Domestic horse grazing is prohibited in or adjacent to the Fifteenmile Wild Horse Herd Management Area unless adverse effects can be avoided or mitigated based on site-specific analysis. Existing uses will be allowed pending site-specific analysis.

Livestock grazing strategies on vegetative treatment areas will generally include deferment of livestock use during two growing seasons following treatment with moderate use of dormant vegetation being allowed. (Also see the section on Vegetation Management—Desired Plant Communities. Vegetation treatments will be used to help meet desired plant community objectives.)

Surface-disturbing and disruptive activities associated with all types of range project construction and maintenance will be subject to appropriate mitigation developed through use of the mitigation guidelines described in Appendix 3.

Minerals Management Decisions

Management Objective

Maintain or enhance opportunities for mineral exploration and development, while maintaining other resource values. Also see Appendix 2.

Management Actions

General

Surface-disturbing and disruptive activities associated with all types of minerals exploration and development and with geophysical exploration will be subject to appropriate mitigation developed through use of the mitigation guidelines described in Appendix 3.

Leasable Minerals

Coal

The coal screening process (as identified in 43 CFR 3420.1-4) has not been conducted in the planning area. **Interest in the exploration for, or the leasing of, federal coal will be handled case by case.** If an application for a coal exploration license or federal coal lease is received, an appropriate land use and environmental analysis, including the coal screening process, will be conducted to determine whether the coal areas are acceptable for development and for leasing (43 CFR 3425). Existing land use plans will be amended as necessary.

Gas and Oil

The entire planning area (about 1,171,000 acres of BLM-administered mineral estate) is open to oil and gas leasing consideration.

About 20,200 acres of BLM-administered mineral estate are open to leasing consideration with a "no surface occupancy" stipulation. (See Glossary and Map 6. These lands identified for "no surface occupancy" are identical to the lands where BLM would pursue mineral withdrawals from operation of the 1872 Mining Law.) The rest of the planning area is subject to standard lease terms and conditions, and seasonal or other requirements. (See Appendix 3.)

Geothermal

Geothermal resources will be available for leasing consideration in areas that are open to oil and gas leasing consideration. Areas closed to oil and gas leasing will also be closed to geothermal leasing.

Surface-disturbing and disruptive activities associated with all types of geothermal exploration and development will be subject to appropriate mitigation developed through use of the mitigation guidelines described in Appendix 3.

Other Leasable Minerals

Leasing of minerals such as phosphates or sodium will be considered on a case-by-case basis.

Locatable Minerals

All coal and phosphate withdrawals and classifications will be terminated and the lands involved will be returned to operation of the 1872 Mining Law.

Except for specific areas identified as closed, the planning area is open to the staking of mining claims and operation of the mining laws for locatable minerals.

Plans of operations or notices are required for locatable minerals exploration and development consistent with regulations (43 CFR 3809).

All locatable minerals actions will be reviewed to assure compliance with the BLM bonding policy for surface-disturbing activities.

A locatable mineral withdrawal will be pursued on about 1,200 acres of public land to protect recreation and wildlife values on tracts of public land along the Bighorn River.

A locatable mineral withdrawal will be pursued on public lands within 0.5 mile of the Legend Rock Petroglyph Site and on public lands in the immediate vicinity of the rock art in the Meeteetse Draw area near Thermopolis.

A locatable mineral withdrawal will be pursued in the Upper Owl Creek ACEC on about 16,300 acres of public land to protect scenic values, wildlife habitat, soil, and water.

Salable Minerals

Except for specific areas identified as closed, the planning area is open to consideration for sale of mineral materials (for example, sand and gravel) and related exploration and development activities.

No topsoil will be sold.

The Legend Rock Petroglyph Site and public lands within 0.5 mile are closed to the sale of sand and gravel and other mineral materials.

Public lands in the Meeteetse Draw Rock Art Area are closed to the sale of sand and gravel and other mineral materials.

The sale of sand and gravel will be avoided on public lands adjoining the Greybull and Bighorn rivers.

Geophysical

All parts of the planning area that are open to consideration for oil and gas leasing, exploration, and development are open to consideration for geophysical exploration subject to appropriate mitigation developed through use of the mitigation guidelines described in Appendix 3. On lands where surface-disturbing activities are prohibited or on lands closed to off-road vehicle (ORV) use, casual use geophysical exploration will be allowed. (Casual use for geophysical exploration is described in 43 CFR 3150.05(b).)

Off-Road Vehicle Management Decisions

Management Objective

Maintain or enhance opportunities for ORV use (see Glossary) while avoiding adverse effects of vehicle travel on other resource values. Also see Appendix 2.

Management Actions

Unless otherwise specified, ORV use on BLM-administered public land is limited to existing roads and trails.

Motorized vehicle use is prohibited on wet soils and on slopes greater than 25 percent, when and where unnecessary damage to vegetation, soils, or water quality would result.

Over-the-snow vehicles are subject to the same requirements and limitations as all other ORVs until activity planning specifically addresses their use.

An *open* area for ORV "play" will be established west of Worland on about 900 acres.

The Duck Swamp-Bridger Trail Environmental Education Area and the rifle range on public land west of Worland are designated as *closed* to ORV use. (See Map 7.)

Public lands near Sheep Mountain, Red Butte, Bobcat Draw Badlands, and the upper part of the South Fork of Owl Creek (about 52,460 acres) will be managed as *closed* to ORV use until activity planning specifically addresses ORV use in these wilderness study areas.

Off-road vehicle use is limited to *designated* roads and trails (see Glossary) and limited seasonally on about 68,000 acres of public land in the Absaroka Mountain foothills.

Off-road vehicle use is limited to *designated* roads and trails on about 9,000 acres of public land in the Red Canyon Creek area south of Thermopolis.

Off-road vehicle use on public lands in the Meeteetse Draw Rock Art Area is limited to *designated* roads and trails on about 6,800 acres.

On areas designated as closed or limited to *designated* roads and trails, the off-road use of a motorized vehicle on public lands will be prohibited unless the use is otherwise authorized by a permit or license. Signs will be posted and maps or brochures will be published to explain this requirement.

Off-road vehicle use is limited to *existing* roads and trails (see Glossary) on about 208,600 acres of public land in the Badlands Special Recreation Management Area (SRMA).

On areas designated as limited to *existing* roads and trails, the performance of necessary tasks requiring off-road use of a vehicle will be allowed provided resource damage does not occur. Examples of necessary tasks include constructing or repairing authorized range improvements.

Recreation Management Decisions

Management Objective

Enhance opportunities for primitive recreation in some areas while increasing visitor services in other areas to meet needs for more developed forms of recreation. The BLM will attempt to maintain the current opportunities (on about 62,270 acres) for "semiprimitive nonmotorized" recreation. (See Glossary.) Also see Appendix 2.

Management Actions

Special Recreation Management areas are designated on BLM-administered public lands in the Absaroka Mountain foothills, Badlands, and Bighorn River areas. All other public lands will be managed as an Extensive Recreation Management Area. Recreation management areas are shown on Map 8.

Recreational uses of public lands along the Bighorn River for fishing, hunting, and float boating are

managed under the Bighorn River Habitat and Recreation Area Management Plan. Emphasis will be placed on acquisition of access to public lands on the Bighorn and Greybull rivers to enhance recreational opportunities and wildlife management.

Roadside geologic interpretive areas will be established near the Gooseberry Badlands, Red Canyon Creek, along Wyoming Highway 120, and in other areas.

The Duck Swamp-Bridger Trail environmental education area will be managed for public education, interpretation, and recreation.

The Legend Rock Petroglyph Site will be managed for public education in cooperation with the state of Wyoming.

A cooperative management agreement will be pursued with private landowners to enhance and conserve the Legend Rock Petroglyph Site.

Interpretive sites will be developed to highlight rock art in the Meeteetse Draw and Coal Draw areas, if warranted, following additional consultation with Native Americans and the preparation of environmental analyses.

Portions of the town of Gebo and adjacent coal mining areas on public land will be managed for preservation and interpretation of cultural and historic values. Management could include actions like development of an interpretive road loop or roadside turnout.

Other cultural resource interpretive sites will be developed, making use of scenic overlooks, signs, and walking trails. Sites could include historic trails such as the Thermopolis to Meeteetse Trail, the Fort Washakie to Red Lodge Trail, the Mexican Pass Trail, and the Jim Bridger Trail.

One or more scenic interpretive sites and driving loops will be developed in the Badlands SRMA to highlight the area's scenic values. These could involve the Fifteenmile Creek and Dorsey Creek roads and the Murphy Draw Road with overlooks at the Painted Canyon of Elk Creek and at Bobcat Draw.

The BLM will enhance opportunities for the public to view wild horses in the Fifteenmile herd area.

Day use facilities will be established at Wardel and Harrington reservoirs. Camping sites will also be provided if demand warrants.

Trailheads will be developed for foot and horse travel in the Absaroka Mountain foothills. Potential locations will include the Blue Creek Trail and sites along the North and South Forks of Owl Creek and Rock Creek.

The BLM will consider establishing trailheads in the Red Canyon Creek area consistent with an overall objective to emphasize primitive recreation.

Development of a campground will be considered near Wyoming 120 and Gooseberry Creek.

Surface-disturbing activities, except those related to recreation facility development and maintenance, are prohibited at campgrounds, trailheads, day-use areas, and similar recreational sites.

Recreational sites, recreation facility development, and recreational access will either avoid riparian habitat areas or be developed and managed in a manner that will maintain or improve riparian habitat.

Posting information and directional signs will be necessary in some areas. Signs will be used to promote visitor use consistent with recreation and other resource management objectives.

Surface-disturbing and disruptive activities associated with the construction, maintenance, and use of roads, campgrounds, interpretive sites, and other recreational facilities will be subject to appropriate mitigation developed through use of the mitigation guidelines described in Appendix 3.

Vegetation Management Decisions

Management Objective

Reduce the spread of noxious weeds and maintain or improve the diversity of plant communities to support timber production, livestock and wild horse forage needs, wildlife habitat, watershed protection, and acceptable visual resources. Also see Appendix 2.

Management Actions

General

Surface-disturbing and disruptive activities associated with vegetation management will be subject to appropriate mitigation developed through use of the mitigation guidelines described in Appendix 3.

Noxious Weeds

Noxious weeds and other undesirable vegetation will be controlled in conjunction with local counties; the USDA, Animal and Plant Health Inspection Service (APHIS); and other agencies and affected interests, consistent with the *Wyoming Record of Decision for the Final EIS Addressing Vegetation Treatment on BLM Lands in the 13 Western States* (BLM 1991).

Control of noxious weeds may include manual, mechanical, biological, or chemical methods. If herbicides are proposed for use, those that are effective on the target weed species and that have minimum toxicity to wildlife and fish, will be selected. As appropriate, buffer zones will be provided along streams, rivers, lakes, and riparian areas, including riparian areas along ephemeral and intermittent streams.

Treatments will avoid raptor and upland game bird nesting seasons and other times when loss of cover or disturbance by equipment could be detrimental.

Projects that may affect threatened or endangered plants or animals will be postponed or modified to protect the presence of these species. In such cases, the BLM will consult with the U.S.Fish and Wildlife Service (FWS) as required by the Endangered Species Act.

Consistent with the Decision Record for *Implementation of Noxious Weed-Free Forage on Public Lands in the Worland District* (BLM 1997) the use of certified noxious weed-seed free vegetative products is required on all BLM-administered public lands in the Grass Creek planning area.

Desired Plant Communities

General

The following objectives for desired plant communities (DPC) will be applied on an individual basis in consultation with land-use proponents and other affected or interested citizens. Actions required to achieve these objectives will normally be implemented through allotment management and other site-specific activity plans, and through reclamation plans for activities like pipeline construction, oil and gas exploration, and bentonite mining.

Desired plant communities are described according to the percentages of trees, shrubs, grasses, grasslikes, and forbs within each community. Descriptions are by weight estimate unless canopy cover percent is specified. Barren, alpine, and high gradient/rocky riparian communities are not discussed. See Figure 1, located at the end of the "Planning and Management Decisions" section, for sample descriptions of the plant communities cited below.

Desired Plant Community Objectives for Watershed Protection, Forestland Management, and Livestock Grazing

On at least 600,000 acres of public lands in the planning area (not containing important wildlife habitat) the following DPC objectives will emphasize watershed protection, forestland health, and livestock grazing.

- Salt Desert Shrub Communities: shrubs 30 to 60 percent, grasses 30 to 60 percent, forbs 5 to 15 percent, with shrubs increasing on high saline sites.
- Salt Bottom Communities: shrubs 20 to 40 percent, grasses 50 to 70 percent, forbs 5 to 15 percent.
- Basin Grassland/Shrub Communities: shrubs 10 to 20 percent, grasses 60 to 80 percent, forbs 10 to 20 percent.
- Foothills-Mountain Grassland/Shrub Communities: shrubs 10 to 30 percent, grasses 60 to 80 percent, forbs 10 to 20 percent.
- Low Gradient/Alluvial Riparian Communities, *Canopy Composition*: shrubs 0 to 15 percent, grasses and grasslikes 70 to 90 percent, forbs 5 to 15 percent.
- Intermediate Riparian Communities, *Canopy Composition*: trees and shrubs 10 to 30 percent, grasses and grasslikes 50 to 70 percent, forbs 10 to 30 percent.
- Desert Cottonwood Riparian Communities, *Canopy Composition*: trees and shrubs 10 to 30 percent, grasses and grasslikes 50 to 70 percent, forbs 10 to 30 percent.
- Woodland Communities: Same as Foothills-Mountain Grassland/Shrub Communities on areas where invasion of limber pine and juniper has occurred on deeper soils. There is no specific objective where woodlands occur on very shallow soils.
- Mixed Conifer/Deciduous Forest Communities: Promote overall species and structural diversity. Promote aspen growth in some areas, consistent with site-specific objectives for resource management, including commercial forest production. Manage 80 percent of forestlands for hiding and thermal cover (50 percent of these stands will have thermal cover characteristics). Ten percent of the forestlands will be managed for old growth.

Desired Plant Community Objectives for Wildlife Habitat

Table 2 describes the desired plant community objectives and vegetation requirements for wildlife habitat.

Table 2
Desired Plant Community Objectives and Vegetation Requirements for Wildlife

Bighorn Sheep Habitat

Vegetation Requirements: Bighorn sheep require more grasses for winter forage and more forbs for early spring grazing

General Objective: Manage habitat for bighorn sheep winter and spring requirements.

DPC Objective: ***Foothill-Mountain Grassland/Shrub:*** Shrubs 10 to 30 percent, grasses 50 to 70 percent, forbs 10 to 30 percent.

Elk Crucial Winter Range

Vegetation Requirements: Wintering elk require a taller standing crop of grass to obtain forage in areas of deep snow.

General Objective: Manage for elk winter requirements on crucial winter ranges.

DPC Objectives: ***Foothills-Mountain Grassland/Shrub:*** shrubs 10 to 30 percent, grasses 50 to 70 percent, forbs 10 to 30 percent. ***Woodlands:*** On a site-specific basis maintain or increase mature stands that provide hiding cover. ***Mixed Conifer/deciduous:*** Increase acres of aspen stands where feasible.

Elk Birthing Habitat

Vegetation Requirements: Lactating cow elk require a higher percentage of forbs in the late spring.

General Objective: Manage elk birthing habitat for reproductive success.

DPC Objectives: ***Foothills-Mountain Grassland/Shrub:*** shrubs 10 to 30 percent, grasses 50 to 70 percent, forbs 10 to 30 percent. ***Woodlands:*** On a site-specific basis maintain or increase mature stands that provide hiding cover. ***Mixed Conifer/deciduous:*** Increase acres of aspen stands where feasible.

Moose Crucial Winter Range

Vegetation Requirements: During winter and early springs, moose rely on woody vegetation that extends above the snow. Important nutrition needs to be provided for lactating cow moose.

General Objective: Manage for moose winter requirements on crucial winter ranges.

DPC Objectives: ***Mixed Conifer/Deciduous and Forest Communities:*** Increase acreage of aspen stands where feasible. All Riparian Communities: Maximize shrub and deciduous tree production.

Moose Birthing Habitat

Vegetation Requirements: During winter and early springs, moose rely on woody vegetation that extends above the snow. Important nutrition needs to be provided for lactating cow moose.

General Objective: Manage for moose winter requirements on crucial winter ranges.

DPC Objectives: ***Mixed Conifer/Deciduous and Forest Communities:*** Increase acreage of aspen stands where feasible. ***All Riparian Communities:*** Maximize shrub and deciduous tree production.

Mule Deer Crucial Winter Range

Vegetation Requirements: Mule deer rely on the high nutritional value of shrubs during the winter. With the general lack of shrub diversity in the planning area, the shrubs in riparian areas are very important for winter survival.

General Objective: Manage for mule deer winter requirements on crucial winter ranges (but on ranges in the wild horse herd area where the watershed DPC will be used).

Table 2 (Continued)
Desired Plant Community Objectives and Vegetation Requirements for Wildlife

Mule Deer Crucial Winter Range (continued)

DPC Objectives: Basin Grassland/Shrub and Foothills- Mountain Grassland/Shrub: shrubs 20 to 40 percent, grasses 40 to 60 percent, forbs 10 to 30 percent. Canopy openings should be less than 60 acres and shrub canopy cover should be 10 to 30 percent. All Riparian Communities: Enhance shrub and deciduous tree production.

Pronghorn Antelope Crucial Winter Range

Vegetation Requirements: During the winter, pronghorns require shrubs for important nutritional balance and good reproduction. However, if the sagebrush is too high, the pronghorns' ability to see predators and to get through the brush is impaired.

General Objective: Manage for pronghorn antelope winter requirements on crucial winter ranges outside the wild horse herd area.

DPC Objectives: ***Basin Grassland/Shrub and Foothills- Mountain Grassland/Shrub:*** shrubs 20 to 40 percent, grasses 40 to 60 percent, forbs 10 to 30 percent. Canopy openings should be less than 60 acres, sagebrush over 30 inches tall is undesirable, and shrub canopy cover should be 15 to 30 percent.

Sage Grouse Nesting Habitat

Vegetation Requirements: Sagebrush within 2 miles of sage grouse leks need to cover 20 to 40 percent of the ground. A good forb understory provides nutritious spring feed for the young.

General Objective: Manage sage grouse habitat for nesting success outside the wild horse herd area.

DPC Objective: ***Basin Grassland/Shrub and Foothills- Mountain Grassland/Shrub:*** shrubs 20 to 40 percent, grasses 40 to 60 percent, forbs 10 to 30 percent. Ideal canopy cover of sagebrush is 20 percent. Canopy openings should be less than 100 feet wide.

Low Gradient Riparian: *Canopy Composition:* shrubs 0 to 15 percent, grasses and grasslikes 50 to 70 percent, and forbs 20 to 40 percent.

Intermediate Gradient Riparian: *Canopy Composition:* shrubs 30 to 50 percent, grass and grasslikes 20 to 40 percent, and forbs 20 to 40 percent.

Visual Resource Management Decisions

Management Objective

Maintain or improve scenic values throughout the planning area. Also see Appendix 2.

Management Actions

Visual resources will be managed in accordance with objectives for VRM classes that have been assigned to the planning area. (See Glossary.) Map 9 shows the VRM management areas.

Visual resources will be considered before authorizing land uses that may affect them. VRM requirements are applied on public lands or to BLM-approved mineral development on split-estate lands.

Facilities or structures such as power lines, oil wells, and storage tanks will be screened, painted, and otherwise designed to blend with the surrounding landscape.

Facilities or structures proposed in or near wilderness study areas will be designed so as not to impair wilderness suitability.

The construction or modification of rights-of-way along Wyoming highways 120 and 431 will be evaluated individually to assure that adverse effects on scenic values are not increased.

Watershed Management Decisions

Management Objectives

Maintain or improve water quality to support state of Wyoming designated uses, and comply with state

water quality standards. Reduce erosion by increasing ground cover, including vegetative litter, and maintain standing vegetation after grazing.

Improve watershed condition on about 274,000 acres of public land in the Fifteenmile Creek watershed, and reduce the overall level of sediment delivery to the Bighorn River from this area.

Stabilize upland vegetation and increase vegetative ground cover on about 15,000 acres to reduce overland water flow, erosion, and sedimentation.

Improve watershed condition elsewhere in the planning area, especially on uplands in poor or fair ecological condition. Also see Appendix 2.

Management Actions

The protection of watershed resources will be considered in the analysis of all proposed actions affecting BLM-administered lands. As needed, watershed conservation practices (Appendix 3) and state of Wyoming Best Management Practices will be applied.

Water wells and watershed projects that are no longer functioning or serving their original purposes will be reclaimed and abandoned as appropriate.

The BLM may acquire mineral exploratory wells and drill holes that produce water. These acquired wells will be developed for multiple-use purposes if they meet criteria for water well conversion.

The BLM will allow the surface discharge of produced water, if it meets state of Wyoming water quality standards. As the surface administrator of public lands, the BLM considers multiple-use objectives and provides recommendations to the Wyoming DEQ before that agency issues water discharge permits.

To obtain valid water rights, the BLM will file for the rights to water-related projects on public lands with the Wyoming State Engineer's office.

To protect watershed values, roads and trails will be closed and reclaimed if they are heavily eroded or washed out, or if roads in better condition are available.

To protect watershed values, vehicular travel is prohibited on wet soils and on slopes greater than 25 percent, when and where unnecessary damage to vegetation, soils, or water quality would result.

In accordance with the *208 Statewide Water Quality Management Plan for Wyoming*, the BLM will cooperate with DEQ and EPA in the application of watershed conservation practices and state of Wyoming Best Management Practices to reduce sediment-caused water pollution in the Fifteenmile Creek Watershed.

To reduce the amount of nonpoint pollution entering waterways, pollution prevention plans will be developed for actions that qualify under the "Wyoming Storm Water Discharge Program."

Riparian area condition will be monitored and evaluated as part of site-specific activity or implementation plans. Permittees will be consulted and participate in collecting riparian information to the extent possible. Management of riparian areas that are not properly functioning will emphasize strategies identified in BLM technical references TR 1737-4 and TR 1737-6.

To improve the condition of the Fifteenmile Creek Watershed small areas will be planted with native grasses as range projects are developed. Livestock grazing will be deferred in these areas until the desired vegetation is established.

To protect water quality, fire retardant drops by air tankers are prohibited within 200 feet of water.

Surface-disturbing and disruptive activities associated with watershed management will be subject to appropriate mitigation developed through use of the mitigation guidelines described in Appendix 3.

Wild Horse Management Decisions

Management Objective

In the Fifteenmile Wild Horse Herd Management Area (herd area), maintain free-roaming wild horses in a thriving ecological balance. Also see Appendix 2.

Management Actions

The size of the herd area (Map 10) will be kept at about 83,130 acres.

The herd area will be managed for an initial herd size of at least 70 and no greater than 160 mature animals. To the extent possible, horses will be managed at the lower end of this range during periods of drought.

Long-term wild horse numbers will be established through monitoring, multiple-use allocations, and revision of the herd area activity plan.

The Fifteenmile Wild Horse Herd Gathering Plan will be kept up-to-date and implemented for roundups. Emphasis will be placed on gathering horses that wander outside the herd area or onto privately-owned lands.

Cooperative agreements or land exchanges to improve wild horse management will be pursued on about 12,000 acres of privately-owned land.

Livestock grazing in the herd area is limited to domestic sheep use during November through March, unless an environmental analysis indicates that another kind or time of use is appropriate.

The watershed protection, forestland management, and livestock grazing DPC objective will be used in the herd management area. (See section on Vegetation Management.)

In the herd management area, grazing strategies will be designed to allow a combined forage utilization of 25 percent of the current year's growth, in Salt Desert Shrub and Salt Bottom plant communities that are grazed during the growing season.

(Combined forage utilization includes all types of consumption or destruction of vegetation by livestock, wildlife, wild horses, insects, hail, surface-disturbing activities, etc. In addition, utilization will be measured and evaluated over time in the context of other monitoring information. Although utilization levels might vary from year to year, levels consistently exceeding those described would not be expected to meet watershed and other multiple-use requirements. Also see Appendixes 1 and 4.)

In the herd management area, grazing strategies will be designed to allow a combined forage utilization of 30 percent of the current year's growth in other plant communities that are grazed during the growing season.

In the herd management area, combined forage utilization up to 40 percent of the current year's growth will be allowed in all plant communities that are grazed when plants are dormant.

Wild horses will be allocated 2,300 AUMs of forage annually.

The maximum allowable forage use by domestic livestock in the herd area will be 3,370 AUMs per year.

Development of additional water sources in the herd area will be considered to improve horse distribution and manage forage utilization.

Opportunities for the public to view wild horses will be enhanced in the Fifteenmile herd area.

Surface-disturbing and disruptive activities associated with wild horse management will be subject to appropriate mitigation developed through use of the mitigation guidelines described in Appendix 3.

Wildlife and Fish Habitat Management Decisions

Management Objective

Maintain or enhance riparian and upland habitat for wildlife and fish, promote species diversity, and allow the expansion of wildlife and fish where appropriate. Also see Appendix 2.

Management Actions

General

The Absaroka Front Habitat Management Plan, the Bighorn River Habitat Management Plan, the Stream Habitat Management Plan, and the Reservoir Habitat Management Plan will be kept up-to-date and implemented.

Annual review and environmental analysis of insect infestations will be conducted with APHIS and control measures will be performed as needed.

Surface-disturbing and disruptive activities associated with wildlife and fish management will be subject to appropriate mitigation developed through use of the mitigation guidelines described in Appendix 3.

Wildlife Habitat

To the extent possible, suitable habitat and forage will be provided to support wildlife populations defined in the 1989 WGFD Strategic Plan objectives. Requests by WGFD to change the objectives will be considered, based on habitat capability and availability.

The BLM will participate with the FWS in the evaluation and designation of critical habitat for threatened or endangered species on BLM-administered lands. If proposed surface-disturbing or disruptive activities could affect these species, the BLM will consult with the FWS as required by the Endangered Species Act.

The BLM will continue to work with the USDA Forest Service (FS), Fish and Wildlife Service, Wyoming Game and Fish Department (WGFD), and the Wind River Indian Reservation tribes in developing a healthy bighorn sheep herd in the Absaroka and Owl Creek mountains.

Nest sites, roosts, cottonwood trees, and other potential critical habitats related to hunting and concentration areas for bald eagles will be protected, especially along the Bighorn and Greybull rivers. As one measure to protect these habitats,

firewood harvesting is prohibited on public lands in these areas.

Fences on public land that are hindering natural movement of wildlife will be modified. Fence modifications will conform to standards outlined in BLM Manual Sections 1741 and 9170. Priority will be given to fences that are restricting the greater numbers of wildlife in, or near, birthing areas or crucial winter areas. Affected parties will be consulted before fence modification to insure a mutual understanding of the need for the change and for establishing acceptable fence standards.

Fences will be constructed with the objective of maintaining or improving wildlife mobility in important habitat areas.

Animal control measures directed at coyotes and other predators will be evaluated and established by USDA, APHIS—Wildlife Services, and the BLM will be consulted on their proposals. **As necessary, the BLM will recommend public safety zones where the use of M-44s may be prohibited on public lands.**

Emphasis will be placed on acquiring access to public lands on the Bighorn and Greybull rivers to enhance recreational opportunities and wildlife management.

Exchanges will be pursued to improve management of important seasonal wildlife habitat areas in the upper portions of Owl, Cottonwood, Gooseberry, and Grass creeks.

Exchanges will be pursued along Gooseberry Creek, the upper portions of Cottonwood and Grass creeks, the Bighorn and Greybull rivers, and on lands where other riparian areas occur. The purposes for these exchanges will be to block up public land, enhance public access, and improve management.

Waterfowl nesting and rearing habitat will be improved on suitable reservoirs.

The BLM will encourage the construction of islands in reservoirs, encourage the growth of riparian vegetation by plantings and/or grazing management, and install nesting structures to manage for waterfowl production and security areas near reservoirs.

Fish Habitat

The BLM will cooperate with the WGFD and local irrigators in negotiations directed at establishing minimum pool elevations for reservoirs having fisheries potential.

Reservoirs and riparian areas will be maintained to improve or enhance potential fisheries. The BLM will encourage the design of reservoirs to enhance fisheries where potential exists.

Consistent with the overall management objective to maintain or enhance fisheries habitat, existing game and nongame fish habitat will be protected and the BLM will consider the introduction of fish where habitat potential exists. Approximately 28 miles of stream habitat will be managed for game fish; 60 additional miles will be managed for nongame fish.

Area of Critical Environmental Concern Management Decisions

Upper Owl Creek Area of Critical Environmental Concern

The Upper Owl Creek Area of Critical Environmental Concern (ACEC) is designated on about 16,300 acres of public land. The special management designation does not apply to state or private lands. (See Map 11.)

Management Objective

To protect overlapping and important big game habitats and migration corridors, fisheries habitat, shallow soils, alpine vegetation and rare plants, diverse cultural resources and Native American traditional values, primitive recreational opportunities, and high scenic quality.

Management Actions

Management includes limiting or prohibiting surface-disturbing activities and closing the area to, and pursuing withdrawal from, the staking and development of mining claims to protect fragile soils, alpine tundra, important wildlife habitat, and scenic values. (Also see Appendix 3.)

A detailed activity plan will be prepared for the Upper Owl Creek ACEC before the BLM approves any proposal for major surface-disturbing activity in the area. This activity plan will include assistance from the development proponent and other affected and interested citizens to determine whether some surface occupancy could be allowed in the area. Mitigation measures considered in the analysis will include "access corridors" and "cluster development."

For any mining claims with prior existing rights, a "plan of operations" will be required for all mining claim-related activities, other than casual use, in the Upper Owl Creek ACEC.

Figure 1
Rangeland Desired Plant Communities

Plant Community	Preferred	Undesirable	Component
SALT DESERT SHRUB: This community occupies upland sites on soils characterized by high salt content.	Gardner's saltbush Rhizomatous wheatgrass Indian ricegrass Squirreltail	Halogeton Annual forbs Prickly pear cactus	Bud sagebrush Birdsfoot sagebrush
SALT BOTTOM: This community occupies lowland sites often associated with stream terraces. These are often poorly drained and tend to accumulate salts.	Basin wildrye Rhizomatous wheatgrass Big sagebrush Alkali sacaton Canada wildrye	Prickly pear cactus Tamarisk Russian olive Cheatgrass	Greasewood Blue grama Rabbitbrush Inland saltgrass
BASIN GRASSLAND/SHRUB (high and low density sagebrush): This community occupies upland sites generally in the 5" to 9" precipitation zone, on well-drained sites that are not characterized by saline soils.	Bluebunch wheatgrass Needle-and-thread grass Big sagebrush Indian ricegrass Winterfat	Larkspur Cheatgrass Prickly pear cactus Halogeton Annual forbs	Blue grama Perennial forbs Sandberg bluegrass Rhizomatous wheatgrass Prairie junegrass
FOOTHILLS-MOUNTAIN GRASSLAND/SHRUB: This community occupies upland sites generally in the 10" to 14" and the 15" to 19" precipitation zones that are not characterized by saline soils.	Green needlegrass Spike fescue Idaho fescue Bluebunch wheatgrass Needle-and-thread grass	Prickly pear cactus Blue grama Annual forbs Larkspur	Big sagebrush Bluegrasses Threadleaf sedge Perennial forbs Prairie junegrass Rhizomatous wheatgrass
BARREN AND ALPINE: Barren areas include badlands and rock outcrops mostly without vegetation. Alpine communities occur above tree line.	No preferred, undesirable, or component species have been identified for these communities.		

RIPARIAN/COTTONWOOD:

Riparian vegetation varies based on slope, soil, and other factors such as topographical confinement. Vegetation can change by location on the same stream. Four riparian types will be considered in this RMP.

High Gradient/Rocky Type

These sites often comprise "chutes" with large boulders, straight V-shaped channels, and without significant floodplains. Activity plans rarely address these sites, consequently no species analysis is included for this type.

Low Gradient/Alluvial Type

These sites are characterized by wet meadows with alluvial soils and exaggerated stream channel meanders. Broad floodplains are dominated by herbaceous vegetation. These sites are vulnerable to headcutting. Wet meadows, not directly associated with streams, are part of this type.

Preferred	Undesirable	Component
Sedges	Kentucky bluegrass	Cattails
Rushes	Pussytoes	Spike top sedge
Bulrushes	Dandelions	Redtop
Willow	Mat muhly	Woods rose
Riparian wheatgrasses	Upland vegetation	Gooseberry
	Tamarisk	Biannual & perennial forbs

Intermediate Type

The majority of the perennial streams and springs in the planning area support vegetation characteristic of this type. While these sites do not have wet meadows characteristic of the low gradient type, they form functional floodplains, potentially dominated by riparian shrubs and trees. These sites are highly responsive to management actions and are vulnerable to either headcutting and channel widening, depending on the soil substrate.

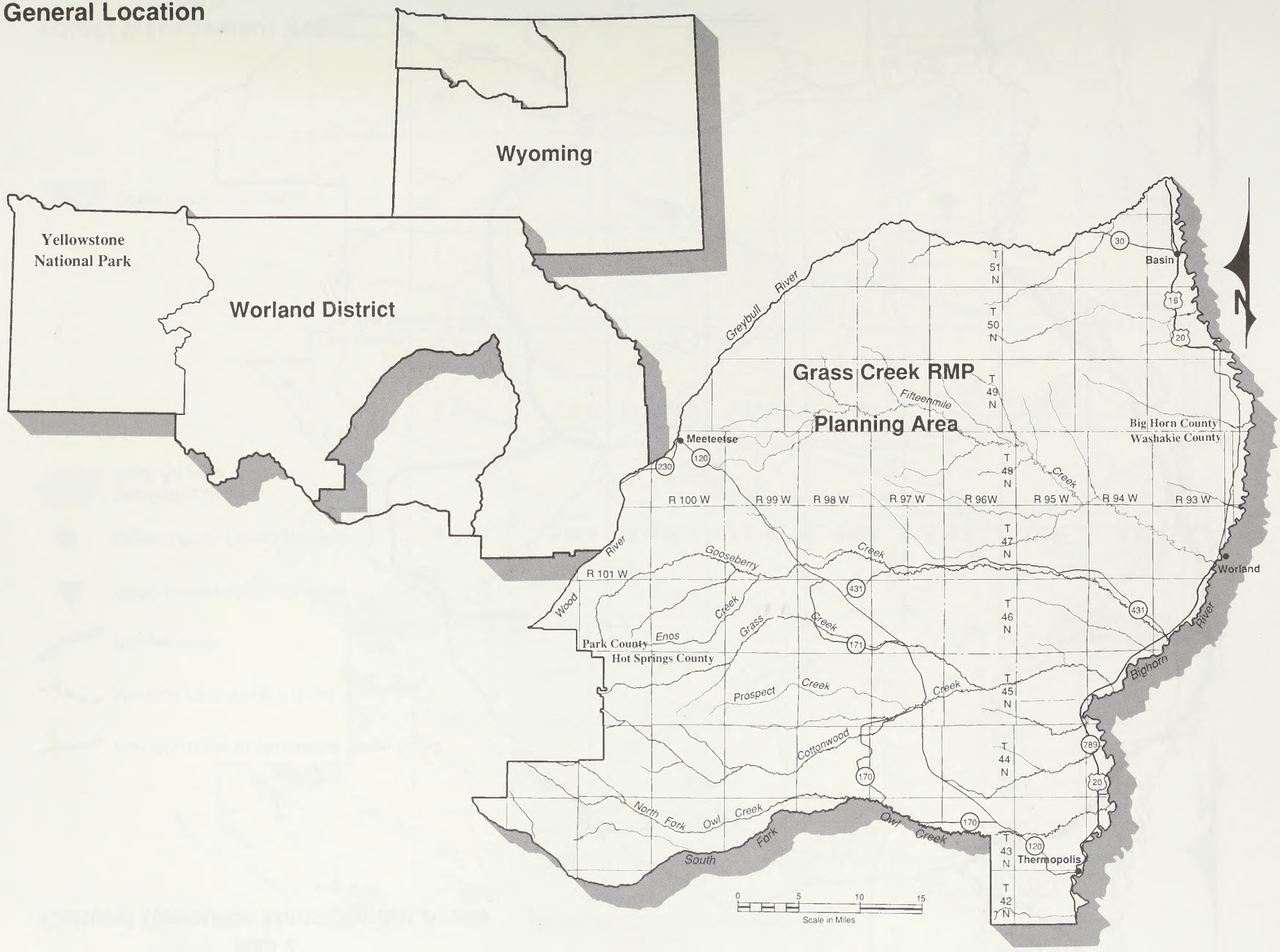
Preferred	Undesirable	Component
Sedges	KY bluegrass	Red top
Rushes	Pussytoes	Spike top sedge
Bulrushes	Dandelions	Riparian wheatgrass
Willow	Mat muhly	Native bluegrass
Tufted hairgrass	Upland vegetation	Gooseberry
Cottonwood	Tamarisk	Woods rose
Alder		Conifers
Water birch		Biannual & perennial forbs
Silverberry		

Desert Cottonwood Type

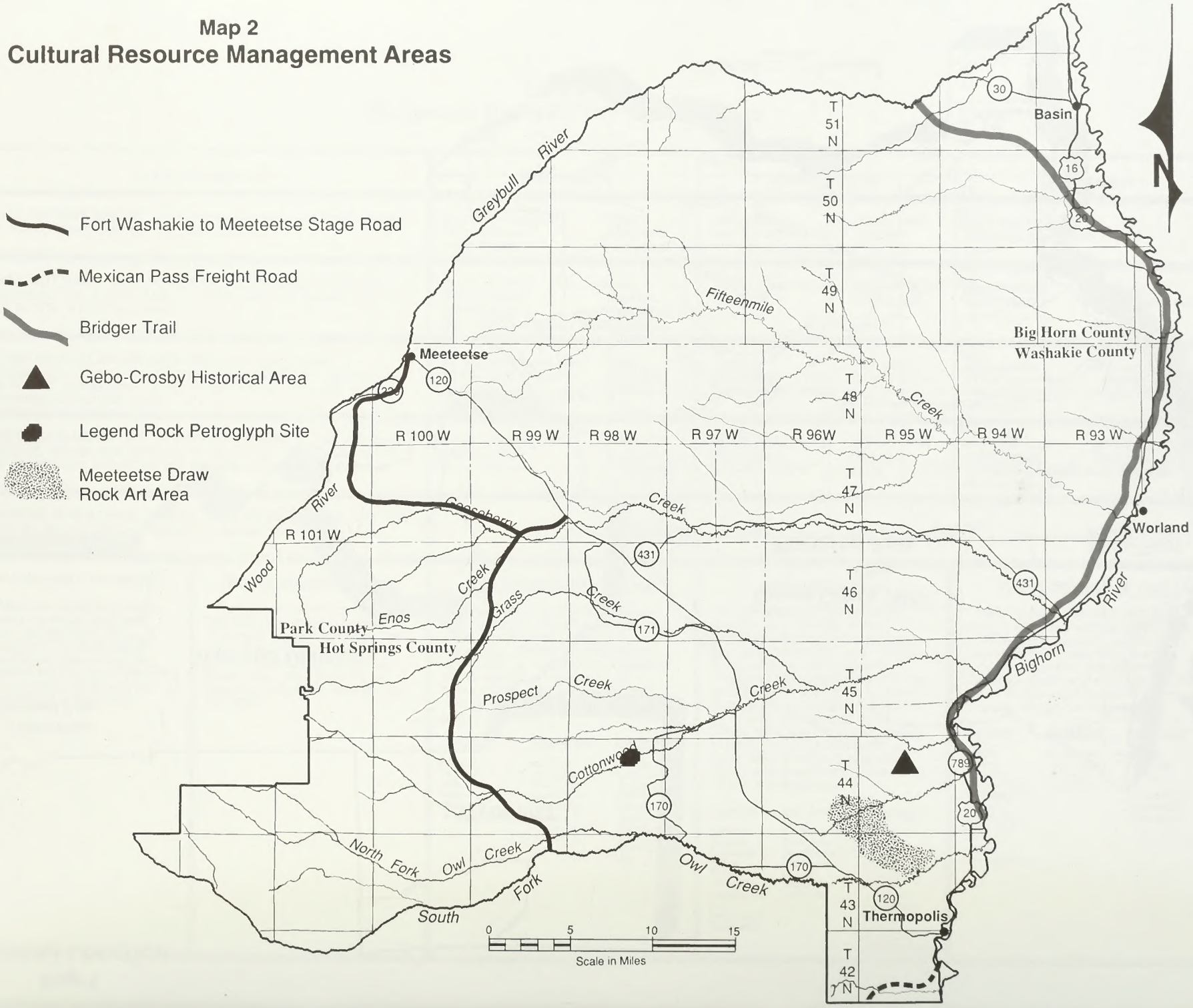
Many stream channels with high water tables, but without permanent surface water support cottonwood ecosystems. These sites are complex and often difficult to interpret. Generally when these sites are in a deteriorated condition they produce no riparian vegetation.

Preferred	Undesirable	Component
Sedges	Annual forbs	Redtop
Rushes	Upland veg.	Spike top sedges
Bulrushes	Tamarisk	
Canada wildrye	Gooseberry	Woods rose
Alkali sacaton		Skunkbush
Riparian wheatgrass		Rabbitbrush
Great Basin wildrye		
Willow		
Cottonwood		

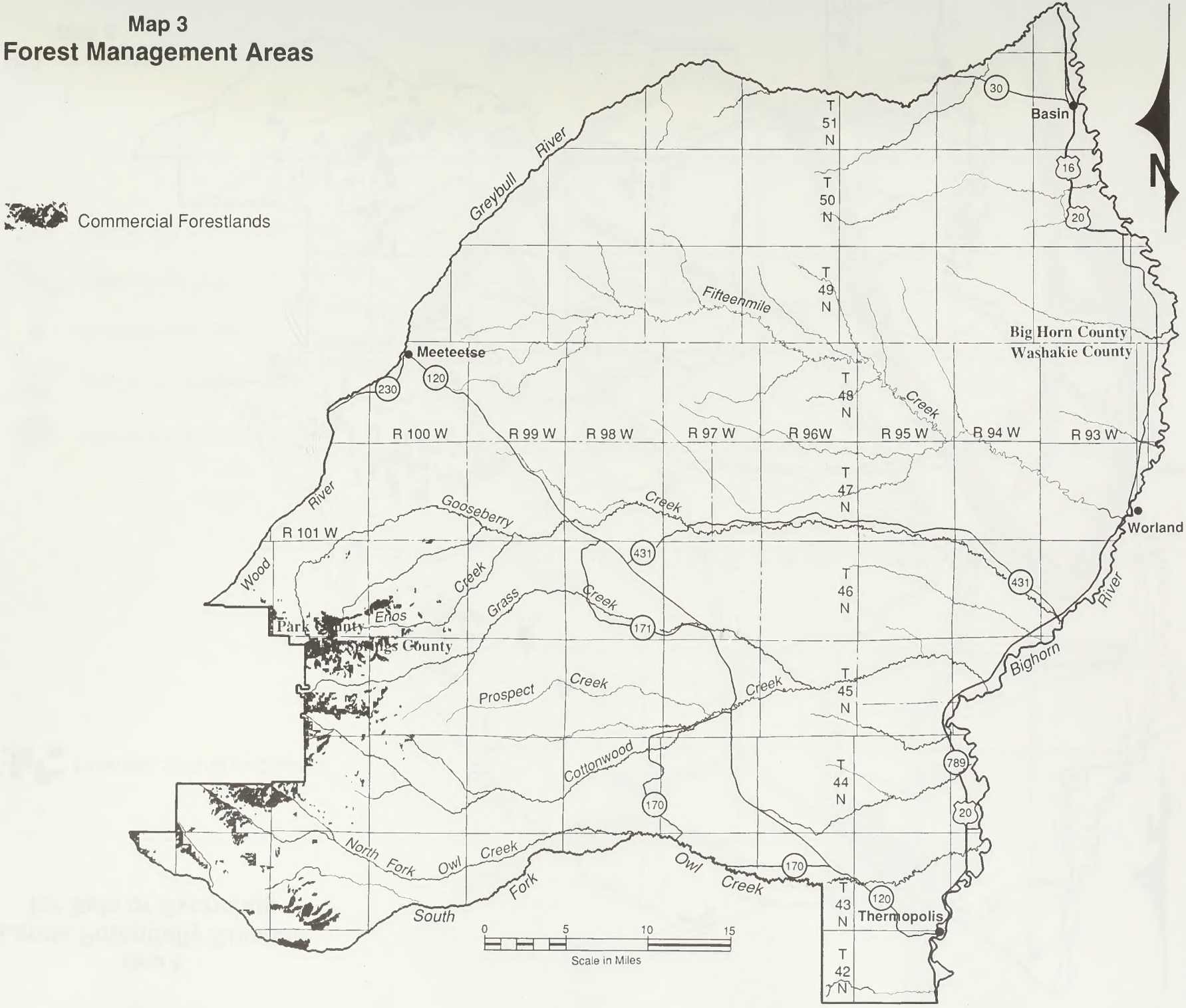
Map 1
General Location



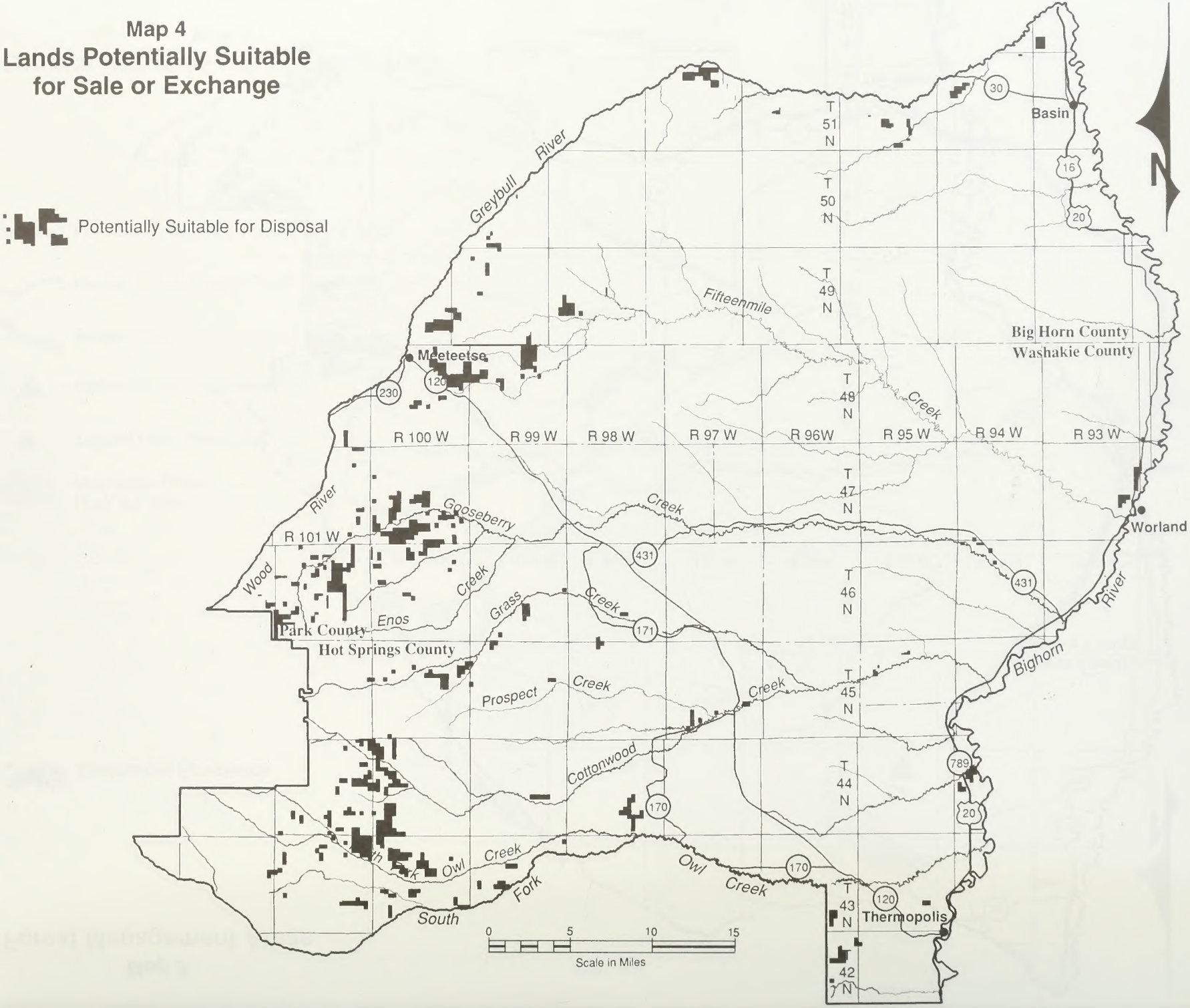
Map 2
Cultural Resource Management Areas



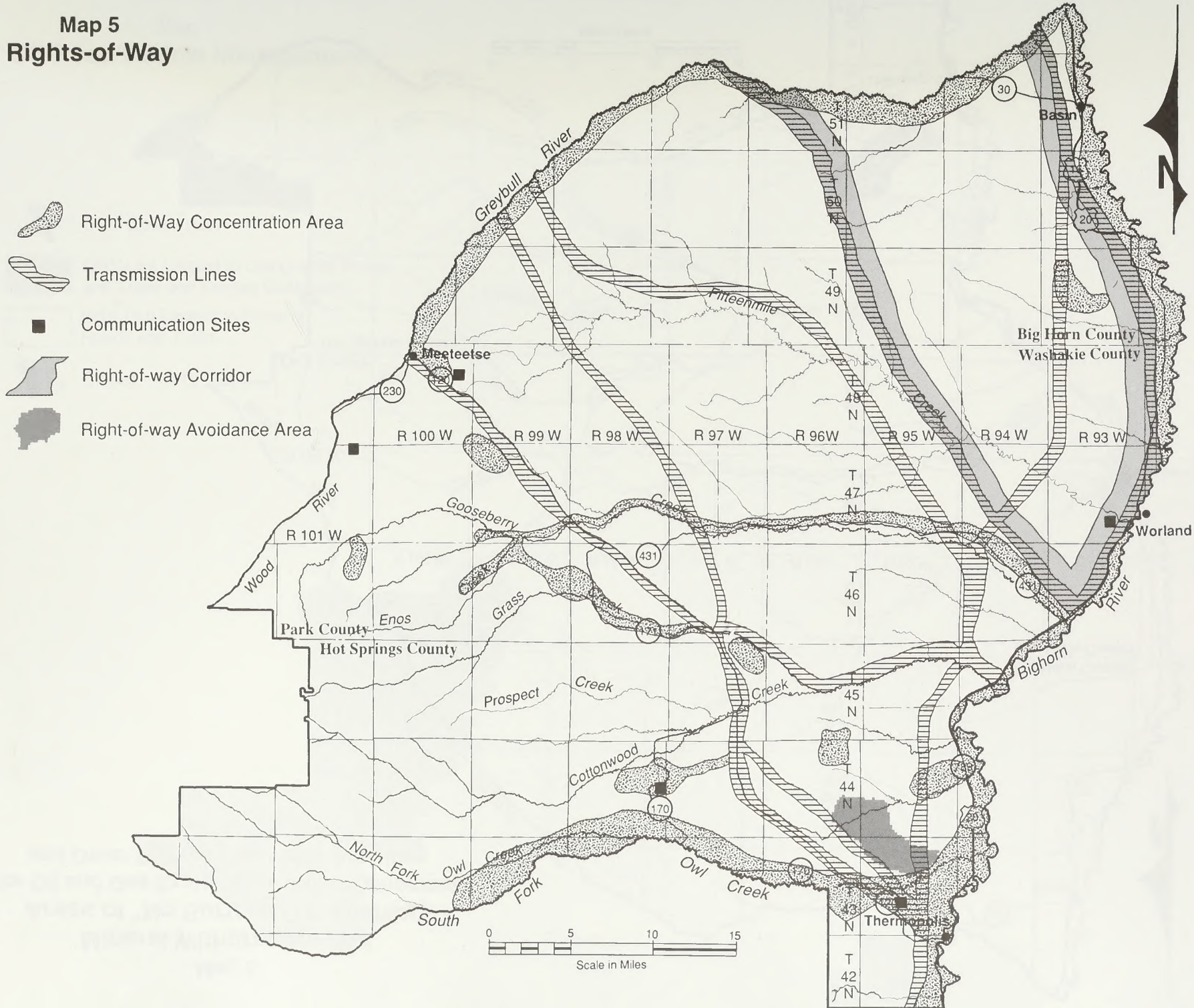
Map 3
Forest Management Areas



Map 4
Lands Potentially Suitable for Sale or Exchange



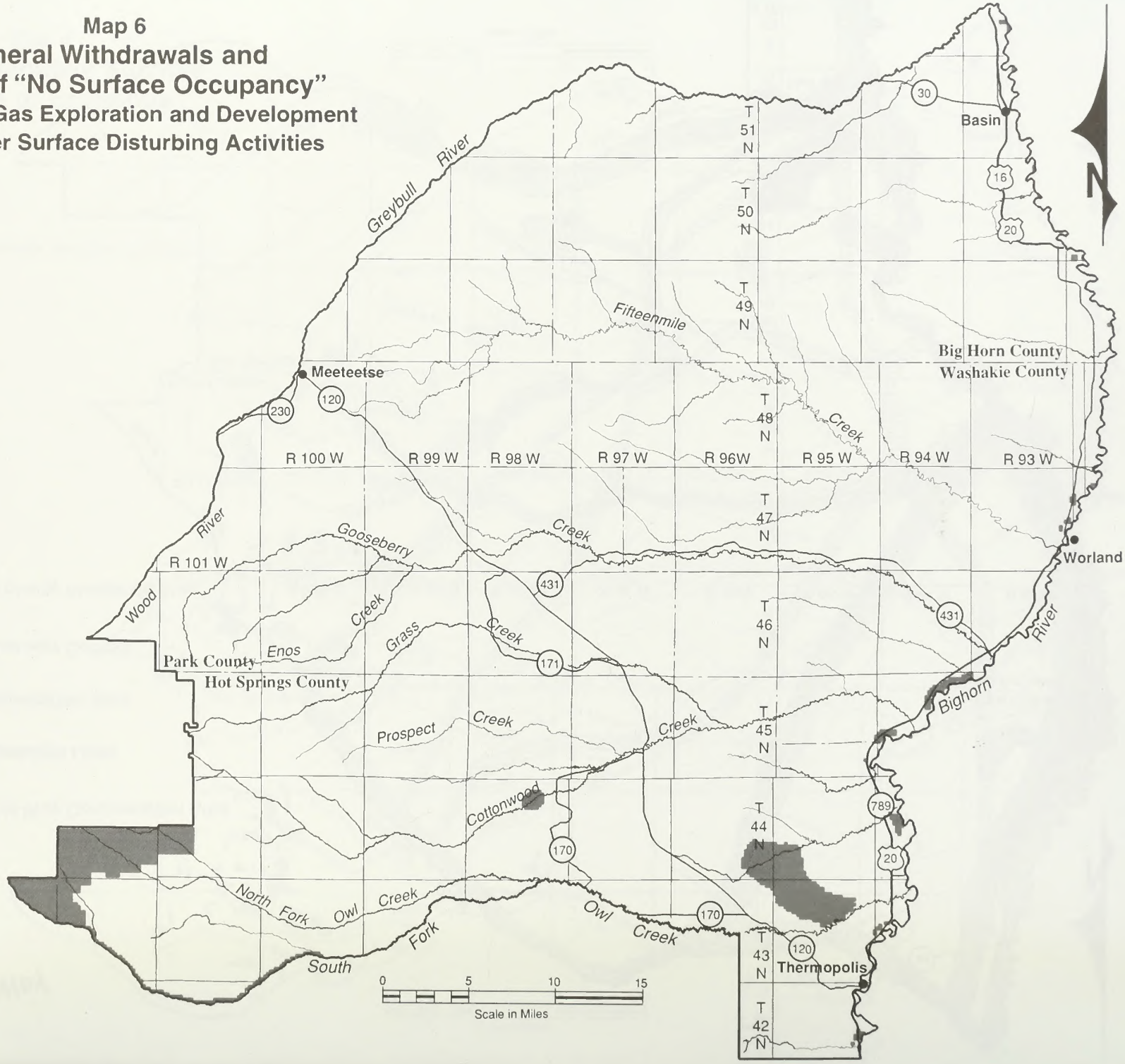
Map 5
Rights-of-Way



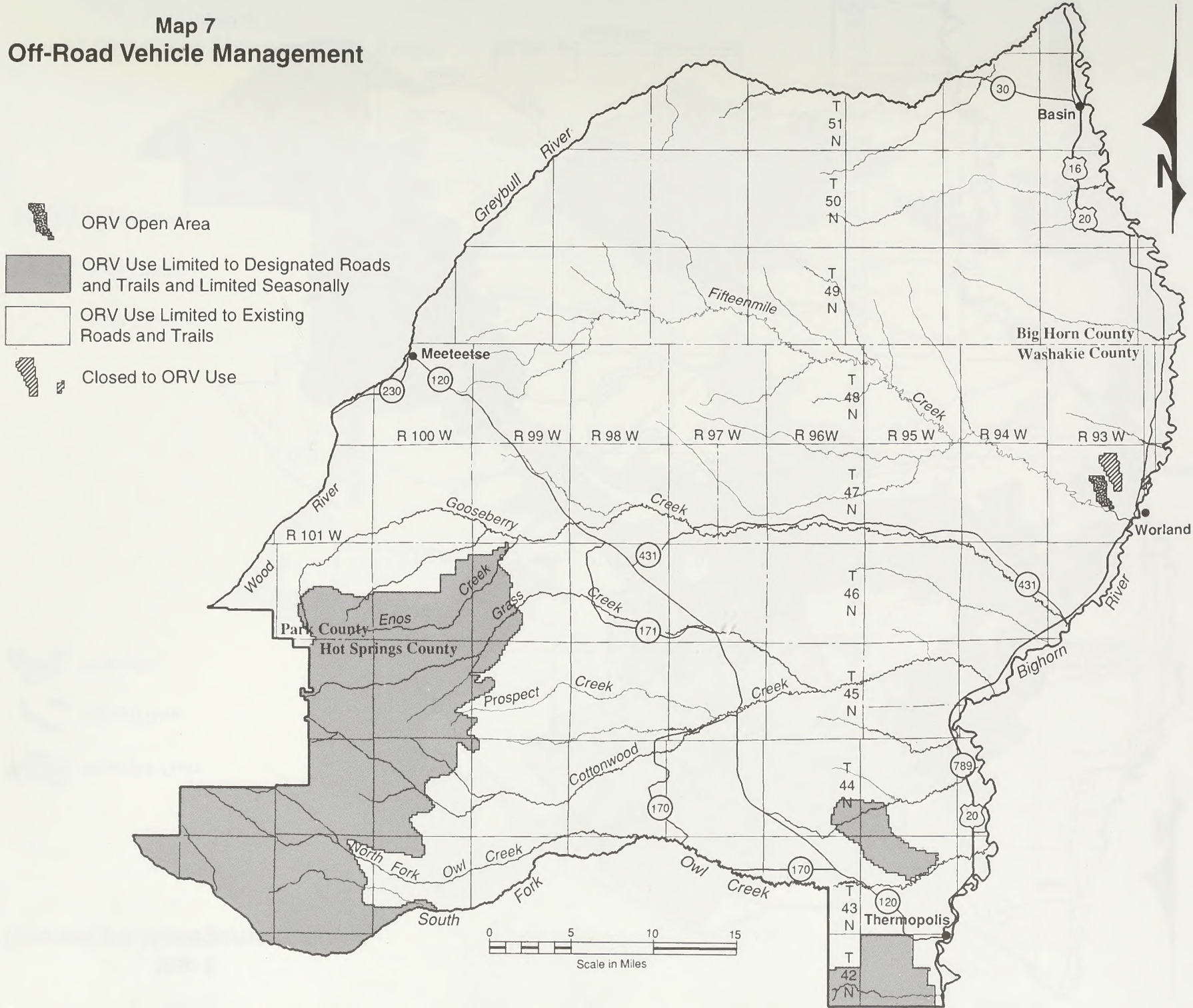
Map 6

Mineral Withdrawals and Areas of "No Surface Occupancy"

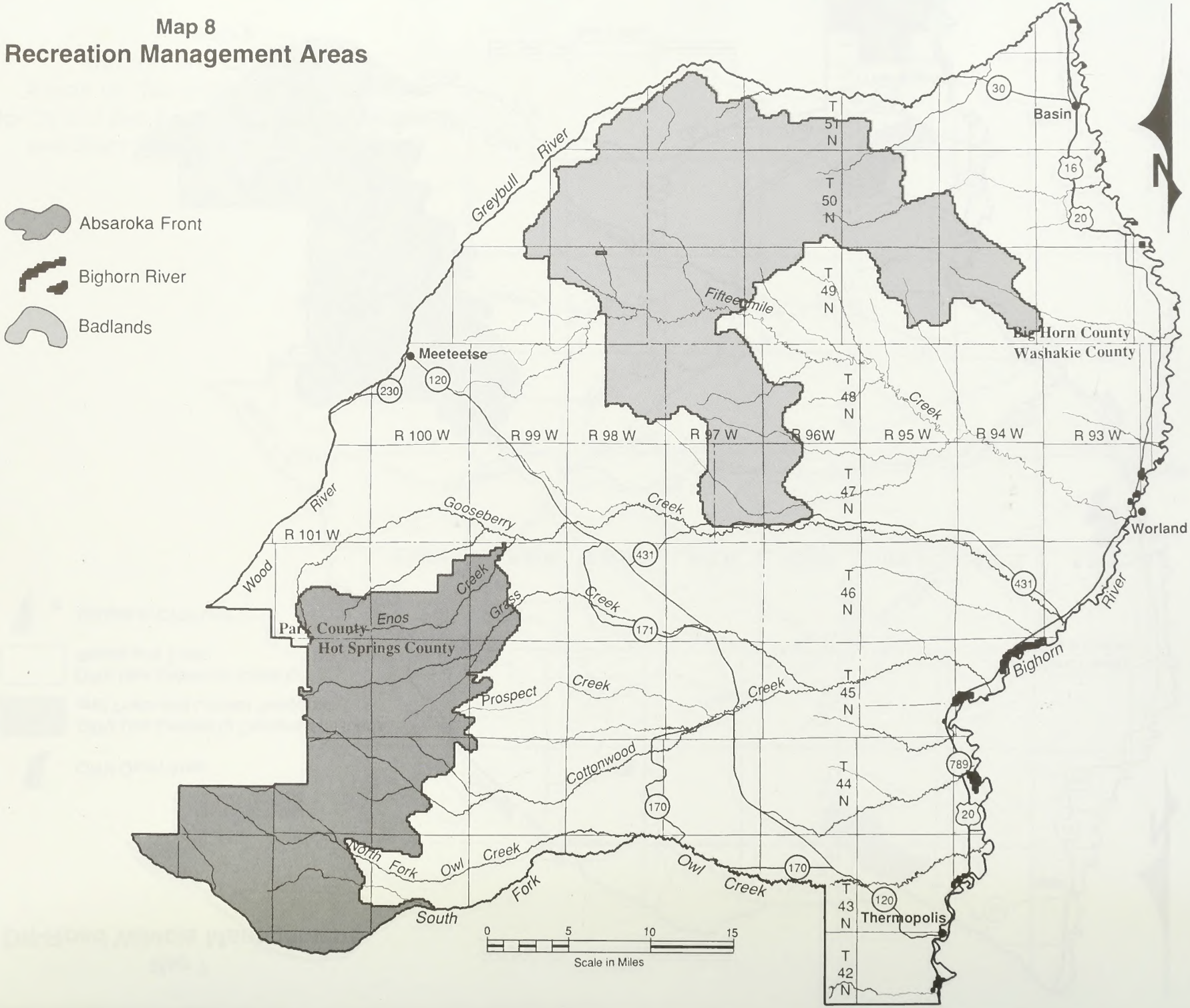
for Oil and Gas Exploration and Development and Other Surface Disturbing Activities



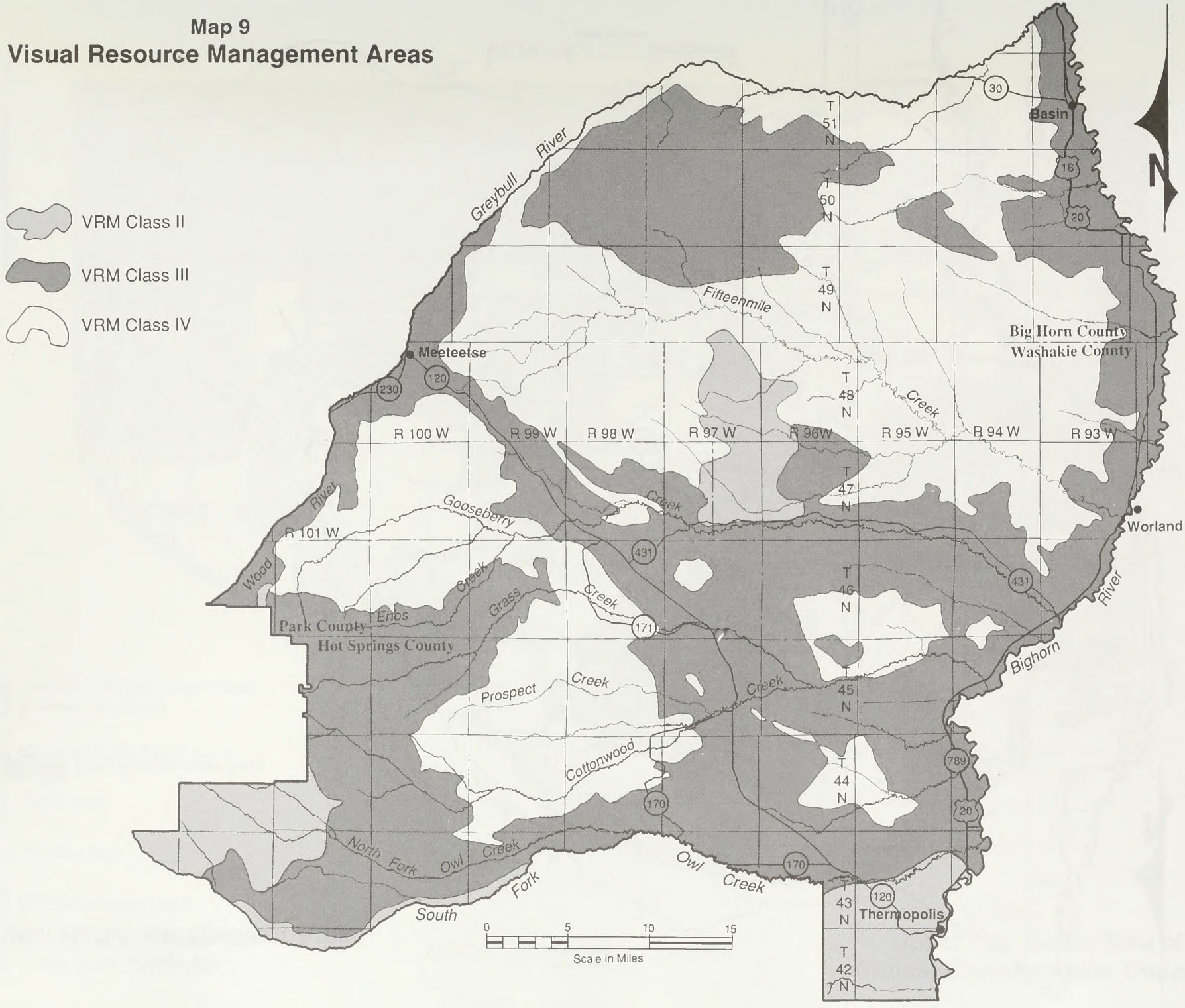
Map 7
Off-Road Vehicle Management



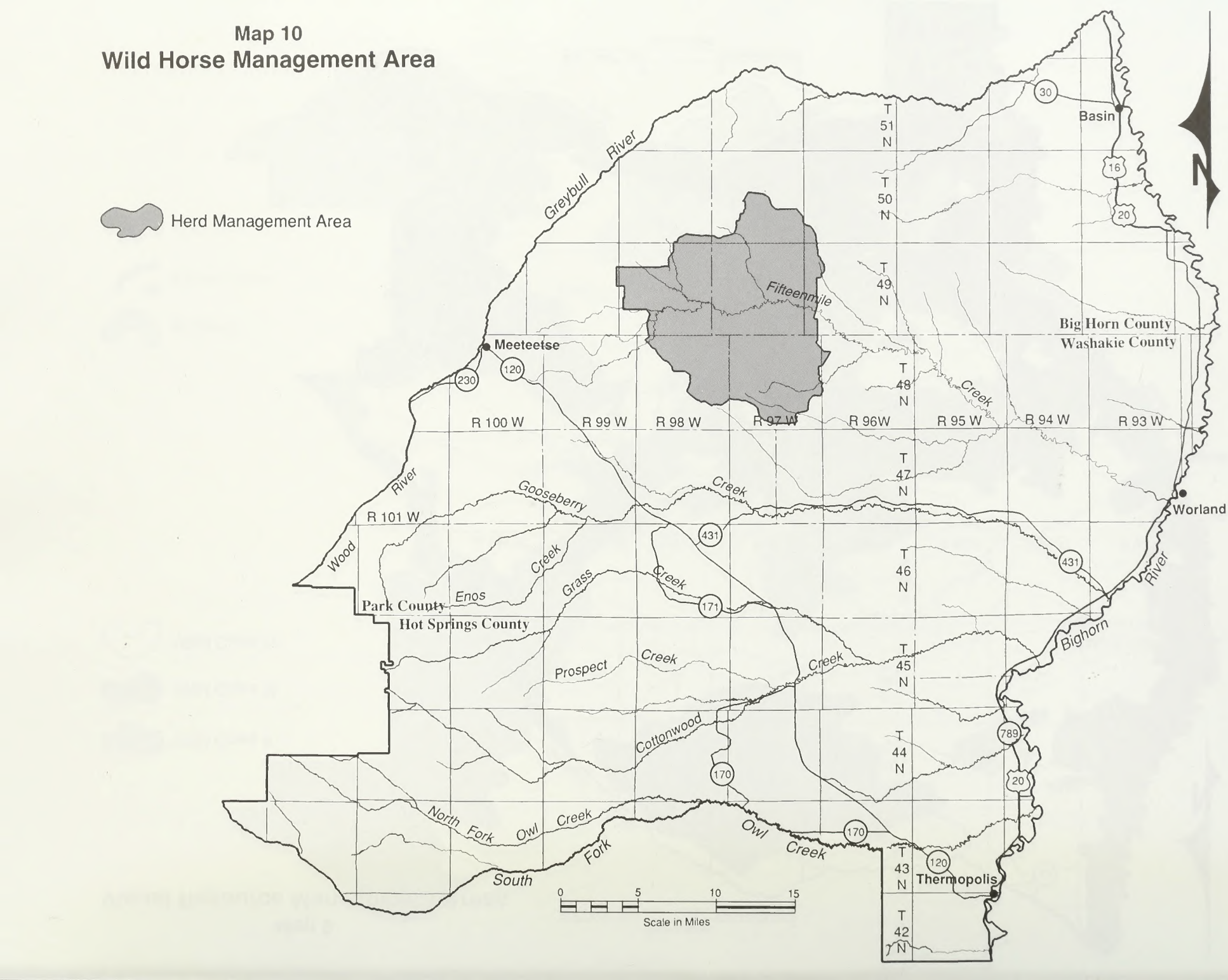
Map 8
Recreation Management Areas

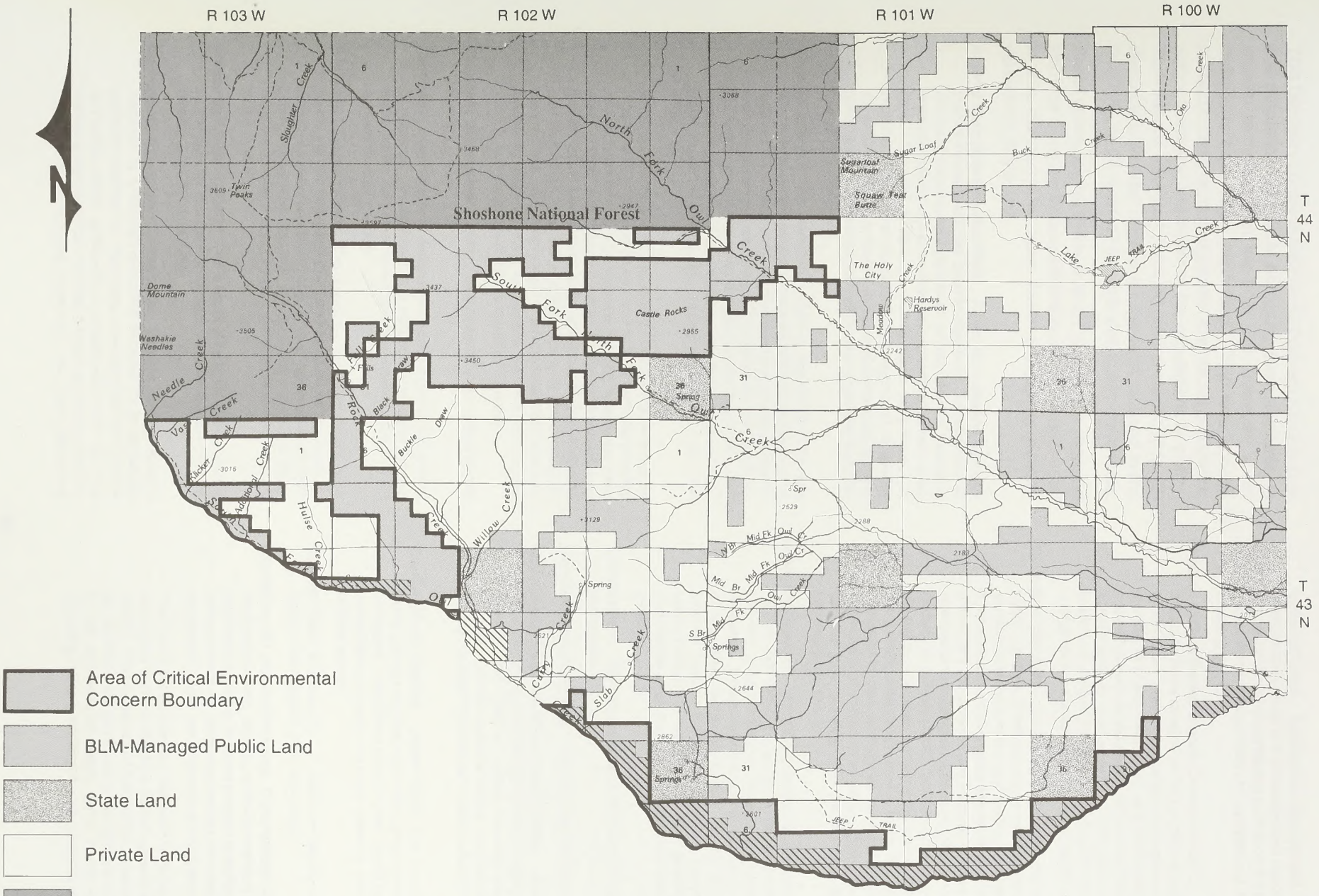


Map 9
Visual Resource Management Areas



Map 10
Wild Horse Management Area





Map 11
Upper Owl Creek Area of Critical Environmental Concern

GLOSSARY

This Glossary contains definitions from appropriate federal regulations and BLM Manuals, when available, to explain terms used in the final EIS; however, some definitions have been expanded. This was accomplished by adding language after the official definitions, without violating the intent of the regulations or policy. The reasons were to (1) provide greater clarification, (2) describe a broader context for the term as used in the final EIS, or (3) respond to particular public comments.

Some terms printed in the draft EIS have been dropped from this Glossary because the terms are no longer used in this document or have been adequately defined elsewhere in the text.

Activity Plan (Site-Specific Plan): A plan for managing resource uses or values to achieve specific objectives. For example, an allotment management plan is an activity plan for managing livestock grazing use to improve or maintain rangeland conditions. (43 CFR 4100.0-5) Activity plans (also known as implementation plans) consider the management of specific geographical areas in more detail than resource management plans, taking into consideration all the resources and land uses that occur in the area.

Affected Interest: An individual, group, or organization that has submitted a written request to be provided an opportunity to be involved in the decisionmaking process for the management of livestock grazing on specific grazing allotments or has submitted written comments to BLM regarding the management of livestock grazing on a specific allotment. Referred to as "Interested Public" in the current grazing regulations. (43 CFR 4100.0-5)

In this document, the term is used for any individual, group, or organization wanting to be involved in BLM land-use planning and decisionmaking. Also synonymous with "affected or interested citizen" and "affected party." Affected interests may include other federal and state agencies, Native American representatives, and the elected officials of local and state government. The involvement of affected interests would be guided by BLM planning regulations 43 CFR 1610.2 and 1610.3, and the National Environmental Policy Act.

Allotment Management Plan: See "Activity Plan (Site-Specific Plan)."

Allotment: An area of land designated and managed for the grazing of livestock. An allotment may include intermingled private, state, public, and other federally-administered lands that are administered for grazing.

Allotment Categorization: The grouping of livestock grazing allotments into the categories "M" (maintain current condition), "I" (improve current condition), and "C" (manage custodially while protecting existing resource values). The criteria that determine the allotment categorization are described in Appendix G of the draft EIS.

Animal Unit Month (AUM): The amount of forage necessary for the sustenance of one cow or its equivalent for a period of one month. (43 CFR 4100.0-5)

Appropriate Management Response: Specific actions taken in response to a naturally-occurring wildland fire to implement protection and fire use objectives, while considering firefighter and public safety, anticipated management costs, resource values at risk, resource benefits, threats to private property, opportunities for reducing hazardous fuels, and political and social concerns. Appropriate management response would involve a wide range of fire management options. These might include confining or containing a wildland fire so it stays within a predetermined boundary, or aggressively and quickly suppressing the fire.

Area of Critical Environmental Concern (ACEC): An area within the public lands designated for special management attention to protect and prevent irreparable damage to important historic, cultural, or scenic values, fish and wildlife resources, or other natural systems or processes, or to protect life and safety from natural hazards. According to 43 CFR 1601.0-5a, "The identification of...[an] ACEC shall not, of itself, change or prevent change of the management or use of public lands."

Biological Diversity: The variety of life and its processes. Although vastly complex, it includes some measurable distinctions like genetic differences within and among species, species variations, associations of species with each other and their environments, and the patterns and linkages of these biological communities across geographical areas. (Keystone Center 1991.) According to West (1993) "biological diversity is the variety of life and its processes, including the variety of living organisms, the genetic differences among them, the communities, the ecosystems, and landscapes in which they occur, plus the interactions of these components. Some [authorities] would add the local peoples, their culture, and their 'indigenous knowledge' to the list...."

Carrying Capacity: According to grazing regulations (43 CFR 4100.0-5), livestock carrying capacity is the maximum stocking rate possible without inducing damage to vegetation or related resources. It may vary from year to year on the same area due to fluctuating forage production. In this final EIS, the term carrying capacity (instead of "livestock carrying capacity") is used to reflect the **maximum level of grazing and all other concurrent uses** that public lands can sustain on a long-term basis.

Composition: The percentages of various plant species in a plant community.

Coordinated Activity Plan: See "Activity Plan (Site-Specific Plan)."

Coordinated Resource Management (CRM): A management approach which has an overall goal of reaching agreement among affected land users on natural resource issues, and which improves natural resource values and promotes quality resource management through collaborative efforts. (Wyoming n.d.)

Crucial Winter Habitat: Winter habitat that a wildlife species depends upon for survival, especially during severe winter weather conditions. Alternative habitat areas would be very limited or unavailable because of severe weather conditions or other limiting factors.

Desired Plant Community: A plant community which meets resource management plan objectives.

Disruptive (or Human-Presence Disturbance) Activities: The physical presence, sounds, and movements of people and their activities (on, below, or above the land surface) whether on foot, riding animals, or using mechanized or motorized vehicles or equipment. (Also see "Permanent Disruptive Activities.")

The bulk of the concern for mitigation of disruptive activities is associated with the effects of human presence and activity on wildlife. That is, the effect that human presence, movements and sounds (including those of the equipment used) may have on the well-being of wildlife during critical life-cycle stages (breeding, nesting, birthing), or during periods of severe weather

conditions (severe winter storms, long periods of severe cold or deep snow conditions), when forage or habitat are severely limited, and when the animals are under high stress and depleted body-energy conditions.

Harassment of wildlife from human presence, movements, or sounds during these kinds of periods and conditions can cause excessive and unnecessary impacts, including mortality, fetal abortion, and abandonment of young. While these types of activities can be associated with the performance of surface-disturbing activities, they are not exclusive to that.

Disruptive activities can also be associated with effects to other resources, such as excessive or adverse influences and effects of human presence or modern society's imprint on areas of highly primitive, seclusive, scenic, or historic value.

Ephemeral Stream: A stream that flows only in direct response to precipitation, and whose channel is at all times above the water table. Confusion over the distinction between intermittent and ephemeral streams may be minimized by applying Meinzer's suggestion that the term "ephemeral" be arbitrarily restricted to streams that do not flow continuously for at least 30 days (BLM Technical Reference 1737-9, 1993). Ephemeral streams support riparian areas when stream-side vegetation reflects the presence of permanent subsurface water.

Exception: Case-by-base exemption to an oil and gas lease stipulation. The stipulation would continue to apply to all other areas on the lease where the restriction is necessary.

Forage: Browse and herbaceous foods that are available to grazing animals.

Forb: A flowering plant whose aboveground stem does not become woody and is not grass nor grasslike.

Functioning-At-Risk Condition: Riparian...areas that are in functional condition but an existing soil, water, or vegetation attribute makes them susceptible to degradation. (BLM Technical Reference 1737-9, 1993)

Geosynthetic Materials: The generic classification of all synthetic materials used in geotechnical engineering applications; it includes geotextiles, geocells, geogrids, geomembranes, and geocomposites. (Industrial Fabric Assoc. International, 1990.)

Geotechnical Engineering: The application of civil engineering technology for the use of soil or rock as construction material. (Industrial Fabric Assoc. International, 1990.)

Geotextile: Any permeable textile used with foundation, soil, rock, earth, or any other geotechnical engineering-related material as an integral part of a human-made project, structure, or system. (Industrial Fabric Assoc. International, 1990.)

Historic Properties: A historic property as defined by 36 CFR 800.2(e) means any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register. This term includes, for the purposes of these regulations, artifacts, records, and remains that are related to and located within such properties. The term eligible for inclusion in the National Register includes both properties formally determined as such by the Secretary of the Interior and all other properties that meet National Register listing criteria.

Holistic Planning (Holistic Resource Management [HRM]): According to the Meeteetse Conservation District, Holistic Resource Management is "the action of a community to develop, define, and apply community goals, objectives, and policies that reflect their community quality of life, landscape description, and forms of production, and to achieve and maintain the community goals, objectives and [policies] through the acknowledgment of the ecosystem processes, and the application of the tools, human creativity and money and labor, and to recommend the testing and management guidelines for equitable community development, and to monitor, control, and re-plan through an open and collaborative process as the community changes over time."

Hydromulch: A mulch applied in a water slurry. This same slurry may also contain items such as seed, fertilizer, erosion-control compounds, growth regulators, and soil amendments.

Interdisciplinary: Characterized by participation or cooperation among two or more disciplines or fields of study. As required by 40 CFR 1502.6, an interdisciplinary approach shall be used in the preparation, amendment, and revision of resource management plans.

Intermittent Stream: A stream that flows only at **certain** times of the year when it receives water from springs or from some surface source such as melting snow in mountainous areas. Confusion over the distinction between intermittent and ephemeral streams may be minimized by applying Meinzer's (1923) suggestion that the term "intermittent" be arbitrarily restricted to streams that flow continuously for periods of at least 30 days. (BLM Technical Reference 1737-9, 1993)

Key Area: A relatively small area that reflects or has the capability to reflect the effectiveness of management on the resources of a larger area. Depending on management objectives, a key area may be a representative sample of a large stratum, pasture, allotment, or a particular management area or it may be representative of specific areas requiring unique management ([that is], threatened or endangered species habitat). Monitoring studies are located within key areas and are established at the frequency and intensity needed to determine whether resource objectives are being accomplished or to identify the presence of absence of conflicts or issues. (BLM Manual H-4401-1)

Key Species: Generally important components of a plant community or ecological site. Key species serve as indicators of change and may or may not be forage species. More than one key species may be selected for a stratum depending on management objectives and data needs. In some unique cases, poisonous plants or noxious weeds may be selected as key species. (BLM Manual H-4400-1)

Limited to Designated Roads and Trails: Public lands where ORV use would be allowed on some roads and trails but not on others. The RMP will identify these general areas but will not prescribe specific roads and trails to be opened or closed. This will be accomplished after completion of the RMP through analysis of detailed information and with public participation. (Also see "Off-Road Vehicle.")

Limited to Existing Roads and Trails: Public lands where ORV use would be allowed on all existing roads and trails. It is not intended for "existing roads and trails" to include any roads or trails created, after the completion of Grass Creek RMP, by the off-road use of motorized vehicles. (Also see "Off-Road Vehicle.")

Livestock Carrying Capacity: See "Carrying Capacity."

Mitigation: Methods used to prevent or reduce adverse effects to resources that might be caused by surface-disturbing or other disruptive activities.

Modification: Fundamental change to the provisions of an oil and gas lease stipulation, either temporarily or for the term of the lease. A modification may, therefore, include an exception from or alteration to a stipulated requirement. Depending on the specific modification, the stipulation may or may not apply to all other areas on the lease.

Monitoring: The periodic observation and orderly collection of data to evaluate: (1) effects of management actions, and (2) effectiveness of actions in meeting management objectives. (43 CFR 4100-05).

No Surface Occupancy (NSO): The term "no surface occupancy" (NSO) is used in two ways. It is used in one way to define a no surface occupancy area where no surface-disturbing activities, of any nature or for any purpose, would be allowed. For example, construction or the permanent or long-term placement of structures or other facilities for any purpose would be prohibited in an NSO area.

The other way the "no surface occupancy" term is used is as a stipulation or mitigation requirement for controlling or prohibiting selected land uses or activities that would conflict with other activities, uses, or values in a given area. When used in this way the NSO stipulation or mitigation requirement is applied to prohibit one or more specific types of land and resource development activities or surface uses in an area, while other—perhaps even similar—types of activities or uses (for other purposes) would be allowed. For example: Protecting important rock art relics from destruction may require closing the area to the staking of mining claims and surface mining, off-road vehicle travel, construction or long-term placement of structures or pipelines, power lines, general purpose roads, and livestock grazing. Conversely, the construction of fences to protect the rock art from vandalism or from trampling or breakage by livestock, an access road or trail, and other visitor facilities to provide interpretation and opportunity for public enjoyment of the rock art would be allowed. Further, if there were interest in development of leasable minerals in the area, leases for oil and gas, coal, and so forth, could be issued with a "no surface occupancy" stipulation or mitigation requirement for the rock art site, which would still allow access to the leasable minerals from adjacent lands and underground.

The term "no surface occupancy" has no relationship or relevance to the presence of people in an area.

Notice: Notification, in the form of a letter, submitted by a mining claim operator to the BLM, for operations that will cause a cumulative surface disturbance of 5 acres or less during any calendar year. This notification must be made at least 15 calendar days before the operations begin. Approval of a notice by the BLM is not required.

Off-Road Vehicle: Any motorized vehicle capable of, or designed for, travel on or immediately over land, water, or other natural terrain, excluding: (1) any nonamphibious registered motorboat; (2) any military, fire, emergency, or law enforcement vehicle while being used for emergency purposes; (3) any vehicle whose use is expressly authorized by the authorized officer, or otherwise officially approved; (4) vehicles in official use; and (5) any combat or combat support vehicle when used in times of national defense emergencies. (43 CFR 8340.0-5)

Perennial Stream: A stream that flows continuously. Perennial streams are generally associated with a water table in the localities through which they flow. (BLM Technical Reference 1737-9)

Permanent Disruptive Activities: Long-term activities including physical presence, sounds, and movements of people and their activities (on, below, or above the land surface) whether on foot, riding animals, or using mechanized or motorized vehicles or equipment. A permanent disruptive activity might also be short term if it involves disruption during an important time period such as when wildlife are migrating, giving birth, or dependent on crucial winter habitat. The same activity would not be permanently disruptive if it occurred in other seasons, or adverse effects could be mitigated by conducting the activity only during certain hours of the day. (Also see "Disruptive (or Human-Presence Disturbance) Activities.")

Prescribed Fire: Application of fire (by planned or unplanned ignition) to wildland fuels in either their natural or modified state, under specified conditions to allow the fire to burn in a predetermined area while producing the fire behavior required to achieve certain management objectives.

Primitive Recreation: As used in this document, the terms "primitive kinds of recreation" and "primitive recreation" are used to describe the types of recreational activities available on about 62,270 acres classified as *semiprimitive nonmotorized recreation* in BLM's *recreation opportunity spectrum*.

Proper Functioning Condition: Riparian areas are functioning properly when adequate vegetation, land forms, or large weedy debris are present to dissipate stream energy associated with high water flows, thereby reducing erosion and improving water quality; filter sediment, capture bedload and aid floodplain development; improve floodwater retention and groundwater recharge; develop root masses that stabilize streambanks against cutting action; develop diverse ponding and channel characteristics to provide the habitat and the water depth, duration, and temperature necessary for fish production, waterfowl, breeding, and other uses; and support greater biodiversity. The functioning condition of riparian areas is a result of interaction among geology, soil, water and vegetation.

Public Lands: Any land or interest in lands owned by the United States and administered by the Secretary of the Interior through the Bureau of Land Management, except lands located on the outer Continental Shelf and lands held for the benefit of Indians, Aleuts, and Eskimos. (43 CFR 1601.0-5)

Range Improvement: An authorized physical modification or treatment which is designed to improve production of forage; change vegetation composition; control patterns of use; provide water; stabilize soil and water conditions; and restore, protect, and improve the condition of rangeland ecosystems to benefit livestock, wild horses and burros, and fish and wildlife. The term includes, but is not limited to, structures, treatment projects, and use of mechanical devices or modifications achieved through mechanical means. (43 CFR 4100.0-5)

Range improvements might also include the use of livestock grazing and other biological techniques.

Range Condition: The existing state of range vegetation in an area described in comparison to the natural potential plant community for that area. It is an expression of the relative degree to which the kinds, proportions, and amounts of plants in a plant community resemble that of the potential natural vegetation in that area.

Rest-Rotation: A prescribed pattern of grazing use that provides sequential rest for various parts of the range unit for at least one year.

Right-of-Way Concentration Area: Public lands where rights-of-way are concentrated and where the placement of future rights-of-way would be favored over lands that are currently unaffected by these disturbances.

Riparian: A form of wetland transition between permanently saturated wetlands and upland areas. These areas exhibit vegetation or physical characteristics reflective of permanent surface or subsurface water influence. Lands along, adjacent to, or contiguous with perennially and intermittently flowing rivers and streams, glacial potholes, and the shores of lakes and reservoirs with stable water levels are typical riparian areas. (See BLM Manual 1737.) Included are ephemeral streams that have vegetation dependent upon free water in the soil. All other ephemeral streams are excluded.

Riparian Area Condition: Includes "Proper Functioning," "Nonfunctioning," and "Functioning-at-Risk" conditions.

Seasonal Requirement: A type of mitigation prohibiting surface use during a specific time period to protect identified resource values.

Semiprimitive Motorized: One of the six classes of the *recreation opportunity spectrum.* Semiprimitive motorized areas offer some opportunities for isolation from the sights and sounds of human activities, but not as much as with opportunities for semiprimitive nonmotorized recreation. Use of these areas involves the opportunity for visitors to have a high degree of interaction with the natural environment, to have moderate challenge and risk, and to use outdoor skills. Such an area provides an explicit opportunity to use motorized equipment while in the area.

Semiprimitive Nonmotorized: One of the six classes of the *recreation opportunity spectrum.* Semiprimitive nonmotorized areas offer opportunities for isolation from the sights and sounds of human activities. Use of these areas involves the opportunity for visitors to have a high degree of interaction with the natural environment, to have moderate challenge and risk, and to use outdoor skills.

Seral Stage: The present state of vegetation of a range site in relation to the potential natural community for the site. Vegetation status is the expression of the relative degree to which the kinds, proportions, and amounts of plants in a community resemble those of the potential natural community. The classes are potential natural community, late seral, mid-seral, and early seral.

Species-at-Risk: The US Fish and Wildlife Service considers species-at-risk to be animals and plants for which there is sufficient information that listing as threatened or endangered may be appropriate but persuasive data on biological vulnerability and threats are not currently available. (Also see "Candidate Species.")

Surface-Disturbing Activities (or Surface Disturbance): The physical disturbance and movement or removal of the land surface and vegetation. It ranges from the very minimal to the maximum types of surface disturbance associated with such things as off-road vehicle travel or use of mechanized, rubber-tired, or tracked equipment and vehicles; some timber cutting and forest silvicultural practices; excavation and development activities associated with use of heavy equipment for road, pipeline, power line and other types of construction; blasting; strip, pit and underground mining and related activities, including ancillary facility construction; oil and gas well drilling and field construction or development and related activities; range improvement project construction; and recreation site construction.

Mitigation of surface-disturbing activities centers around surface reclamation and the control and prohibition of surface uses. Mitigation is associated with concerns for such things as movement of disturbed or denuded soil (by water, air, or gravity); erosion; water quality (sedimentation, salinity, pollution); wildlife habitat (vegetative and spacial, aquatic or terrestrial); vegetative composition, cover or productive capacity (quality, quantity) for consumptive and nonconsumptive uses (grazing, scenic values, watershed stability); surface and subsurface cultural and paleontological values; and other subsurface values (cave or karst systems, aquifers).

Tackifers: Organic and inorganic chemical products applied in water solutions to lightweight mulches to hold them in place.

Trend: The direction of change over time, either toward or away from desired management objectives. (43 CFR 4100.0-5)

Utilization: The portion of forage that has been consumed [or destroyed] by livestock, wild horses and burros, wildlife, and insects during a specified period. The term is also used to refer to the pattern of such use. (43 CFR 4100.0-5)

As used in this document, the term "combined utilization" highlights the cumulative effect on vegetation from all land uses and environmental factors.

Visual Resource Management (VRM): The planning and implementation of management objectives for maintaining visual quality and scenic values on public lands. Visual resource management classes determine the amount of change that would be allowed to basic elements of the landscape. Three (of the five) VRM classes are identified in the Grass Creek Planning Area: In Class II areas, changes in basic elements of the landscape can be evident but must not attract attention. In Class III areas, changes in the basic elements of the landscape can be evident but must remain subordinate to the existing landscape. In Class IV areas, changes in the basic elements of the landscape can attract attention and may be dominant features of the landscape in terms of scale, but the changes should repeat the form, line, color, and texture of the characteristic landscape.

Waiver: Permanent exemption from an oil and gas lease stipulation.

Wetland: An area inundated or saturated by surface or ground water at a frequency and duration sufficient to support...under normal circumstances...a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands include marshes, shallows, swamps, lakeshores, bogs, muskegs, wet meadows, estuaries, and riparian areas. (BLM Manual 1737) As used in the final EIS, "wetland" is an ecological term. No specific legal or jurisdictional connotations are implied.

Wildland Fire: Any nonstructure fire, other than prescribed fire, that occurs in the wildland.

Vegetative Cover: The material covering the soil and providing protection from, or resistance to, the impact of raindrops and the energy of water flowing over the surface of the land; expressed in percent of the area covered. Cover is composed of vegetation, plant litter, and rocks.

APPENDIX 1
WILD AND SCENIC RIVERS REVIEW

INTRODUCTION

In developing the Grass Creek RMP EIS, the planning team reviewed all BLM-administered public lands along waterways in the planning area. This review was to determine if any of these public lands met the Wild and Scenic Rivers eligibility criteria and suitability factors, as identified in the Wild and Scenic Rivers Act.

PUBLIC INVOLVEMENT AND COORDINATION

In January 1991, Wyoming BLM staff met with representatives of Wyoming state agencies and the Governor's Office to reach an understanding of the wild and scenic rivers review process and of the wild and scenic rivers eligibility criteria and suitability factors to be used in the process. Agreement was also reached on the need for some refinements of the Wild and Scenic Rivers eligibility criteria and suitability factors, specific to their application of the BLM-administered public lands in Wyoming. The resulting criteria and factors are still consistent with the BLM Wild and Scenic Rivers Manual 8351, released on May 15, 1992.

In May 1993, BLM personnel from the Bighorn Basin Resource Area office briefed representatives of Wyoming state government on preliminary eligibility findings in the planning area. Similar briefings on the eligibility findings were given to the Wyoming Congressional Delegation representatives and the Big Horn, Hot Springs, Park, and Washakie county commissioners. Through open houses and direct mailing to interested individuals, the public was informed of the need for a wild and scenic river review, in descriptions of "planning issues" and "planning criteria." A summary of these public participation activities is available for review in the Bighorn Basin Resource Area office.

PROCESS

Definitions

The following definitions applied to key terms used in the review process.

Waterway: A flowing body of water or estuary or a section, portion, or tributary thereof, including rivers, streams, creeks, runs, kills, rills, and small lakes. For purposes of this review, a waterway is not required to have water in it year-round and may be ephemeral or intermittent.

Public lands: The BLM-administered public land surface along waterways within an RMP planning area. Those "split estate lands," where the land surface is state or privately-owned and the federal mineral estate is administered by the BLM, are not involved with these reviews. Other references to segments, parcels, corridors, and waterways all represent public lands, which are the basis for our review.

The BLM wild and scenic rivers review, conducted during the development of the RMP, was a three-step process of:

1. determining if public lands along waterways met the eligibility criteria to be tentatively classified as wild, scenic, or recreational;
2. determining if any public lands meeting the eligibility criteria also met the wild and scenic river suitability factors; and
3. determining how public lands that met the suitability factors would be managed.

These steps are further defined as follows.

Wild and Scenic Rivers Eligibility Criteria and Tentative Classification

Eligibility Criteria

To meet the eligibility criteria, a waterway must be "free-flowing" and, along with its adjacent land area, must possess one or more "outstandingly remarkable" value(s). As part of the eligibility review, BLM planning team members reviewed all waterways in the Grass Creek RMP planning area to see if they contained any public lands that met the eligibility criteria. Only those waterways flowing through public lands were considered. The following guidelines were used in applying the eligibility criteria.

1. **Free-flowing**. Free-flowing is defined in the Wild and Scenic Rivers Act as "existing or flowing in natural condition without impoundment, diversion, straightening, rip-rapping, or other modification of the waterway." The existence of small dams, diversion works, or other minor structures at the time the river segment is being considered shall not automatically disqualify it for possible addition to the National Wild and Scenic River System. A river need not be "boatable or floatable" in order to be eligible; there is no "minimum flow" requirement.

Because of this broad definition, all waterways within the planning area were assumed to be free-flowing.

2. **Outstandingly Remarkable Values.** The public lands along waterways must also possess one or more outstandingly remarkable value(s) to be eligible for further consideration. Outstandingly remarkable values relate to scenic, recreational, geologic, fish and wildlife, historic, cultural, or other similar resource values.

The term "outstandingly remarkable value" is not precisely defined in the Wild and Scenic Rivers Act. However, it should be noted that these values must be directly waterway-related. The criteria for outstandingly remarkable values used for the review of public lands in the Grass Creek RMP planning area were:

1. **Scenic** — The landscape elements of landform, vegetation, water, color and related factors result in notable or exemplary visual features and/or attractions. Additional factors such as seasonal variations in vegetation, scale of cultural modifications, and length of time negative intrusions are viewed can also be considered when analyzing scenic values. Scenery and visual attractions may be highly diverse over the majority of the public lands involved; are not common to other waterways in the area; and must be of a quality to attract visitors from outside the area.

2. **Recreational** — Recreational opportunities on the public lands are unique enough to attract visitors from outside the area. Visitors would be willing to travel long distances to use the waterway resources on the public lands for recreational purposes. Waterway-related opportunities could include, but are not limited to, sightseeing, wildlife observation, photography, hiking, fishing, hunting, and boating.

   Interpretive opportunities may be exceptional and attract visitors from outside the area. The waterway may provide settings for national or regional commercial usage or competitive events.

3. **Geologic** — The public lands provide an example of a geologic features, process, or phenomenon that is rare, unusual, one-of-a-kind or unique to the area. The feature may be in an unusually active stage of development, represent a "textbook" example and/or represent a unique or rare combination of geologic features (for example, erosional, volcanic, glacial and other geologic structures).

4. **Fisheries** — The fishery values on the public lands may be judged on the relative merits of either fish populations or habitat, or a combination of these conditions. For example:

   a. **Populations.** The waterway on public lands is a contributor to one of the top producers of resident fish species, either nationally or in the area. Of particular significance is the presence of wild stocks and/or federally-listed or candidate threatened or endangered species. Diversity of species is also important.

   b. **Habitat.** The public lands are contributing to exceptionally high quality fish habitat for resident species and federally-listed or candidate threatened or endangered species.

5. **Wildlife** — Wildlife values on the public lands may be judged on the relative merits of either wildlife populations or habitat, or a combination of these conditions. For example?

   a. **Populations.** The public lands contribute to populations of resident wildlife species important in the area or nationally. Of particular significance are species considered to be unique or populations of federally-listed or candidate threatened or endangered species. Diversity of species is also important.

   b. **Habitat.** The public lands are contributing to exceptionally high quality habitat for wildlife species important in the area or nationally, or may provide unique habitat or a critical link in habitat conditions for federally-listed or candidate threatened or endangered species. Adjacent habitat conditions are such that the biological needs of the species are met.

6. **Cultural** — The public lands contain examples of outstanding cultural sites which have unusual characteristics relating to prehistoric or historic use. Sites may be important in the area or nationally for interpreting prehistory or history; may be rare and represent an area where a culture or cultural period was first identified and described; may have been used concurrently by two or more cultural groups; or may have been used by cultural groups for rare or sacred purposes.

7. **Historical** — The public lands contain a site or feature associated with a significant event, an important person, or a cultural activity of the past that was rare, unusual, or one-of-a-kind in the area (although eligibility for inclusion in the National Register of Historic Places, by itself, is not sufficient justification for being considered outstandingly remarkable).

8. **Similar Values** — Other values may include significant hydrologic, paleontologic, botanic, scientific, or ecologic resources as long as they are waterway-related.

Tentative Classification

At the same time that eligibility determinations are made, eligible waterways are also given a tentative classification (that is either wild, scenic, or recreational), as required by the Act. Tentative classification is based on the type and degree of human development associated with the waterway and adjacent public lands at the time of the review. Actual classification is a congressionally legislative determination.

The tentative classifications, as used by BLM in Wyoming, are further defined as:

Wild Waterway Areas — Wild areas are those where the waterways are free of impoundments and generally inaccessible except by trail, with watersheds or shorelines essentially primitive and waters unpolluted. These represent vestiges of primitive America. Wild means undeveloped; roads, dams, or diversion works are generally absent from a quarter-mile corridor on both sides of the waterway.

Scenic Waterway Areas — Scenic areas are those where the waterways are generally free of impoundments, with shorelines or watersheds still largely primitive and shorelines largely undeveloped, but accessible in places by roads. Scenic does not necessarily mean the waterway corridor has to have scenery as an outstandingly remarkable value; however, it does mean the waterway may contain more development (except for major dams or diversion works) than a wild segment and less development than a recreational segment. For example, roads may cross the waterway in places but generally do not run parallel to it. In certain cases, however, if a parallel road is unpaved and well screened from the waterway by vegetation, it could qualify for scenic classification.

Recreational Waterway Areas — Recreational areas are those where the waterways on the public lands are readily accessible by road or railroad, that may have some development along their shorelines, and that may have undergone some impoundment or diversion in the past. Parallel roads or railroads and(or) small dams or diversions can be allowed in this classification. A recreational area classification does not imply that the waterway or section of waterway on the public lands will be managed or have priority for recreational use or development.

Wild and Scenic Rivers Suitability Factors

All of the public lands that are found to meet the eligibility criteria and are classified (for example, wild, scenic, or recreational) would be further reviewed to determine if they meet the wild and scenic rivers suitability factors. The suitability determinations would be made after the general public, local, state, and federal governments and agencies, and other interested parties have reviewed the eligibility and classification determinations.

Some factors to be considered in making the suitability determinations include, but are not limited to:

1. Characteristics which would make the public lands a worthy addition to the National Wild and Scenic Rivers System.
2. Current status of landownership and land and resource uses in the area, including the amount of private land, and any associated or conflicting private land uses.
3. Reasonably foreseeable potential uses of the public lands and related waters which would be enhanced, foreclosed, or curtailed if they were included in the national system, and the values which could be foreclosed or diminished if the public lands are not protected as part of the system.
4. Public, state, local, or federal interest in designation of the waterway, including the extent to which the administration of the waterway, including the costs thereof, may be shared by state, local, or other federal agencies, and individuals.
5. Estimated costs of acquiring necessary lands and administering the area if it is added to the national system.
6. Ability of the BLM to manage the public lands as a Wild and Scenic River.
7. Historical or existing rights which would be adversely affected as to foreclose, extinguish, curtail, infringe, or constitute a taking which would entitle the owner to just compensation if the public lands were included in the national system. In the suitability review, adequate consideration would be given to rights held by other landowners and applicants, lessees, claimants, or authorized users of the public lands.
8. Other issues and concerns identified in the land-use planning process.

Management of Public Lands that Meet the Suitability Factors

The BLM land-use planning decisions would be developed and implemented for any public lands that are determined to meet the suitability factors. These planning decisions would include management objectives, management actions, and appropriate allocations of land and resource uses that would maintain the outstandingly remarkable values and tentative wild and

scenic waterway classifications. The Grass Creek RMP would be amended as necessary.

Public lands that are determined to meet the suitability factors would then be managed under the BLM's land use plan management decisions, indefinitely. In the future the Secretary of the Interior may direct the BLM to participate in the development of Wild and Scenic Rivers Study Reports. The results and documentation of the BLM wild and scenic river reviews for the Grass Creek RMP planning area would be used in developing any such reports.

Results of the Wild and Scenic Rivers Eligibility Review

The Grass Creek planning team met on April 14, 1993, to conduct the eligibility review for the waterways in the Grass Creek RMP planning area.

Because of the broad interpretation of the "free-flowing" criterion, all waterways reviewed were assumed to be free-flowing. Using an interdisciplinary approach, these waterways were reviewed to determine whether any public lands along their courses contained any of the outstandingly remarkable values described in the eligibility criteria. Of the 120 waterways reviewed in the RMP planning area, none were found to have public lands with outstandingly remarkable values. Therefore, it was determined that none of the public lands along waterways in the Grass Creek RMP planning area met the eligibility criteria.

Table 1-1
Grass Creek RMP Planning Area
Wild and Scenic Rivers Eligibility Review

Additional Creek
Alamo Creek
Antelope Creek
Badger Creek
Badger Gulch
Big Draw
Bighorn River
Black Draw
Blackburn Gulch
Blue Creek
Bobcat Draw
Buck Creek
Buffalo Creek
Coal Draw
Coal Mine Draw
Cottonwood Creek
Cottonwood Creek Tributaries
Crooked Creek
Curry Creek
Deer Creek
Deer Creek Tributary
Dorsey Creek
Dorsey Creek Tributary
Dry Cottonwood Creek
Dug Out Draw
East Form Twentyone Creek Tributary
Egbert Draw
Egbert Draw Tributary
Elk Creek (near Basin)
Elk Creek (near Wall Rock)
Elk Creek (near Wall Rock) Tributary
Enos Creek
Enos Creek Tributary
Fall Creek
Fenton Creek
Fifteenmile Creek
Fifteenmile Creek Tributary
Fivemile Creek
Gooseberry Creek
Gooseberry Creek Tributary
Greybull River
Greybull River Tributary
Hess Creek Draw
Hess Creek Draw Tributary
Hulse Creek
Iron Creek
Kester Coulee
Klicker Creek
Lake Creek Tributary
Left Hand Creek
Little Sand Draw
Little Prospect Creek
Little Gooseberry Creek
Lower Sand Draw
Mackey Gulch
McGee Gulch
Meadow Creek
Middle Creek
Middle Creek Tributary
Middle Fork Fifteenmile Creek
Middle Fork Owl Creek
Milk Creek
Mormon Creek
North Fork Owl Creek
North Fork Owl Creek Tributary
Otto Creek
Otto Creek Tributary
Owl Creek
Owl Creek Tributary
Prospect Creek
Quartz Gulch
Raspberry Draw
Raspberry Draw Tributary
Rattlesnake Creek
Rattlesnake Creek Tributary
Red Canyon Creek
Renner Draw
Renner Draw Tributary
Roach Creek
Roach Creek Tributary
Rock Waterhole Creek
Rock Creek
Rock Creek Tributary
Rooster Creek
Sand Draw (near Blue Ridge)
Sand Draw (near Blue Ridge) Tributary
Sand Draw (near Kirby)
Sand Draw (near Kirby) Tributary
Sandord Draw
Slab Creek
South Fork Owl Creek
South Fork Owl Creek Tributary
South Branch Middle Fork Owl Creek
South Branch Middle Fork Owl Creek Tributary
South Fork of North Fork Owl Creek
South Fork of North Fork Owl Creek Tributary
South Fork Coal Draw
South Fork Fifteenmile Creek
South Fork Cottonwood Creek
South Fork Cottonwood Creek Tributary
South Fork Left Hand Creek
South Fork Elk Creek
Spring Gulch
Tenmile Creek
Thompson Draw
Timber Creek
Twentyone Creek
Twentyone Creek Tributary
Vass Creek
Wagonhound Creek
Wagonhound Creek Tributary
West Fork Twentyone Creek
Willow Creek (in Owl Creek)
Willow Creek (near Otto)
Wood River

APPENDIX 2
STANDARDS FOR HEALTHY RANGELANDS
AND
GUIDELINES FOR LIVESTOCK GRAZING MANAGEMENT
FOR THE
PUBLIC LANDS ADMINISTERED BY THE
BUREAU OF LAND MANAGEMENT
IN THE STATE OF WYOMING
AUGUST 12, 1997

INTRODUCTION

According to the Department of the Interior's final rule for grazing administration, effective August 21, 1995, the Wyoming Bureau of Land Management (BLM) State Director is responsible for the development of standards for healthy rangelands and guidelines for livestock grazing management on 18 million acres of Wyoming's public rangelands. The development and application of these standards and guidelines are to achieve the four fundamentals of rangeland health outlined in the grazing regulations (43 CFR 4180.1). Those four fundamentals are: (1) watersheds are functioning properly; (2) water, nutrients, and energy are cycling properly; (3) water quality meets State standards; and (4) habitat for special status species is protected.

Standards address the health, productivity, and sustainability of the BLM-administered public rangelands and represent the minimum acceptable conditions for the public rangelands. The standards apply to all resource uses on public lands. Their application will be determined as use-specific guidelines are developed. Standards are synonymous with goals and are observed on a landscape scale. They describe healthy rangelands rather than important rangeland by-products. The achievement of a standard is determined by observing, measuring, and monitoring appropriate indicators. An indicator is a component of a system whose characteristics (for example, presence, absence, quantity, and distribution) can be observed, measured, or monitored based on sound scientific principles.

Guidelines provide for, and guide the development and implementation of, reasonable, responsible, and cost-effective management practices at the grazing allotment and watershed level. The guidelines in this document apply specifically to livestock grazing management practices on the BLM administered public lands. These management practices will either maintain existing desirable conditions or move rangelands toward statewide standards within reasonable timeframes. Appropriate guidelines will ensure that the resultant management practices reflect the potential for the watershed, consider other uses and natural influences, and balance resource goals with social, cultural/historic, and economic opportunities to sustain viable local communities. Guidelines, like standards, apply statewide.

Implementation of the Wyoming standards and guidelines will generally be done in the following manner: Grazing allotments or groups of allotments in a watershed will be reviewed based on the BLM's current allotment categorization and prioritization process. Allotments with existing management plans and high-priority allotments will be reviewed first. Lower priority allotments will be reviewed as time allows or when it becomes necessary for BLM to review the permit/lease for other reasons such as permit/lease transfers, permittee/lessee requests for change in use, etc. The permittees and interested publics will be notified when allotments are scheduled for review and encouraged to participate in the review. The review will first determine if an allotment meets each of the six standards. If it does, no further action will be necessary. If any of the standards aren't being met, then rationale explaining the contributing factors will be prepared. If livestock grazing practices are found to be among the contributing factors, corrective actions consistent with the guidelines will be developed and implemented before the next grazing season in accordance with 43 CFR 4180. If a lack of data prohibits the reviewers from determining if a standard is being met, then a strategy will be developed to acquire the data in a timely manner.

On a continuing basis, the Standards for Healthy Rangelands will direct on-the-ground management on the public lands. They will serve to focus the on-going

development and implementation of activity plans toward the maintenance or the attainment of healthy rangelands.

Quantifiable resource objectives and specific management practices to maintain or achieve the standards will be developed at the local BLM District and Resource Area levels and will consider all reasonable and practical options available to achieve desired results on a watershed or grazing allotment scale. The objectives shall be reflected in site-specific activity or implementation plans as well as in livestock grazing permits/leases for the public lands. These objectives and practices may be developed formally or informally through mechanisms available and suited to local needs (such as Coordinated Resource Management (CRM) efforts).

The development and implementation of standards and guidelines will enable on-the-ground management of the public rangelands to maintain a clear and responsible focus on both the health of the land and its dependent natural and human communities. This development and implementation will ensure that any mechanisms currently being employed or that may be developed in the future will maintain a consistent focus on these essential concerns. This development and implementation will also enable immediate attention to be brought to bear on existing resource concerns.

These standards and guidelines are compatible with BLM's three-tiered land use planning process. The first tier includes the laws, regulations, and policies governing BLM's administration and management of the public lands and their uses. The previously mentioned fundamentals of rangeland health specified in 43 CFR 4180.1, the requirement for BLM to develop these State (or regional) standards and guidelines, and the standards and guidelines themselves, are part of this first tier. Also part of this first tier are the specific requirements of various Federal laws and the objectives of 43 CFR 4100.2 that require BLM to consider the social and economic well-being of the local communities in its management process.

These standards and guidelines will provide for statewide consistency and guidance in the preparation, amendment, and maintenance of BLM land use plans, which represent the second tier of the planning process. The BLM land use plans provide general allocation decisions concerning the kinds of resource and land uses that can occur on the BLM-administered public lands, where they can occur, and the types of conditional requirements under which they can occur. In general, the standards will be the basis for development of planning area-specific management objectives concerning rangeland health and productivity, and the guidelines will direct development of livestock grazing management actions to help accomplish those objectives.

The third tier of the BLM planning process, activity or implementation planning, is directed by the applicable land use plan and, therefore, by the standards and guidelines. The standards and guidelines, as BLM statewide policy, will also directly guide development of the site-specific objectives and the methods and practices used to implement the land use plan decisions. Activity or implementation plans contain objectives which describe the site-specific conditions desired. Grazing permits/leases for the public lands contain terms and conditions which describe specific actions required to attain or maintain the desired conditions. Through monitoring and evaluation, the BLM, grazing permittees, and other interested parties determine if progress is being made to achieve activity plan objectives.

Wyoming rangelands support a variety of uses which are of significant economic importance to the State and its communities. These uses include oil and gas production, mining, recreation and tourism, fishing, hunting, wildlife viewing, and livestock grazing. Rangelands also provide amenities which contribute to the quality of life in Wyoming such as open spaces, solitude, and opportunities for personal renewal. Wyoming's rangelands should be managed with consideration of the State's historical, cultural, and social development and in a manner which contributes to a diverse, balanced, competitive, and resilient economy in order to provide opportunity for economic development. Healthy rangelands can best sustain these uses.

To varying degrees, BLM management of the public lands and resources plays a role in the social and economic well-being of Wyoming communities. The National Environmental Policy Act (part of the abovementioned first planning tier) and various other laws and regulations mandate the BLM to analyze the socioeconomic impacts of actions occurring on public rangelands. These analyses occur during the environmental analysis process of land use planning (second planning tier), where resource allocations are made, and during the environmental analysis process of activity or implementation planning (third planning tier). In many situations, factors that affect the social and economic well-being of local communities extend far beyond the scope of BLM management or individual public land users' responsibilities. In addition, since standards relate primarily to physical and biological features of the landscape, it is very difficult to provide measurable socioeconomic indicators that relate to the health of rangelands. It is important that standards be realistic and within the control of the land manager and users to achieve.

STANDARDS FOR HEALTHY PUBLIC RANGELANDS

Standard #1

Within the potential of the ecological site (soil type, landform, climate, and geology), soils are stable and allow for water infiltration to provide for optimal plant growth and minimal surface runoff.

THIS MEANS THAT:
The hydrologic cycle will be supported by providing for water capture, storage, and sustained release. Adequate energy flow and nutrient cycling through the system will be achieved as optimal plant growth occurs. Plant communities are highly varied within Wyoming.

INDICATORS MAY INCLUDE BUT ARE NOT LIMITED TO:

- Water infiltration rates;
- Soil compaction;
- Erosion (rills, gullies, pedestals, capping);
- Soil micro-organisms;
- Vegetative cover (gully bottoms and slopes); and
- Bare ground and litter.

The above indicators are applied as appropriate to the potential of the ecological site.

Standard #2

Riparian and wetland vegetation has structural, age, and species diversity characteristic of the stage of channel succession and is resilient and capable of recovering from natural and human disturbance in order to provide forage and cover, capture sediment, dissipate energy, and provide for ground water recharge.

THIS MEANS THAT:
Wyoming has highly varied riparian and wetland systems on public lands. These systems vary from large rivers to small streams and from springs to large wet meadows. These systems are in various stages of natural cycles and may also reflect other disturbance that is either localized or widespread throughout the watershed. Riparian vegetation captures sediments and associated materials, thus enhancing the nutrient cycle by capturing and utilizing nutrients that would otherwise move through a system unused.

INDICATORS MAY INCLUDE BUT ARE NOT LIMITED TO:

- Erosion and deposition rate;
- Channel morphology and flood plain function;
- Channel succession and erosion cycle;
- Vegetative cover;
- Plant composition and diversity (species, age class, structure, successional stages, desired plant community, etc.);
- Bank stability;
- Woody debris and instream cover; and
- Bare ground and litter.

The above indicators are applied as appropriate to the potential of the ecological site.

Standard #3

Upland vegetation on each ecological site consists of plant communities appropriate to the site which are resilient, diverse, and able to recover from natural and human disturbance.

THIS MEANS THAT:
In order to maintain desirable conditions and/or recover from disturbance within acceptable timeframes, plant communities must have the components present to support the nutrient cycle and adequate energy flow. Plants depend on nutrients in the soil and energy derived from sunlight. Nutrients stored in the soil are used over and over by plants, animals, and micro organisms. The amount of nutrients available and the speed with which they cycle among plants, animals, and the soil are fundamental components of rangeland health. The amount, timing, and distribution of energy captured through photosynthesis are fundamental to the function of rangeland ecosystems.

INDICATORS MAY INCLUDE BUT ARE NOT LIMITED TO:

- Vegetative cover;
- Plant composition and diversity (species, age class, structure, successional stages, desired plant community, etc.);
- Bare ground and litter;
- Erosion (rills, gullies, pedestals, capping); and
- Water infiltration rates.

The above indicators are applied as appropriate to the potential of the ecological site.

Standard #4

Rangelands are capable of sustaining viable populations and a diversity of native plant and animal species appropriate to the habitat. Habitats that support or could support threatened species, endangered species, species of special concern, or sensitive species will be maintained or enhanced.

THIS MEANS THAT:
The management of Wyoming rangelands will achieve or maintain adequate habitat conditions that support diverse plant and animal species. These may include listed threatened or endangered species (U.S. Fish and Wildlife-designated), species of special concern (BLM-designated), and other sensitive species (State of Wyoming-designated). The intent of this standard is to allow the listed species to recover and be delisted, and to avoid or prevent additional species becoming listed.

INDICATORS MAY INCLUDE BUT ARE NOT LIMITED TO:

- Noxious weeds;
- Species diversity;
- Age class distribution;
- All indicators associated with the upland and riparian standards;
- Population trends; and
- Habitat fragmentation.

The above indicators are applied as appropriate to the potential of the ecological site.

Standard #5

Water quality meets State standards.

THIS MEANS THAT:
The State of Wyoming is authorized to administer the Clean Water Act. BLM management actions or use authorizations will comply with all Federal and State water quality laws, rules and regulations to address water quality issues that originate on public lands. Provisions for the establishment of water quality standards are included in the Clean Water Act, as amended, and the Wyoming Environmental Quality Act, as amended. Regulations are found in Part 40 of the Code of Federal Regulations and in Wyoming's Water Quality Rules and Regulations. The latter regulations contain Quality Standards for Wyoming Surface Waters.

Natural processes and human actions influence the chemical, physical, and biological characteristics of water. Water quality varies from place to place with the seasons, the climate, and the kind substrate through which water moves. Therefore, the assessment of water quality takes these factors into account.

INDICATORS MAY INCLUDE BUT ARE NOT LIMITED TO:

- Chemical characteristics (for example, pH, conductivity, dissolved oxygen);
- Physical characteristics (for example, sediment, temperature, color); and
- Biological characteristics (for example, macro- and micro-invertebrates, fecal coliform, and plant and animal species).

Standard #6

Air quality meets State standards.

THIS MEANS THAT:
The State of Wyoming is authorized to administer the Clean Air Act. BLM management actions or use authorizations will comply with all Federal and State air quality laws, rules, regulations and standards. Provisions for the establishment of air quality standards are included in the Clean Air Act, as amended, and the Wyoming Environmental Quality Act, as amended. Regulations are found in Part 40 of the Code of Federal Regulations and in Wyoming Air Quality Standards and Regulations.

INDICATORS MAY INCLUDE BUT ARE NOT LIMITED TO:

- Particulate matter;
- Sulfur dioxide;
- Photochemical oxidants (ozone);
- Volatile organic compounds (hydrocarbons);
- Nitrogen oxides;
- Carbon monoxide;
- Odors; and
- Visibility.

BLM WYOMING GUIDELINES FOR LIVESTOCK GRAZING MANAGEMENT

1. Timing, duration, and levels of authorized grazing will ensure that adequate amounts of vegetative ground cover, including standing plant material and litter, remain after authorized use to support infiltration, maintain soil moisture storage, stabilize soils, allow the release of sufficient water to maintain system function, and to maintain subsurface soil conditions that support permeability rates and other processes appropriate to the site.

2. Grazing management practices will restore, maintain, or improve riparian plant communities. Grazing management strategies consider hydrology, physical attributes, and potential for the watershed and the ecological site. Grazing management will maintain adequate residual plant cover to provide for plant recovery, residual forage, sediment capture, energy dissipation, and ground water recharge.

3. Range improvement practices (instream structures, fences, water troughs, etc.) in and adjacent to riparian areas will ensure that stream channel morphology (for example, gradient, width/depth ratio, channel roughness and sinuosity) and functions appropriate to climate and landform are maintained or

enhanced. The development of springs, seeps, or other projects affecting water and associated resources shall be designed to protect the ecological and hydrological functions, wildlife habitat, and significant cultural, historical, and archaeological values associated with the water source. Range improvements will be located away from riparian areas if they conflict with achieving or maintaining riparian function.

4. Grazing practices that consider the biotic communities as more than just a forage base will be designed in order to ensure that the appropriate kinds and amounts of soil organisms, plants, and animals to support the hydrologic cycle, nutrient cycle, and energy flow are maintained or enhanced.

5. Continuous season-long or other grazing management practices that hinder the completion of plants' life-sustaining reproductive and/or nutrient cycling processes will be modified to ensure adequate periods of rest at the appropriate times. The rest periods will provide for seedling establishment or other necessary processes at levels sufficient to move the ecological site condition toward the resource objective and subsequent achievement of the standard.

6. Grazing management practices and range improvements will adequately protect vegetative cover and physical conditions and maintain, restore, or enhance water quality to meet resource objectives. The effects of new range improvements (water developments, fences, etc.) on the health and function of rangelands will be carefully considered prior to their implementation.

7. Grazing management practices will incorporate the kinds and amounts of use that will restore, maintain, or enhance habitats to assist in the recovery of Federal threatened and endangered species or the conservation of federally-listed species of concern and other State-designated special status species. Grazing management practices will maintain existing habitat or facilitate vegetation change toward desired habitats. Grazing management will consider threatened and endangered species and their habitats.

8. Grazing management practices and range improvements will be designed to maintain or promote the physical and biological conditions necessary to sustain native animal populations and plant communities. This will involve emphasizing native plant species in the support of ecological function and incorporating the use of non-native species only in those situations in which native plant species are not available in sufficient quantities or are incapable of maintaining or achieving properly functioning conditions and biological health.

9. Grazing management practices on uplands will maintain desired plant communities or facilitate change toward desired plant communities.

DEFINITIONS

Activity Plans: Allotment Management Plans (AMPs), Habitat Management Plans (HMPs), Watershed Management Plans (WMPs), Wild Horse Management Plans (WHMPs), and other plans developed at the local level to address specific concerns and accomplish specific objectives.

Coordinated Resource Management (CRM): A group of people working together to develop common resource goals and resolve natural resource concerns. CRM is a people process that strives for win-win situations through consensus-based decisionmaking.

Desired Plant Community: A plant community which produces the kind, proportion, and amount of vegetation necessary for meeting or exceeding the land use plan/activity plan objectives established for an ecological site(s). The desired plant community must be consistent with the site's capability to produce the desired vegetation through management, land treatment, or a combination of the two.

Ecological Site: An area of land with specific physical characteristics that differs from other areas both in its ability to produce distinctive kinds and amounts of vegetation and in its response to management.

Erosion: (v.) Detachment and movement of soil or rock fragments by water, wind, ice, or gravity. (n.) The land surface worn away by running water, wind, ice, or other geological agents, including such processes as gravitational creep.

Grazing Management Practices: Grazing management practices include such things as grazing systems (rest-rotation, deferred rotation, etc.), timing and duration of grazing, herding, salting, etc. They do not include physical range improvements.

Guidelines (For Grazing Management): Guidelines provide for, and guide the development and implementation of, reasonable, responsible, and cost-effective management actions at the allotment and watershed level which move rangelands toward statewide standards or maintain existing desirable conditions. Appropriate guidelines will ensure that the resultant management actions reflect the potential for the watershed, consider other uses and natural influences, and balance resource goals with social, cultural/historic, and economic opportunities to sustain viable local communities.

Guidelines, and therefore, the management actions they engender, are based on sound science, past and present management experience, and public input.

Indicator: An indicator is a component of a system whose characteristics (for example, presence, absence, quantity, and distribution) can be observed, measured, or monitored based on sound scientific principles. An indicator can be evaluated at a site- or species-specific level. Monitoring of an indicator must be able to show change within timeframes acceptable to management and be capable of showing how the health of the ecosystem is changing in response to specific management actions. Selection of the appropriate indicators to be observed, measured, or monitored in a particular allotment is a critical aspect of early communication among the interests involved on-the-ground. The most useful indicators are those for which change or trend can be easily quantified and for which agreement as to the significance of the indicator is broad based.

Litter: The uppermost layer of organic debris on the soil surface, essentially the freshly fallen or slightly decomposed vegetal material.

Management Actions: Management actions are the specific actions prescribed by the BLM to achieve resource objectives, land use allocations, or other program or multiple use goals. Management actions include both grazing management practices and range improvements.

Objective: An objective is a site-specific statement of a desired rangeland condition. It may contain either or both qualitative elements and quantitative elements. Objectives frequently speak to change. They are the focus of monitoring and evaluation activities at the local level. Monitoring of the indicators would show negative changes or positive changes. Objectives should focus on indicators of greatest interest for the area in question.

Range Improvements: Range improvements include such things as corrals, fences, water developments (reservoirs, spring developments, pipelines, wells, etc.) and land treatments (prescribed fire, herbicide treatments, mechanical treatments, etc.).

Rangeland: Land on which the native vegetation (climax or natural potential) is predominantly grasses, grass-like plants, forbs, or shrubs. This includes lands revegetated naturally or artificially when routine management of that vegetation is accomplished mainly through manipulation of grazing. Rangelands include natural grasslands, savannas, shrublands, most deserts, tundra, alpine communities, coastal marshes, and wet meadows.

Rangeland Health: The degree to which the integrity of the soil and ecological processes of rangeland ecosystems are sustained.

Riparian: An area of land directly influenced by permanent water. It has visible vegetation or physical characteristics reflective of permanent water influence. Lakeshores and streambanks are typical riparian areas. Excluded are such sites as ephemeral streams or washes that do not have vegetation dependent on free water in the soil.

Standards: Standards are synonymous with goals and are observed on a landscape scale. Standards apply to rangeland health and not to the important by-products of healthy rangelands. Standards relate to the current capability or realistic potential of a specific site to produce these by-products, not to the presence or absence of the products themselves. It is the sustainability of the processes, or rangeland health, that produces these by-products.

Terms and Conditions: Terms and conditions are very specific land use requirements that are made a part of the land use authorization in order to assure maintenance or attainment of the standard. Terms and conditions may incorporate or reference the appropriate portions of activity plans (for example, Allotment Management Plans). In other words, where an activity plan exists that contains objectives focused on meeting the standards, compliance with the plan may be the only term and condition necessary in that allotment.

Upland: Those portions of the landscape which do not receive additional moisture for plant growth from run-off, streamflow, etc. Typically these are hills, ridgetops, valley slopes, and rolling plains.

APPENDIX 3
MITIGATION FOR SURFACE-DISTURBING AND DISRUPTIVE ACTIVITIES

INTRODUCTION

This appendix is in five parts: Part 1 describes opportunities for mitigating impacts to public lands and resources in the Grass Creek Planning Area; Part 2 describes watershed conservation practices for surface-disturbing activities; Part 3 summarizes literature on the seasonal use of habitat by wildlife; Part 4 describes oil and gas standard lease terms and conditions and reasonable measures to reduce the environmental effects of oil and gas operations; and Part 5 is the "Wyoming Bureau of Land Management Mitigation Guidelines for Surface-Disturbing and Disruptive Activities."

PART 1
MITIGATION FOR POTENTIALLY AFFECTED LANDS AND RESOURCES

In preparing resource management plans, the BLM is required to include appropriate mitigation measures to address environmental impacts. According to 40 CFR 1508.20, mitigation includes:

(a) avoiding the impact altogether by not taking a certain action or parts of an action;

(b) minimizing impacts by limiting the degree or magnitude of the action and its implementation;

(c) rectifying the impact by repairing, rehabilitating, or restoring the affected environment;

(d) reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action; or

(e) compensating for the impact by replacing or providing substitute resources or environments.

Early in the planning process for the Grass Creek RMP, the BLM evaluated existing inventory information, requested other scientific and technical information from public and private sources, and identified planning concerns and issues with public input.

Some of these concerns and issues addressed the potential for adverse impacts to public land resources or uses from surface-disturbing and other disruptive activities (see Glossary).

Although it would be impossible to list all these activities, some examples include leasable and salable minerals exploration and development; geophysical exploration; motorized vehicle use and recreation; heavy equipment use and construction (related to such things as timber sales, range or wildlife habitat improvements, and fire suppression); and the development of roads and other types of rights-of-way.

Because the RMP must deal with a large area and many different kinds of impacts, mitigation for surface-disturbing and disruptive activities is often expressed as generalized requirements or limitations on public land uses. However, when it becomes necessary to implement these requirements (for example, when a wildcat well is proposed for drilling) specific mitigation measures are applied on a case-by-case basis, using detailed, site-specific evaluations.

Table 3-1, at the end of this appendix, lists (1) the lands and resources that sometimes require protection and the general location of those lands and resources, (2) a discussion of the potential risks to those lands and resources, and (3) examples of mitigation that may be used to reduce impacts to those lands and resources in a way that does not unnecessarily constrain land uses.

Table 3-1 also satisfies a requirement of BLM manual section 1624 by indicating the type of oil and gas lease stipulation that would normally cover the mitigation described in the table. In spite of this apparent distinction for oil and gas development, the mitigation requirements in Table 3-1 will be applied in a consistent manner to all kinds of surface-disturbing activities.

PART 2
WATERSHED CONSERVATION PRACTICES FOR SURFACE-DISTURBING ACTIVITIES

FOREST MANAGEMENT ACTIVITIES

The following conservation practices will be implemented.

— Operators will locate landing or yarding areas to facilitate skid trail placement on, or as close as possible to, the contour of the slope.

— Skidder-type yarding on all slopes greater than 45 percent will be prohibited.

— Timber harvesting activities will be restricted to periods when soils are dry or frozen.

— Slash will be treated in place to minimize surface disturbance. Methods could include crushing with equipment to reduce height, and burning in place. Windrowing or piling slash using heavy equipment will be discouraged. Slash could also be spread over disturbed areas such as skid trails or decking areas to protect exposed soil from erosion.

— When logging is completed, disturbed areas will be recontoured to facilitate drainage and seeded (preferably with native species) to provide effective watershed cover within one year. If erosion problems occur, additional stabilization will be required such as construction of cross drains or water bars on skid trails or access roads, or the application of mulch or erosion blankets on slopes.

— Through occasional grazing, or through the exclusion of grazing for up to three years, livestock will be managed to facilitate regrowth of vegetation.

— Trees will be felled away from riparian areas and water courses.

— Skidder-type yarding across any ephemeral, intermittent, or perennial stream will be prohibited unless mitigation is applied to avoid channel or bank damage and associated stream sedimentation. Activities will be confined to periods when soils are frozen, or when drainage channels can be armored with natural or synthetic products.

GAS AND OIL ACTIVITIES

The following watershed conservation practices will be implemented as necessary to reduce the possibility of pollutants entering surface waters through discharges or spills. Emphasis will be on protecting areas where important or sensitive resource values or uses are dependant on the surface waters or adjacent riparian areas.

— Unlined pits to contain fluids used during drilling, development, maintenance, and production will be discouraged. Near important riparian habitat areas and adjacent to class I streams (as identified by DEQ or WGFD) fluids should be contained in tanks or closed circulation systems. At the completion of the operation, fluids will be removed from the site and disposed of at an authorized facility.

— The disposal of produced water by surface discharge will be discouraged in areas with important or sensitive resource values or uses that are dependant on the surface waters or adjacent riparian areas. In these areas, reinjection of fluids is preferred. In other areas operators might be encouraged to dispose of water on the surface if (1) the water meets state of Wyoming water quality standards; (2) new riparian habitat could be developed; and (3) other management goals and objectives could be met.

— As necessary, the operator will construct a berm around the perimeter of the well pad before drilling begins. The berm must be sufficient to retain all fluids used on the site and prevent runoff from entering the well pad.

— All fluids used in equipment operation and maintenance, such as waste oil, will be collected for disposal at an authorized facility. Fluids will not be disposed of on the ground.

The following conservation practices will be implemented to maintain or enhance vegetative cover, to increase watershed stability and site productivity, and to minimize erosion and stream sedimentation.

— Surface-disturbing activities will be prohibited on slopes greater than 25 percent, unless adverse effects on watersheds are mitigated.

— Surface-disturbing activities will be prohibited during periods when soils are saturated and the effects cannot be mitigated, or when watershed damage is likely to occur. "Mud rolling" to obtain access during wet conditions generally will be prohibited. (Mud rolling is the blading, or side-casting, of wet material from the surface of roads.)

— Operators will be required to stabilize all exposed soil and spoil materials such as cut and fill slopes,

excavations, embankments, barrow pits and waste piles during construction and before final reclamation. Stabilization measures will include seeding, rip-rapping, benching, mulching, and use of artificial coverings.

— At the completion of drilling, disturbed areas will be recontoured to facilitate drainage and seeded (preferably with native species) to provide effective watershed cover within one year. If erosion problems occur, additional stabilization may be required, such as construction of cross drains or water bars on access roads, or the application of mulch or erosion blankets on slopes.

— When road placement or other construction is necessary within 500 feet of streams and riparian areas, obstructions such as logs, brush, rocks, or depressions will be placed at the base of fill slopes and immediately below cross drain outlets to facilitate sediment deposition. The use of gravel, fabric, or geotextiles may be required within 500 feet of riparian areas.

— Through occasional grazing, or through the exclusion of grazing for up to five years, livestock will be managed to encourage regrowth of vegetation.

ROAD CONSTRUCTION

The following conservation practices will be implemented to minimize surface disturbance and reduce erosion and stream sedimentation during the location and design phases as well as during all types of construction and maintenance.

— New road construction will be prohibited where existing roads provide reasonable access.

— Roads will be located to minimize the amount of cut and fill. Where appropriate, roads will be placed close to ridge tops to minimize cut and fill and the number of cross drains needed for drainage.

— During road construction, crowning or in-sloping and the use of turnouts or cross drains, such as water bars, relief culverts, or dips will be required to provide adequate drainage and prevent rill or gully erosion deeper than 1 inch. Another practice which could be used to provide drainage on contour roads (roads with grades less than 6 percent) is outsloping, in which the road surface is uniformly graded from the toe of the road cut downward to the road shoulder. This practice could be unsafe for some types of activities, but is desirable for watershed protection and might be used under certain circumstances.

— Roads will be located to minimize the number of stream crossings. Crossings will be at right angles to streams to minimize bank and channel disturbance.

— When road placement is necessary within 500 feet of streams and riparian areas, obstructions such as logs, brush, rocks, or depressions will be placed at the base of fill slopes and immediately below cross drain outlets to facilitate sediment deposition. The use of gravel, fabric, or geotextiles may be required on roads within 500 feet of riparian areas.

The following conservation practices will be implemented to insure that riparian areas continue to provide desirable water quality and flow, as well as fish and wildlife habitat.

— Culverts, arches, ellipses, and fords will be built on streams to minimize alteration of natural stream characteristics, provide fish passage, and reduce erosion and stream sedimentation. The use of natural stream crossings, such as fords, without structural armoring, generally will be prohibited. Stream crossings will be designed according to the following guidelines.

1. Instream structures will allow free passage of water and fish and will not be plugged by road fill.
2. A 10-year design storm will be used for sizing structures on temporary stream crossings where structures will be removed. Culverts will have a minimum 12-inch diameter.
3. A 100-year design storm will be used for sizing structures on permanent stream crossings.
4. A minimum backfill depth will be provided on culverts equal to 1.5 times the structure diameter.
5. All structures will be checked after storm runoff to insure that they are functioning properly.

PART 3
WILDLIFE SEASONAL HABITAT AND LITERATURE ON MITIGATION

An animal's preparation for flight, if it occurs frequently, can impose a severe burden on the animal's energy budget. Increases in heart rate have been shown to precede flight, and even to occur when animals are disturbed but do not run. The time spent and the associated period of heightened attention takes away from feeding. The animals often relocate to suboptimal habitat areas. If an animal is unable to compensate for these increases in its cost of living, then reproduction, growth, and survival may be adversely affected. Increased energy costs are more harmful during critical times of the year when animals are already in a state of depleting energy reserves, such as periods of severe weather and late pregnancy. Three types of disturbance stimuli are listed for big game: (1) those that are not familiar or predictable, (2) those involving sharp contrasts or sudden changes in the environment, for example, quick movements, sudden loud noises, and (3) those to which an animal responds innately with alarm, such as predators and natural environmental hazards (Bromley 1985).

Habituation by wildlife to human activities can be encouraged (1) when humans avoid or minimize fear-provoking actions like direct approaches, loud noises, and quick movements, (2) by controlling the timing, frequency, and intensity of human activities to make these more regular and therefore more predictable, and (3) by minimizing the frequency and intensity of human encounters when the wildlife are particularly sensitive to disturbance. Habituation can be detrimental to animals that adapt along roads where they may become more susceptible to poaching, hunting, or collisions with vehicles (Bromley 1985).

Hunted populations of elk and mule deer are affected by human disturbances associated with multiple use on public, private, and state lands. Animals are more disturbed by people moving or working outside vehicles, than by traffic or equipment. Elk will return to an area after the human presence activity stops (Ward 1985). Human activity on forest roads alters distributions of elk habitat use. This impact may be mitigated by road closures (Wilmer and deCalesta 1985) or by separation of security areas from disturbed areas by either a line of sight topographic barrier, such as an undisturbed ridge, or by about 0.5 to 2 miles of timber (Lyon 1975). This mitigation is especially important during rutting and birthing seasons. During drilling in an elk birthing area, fewer elk were in the area, cows moved their calves sooner, and elk were further away from an access road during the activity. During the following year, which had only minor human activity, elk used the area more often. The location of the access road and drill site were designed to lessen the impact to elk by avoiding critical habitats which may have lessened the consequences of the activity (Johnson and Lockman 1981).

There are many examples of development occurring successfully in areas of resource concerns. Literature provided to the planning team by Marathon Oil Company, as part of their comments on the draft EIS, included examples of industrial development and resource protection by the Atlantic Richfield Company at Sheep Mountain in Colorado (Hendry 1983). Other studies include: Penn (1986), Redman (1986), Zehner and Mullins (1987), Moore (1989), Ledec (1990), Chappelle et al. (1991), Brocklehurst (1991), Grant (1992), and Middleton (1992).

PART 4
OIL AND GAS STANDARD LEASE TERMS AND CONDITIONS

The oil and gas "standard lease terms and conditions" are defined in section 6 of the lease. The following excerpt is the "conduct of operations."

> Lessee shall conduct operations in a manner that minimizes adverse impacts to the land, air, and water, to cultural, biological, visual, and other resources, and to other land uses or users. Lessee shall take reasonable measures deemed necessary by lessor to accomplish the intent of this section. To the extent consistent with lease rights granted, such measures may include, but are not limited to, modification to siting or design of facilities, timing of operations, and specification of interim and final reclamation measures. Lessor reserves the right to continue existing uses and to authorize future uses upon or in the leased lands, including the approval of easements or rights-of-way. Such uses shall be conditioned so as to prevent unnecessary or unreasonable interference with rights of lessee.
>
> Prior to disturbing the surface of the leased lands, lessee shall contact lessor to be apprised of procedures to be followed and modifications or reclamation measures that may be necessary. Areas to be disturbed may require inventories or special studies to determine the extent of impacts to other resources. Lessee may be required to complete minor inventories or short term special studies under guidelines provided by lessor. If in the conduct of operations, threatened or endangered species, objects of historic or scientific interest, or substantial unanticipated environmental effects are observed, lessee shall immediately contact lessor. Lessee shall cease any operations that would result in the destruction of such species or objects.

REASONABLE MEASURES CONSISTENT WITH LEASE RIGHTS GRANTED

Federal regulations (43 CFR 3101.1-2, surface use rights) have defined the words "reasonable measures...consistent with lease rights granted" which occur in section 6 of the lease form. These reasonable measures may be required by the authorized officer to minimize adverse impacts to other resource values, land uses, or users. Reasonable measures are described as:

> To the extent consistent with lease rights granted, such reasonable measures may include, but are not limited to, modification to siting or design of facilities, timing of operations, and specification of interim and final reclamation measures. At a minimum, measures shall be deemed consistent with lease rights provided that they do not: require relocation of proposed operations by more than 200 meters; require that operations be situated off the leasehold; or prohibit new surface-disturbing operations for a period in excess of 60 days in any lease year.

PART 5
WYOMING BUREAU OF LAND MANAGEMENT (BLM) MITIGATION GUIDELINES FOR SURFACE-DISTURBING AND DISRUPTIVE ACTIVITIES

INTRODUCTION

These guidelines are primarily for the purpose of attaining statewide consistency in how requirements are determined for avoiding and mitigating environmental impacts and resource and land use conflicts. Consistency in this sense does not mean that identical requirements would be applied for all similar types of land use activities that may cause similar types of impacts. Nor does it mean that the requirements or guidelines for a single land use activity would be identical in all areas.

There are two ways the mitigation guidelines are used in the resource management plan (RMP) and environmental impact statement (EIS) process: (1) as part of the planning criteria in developing the RMP alternatives, and (2) in the analytical processes of both developing the alternatives and analyzing the impacts of the alternatives. In the first case, an assumption is made that any one or more of the mitigation measures will be appropriately included as conditions of relevant actions being proposed or considered in each alternative. In the second case, the mitigation measures are used (1) to develop a baseline for measuring and comparing impacts among the alternatives; (2) to identify other actions and alternatives that should be considered, and (3) to help determine whether more stringent or less stringent mitigation measures should be considered.

The EIS for the RMP does not decide or dictate the exact wording or inclusion of these guidelines. Rather, the guidelines are used in the RMP EIS process as a tool to help develop the RMP alternatives and to provide a baseline for comparative impact analysis in arriving at RMP decisions. These guidelines will be used in the same manner in analyzing activity plans and other site-specific proposals. These guidelines and their wording are matters of policy. As such, specific wording is subject to change primarily through administrative review, not through the RMP EIS process. Any further changes that may be made in the continuing refinement of these guidelines and any development of program-specific standard stipulations will be handled in another forum, including appropriate public involvement and input.

PURPOSE

The purposes of the "Wyoming BLM Mitigation Guidelines" are (1) to reserve, for the BLM, the right to modify the operations of all surface and other human presence disturbance activities as part of the statutory requirements for environmental protection, and (2) to inform a potential lessee, permittee, or operator of the requirements that must be met when using BLM-administered public lands. These guidelines have been written in a format that will allow for (1) their direct use as stipulations, and (2) the addition of specific or specialized mitigation following the submission of a detailed plan of development or other project proposal, and an environmental analysis.

Those resource activities or programs currently without a standardized set of permit or operation stipulations can use the mitigation guidelines as stipulations or as conditions of approval, or as a baseline for developing specific stipulations for a given activity or program.

Because use of the mitigation guidelines was integrated into the RMP EIS process and will be integrated into the site-specific environmental analysis process, the application of stipulations or mitigation requirements derived through the guidelines will provide more consistency with planning decisions and plan implementation than has occurred in the past. Application of the mitigation guidelines to all surface and other human presence disturbance activities concerning BLM-administered public lands and resources will provide more uniformity in mitigation than has occurred in the past.

MITIGATION GUIDELINES

1. Surface Disturbance Mitigation Guideline

Surface disturbance will be prohibited in any of the following areas or conditions. Exception, waiver, or modification of this limitation may be approved in writing, including documented supporting analysis, by the Authorized Officer.

a. Slopes in excess of 25 percent.

b. Within important scenic areas (Class I and II Visual Resource Management Areas).

c. Within 500 feet of surface water and/or riparian areas.

d. Within either one-quarter mile or the visual horizon (whichever is closer) of historic trails.

e. Construction with frozen material or during periods when the soil material is saturated or when watershed damage is likely to occur.

Guidance

The intent of the SURFACE DISTURBANCE MITIGATION GUIDELINE is to inform interested parties (potential lessees, permittees, or operators) that when one or more of the five (1a through 1e) conditions exist, surface-disturbing activities will be prohibited unless or until a permittee or his designated representative and the surface management agency (SMA) arrive at an acceptable plan for mitigation of anticipated impacts. This negotiation will occur prior to development.

Specific criteria (for example, 500 feet from water) have been established based upon the best information available. However, such items as geographical areas and seasons must be delineated at the field level.

Exception, waiver, or modification of requirements developed from this guideline must be based upon environmental analysis of proposals (for example, activity plans, plans of development, plans of operation, applications for permit to drill) and, if necessary, must allow for other mitigation to be applied on a site-specific basis.

2. Wildlife Mitigation Guideline

a. To protect important big game winter habitat, activities or surface use will not be allowed from November 15 to April 30 within certain areas encompassed by the authorization. The same criteria apply to defined big game birthing areas from May 1 to June 30.

Application of this limitation to operation and maintenance of a developed project must be based on environmental analysis of the operational or production aspects.

Exception, waiver, or modification of this limitation in any year may be approved in writing, including documented supporting analysis, by the Authorized Officer.

b. To protect important raptor and/or sage and sharp-tailed grouse nesting habitat, activities or surface use will not be allowed from February 1 to July 31 within certain areas encompassed by the authorization. The same criteria apply to defined raptor and game bird winter concentration areas from November 15 to April 30.

Application of this limitation to operation and maintenance of a developed project must be based on environmental analysis of the operational or production aspects.

Exception, waiver, or modification of this limitation in any year may be approved in writing, including documented supporting analysis, by the Authorized Officer.

c. No activities or surface use will be allowed on that portion of the authorization area identified within (legal description) for the purpose of protecting (for example, sage/sharp-tailed grouse breeding grounds, and/or other species/activities) habitat.

Exception, waiver, or modification of this limitation in any year may be approved in writing, including documented supporting analysis, by the Authorized Officer.

d. Portions of the authorized use area legally described as (legal description), are known or suspected to be essential habitat for (name) which is a threatened or endangered species. Prior to conducting any onsite activities, the lessee/permittee will be required to conduct inventories or studies in accordance with BLM and U.S. Fish and Wildlife Service guidelines to verify the presence or absence of this species. In the event that (name) occurrence is identified, the lessee/permittee will be required to modify operational plans to include the protection requirements of this species and its habitat (for example, seasonal use restrictions, occupancy limitations, facility design modifications).

Guidance

The WILDLIFE MITIGATION GUIDELINE is intended to provide two basic types of protection: seasonal restriction (2a and 2b) and prohibition of activities or surface use (2c). Item 2d is specific to situations involving threatened or endangered species. Legal descriptions will ultimately be required and should be measurable and legally definable. There are no minimum subdivision requirements at this time. The area delineated can and should be defined as necessary, based upon current biological data, prior to the time of processing an application and issuing the use authorization. The legal description must eventually become a part of the condition for approval of the permit, plan of development, and/or other use authorization.

The seasonal restriction section identifies three example groups of species and delineates three similar time frame restrictions. The big game species including elk, moose, deer, antelope, and bighorn sheep, all require protection of crucial winter range between November 15 and April 30. Elk and bighorn sheep also require protection from disturbance from May 1 to June 30, when they typically occupy distinct calving and lambing areas. Raptors include eagles, accipiters, falcons (peregrine, prairie, and merlin), buteos (ferruginous and Swainson's hawks), osprey, and burrowing owls. The raptors and sage and sharp-tailed grouse require nesting protection between February 1 and July 31. The same birds often require protection from disturbance from November 15 through April 30 while they occupy winter concentration areas.

Item 2c, the prohibition of activity or surface use, is intended for protection of specific wildlife habitat areas or values within the use area that cannot be protected by using seasonal restrictions. These areas or values must be factors that limit life-cycle activities (for example, sage grouse strutting grounds, known threatened and endangered species habitat).

Exception, waiver, or modification of requirements developed from this guideline must be based upon environmental analysis of proposals (for example, activity plans, plans of development, plans of operation, applications for permit to drill) and, if necessary, must allow for other mitigation to be applied on a site-specific basis.

3. Cultural Resource Mitigation Guideline

When a proposed discretionary land use has potential for affecting the characteristics which qualify a cultural property for the National Register of Historic Places (National Register), mitigation will be considered. In accordance with Section 106 of the Historic Preservation Act, procedures specified in 36 CFR 800 will be used in consultation with the Wyoming State Historic Preservation Officer and the Advisory Council on Historic Preservation in arriving at determinations regarding the need and type of mitigation to be required.

Guidance

The preferred strategy for treating potential adverse effects on cultural properties is "avoidance." If avoidance involves project relocation, the new project area may also require cultural resource inventory. If avoidance is imprudent or unfeasible, appropriate mitigation may include excavation (data recovery), stabilization, monitoring, protection barriers and signs, or other physical and administrative measures.

Reports documenting results of cultural resource inventory, evaluation, and the establishment of mitigation alternatives (if necessary) shall be written according to standards contained in BLM Manuals, the cultural resource permit stipulations, and in other policy issued by the BLM. These reports must provide sufficient information for Section 106 consultation. Reports shall be reviewed for adequacy by the appropriate BLM cultural resource specialist. If cultural properties on, or eligible for, the National Register are located within these areas of potential impact and cannot be avoided, the Authorized Officer shall begin the Section 106 consultation process in accordance with the procedures contained in 36 CFR 800.

Mitigation measures shall be implemented according to the mitigation plan approved by the BLM Authorized Officer. Such plans are usually prepared by the land use applicant according to BLM specifications. Mitigation plans will be reviewed as part of Section 106 consultation for National Register eligible or listed properties. The extent and nature of recommended mitigation shall be commensurate with the significance of the cultural resource involved and the anticipated extent of damage. Reasonable costs for mitigation will be borne by the land use applicant. Mitigation must be cost effective and realistic. It must consider project requirements and limitations, input from concerned parties, and be BLM approved or BLM formulated.

Mitigation of paleontological and natural history sites will be treated on a case-by-case basis. Factors such as site significance, economics, safety, and project urgency must be taken into account when making a decision to mitigate. Authority to protect (through mitigation) such values is provided for in FLPMA, Section 102(a)(8). When avoidance is not possible, appropriate mitigation may include excavation (data recovery), stabilization, monitoring, protection barriers and signs, or other physical and administrative protection measures.

4. Special Resource Mitigation Guideline

To protect (resource value), activities or surface use will not be allowed (that is, within a specific distance of the resource value or between date to date) in (legal description).

Application of this limitation to operation and maintenance of a developed project must be based on environmental analysis of the operational or production aspects.

Exception, waiver, or modification of this limitation in any year may be approved in writing, including documented supporting analysis, by the Authorized Officer.

Example Resource Categories (Select or identify category and specific resource value):

a. Recreation areas.

b. Special natural history or paleontological features.

c. Special management areas.

d. Sections of major rivers.

e. Prior existing rights-of-way.

f. Occupied dwellings.

g. Other (specify).

Guidance

The SPECIAL RESOURCE MITIGATION GUIDELINE is intended for use only in site-specific situations where one of the first three general mitigation guidelines will not adequately address the concern. The resource value, location, and specific restrictions must be clearly identified. A detailed plan addressing specific mitigation and special restrictions will be required prior to disturbance or development and will become a condition for approval of the permit, plan of development, or other use authorization.

Exception, waiver, or modification of requirements developed from this guideline must be based upon environmental analysis of proposals (for example, activity plans, plans of development, plans of operation, applications for permit to drill) and, if necessary, must allow for other mitigation to be applied on a site-specific basis.

5. No Surface Occupancy Guideline

No Surface Occupancy will be allowed on the following described lands (legal description) because of (resource value).

Example Resource Categories (Select or identify category and specific resource value):

a. Recreation Areas (for example, campgrounds, historic trails, national monuments).

b. Major reservoirs/dams.

c. Special management area (for example, known threatened or endangered species habitat, areas suitable for consideration for wild and scenic rivers designation).

d. Other (specify).

Guidance

The NO SURFACE OCCUPANCY (NSO) MITIGATION GUIDELINE is intended for use only when other mitigation is determined insufficient to adequately protect the public interest and is the only alternative to "no development" or "no leasing." The legal description and resource value of concern must be identified and be tied to an NSO land use planning decision.

Waiver of, or exception(s) to, the NSO requirement will be subject to the same test used to initially justify its imposition. If, upon evaluation of a site-specific proposal, it is found that less restrictive mitigation would adequately protect the public interest or value of concern, then a waiver or exception to the NSO requirement is possible. The record must show that because conditions or uses have changed, less restrictive requirements will protect the public interest. An environmental analysis must be conducted and documented (for example, environmental assessment, environmental impact statement, etc., as necessary) in order to provide the basis for a waiver or exception to an NSO planning decision. Modification of the NSO requirement will pertain only to refinement or correction of the location(s) to which it applied. If the waiver, exception, or modification is found to be consistent with the intent of the planning decision, it may be granted. If found inconsistent with the intent of the planning decision, a plan amendment would be required before the waiver, exception, or modification could be granted.

When considering the "no development" or "no leasing" option, a rigorous test must be met and fully documented in the record. This test must be based upon stringent standards described in the land use planning document. Since rejection of all development rights is more severe than the most restrictive mitigation requirement, the record must show that consideration was given to development subject to reasonable mitigation, including "no surface occupancy." The record must also show that other mitigation was determined to be insufficient to adequately protect the public interest. A "no development" or "no leasing" decision should not be made solely because it appears that conventional methods of development would be unfeasible, especially where an NSO restriction may be acceptable to a potential permittee. In such cases, the potential permittee should have the opportunity to decide whether or not to go ahead with the proposal (or accept the use authorization), recognizing that an NSO restriction is involved.

Table 3-1
Mitigation for Potentially Affected Lands and Resources

Native American Traditional Cultural Values, Historic Properties, and Paleontological Resources

Location: Some locations are the Legend Rock Petroglyph Site, the Meeteetse Draw Rock Art Area, the Gebo-Crosby Historical Area, the Bridger Trail, the Mexican Pass Freight Road, and the Fort Washakie to Meeteetse Stage Road. (See Map 2.)

Discussion: The preferred strategy for treating potential adverse effects to Native American traditional cultural values, historical property and paleontological resources is avoidance. When avoidance is not feasible, appropriate mitigation is determined case by case. Development of mitigation will consider the level of site significance, the estimated costs of mitigation, and the urgency for beginning or completing the proposed surface-disturbing activity.

Factors: The following should be considered. What is the potential for avoiding disturbance to Native American traditional cultural values or historic properties within view or 0.25 mile of the resource or value, whatever distance is closer? (The Legend Rock Petroglyph Site would be protected for a distance of 0.5 mile.) If values, properties, or resources cannot be avoided, what is the potential for applying mitigation, such as excavation (for data recovery), stabilization, monitoring, or use of protective barriers and signs?

Opportunities for Mitigation: Avoidance would not be applied to surface-disturbing activities needed for emergency stabilization, protection, or interpretive development of the site. These surface-disturbing activities must be addressed in a site development plan jointly approved by the BLM, the Wyoming State Historic Preservation Office, and the Advisory Council on Historic Preservation. Native American groups would be consulted, as appropriate. Any changes in the oil and gas "no surface occupancy" stipulation at the Legend Rock Petroglyph Site would require environmental analysis, public participation, and an RMP amendment, if necessary. Public lands within the immediate vicinity (about 20 acres) of rock art in the Meeteetse Draw area, also would be protected by a "no surface occupancy" stipulation for oil and gas leasing. Other known important cultural and paleontological resources would be addressed through "controlled surface use" stipulations when oil and gas leases are issued.

Public Health and Safety and Prior Existing Rights

Location: Areas authorized for specific land uses such as beet dumps, existing and closed landfills, communication sites, and the Worland Rifle Range.

Discussion: These areas have existing rights that are not compatible with other surface uses. However, underground mineral resources may still be available for exploration and development.

Factors: The following should be considered. Can temporary use of the surface take place without affecting the existing uses authorized by the lease or other surface use permit? Can the surface be restored to avoid affecting the previously authorized uses?

Opportunities for Mitigation: No other use of these areas will be allowed unless the proposed activities are directly or incidentally related to development of the preexisting lease or permit, or the BLM and the lease or permit holders agree to the activity. In oil and gas leasing this would require a "no surface occupancy" stipulation.

Table 3-1
Mitigation for Potentially Affected Lands and Resources

Visual Resource Management (VRM) Class II Scenic Areas

Location: Scenic areas in the Badlands, the Red Canyon Creek area, and the Absaroka Mountain foothills. (See Map 9.)

Discussion: In VRM Class II areas, the level of change in the appearance of the landscape should be low. Management activities may be seen, but should not attract the attention of the casual observer. Any changes must repeat the basic elements of form, line, color, and texture found in the major natural features of the landscape.

Factors: The following should be considered. What is the potential for successful reclamation, including stabilization of soils and revegetation? What is the potential for selective placement of the proposed activity to minimize its influence on the landscape? Can facilities be painted to blend with surroundings, or hidden behind tree buffers? Will the effects of the proposed action, combined with similar actions, cause a decline in the scenic quality of the area? Would the activity occur near, and be readily observable by the naked eye from congressionally designated wilderness areas (managed as VRM Class I areas) or wilderness study areas?

Opportunities for Mitigation: Mitigation would be applied to avoid lasting impairment of visual resources. The intensity of mitigation would vary based on the importance of the visual resources. In oil and gas leasing, mitigation would be addressed through a lease notice, standard lease terms and conditions, or a "controlled surface use" stipulation.

Occasionally, there could be opportunities for land use activities to be highlighted to benefit public education and provide a better understanding of multiple use.

Big Game Crucial Winter Habitat and Birthing Areas

Location: Crucial winter habitat and birthing areas have been identified throughout the area which provide vital forage as well as thermal and security cover for wildlife.

Discussion: Seasonal requirements have been designed to protect big game habitat during crucial time periods. In some years big game animals need crucial winter habitat from about November 15 through April 30, and birthing habitat, yearly, from May 1 through June 30. Depending on weather conditions and other factors identified at the time a development activity is proposed, a decision would be made to allow or not allow the activity. This is particularly important for any new or permanent surface disturbance or disruptive activity (see Glossary) planned in the crucial habitats.

Factors: The following should be considered. What is the current big game use of the area? What are the seasonal weather patterns for the area? What are the current snow conditions (depth, crusting, longevity)? What are the current and historic precipitation records, temperature conditions, and wind chill factors? What is the current weather forecast and what is the anticipated duration of the proposed activity? Are there any topographic or geographic habitat limitations present? Are habitats fragmented? Are there current or potential stress-related problems in animal populations resulting from human disturbance and displacement (overcrowding and adverse behavioral modifications resulting from human activities)?

Table 3-1
Mitigation for Potentially Affected Lands and Resources

Big Game Crucial Winter Habitat and Birthing Areas (Continued)

Factors (Continued): What is the current estimate of animal health in the area? What is the potential for animals to become accustomed to human activity? Will becoming accustomed to human activity allow the animals to reoccupy habitat areas after a reasonable period of time, or will it increase their susceptibility to hunting and other mortality because of stress?

Opportunities for Mitigation: A seasonal requirement would be necessary during times when animals are present and dependant on crucial winter ranges or birthing areas. Short-term exceptions to the requirement may be granted early or late in these seasons depending on weather conditions and animal occupancy. Surface-disturbing and disruptive activities may be allowed on crucial winter ranges during mild weather, if winter ranges are unoccupied and anticipated to remain unoccupied for the duration of the proposed activity, or if animals can easily defer to neighboring suitable habitats.

Birthing areas are used every year and security for the animals is necessary for successful reproduction. If big game animals have not used the habitat for several years, consultation with the WGFD could change range maps to reflect habitat use. Permanent disruptive activities (see Glossary) and habitat fragmentation will continue to be avoided on crucial winter ranges and birthing areas.
In oil and gas leasing, mitigation would be addressed through a "timing limit" stipulation.

Overlapping and Important Big Game Habitat

Location: Narrow ridges (used for migration) and adjacent habitat in the Absaroka Mountain foothills.

Discussion: Along the Absaroka Mountain foothills there are narrow ridges that are the focus of migration by several species of big game animals. These are associated with other important and overlapping crucial winter ranges and birthing areas that are seasonally occupied by several types of big game animals. Permanent activities, during any year, would prohibit animal migrations on narrow migration corridors. Some years, because of weather conditions and other factors, seasonal use by big game animals is imperative on migration corridors and on overlapping crucial winter ranges and birthing areas. Without the use of these areas, significant winter mortality could take place during severe weather, or populations could gradually decline because of reduced birthing success.

Factors: The following should be considered. Are there any topographic or geographic habitat limitations present? Are habitats fragmented? Will a greater number of animals compete for limited habitat? Will forage competition increase? What is the likelihood of accidents, such as wildlife collisions with vehicles, or poaching, resulting from increased human activity? Are there current or potential stress-related problems or displacement of animal populations resulting from human disturbance. What is the current estimate of big game health in the area? What is the potential for animals to become accustomed to human activity? Will becoming accustomed to human activity allow the animals to reoccupy habitat areas after a reasonable period of time, or will it increase their susceptibility to hunting and other mortality because of stress? What is the timing of the disturbance or activity? What are the seasonal weather patterns for the area? What are the current snow conditions (depth, crusting, longevity)? What are the current and historic precipitation records, temperature conditions, and wind chill factors? What is the current weather forecast and what is the anticipated duration of the activity?

Table 3-1
Mitigation for Potentially Affected Lands and Resources

Overlapping and Important Big Game Habitat (Continued)

Opportunities for Mitigation (Continued): Surface-disturbing activities generally would be allowed on crucial winter ranges during mild weather, if winter ranges are unoccupied or if animals can easily defer to neighboring suitable habitats. This might be determined by aerial flights before the proposed activity. However, permanent disruptive activities and habitat fragmentation will continue to be avoided on overlapping crucial winter ranges and birthing areas.

Full field development could involve the siting of more than one well per location, or technology such as "cluster development" to decrease the amount of surface disturbance and the amount of human activity.

Directional drilling and off-site production facilities would be encouraged as well as limiting access to permitted activities in these areas through locked gates. The use of downhole, submersible pumps and remote well monitoring, using radio or other electronic methods, should be considered. Noise thresholds or limits on "popping" (backfiring of propane motors) could be established for working production equipment. The noise limit for a propane motor would be 65 decibels [65dB(A)] at 100 feet.

In oil and gas leasing, mitigation would be addressed through a "controlled surface use" stipulation.

Active Nesting Sites for Raptors

Location: Active raptor nesting sites.

Discussion: Raptors are very sensitive to disturbance during the nesting period. Raptors nest in the planning area during February 15 through July 31, with dates varying by species. Raptors are likely to abandon their nesting attempts if they are disturbed during nest building or when eggs are being laid. Raptors will tolerate some intrusion when young are in the nest. Some raptor pairs nest in the same vicinity yearly. However, some raptors become habituated to existing disturbances or even move in after the disturbance has taken place.

Factors: The following should be considered. Has the nest had documented use within the past three years? What is the potential for the birds to become accustomed to human activity? What types of raptors are present (kestrels, burrowing owls, golden eagles)? Do the raptors represent special status species or are they sensitive species of importance to the state of Wyoming? What is the nesting chronology of the individual species? Does the nest location provide security to the raptor?

Opportunities for Mitigation: Generally, the seasonal requirement would not be applied if the nests are unoccupied or expected to be unoccupied by special status raptor species. If nests are occupied, some short-term minor disturbances which are not anticipated to affect nesting success may be allowed.

There may be potential for relocating raptors from areas of disturbance with the placement of artificial nesting structures.

In oil and gas leasing, mitigation would be addressed through a "timing limit" stipulation.

Table 3-1
Mitigation for Potentially Affected Lands and Resources

Sage Grouse Strutting and Breeding Habitat

Location: Active sage grouse strutting grounds and their immediate vicinity.

Discussion: Often sage grouse strutting grounds (leks) are used every year by grouse. (Leks are usually openings in the sagebrush.) The males are susceptible to predation at this time and tend to abandon these leks if structures are built that allow raptors to perch for hunting, or there are increased disruptive activities. Activity on leks is usually during early morning and evening.

Factors: The following are some factors to be considered. Has the lek had documented use by sage grouse during the past three years? Is the proposed surface-disturbing or disruptive activity permanent or temporary? During what season and time of day would the proposed activity take place?

Opportunities for Mitigation: Generally, surface-disturbing or disruptive activities would not be allowed while birds are breeding or preparing to breed. Permanent or high-profile structures, such as buildings, storage tanks, and overhead power lines would be prohibited or discouraged because these could increase predation. An exception could be granted if these structures are constructed with raptor antiperch features. Exceptions for human activity could be granted between 9:00 A.M. and 6:00 P.M. during the breeding season. The active breeding season is typically from March 15 through May 15.

In oil and gas leasing, mitigation would be addressed through a "controlled surface use" stipulation.

Sage Grouse Breeding and Nesting Habitat

Location: Suitable breeding and nesting habitat areas within 2 miles of the center of sage grouse leks.

Discussion: Most sage grouse hens nest between March 15 and July 31, within a 2-mile radius of a lek. However, within these 2 miles, only suitable habitat (comprising high density sagebrush areas) would be used. This opens up some of the area within the 2-mile radius for development from March 15 through July 31.

Factors: The following should be considered. Has the lek had documented use by grouse within the past three years? What areas within the 2-mile radius are suitable for nesting? What areas contain nests? Is the proposed action within these areas of suitable or active nesting? What is the potential for the birds to become accustomed to human activity? Is the proposed surface-disturbing or disruptive activity permanent or temporary? Is there potential for creation of additional sage grouse habitat from the discharge of produced water or through reclamation that meets desired plant community objectives for sage grouse?

Opportunities for Mitigation: Generally, the seasonal requirement would be applied on lands that contain active nests or suitable nesting habitat, as determined by field surveys. Exceptions could be granted elsewhere within the 2-mile radius.

In oil and gas leasing, mitigation would be addressed through a "timing limit" stipulation.

Table 3-1
Mitigation for Potentially Affected Lands and Resources

Complexes of Sage Grouse Habitat

Location: In areas that involve more than two active sage grouse leks and the overlapping surrounding suitable habitat for strutting, breeding, and nesting.

Discussion: The three complex areas (Upper Fifteenmile, Spring Gulch, and Blue Mesa) have many suitable leks and overlapping nesting habitat which may, or may not, be used by the breeding birds during any year. In these areas, it may not be necessary to protect the location of individual leks because of the adjacent habitat to which the birds can defer. However, the amount of disturbance within the complex could become a factor if that disturbance exceeds 20 percent of the total habitat. This 20 percent would include habitat affected by direct surface disturbance and indirect human activities. For example, an eighth-of-a-mile on each side of a road or a quarter-of-a-mile around an oil or gas well would be considered indirectly disturbed.

Factors: The following should be considered. What is the extent of the surface-disturbing and disruptive activities? What other projects in the area have contributed to a decrease in suitable nesting habitat in the complex area? Can some disturbance be moved outside suitable nesting areas? Is there potential for creation of additional sage grouse habitat from the discharge of produced water or through reclamation that meets desired plant community objectives for sage grouse?

Opportunities for Mitigation: Cumulative disturbance would need to be evaluated for each project within each complex area. Should it be determined that surface disturbance and disruption would be less than 20 percent of suitable habitat areas, then the activities could be allowed to proceed. The only requirement would be a time-of-day limitation whereby activity could take place from dawn to dusk (approximately 9:00 A.M. to 6:00 P.M.) during March 15 through May 15. For oil and gas proposals, this would commonly apply to predrilling activities such as geophysical exploration and new construction related to access and well locations. Exceptions to allow around-the-clock activity could be allowed if the operator can demonstrate that surface disturbance would remain less than 20 percent and none of the leks are active within 0.25 mile of the proposed activity.

If this 20 percent threshold cannot be met, the sage grouse mitigation for individual leks and habitat areas would apply in these sage grouse complex areas.

In oil and gas leasing, mitigation would be addressed through a "controlled surface use" stipulation.

Recreation and Riparian Habitat

Location: Public lands within 0.25 mile of the high-water mark around Wardel and Harrington reservoirs.

Discussion: These reservoirs provide recreational uses and are important riparian habitat for several wildlife species. This setback from the high-water mark provides for these uses while making the underground resources available for development.

Table 3-1
Mitigation for Potentially Affected Lands and Resources

Recreation and Riparian Habitat (Continued)

Factors: The following should be considered. Is the great blue heron rookery currently active? What is the proximity of the proposed action to surface water, riparian areas, and other wildlife habitat areas? Are there plans for development of recreational facilities or wildlife projects, or for cooperative management of the lands with the WGFD? Will fish and wildlife habitat be affected by any change in water quality? Will the proposed activity create any water hazards? What is the potential for wildlife to become accustomed to human activity?

Opportunities for Mitigation: Any development within 0.25 mile of the high-water mark of these reservoirs will need to take into consideration the impact to wildlife, fisheries, and recreation.

In oil and gas leasing, mitigation would be addressed through a "controlled surface use" stipulation. For any lease or portion of lease within a reservoir, a "no surface occupancy" stipulation would be applied.

Soil, Water, and Riparian Habitat

Location: Areawide, particularly perennial streams.

Discussion: The specific reasons for no surface disturbance within 500 feet of water are based on the best information available. The main emphasis is to protect the riparian habitat and prevent surface water degradation. Included would be contamination from drilling fluids and increased sedimentation from disturbance. Geographical areas to be protected and time periods of concern must be delineated at the field level because surface water and riparian areas may, at times, involve ephemeral and intermittent as well as perennial waters.

Factors: The following should be considered. What is the estimated duration or frequency of the surface-disturbing activity? What aquatic and terrestrial habitat values are present? What is the habitat condition? Will fish and wildlife habitat be affected by any change in water quality? Will the proposed activity create any water hazards? What are the proposed locations and design of stream crossings? Will floodplains be affected? What is the current water quality and the identified Wyoming DEQ and WGFD uses and classifications of the affected streams? What is the potential for increased sedimentation to reach class I streams? Will slope steepness be a factor in causing stream sedimentation?

Opportunities for Mitigation: Surface-disturbing activities might be allowed where riparian areas are ephemeral or intermittent (see Glossary). The placement of water control structures such as dikes, gabions, erosion fabrics, and silt fences would be typical mitigation. Water crossings could be protected by geotechnical products such as geocells used as a driving surface. Generally, activities would not be allowed on public lands within a 200-year floodplain or on seasonally or permanently saturated soils; adjacent to class I streams (as identified by DEQ or WGFD); or if the activity could cause lasting disrupting to surface or groundwater hydrology. Additional mitigation may not be required for oil and gas drilling when a closed drilling mud circulation system is used. In oil and gas leasing, mitigation would be addressed through standard lease terms and conditions.

Table 3-1
Mitigation for Potentially Affected Lands and Resources

Soil, Water, and Vegetation

Locations: Areawide, on steep slopes (greater than 25 percent), particularly in areas of unstable soils identified by the Geological Survey of Wyoming, and highly erodible soils identified by the Natural Resource Conservation Service (NRCS).

Discussion: When necessary, watershed conservation practices (see the Watershed Conservation Practices section of this appendix) will be required for surface-disturbing activities taking place on slopes of 25 percent or less. On steeper slopes, these practices may not adequately protect soil and water from accelerated erosion.

Factors: The following should be considered. What is the estimated duration or frequency of the surface-disturbing activity and how much will take place on steep slopes? Will the proposed activity take place on fragile soils or on soils that are susceptible to erosion? What is the potential for wind- or water-caused erosion? What are the minimum and maximum slopes (measured in percent) to be occupied? Is the area prone to landslides? What is the soil depth? What is the soil moisture? Can soils be adequately stabilized during and after the activity? Will the proposed activity take place in a highly scenic area?

The level of necessary mitigation would increase as slopes increase above 25 percent, if fragile or erodible soils are involved, and in areas that are subject to landslides. The development of terraces (location tiering) to be occupied by facilities might also be an acceptable mitigation technique on slopes greater than 25 percent.

Opportunities for Mitigation: The requirement would not be necessary on slopes greater than 25 percent if a mitigation plan demonstrates that the site can be recontoured, stabilized, and revegetated. The mitigation plan would need to include measures to stabilize the soils while surface-disturbing activities are taking place. Examples include using mats for travel over wet or easily eroded areas, the placement of hay bales downslope from fill material and adjacent to streams, and the use of rip-rap for erosion control in steep drainage ditches. Using hydromulch to reseed slopes, and spraying tackifers on hillsides to prevent erosion, are other mitigation techniques.

Some forest management practices could be allowed on slopes greater than 25 percent. An example is skidder-type yarding that would generally be allowed on slopes up to 45 percent. For other logging operations on slopes steeper than 45 percent, activities would be limited to technically, environmentally, and economically acceptable methods like cable yarding.

Generally, proposed activities of any kind would not be allowed if lasting impairment of visual resources or water quality would take place. In oil and gas leasing, this mitigation would be addressed through standard lease terms and conditions.

Table 3-1
Mitigation for Potentially Affected Lands and Resources

Soil, Water, and Vegetation During Wet or Freezing Weather

Location: Areawide.

Discussion: Frozen or saturated soils make poor construction and reclamation materials because they do not compact well and may erode rapidly when disturbed. A saturated soils is one in which all or most of the available pore space is occupied by water, and free water is present in the form of puddles and surface runoff. Saturated soils are not sufficiently stable to support structures and make poor seed beds when used for reclamation.

Factors : The following should be considered. When people drive unnecessarily during wet weather, BLM-administered roads and trails are damaged by ruts, creating accelerated erosion and possible safety hazards. This increases road maintenance costs for industry, other permitted users of the public lands, and the federal government.

For construction-related activities, factors to consider would be the soil texture, frost depth, the projected end use of the frozen or saturated soils, the time of year, and the duration of the activity. Sandy soils would be less likely to be influenced by moisture, because water would move more rapidly through the soil profile.

In situations involving motor vehicles, it would be reasonable to ask whether the land use can be delayed until the area dries out.

Opportunities for Mitigation: Construction and other surface-disturbing activities would be allowed if the soils are not prone to compaction when saturated. In some cases, the frost zone could be shallow enough to be removed and stockpiled. The proposed activity would then be able to proceed if the frozen material is not used for fill or other construction materials. Unnecessary driving in wet weather causes undue damage to the public lands and poses safety and road maintenance problems. With appropriate notification roads can be officially closed to the public during wet weather.

In oil and gas leasing, mitigation would be addressed through standard lease terms and conditions.

Soil, Water, Vegetation, Recreation, and Wildlife Habitat

Location: BLM-administered lands within 0.5 mile of the Bighorn River, including about 1,200 acres of public land surface and 2,400 acres of BLM-administered mineral estate. (See Map 8).

Discussion: This area contains some of the most diverse habitat for wildlife, is visually pleasing, and has high recreational importance. Some of the wildlife associated with the river include the bald eagle, waterfowl, beaver, muskrat, white-tailed deer, mule deer, bats, osprey, great blue heron, sandhill crane, warblers and other song birds, reptiles, amphibians, fish, and occasionally moose, bear, or elk. Although the BLM administers only a small portion of the river corridor, the public lands provide an important link for the wildlife. In addition, as the human population increases, the number of people who are interested in getting access to the river increases, and public land river tracts grow more important for recreation.

Factors: The following should be considered. What is the proximity of the proposed action to surface water, riparian areas, and other wildlife habitat areas? Does the tract have legal public road access for recreation? Could the proposed activity result in acquisition of physical and legal public access for recreation? Are there plans for development of recreational facilities or wildlife projects, or for cooperative management of the tract with the WGFD? Will fish and wildlife habitat be affected by any change in water quality? Will the proposed activity create any water hazards? What are the proposed locations and design of stream crossings?

Table 3-1
Mitigation for Potentially Affected Lands and Resources

Soil, Water, Vegetation, Recreation, and Wildlife Habitat (Continued)

Opportunities for Mitigation: Generally, surface-disturbing activities would be prohibited on tracts that are developed and cooperatively managed by the BLM and the WGFD for fishing and other recreational access, such as the Duck Swamp and the Railroad Tract. Exception may be granted for recreational facilities if these facilities do not degrade the habitat for fish and wildlife, particularly special status species such as the bald eagle. In oil and gas leasing, mitigation would be addressed through a "no surface occupancy" stipulation.

Soil, Water, Vegetation, Recreation, and Wildlife Habitat in The Upper Owl Creek ACEC

Location: The Upper Owl Creek ACEC. (See Map 11)

Discussion: The Upper Owl Creek ACEC is about 45 miles west-northwest of Thermopolis, covering about 16,300 acres of public lands in the Absaroka Mountain foothills. The Washakie Wilderness area of the Shoshone National Forest is immediately to the west and the Wind River Reservation borders part of the area on the south. Ecologically, the Upper Owl Creek area is related to these adjacent lands and to Yellowstone National Park. The ACEC has a variety of complex resource concerns. Among them are shallow soils and tundra-like vegetation on slopes that are prone to landslides. These slopes contribute to the highly scenic and primitive aspects of the area. There are several endemic plant species-at-risk in the area. Water flows into the ground on public lands in the canyon of the upper South Fork of Owl Creek to recharge important aquifers within the Bighorn Dolomite and Madison Limestone formations. This water is pumped out of the ground at Hamilton Dome as a byproduct of oil and gas production. The combination of inaccessibility, topography, and vegetation has made the area home to many species of animals including moose, elk, and mule deer. Other animals like bighorn sheep and grizzly bear are known to visit the area's high altitude ridges and outcrops.

This area has experienced some interest in oil and gas exploration and at one time was encumbered by mining claims for gold and other minerals. The combination of sensitive resources and demand for commodity production means that mitigation will need to be very carefully considered in the ACEC.

Factors: The following should be considered. What combination of values are present in the area of the proposed activity? Will the proposed activity require construction of an access road? Will the proposed activity result in acquisition of physical and legal public access? Is the area prone to landslides or other types of mass failure? Can soils be adequately stabilized while the activity is occurring and after completion of the activity? Would soil erosion and sedimentation in the upper South Fork of Owl Creek affect aquifers and reduce the quality or quantity of their water, including water that is produced from oil and gas development? Would the activity be audible or visible with the naked eye from the nearby Owl Creek Wilderness Study Area (WSA)?

Opportunities for Mitigation: Generally, activities would not be allowed that could result in lasting impairment of visual resources or cause permanent adverse effects to any of the other significant resources in the area. The area would be identified as "no surface occupancy" for oil and gas leasing. This stipulation would also be applied on split-estate lands (where BLM administers the mineral estate) adjacent to the ACEC. After completion of the RMP, a detailed activity plan would be prepared for the Upper Owl Creek ACEC before the BLM approves any proposal for major surface-disturbing activity in the area. This activity plan would include assistance from the development proponent and other affected and interested citizens to determine whether some surface occupancy could be allowed in the area. Mitigation considered in the analysis would include "access corridors" and "cluster development."
Forest management in the ACEC would emphasize maintaining forest health and important wildlife habitat. Management practices would be designed to minimize impacts to soil, water, and scenery. The construction of new forest roads would be prohibited. Recreation facilities and trailheads would be blended into their surroundings.

REFERENCES CITED

Brocklehurst, M. S. 1991 "Protection of the Environmental in Offshore Oil Developed Located in Inshore Areas." Institute of Marine Engineering et al. Meeting.

Bromley, M. 1985 *Wildlife Management Implications of Petroleum Exploration and Development in Wildland Environments. General Technical Report INT-191.* U.S. Department of Agriculture, Fores Service. Intermountain Research Station. 42 pp.

Chappelle, H. H.; R. L. Donahoe, T. T. Kato, and H. E. Ordway 1991 "Environmental Protection and Regulatory Compliance at the Elk Hills Field" SPE 66th Annual Technical Conference/Production Operations and Engineering. Proceedings Part 1 555-67. Dallas, TX

Grant, R. A. 1992 "Development of the Suffield Gas Field." 67th Annual Spe. Technical Conference. pp. 971-982. Washington, DC

Johnson, B. K. and D. Lockman 1981 "Response of Elk during Calving to Oil/Gas Drilling Activity in Snider Basin, WY." Proceedings: 1981 Elk Workshop. Wyoming Game and Fish Department. 14 pp.

Ledec, G. 1990 "Minimizing Environmental Problems from Petroleum Exploration and Development in Tropical Forest Areas." 1st U.S. Environmental Protection Agency et al. Oil and Gas Exploration and Production Waste Management Practice, International Symposium. New Orleans, LA

Lyon, L. J. 1975 "Coordinating Forestry and Elk Management in Montana: Initial Recommendations" IN: Fortieth North American Wildlife and Resources Conference. pp 193-201.

Middleton, R. B. 1992 *Operating in Environmentally Sensitive Areas*, First Inst. Petrol. et al. Mediter. Oil and Gas Conference. Valetta, Malta.

Moore, Steven D. 1989 "Elf Petroland Tackles Environmental Constraints at Zuidwal." IN: *Petroleum Engineer International, Vol. 61. No. 3*, pp. 30, 32.

Penn, B. G. 1986 "Drilling on Forest Lands." Spe. Rocky Mountain Reg. Meeting. pp 37-40. Billings, MT

Redman, P. J. 1986 "Drilling Environmentally Sensitive Wells in Southern England." Spe. Europe Petroleum Conference. pp. 457-465. London, England

Ward, A. L. 1985 "The Response of Elk and Mule Deer to Firewood Gathering on the Medicine Bow Range in Southcentral Wyoming" IN: Proceedings of the 1984 Western States and Provinces Workshop. pp. 28-40

Wilmer, G. W. and D. S. deCalesta 1985 "Effect of Forest Roads on Habitat Use by Roosevelt Elk" IN: *Northwest Science, Vol. 59, No. 2.* pp 122-125.

Zehner, W. B. and J. R. Mullins 1987 "Atypical Mitigation of an Oil Spill, Sam Houston National Forest." 10th Bien. American Petroleum Institute et al., Oil Spill Conference. pp 81-84. Baltimore, MD

APPENDIX 4
POSSIBLE LANDOWNERSHIP ADJUSTMENTS

INTRODUCTION

Possible landownership adjustments by sale, exchange, transfer, or acquisition would be considered case-by-case. These would include transfers of BLM-administered public lands to private, local or state government ownership. Adjustments may be accomplished by exchange, public sale, Recreation and Public Purposes Act patent, or mineral patent. The acquisition of lands by BLM usually would be accomplished through exchange.

REVIEW PROCESS

No landownership adjustments would be implemented without a feasibility study, site-specific environmental analyses, and a determination that the sale, exchange, or transfer is in the public interest.

CRITERIA FOR SALE, EXCHANGE, OR TRANSFER OF LANDS

Lands Not To Be Sold, Exchanged, Or Transferred

— Lands withdrawn from operation of the public land laws or segregated pending withdrawal.

— Lands in wilderness study areas.

— Lands with mining claims of record under section 314 of FLPMA, unless BLM policy is changed in the future to allow for their transfer.

— Lands with known or suspected hazardous waste contamination.

— Lands containing federally listed endangered, threatened, candidate, or emphasis species or important riparian/wetland areas, unless a primary purpose of the ownership adjustment is to improve management of these values.

Other Factors To Be Considered

The following conditions would be evaluated during the review process. The degree to which any of these conditions apply to a proposed ownership adjustment may or may not make the lands suitable for sale, exchange, transfer, or acquisition.

— Mineral values.

— Location of the land in relation to ACECs, protective withdrawals, or other ares of special management concern, including VRM class I or II areas and lands with opportunities for semiprimitive nonmotorized recreation.

— Potential effects on the local economy, including effects on the tax base.

— Whether the lands contain cultural resources eligible for listing on the National Register of Historic Places, or important paleontological resources.

— The importance of the lands for wildlife resources, as in the following examples. Used by state- listed rare or uncommon species or species in need of special management or by state-protected mammals.

— Used by wildlife species of high federal or state interest.

— Tracts identified as potential recovery habitat for federally listed endangered, threatened, candidate, or emphasis species.

APPENDIX 5
LIVESTOCK GRAZING MANAGEMENT

INTRODUCTION

The authority for managing livestock grazing on public lands is provided by the Taylor Grazing Act of 1934, the Federal Land Policy and Management Act of 1976, and the Public Rangelands Improvement Act of 1978. The grazing allotment is the fundamental management unit of the rangeland program.

COMPONENTS OF THE LIVESTOCK GRAZING MANAGEMENT PROGRAM

1. Administration – Processing and transferring grazing permits, compiling and issuing grazing bills, record keeping, data reporting, and responding to public inquiries are the key elements of program administration.
2. Grazing Management – Through consultation with livestock permittees and other affected interests, range management objectives and strategies are established and range projects are developed to maintain or improve rangeland resources.
3. Monitoring – Rangeland trend, use of forage, duration and season of grazing, and precipitation data are recorded. This data is used to evaluate the effects of grazing on rangeland ecosystems and to determine the carrying capacity of grazing allotments.
4. Supervision – Public lands are periodically inspected to assure compliance with authorized grazing permits.

ALLOTMENT CATEGORIZATION

A selective management process was developed to assign priorities for range management in the planning area. Each grazing allotment was placed in one of three categories: "C" Custodial, "I" Improve, or "M" Maintain. Resource conditions and conflicts, the potential for resources to improve, the economic return, and the current management approach are considered. The following criteria are used to assign allotments to the management categories. Allotment categories can change based on new resource information.

Category "C" (Custodial Management)

The objective is to manage lands in a custodial manner that will prevent deterioration of current resource conditions.

The criteria are:

— The current range condition and potential varies, but the trend is static or upward.

— Opportunities for positive economic return on public investments are minor.

— Conflicts between livestock grazing and other resources on public land are minor.

— Intensive monitoring is not warranted because of the lack of issues.

Category "I" (Improve)

The objective is to improve resource conditions and productivity to enhance overall multiple-use opportunities.

The criteria are:

— Intensive management for other resources such as wildlife and watershed is necessary even though allotment condition associated with livestock grazing is satisfactory.

— Current grazing management practices need modification to meet resource objectives.

— The allotment is not producing at or near its potential.

— Resource values on public land may be adversely affected by the current livestock use.

— Intensive monitoring is required to address resource issues, conflicts, or declining trend; or to verify that an improved trend is continuing based on new management actions.

— Opportunities for positive economic return from public or private investment may exist.

— Current range condition may be unsatisfactory and trend is static or downward.

Category "M" (Maintain)

The objective is to maintain or improve the existing resource conditions and productivity.

The criteria are:

- The present range conditions are satisfactory and existing management is expected to maintain or improve conditions.
- The allotment is producing at or near its potential.
- Conflicts with livestock grazing are minor.
- Intensive monitoring is not warranted or management has been changed and intensive monitoring is needed to verify that satisfactory conditions will be maintained.
- Opportunities for positive economic return from public or private investment may exist.

VEGETATION INVENTORY

An ecological site inventory of the Grass Creek Planning Area was conducted from June 1977 to October 1979. Since 1983, approximately 35,000 acres have been evaluated and updated through range monitoring. Ecological condition classes are determined by comparing the present plant community with that of the potential natural community as indicated by the Natural Resources Conservation Service (NRCS) (formerly the Soil Conservation Service) range condition guide for the site. Four classes are used to express the degree that a present plant community reflects its potential natural community. For example, if the seral stage or ecological status represents 76 percent to 100 percent of the potential natural community, the plant community is described as "potential natural community"; 51 percent to 75 percent of the potential natural community is "late seral"; 26 percent to 50 percent is "mid seral"; and 0 percent to 25 percent is "early seral." Woodlands, forests, barren, and alpine areas are not classified in this system.

PLANNING AREA MONITORING PLAN

Introduction

Monitoring is used to determine whether management actions are meeting goals and objectives established for allotments.

The *Wyoming Rangeland Monitoring Handbook* (H-4423-1) establishes when, where, and how studies will be conducted, as well as the types of data to be collected, how the data will be evaluated, and who will participate in the process. The method, amount, and intensity of monitoring for each allotment will depend on allotment category and objectives, resource values, staff availability, and funding. Monitoring data will be stored in the Bighorn Basin Resource Area allotment files.

High-intensity monitoring will be implemented in the "I" category allotments on a priority basis. Low-intensity monitoring studies will be carried out on "M" and "C" category allotments. This data will determine the effects of management actions on rangeland resources and provide quantifiable data needed to enable the authorized officer to enter into agreements or issue decisions to assure that allotment objectives are achieved. High-intensity monitoring includes actual use, utilization, climate, and trend. Low-intensity studies are those that detect undesirable changes in existing range condition that could warrant reevaluation of the priority or category for that allotment. At a minimum, such studies include an allotment inspection at least every five years.

Actual Use

Dates, numbers, and kinds of livestock grazed in an allotment comprise actual use. The information may be reported by permittees and verified by BLM livestock counts. Actual use by wildlife can be obtained from aerial or ground observations.

Utilization

Utilization is the percentage of forage that has been consumed or destroyed during a specific period. By comparing measured utilization with appropriate use levels for key forage plants, and by comparing utilization with actual use, climate, and trend data, short- and long-term stocking level adjustments can be made.

Utilization monitoring provides an index to the amount of the current year's standing crop that remains on the range following grazing. This standing crop helps maintain soil productivity, livestock diet quality, wildlife habitat, and forage plant vigor. Utilization data will be collected on key forage plants in key areas along permanent transects. Additional utilization data, such as maps showing patterns of use, may be collected to provide an estimate of forage utilization on a pasture or allotment.

Utilization will be measured on the standing vegetation in a pasture or allotment. When practical, the times for measuring utilization will be agreed upon by the BLM and livestock grazing permittees, or otherwise will be consistent with federal regulations and BLM policy.

The utilization levels described in Table 3-6 of the draft EIS are generally considered to be appropriate for the precipitation levels, vegetative communities, and grazing seasons encountered in the Grass Creek planning area. These utilization levels will be considered during the development of allotment management plans, and will be linked to precipitation and vegetative community information which is also collected and considered site-specifically. The utilization levels apply to key forage plants in upland areas (not riparian areas). Some exceptions will occur. Data from several studies indicates that light use in wet years will compensate for some overuse in dry years (Holechek, et al., 1989). Although utilization levels may vary from year to year, utilization levels which consistently exceed those shown in Table 3-6 of the draft EIS would not be expected to meet watershed and vegetation management objectives. Specialized grazing management, such as short duration-high intensity grazing, may require utilization levels different than those cited.

There are few guidelines on appropriate use levels in riparian areas that would maintain ecosystem integrity (USDA, Forest Service 1989). Because these communities are so variable in the planning area, recommendations on utilization levels for riparian areas will be developed in site-specific activity plans.

Climate and Trend

Climate and actual use information help with the interpretation of utilization data. One way to determine trend is to establish permanent vegetation studies and photo records that can be used periodically to show changes over time as a result of grazing management.

Trend studies, climatic data, actual use, utilization and information from other studies will be used to evaluate the effectiveness of present grazing management over time, and to make necessary adjustments in grazing use. Other monitoring studies include plant phenology, and studies of range readiness and forage production.

Key Area and Key Species Selection

A key area may represent an entire pasture or some other specific area depending on the management objectives. Riparian areas, important wildlife habitat, or a preferred grazing area with heavy use are examples of specific areas. Key areas will be selected by consulting with permittees and other affected parties when activity plans are developed. A key species is relatively or potentially abundant and serves as an indicator of changes occurring in the vegetative community. Several key species could be selected and may be important for watershed, wildlife, or livestock.

ACTIVITY PLAN IMPLEMENTATION

In cooperation with the permittees and other affected interests, BLM would develop and update activity or implementation plans, including allotment management plans, with priority for "I" category allotments.

Each activity plan would: (1) identify general goals based on the RMP; (2) determine existing conditions and resource issues; (3) specify measurable resource objectives; (4) specify management actions designed to achieve resource objectives; (5) identify how progress towards achieving goals and objectives would be monitored; and (6) specify how and when evaluations would be conducted. Interdisciplinary coordination and involvement by affected and interested parties would ensure multiple-use management.

Table 5-1 and Table 5-2 are located at the end of this appendix. Table 5-1 is a status report on completed allotment management plan implementation and Table 5-2 lists the allotments that are scheduled for new activity plans.

GRAZING STRATEGIES

Grazing strategies are based on livestock management needs and the phenology and physiological requirements of key forage plants. The BLM, the permittees, and other affected interests would design grazing strategies based on: (1) livestock handling requirements and economic considerations of the permittee; (2) the development of range projects that enhance the grazing strategy; (3) the current and the desired future condition of the allotment; and (4) establishing the sequence and timing of grazing and resting periods needed to achieve management objectives.

PROCEDURES FOR RANGE DEVELOPMENT PROJECTS

Range projects would be developed with grazing management strategies to achieve resource management objectives. Normally these objectives would be developed in activity plans. Typical projects would be fences, wells, springs, reservoirs, pipelines, catchments, troughs, tanks, and cattle guards and plant treatments such as herbicide application, and prescribed burning.

A number of range projects have been constructed for the enhancement and protection of watershed and wild-

life values and for the management of livestock grazing. Many of these projects are vegetative manipulations, water developments, and fencing projects.

REFERENCES CITED

Holechek, Jerry L., Rex D. Pieper, Carolton H. Herbel 1989 *Range Management Principles and Practices.* Prentice-Hall, Inc., Englewood Cliffs, NJ

United States. Department of Agriculture, Forest Service 1989 *Managing Grazing of Riparian Areas in the Intermountin Region, General Technical Report INT-263* by W. P. Clary and B. F. Webster. Intermountain Research Station, CO

Table 5-1
Status Report of Completed Allotment Management Plan Implementation

Allotment No. & Name	Agreement/ Decision	Goals	Management Changes	Monitoring/ Evaluation
00671-Tenmile	An AMP was completed in 1996.	Maintain or improve antelope habitat while allowing winter sheep use. Replace noxious weeds by increasing native vegetation. Maintain the quality of existing riparian vegetation along Tenmile Ck.	A section of the antelope winter range is held in reserve. Sheep use will be excluded from the antelope winter range during an unusually critical winter. Utilization limits of sagebrush are specified.	Utilization studies are conducted on sagebrush. Evaluation of the upland trend transect showed an upward trend. Photos were retaken at the riparian photo points. The AMP is scheduled for a reevaluation in 2001.
02505-Lower Red Canyon	An AMP evaluation was completed in 1995.	Improve the riparian habitat along Red Canyon Creek.	Livestock use is established at 420 AUMs. Utilization limits of woody riparian plant species are specified.	Utilization studies are conducted on key herbaceous plants & woody vegetation. The evaluation found the uplands & riparian areas to be in an upward trend. A reevaluation is scheduled for 2001.
00613-Putney Flat 00614-Rattlesnake 00615-Lime Ridge	An AMP was completed in 1996.	Improve range condition in the Rattlesnake & Lime Ridge allotments while maintaining conditions in the Putney Flat Allotment.	Spring use is managed in a deferred rotation grazing system.	Utilization & trend studies were established in the allotments. An evaluation in 1996 found improvement in range condition. A reevaluation is scheduled for 1999.
00633-Upper Pastures 00634-Lower Pastures	An amendment to the AMP was completed in 1995.	Provide for livestock, wildlife, & vegetation/watershed concerns. Improve range condition, forage production, & ground cover. Restore the hydrologic vegetation function of the riparian systems.	A change in pastures moves was incorporated.	A reevaluation is scheduled for 1998. It will include the 21 Creek Allotment (00556).

Table 5-1
Status Report of Completed Allotment Management Plan Implementation

Allotment No. & Name	Agreement/ Decision	Goals	Management Changes	Monitoring/ Evaluation
02539-Red Canyon	The AMP was evaluated & revised in 1993.	Maintain the overall cover vigor & composition of needle-and-thread grass & bluebunch wheatgrass. Increasing green needlegrass & Indian ricegrass remains a desirable goal.	Permittee accepted a 27% AUM reduction as part of the AMP agreement. The Allotment is now managed in a rest/rotation grazing strategy.	Utilization & trend studies were established in 1997. Photo points have documented improvement of the riparian habitat on Red Creek. A reevaluation is scheduled for 1998.
00678-South Grass Creek 00679-North Rim 00620-Prospect	The AMP was evaluated & revised in 1995.	Improve watershed cover & stability, maintain a viable ranch operation, & enhance selected wildlife habitats, mostly mule deer & sagegrouse. Manage sagebrush as the key component of deer & sagegrouse habitat.	The AMP specifies a deferred rotation system.	A reevaluation is scheduled for 2002.
00596-Wagonhound 0052--Rock Creek	An AMP was completed in 1994.	Improve range condition in the Wagonhound & Rock Creek allotments.	The permittee accepted a 25% reduction in AUMs on the Wagonhound Allotment & a 60% reduction on the Rock Creek Allotment. Forage above 10,000 ft. is not allocated to livestock.	Upland trend transects were established in 1982. A reevaluation is scheduled for 1999.

Table 5-1
Status Report of Completed Allotment Management Plan Implementation

Allotment No. & Name	Agreement/ Decision	Goals	Management Changes	Monitoring/ Evaluation
00652-Badger Gulch 00669-Allen Basin 00676-Pitchfork 00682-Hunt Oil Fifteen-mile 00604-LU[1]	These allotments are managed under the Fifteenmile Wild Horse Herd Management Area Plan completed in 1984. Livestock grazing, established by decisions issued by the BLM in 1986,.is fallwinter sheep use.	To manage wild horses within the current Appropriate Management Level of 100 animals, with a range of 70 to 160 mature horses.	Wild horses are allocated 2,300 AUMs of forage per year. The maximum allowable forage use by domestic livestock in the Fifteenmile Wild Horse Herd Management Area is 3,370 AUMs per year.	An evaluation in 1994, indicated static trend & the need to maintain wild horse levels as designated. The Herd Management Plan is under currently revision.
00545-Grass Point	An amendment to the AMP was completed in 1994.	Improve range condition, forage production, & increase ground cover for watershed protection.	No changes were recommended in the four pasture deferred grazing plan.	Three keyarea trend transects were established in 1982. A reevaluation is scheduled for 1998.
00524-Cottonwood	A CRM was completed in June 1987.	Improve range condition & forage production on upland sites, maintain shrub diversity for wildlife, & improve riparian habitat on Cottonwood Creek.	The CRM established a June 15 turnout date & a two-pasture deferred rotation grazing system. A 46% voluntary reduction in grazing use was accepted for a five-year period ending in 1999. The grazing system was changed to a three-pasture deferred rotation in 1990.	A reevaluation in 1995 found the uplands & riparian areas in an upward trend. Another evaluation is scheduled for 1999.

[1] Allotment 00604 is a large allotment with only a small portion being managed under the terms of the Fifteenmile Wild Horse Herd Management Plan. The remainder of the allotment is scheduled for AMP development.

Table 5-1
Status Report of Completed Allotment Management Plan Implementation

Allotment No. & Name	Agreement/ Decision	Goals	Management Changes	Monitoring/ Evaluation
02510-Gould Individual 00564-Little Buffalo Basin	An AMP evaluation & revision were completed in 1997.	The overall goal is to maintain or increase the cover, vigor, & percent composition of the key plants, & maintain mosaic of sagebrush.	The permittee practices "holistic resource management," using an intensive six pasture grazing rotation. In 1997, 246 AUMs of voluntary nonuse were returned to active status.	Monitoring studies indicate that the allotments are improving significantly under the current management. A reevaluation is scheduled for 2001.
00639-Tatman Mountain Common 00640-Snyder	A management agreement was signed by one permittee in 1987.	Improve existing resource conditions & productivity to enhance multiple use of public lands.	A rest/rotation grazing system was established.	Monitoring studies in 1995 indicate that the allotments are generally in good condition under the current management. An AMP is scheduled to be completed in 1998.
00508--North Gooseberry	An AMP was completed in 1996.	Improve watershed condition in the Fifteenmile Creek Watershed by increasing both riparian & upland vegetative cover.	No changes in management were recommended. Monitoring will continue.	The allotment was evaluated in 1996. The allotment is improving under existing management. It will be reevaluated in 2002.
00622-South Highway 00623-North Highway 00616-Home	An AMP was completed for the North & South Highway allotments in 1986. An AMP amendment was completed in 1998, when the Home Allotment was added.	Improve range condition & forage production.	A four-pasture rotation system is being usedto provided growing season rest.	A reevaluation completed in 1994 indicated that the allotments are improving. Another evaluation is scheduled for 2002.

Table 5-1
Status Report of Completed Allotment Management Plan Implementation

Allotment No. & Name	Agreement/ Decision	Goals	Management Changes	Monitoring/ Evaluation
00626-Timber Creek	An AMP was completed in 1968 & revised in 1992.	Improve the quantity & quality of available forage for both livestock & wildlife, & reduce soil erosion by increasing vegetative cover.	A four pasture rest/rotation is being used with only two pastures grazed each year. The permittee accepted a 59% reduction in grazing preference.	An evaluation in 1991 indicated that ecological condition & resource values has declined. The allotment is scheduled to be reevaluated in 2003.
00509-New Burlington Group	An AMP was completed in 1972. It was reevaluated & revised in 1993. Grazing decisions issued in 1995 reduced summer cattle use by 25%.	To improve the quantity & quality of available forage for livestock & wildlife & to reduce soil erosion by increasing vegetative cover.	A four pasture rest/ rotation system is being used, with a maximum of three pastures grazed by cattle each year.	Monitoring data indicates that the allotment is improving under existing management. A reevaluation is scheduled for 2003.
00510-Fernandez-Blu-Jay	An AMP was completed in 1972. Grazing decisions issued in 1993 by the BLM reduced the grazing preference by 15%.	The goal for the allotment is to encourage a diverse plant community by improving the key plant species.	The BLM will continue to intensively monitor this allotment & pursue opportunities for improved management.	This allotment was reevaluated in 1990. Analysis of the monitoring data indicated that trend is static to downward. Another evaluation is scheduled for 2000.
00516-Blue Creek	An AMP was completed in 1984.	Improve range condition on upland sites & riparian habitat.	A four-pasture rest/rotation grazing system is specified in the AMP. The permittees have accepted a 75% reduction in AUMs. Utilization of grasses by livestock is limited to 25% in elk winter range.	This allotment has had little livestock use since 1984. The allotment was reevaluated in 1988. Major improvement in resource conditions, on both upland & riparian sites, have been documented. Another evaluation is scheduled for 1998.

Table 5-1
Status Report of Completed Allotment Management Plan Implementation

Allotment No. & Name	Agreement/ Decision	Goals	Management Changes	Monitoring/ Evaluation
00637-Adam Weiss Peak	An AMP was completed in 1985. An amendment to the AMP was completed in 1993.	The long-term management goal is to improve range condition, forage production, & increase ground cover for watershed protection.	The allotment will be grazed two years during the critical growth period, two years with partial growing season use, & one year on nongrowing season use.	Baseline data was collected in 1992. An evaluation in 1993 indicated improvement in the vigor of upland vegetation. A reevaluation is scheduled for 1998.
00579-Buffalo Creek	A Final Decision was issued by the BLM in 1996.	Improve the productivity & cover of perennial bunch grasses.	Established a stocking level & implemented a four pasture deferred grazing plan.	The Final Decision is currently under appeal.
00604-LU	An AMP was completed in 1993. Amendments to the AMP, pertaining to Left Hand & Enos Creek units, were completed in 1997 & 1998.	To improve the quantity & quality of available forage for livestock and wildlife and to reduce soil erosion by increasing vegetative cover.	Adjustments were made in the grazing permit; the AMP has been phased in overtime; desired forage use levels were identified; a grazing management strategy was agreed to; & range projects were initiated.	A reevaluation is scheduled for 1999.
00521-Cottonwood 00522-Grass Creek	An AMP was completed in August 1970.	The goals are to increase livestock forage & vegetative cover, maintain wildlife populations, & increase plant density to control erosion.	A five pasture rest/rotation grazing system is prescribed in the AMP. The operator is using only a small portion of the grazing preference allocated to these allotments.	Two trend transects were established in 00522 in 1982. This AMP will be reevaluated in 1998.

Table 5-2
Projected New Grazing Activity Plan Development in Priority Order by Group or Individual Allotments

Priority	Allotment Name and Number
1	Lower Cottonwood (00521), Grass Creek (00522), Highway Junction (00523)
2	Wagonhound Bench (00573), Slab Creek (00575)
3	Basin (00568), Curtis (00569), North Hart (00585), Three Peaks Anchor (00661), Spring Creek (00681), Coulee Mill Iron (00551), Mill Iron East (00552)
4	Lake Creek (00607), Vass (00608), Owl Creek (00609)
5	Middle Creek (00519), Mountain (00672)
6	Rooster Creek (00627), Hole in the Ground (00628), Renner Section 15 (02534), North Grass Creek (00621)
7	Hamilton Dome (00504), Richmond (00553), Buck Creek (00558), Bramah (00685)
8	21- Creek (00556)
9	Enright (00662)
10	Sand Springs (00526)
11	South Sleeper (00683)
12	Padlock (00537)
13	South Fork Elk Creek (00576), South Basin (00577), North Basin Group (00578)
14	Six Mile (00528)
15	South Gooseberry Group (00507)

Priority	Allotment Name and Number
16	Elk Creek (00619)
17	South Tatman (00612)
18	Sand Draw (00590)
19	YU Bench (01065)
20	Whiskey Gulch (00532). Home Ranch (00533)
21	Coal Mine (00580)
22	South Fork North Fork (00560)
23	Three Peaks (00541)
24	Canady Individual (00543)
25	Highway (00546)
26	D & LM Individual (00548)
27	South Owl Creek (00610)
28	Meeteetse Draw (00566)
29	Alamo Creek (00664)
30	Shumway Individual (00648)
31	Ayers Individual (00654)
32	Individual (00539)
33	Common Harvey (00506)

☆ U.S. GOVERNMENT PRINTING OFFICE: 1998—673-076 / 24016 Region No. 8

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
Worland District Office
101 South 23rd
P.O. 0119
Worland, WY 82401-0119

OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE, $300

FIRST CLASS MAIL
UNITED STATES POSTAGE AND FEES PAID
U.S. DEPARTMENT OF THE INTERIOR
PERMIT NO. G—76