West HiLine

Resource Management Plan
Environmental Impact Statement

DRAFT

1987

United States Department of the Interior
Bureau of Land Management
Lewistown District, Montana

BLM-MT-ES-87-005-4410

As the Nation's principal conservation agency, the Department of the Interior has responsibility for most of our nationally owned public lands and natural resources. This includes fostering the wisest use of our land and water resources, protecting our fish and wildlife, preserving the environmental and cultural values of our national parks and historical places, and providing for the enjoyment of life through outdoor recreation. The Department assesses our energy and mineral resources and works to assure that their development is in the best interests of all our people. The Department also has a major responsibility for American Indian reservation communities and for people who live in Island Territories under U.S. administration.

IN REPLY REFER TO:

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
LEWISTOWN DISTRICT OFFICE
80 Airport Road
Lewistown, Montana 59457-9699

Dear Reader:

This draft Resource Management Plan/Environmental Impact Statement (RMP/EIS) for the West HiLine planning area of the Lewistown District, Montana, is presented for your review and comment. This document analyzes five alternatives for managing public surface and mineral lands in the West HiLine planning area. These alternatives are designed to resolve five management issues identified early in the planning process.

We welcome your comments on the content of this document. We are particularly interested in comments that address one or more of the following: (1) possible errors in the analysis; (2) new information that would have a bearing on the analysis; (3) a possible new alternative not within the range of alternatives presented here; and (4) needs for clarification. Specific comments will be the most useful.

We would appreciate your comments on the RMP/EIS by August 28, 1987. Questions or comments should be directed to Wayne Zinne, District Manager, Lewistown District Office, Bureau of Land Management, Airport Road, Lewistown, Montana 59457, (406) 538-7461.

Public meetings have been scheduled to allow individuals the opportunity to comment on the draft RMP/EIS. The meetings will be held at the following locations:

July 13, 1987	Havre	7:00 p.m.	Duck Inn, Olympic Room 1300 First Street
July 14, 1987	Great Falls	7:00 p.m.	Great Falls Public Library 301 2nd Ave. North
July 15, 1987	Shelby	7:00 p.m.	Marias River Coop 910 Roosevelt Hwy
July 16, 1987	Chester	7:00 p.m.	Liberty County Courthouse
July 20, 1987	Lewistown	7:00 p.m.	Lewistown BLM District Office 80 Airport Road
July 21, 1987	Fort Benton	7:00 p.m.	Emergency Operations Center 2610 N. Main Avenue (end of road)

All written and oral comments received during the 90-day comment period will be given equal consideration in the preparation of the final RMP/EIS scheduled for completion in January, 1988.

Please keep this copy of the draft document as portions of it may not be reprinted in the final. Copies of the final RMP/EIS will be sent to all those who provide comments on the draft or request a copy.

Thank you for participating in the planning process. Through your participation we can move together toward the common goal of improved public land management in the Lewistown District.

Sincerely,

Marvin L. Moore

Acting State Director

DRAFT

West HiLine

Resource Management Plan
Environmental Impact Statement

Prepared By

United States Department of the Interior
Bureau of Land Management

State Director
Montana State Office

May 1987

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
LEWISTOWN DISTRICT OFFICE
LEWISTOWN, MONTANA

WEST HILINE RESOURCE MANAGEMENT PLAN
DRAFT ENVIRONMENTAL IMPACT STATEMENT

This draft resource management plan/environmental impact statement (RMP/EIS) addresses future management options for approximately 626,098 surface acres and 1,328,014 subsurface acres in north central Montana. These lands are administered by the Bureau of Land Management through the Havre, Great Falls, Judith, and Phillips Resource Areas of the Lewistown District Office. Only small portions of the Judith and Phillips Resource Areas, related to recreation management of the Upper Missouri National Wild and Scenic River, are addressed in this RMP/EIS.

The plan focuses on management options to resolve these five issues: landownership adjustments; off-road vehicle designations; location of major lineal rights-of-way; identification and management of emphasis areas; and recreational management on the Upper Missouri National Wild and Scenic River.

Four alternatives have been developed to provide management options for resolving the issues. The alternatives include Alternative A—Continuation of Existing Management (No Action); Alternative B—Emphasis of Consumptive Uses with Minimum Restrictions; Alternative C—Emphasis of Protection and Enhancement of Non-Consumptive Uses and; Alternative D—The Preferred Alternative reflecting a balance of Alternatives C and D.

The preferred alternative identifies 15,664 acres of land for disposal and 34,428 acres for exchange; limits ORV use on 303,917 acres and closes 5 acres to ORV use; identifies 136,745 acres as avoidance areas and 68,172 acres as exclusion areas for major lineal rights-of-way; designates the Kevin Rim, Sweet Grass Hills and the Cow Creek areas; and provides for future recreation developments within the Upper Missouri National Wild and Scenic River while mitigating impacts to natural and cultural resources.

This draft West HiLine Resource Management Plan (RMP) addresses future management options for approximately 626,098 surface acres and 1,328,014 subsurface acres administered by the Bureau of Land Management (BLM). The majority of these acreages are managed through the Havre and Great Falls Resource Areas. The remainder are found in the the Judith and Phillips Resource Areas, and are related to one issue; recreation management on the Upper Missouri National Wild and Scenic River. All of these resource areas are included in the Lewistown BLM District in north central Montana.

PLANNING ISSUES

Five issues were identified through public input, resource monitoring and policy mandates during the scoping process. These issues reflect concerns or conflicts which could be partially or totally resolved through this RMP.

Land Tenure

The BLM manages a variety of public land in the West HiLine area, including land utilization lands (lands which left federal ownership and were later acquired under the Bankhead-Jones Act) public domain lands and mineral estate subsurface lands. Many of these lands are widely scattered and often pose multiple resource management problems. This RMP will identify which public lands should be retained, which may leave federal ownership and which lands are suitable for acquisition.

Off-Road Vehicle Management

Off-road vehicle use is increasing throughout the planning area and access roads are extending into previously unroaded areas. Executive Order (EO) 11644 as amended by EO 11989, directs that all public lands be designated as open, limited or closed to off-road vehicles (ORV). This project will identify those designations.

Right-of-Way Location

The BLM needs to identify public lands which are not suitable for lineal rights-of-way (ROW) location for transmission facilities. These facilities, regardless of size, transport a commodity and will be identified. This RMP will also identify areas which are not suitable for communication site locations.

Emphasis Areas

Three areas in the Great Falls and Havre Resource Areas may need management emphasis to preserve particular resources. The Kevin Rim area is a high use area for a variety of raptors and is a potential peregrine falcon reintroduction area. It also contains portions of Montana's oldest, active oil and gas field.

The Sweet Grass Hills are significant for their religious and cultural importance to Native Americans; for their high value recreational lands and for their diverse wildlife populations. They also form an historical hardrock mining area.

The Cow Creek area contains portions of the Nez Perce National Historic Trail, the Cow Island Trail, the Cow Creek Wilderness Study Area (WSA), the Upper Missouri National Wild and Scenic River (UMNWSR), and the Lewis and Clark National Historic Trail.

Upper Missouri National Wild and Scenic River Management

The Upper Missouri National Wild and Scenic River was designated in 1976, because of its high value recreational, historical, cultural, wildlife, mineral, geologic, range and unique natural resources. This area is also considered a premier segment of the Lewis and Clark National Historic Trail, which was designated in 1978. This plan will address future development of recreation resources on approximately 88,153 acres along the UMNWSR.

THE ALTERNATIVES

The formulation and analysis of alternatives is required by the Council of Environmental Quality regulations for implementing the National Environmental Policy Act (40 CFR 1500.2(e)) and BLM resource planning regulations (43 CFR 1610.4-5). The goal of each alternative is to resolve the issues. Each alternative, in conjunction with the Management Common to All Alternatives guidance presents a complete and reasonable guide to future management of public lands and resources. Current management of non-issue resources and programs will continue under each alternative considered and is described in the Management Common to All Alternatives portion of Chapter 2.

Several alternatives were considered during the formulation process but were dropped from detailed study because they were unreasonable or did not adequately address the planning issues.

Four alternatives were developed and analyzed in detail. The major management actions and environmental impacts of the four alternatives analyzed in detail are discussed below and in Tables 2.5 and 2.6.

Alternative A—No Action

Land Tenure Adjustment

A total of 44,143 acres of public land would be identified for exchange. Retention and acquisition tracts would generally be in areas of major federal holdings such as the UMNWSR Corridor, northern Blaine County, and the Sweet Grass Hills. If acquired lands are located in areas identified for more stringent surface constraints, such as WSAs, there would be a moderate negative impact to the minerals industry. A moderate negative impact could also occur with the potential loss of 6,164 acres of crucial big game and upland bird habitat. However, this loss could be offset with the possible acquisition of other crucial wildlife habitats. Management opportunities for grazing could be enhanced if public lands were consolidated. Public access and protection or enhancement of recreation values could significantly improve by consolidating public land.

Off-Road Vehicle Management

ORV use would be limited on 148,335 acres of public land including areas of steep sedimentary breaks soil types with slopes greater than 30% and wilderness study areas. Soil erosion, and decreased water quality could be locally significant as a result of ORV use. A moderate, long-term impairment or loss of cultural sites and impairment of livestock management could also occur. Impacts are expected to be more pronounced on 477,763 acres designated open to ORV use.

Right-of-Way Location

The entire planning area would be open to right-of-way location. Locally significant soil erosion and sedimentation of waterways could occur, especially in areas of steep sedimentary breaks soils types. A moderate positive benefit to the minerals industry would result by allowing companies to select the most effective ROW route.

Emphasis Areas

All the emphasis areas (Kevin Rim, Sweet Grass Hills and Cow Creek) would continue to be managed for the multiple use of all resources. None would be designated as an area of critical environmental concern (ACEC).

Oil and gas activity in the Kevin Rim area would continue to be restricted by a 1/4-mile buffer zone around active raptor nests and/or breeding areas. This buffer zone is not adequate to prevent disturbance to breeding or nesting raptors. Such disturbance could result in nest or territory abandonment.

All but 40 acres of the Bureau of Reclamation (BR) withdrawal on East Butte of the Sweet Grass Hills would be returned to BLM administration and reopened to mineral entry. This would produce a significant positive impact for the minerals industry. However, the minerals industry could face increased legal and mitigation costs to offset significant impacts to raptors, big game habitat and Native American religious activities. This would be a moderate negative impact.

A management plan would be written in cooperation with the United States Forest Service, for the Nez Perce National Historic Trail and allotment management plans may be modified to incorporate riparian objectives in the Cow Creek area.

Upper Missouri National Wild and Scenic River Management

BLM would continue to provide recreational opportunities consistent with the Wild and Scenic Rivers Act and as outlined in the Upper Missouri Wild and Scenic River Plan. Interpretive facilities and sites would be self guided and keyed to the Floaters Guide. Undeveloped and semi-developed recreation sites would be maintained. Developed sites would only be allowed at major launch/take out points. Concession services would be limited to outfitting and boat rental services. Local and state agencies would continue to provide law enforcement and search and rescue services.

A significant loss of federal oil and gas reserves could occur due to drainage by adjacent non-federal holdings. Increased visitor use of the UMNWSR, without accompanying mitigation measures could result in a locally significant impact to vegetation because of increased soil compaction, erosion and trampling.

Alternative B

Land Tenure Adjustment

A total of 50,092 acres of public land would be identified for disposal, with an emphasis on exchange. Retention and acquisition would be keyed toward blocking up BLM land patterns in the Sweet Grass Hills, Kevin Rim, Marias River, Missouri River, Cow Creek, and important wildlife areas and the Rocky Mountain Front. If acquired lands are located in areas identified for more stringent surface constraints, such as WSAs, there would be a moderate negative impact to the minerals industry. A moderate change in vegetation composition from native vegetation to farmland could occur in parcels leaving federal administration. Potentially, 9,885 acres of crucial wildlife habitat could be affected by land tenure adjustment. This impact could be offset by acquiring other crucial wildlife habitat. Management options for grazing would be enhanced if exchanges consolidate BLM administered lands, or could be reduced if parcels of public lands were sold rather than exchanged. Consolidation of public lands could improve recreation opportunities significantly with improved access and protection or enhancement of recreational values.

Off-Road Vehicle Management

ORV use would be limited on a total of 32,000 acres within WSAs and an intensive ORV use area would be identified. Soil erosion and decreased water quality could be locally significant as a result of ORV use, especially on 285,190 acres of sedimentary breaks soils. A moderate, long-term impairment or loss of cultural sites could result from ORV use. Overall impacts might be more pronounced on the acreage designated "open" to ORV use.

Right-of-Way Location

The entire planning area, except for the UMNWSR and any future areas nationally designated as special management areas, would remain open to ROW location. The UMNWSR Corridor, 88,153 acres, would be an avoidance area however, seven windows through this corridor would permit ROW location. Surface disturbance resulting from ROW location would cause locally significant soil erosion and sedimentation of waterways, especially in areas of sedimentary breaks soils.

Emphasis Areas

All the emphasis areas (Kevin Rim, Sweet Grass Hills and Cow Creek) would continue to be managed for the multiple use of all resources. None would be designated as an area of critical environmental concern.

Oil and gas activity in the Kevin Rim area would continue to be restricted by a 1/4-mile buffer zone around active raptor nests and/or breeding areas. This buffer zone is not adequate to prevent disturbance to breeding or nesting raptors. Such disturbance could result in nest or territory abandonment.

All but 40 acres of the Bureau of Reclamation (BR) withdrawal on East Butte of the Sweet Grass Hills would be returned to BLM administration and reopened to mineral entry. This would produce a significant positive impact for the minerals industry. However, the minerals industry could face increased legal and mitigation costs to offset significant impacts to raptors, big game habitat and Native American religious activities. This would be a moderate negative impact to the minerals industry.

A management plan would be written in cooperation with the United States Forest Service, for the Nez Perce National Historic Trail and allotment management plans may be modified to incorporate riparian objectives in the Cow Creek area.

Upper Missouri National Wild and Scenic River Management

BLM would maximize the full range of land and water based recreation opportunities in all segments of the corridor through an emphasis on private sector initiative. Interpretive trails and overlooks would be developed at significant points of interest. Undeveloped recreation sites would be upgraded to semi-developed sites and semi-developed sites would be maintained and additional sites developed. Developed sites would be allowed in recreational and scenic sections of the corridor and would be improved to the fullest extent allowed within the constraints of the National Wild and Scenic Rivers Act. A full range of concession services would be encouraged. Other agencies and concessionaires would provide for public health and safety. A significant loss of federal oil and gas reserves could be lost due to drainage by adjacent non-federal holdings. A moderate decrease in streambank stability and increased soil compaction would occur along the Upper Missouri River as a result of increased traffic at recreation facilities.

Alternative C

Land Tenure Adjustment

A total of 15,664 acres of public land would be identified for disposal with an emphasis on exchange. Retention and acquisition would be keyed toward blocking up BLM land patterns in the Sweet Grass Hills, Marias River, Missouri River and Cow Creek areas. A moderate change in vegetative composition from native vegetation to farmland could occur in parcels leaving federal administration. The potential exists for 625 acres of crucial wildlife habitat to be affected by land tenure adjustment. However, this impact could be offset by acquiring other crucial wildlife habitat. Management options for grazing could be enhanced if exchanges consolidate BLM administered lands, or could be reduced if parcels of public land were sold rather than exchanged. Consolidation of public lands could significantly improve recreation opportunities with improved access and protection or enhancement of recreational values.

Off-Road Vehicle Management

ORV use would be limited on a yearlong basis in the UMNWSR, WSAs, ACECs, riparian areas and in areas with sedimentary breaks soils; and on a seasonal basis in crucial wildlife areas. The total acreage limited to ORV use would be 428,636 acres. Five acres along the lower Gist Road would be closed to ORV use.

Soil erosion and sedimentation of water sources could be locally significant as a result of ORV use, primarily in areas open to ORV use. A moderate long-term loss of cultural sites could result from ORV use. Impacts on 197,462 acres designated open to ORV use would be minor. Limitations on ORV use would result in a moderate improvement in vegetative condition and wildlife habitat.

Right-of-Way Location

Avoidance areas would total 112,629 acres and would include WSAs, the Cow Creek area, the Sweet Grass Hills, riparian areas and areas containing sedimentary breaks soils. ROWs would be excluded in 92,968 acres in the UMNWSR Corridor and Kevin Rim ACEC, except through specified windows which are provided. No permits would be issued for communication sites on the Middle and West Buttes of the Sweet Grass Hills.

Surface disturbance resulting from ROW location could cause locally significant soil erosion and sedimentation of waterways. A locally moderate negative impact to the minerals industry would result from increased costs associated with routing oil and/or gas pipelines around exclusion or avoidance areas. Vegetation would show a moderate improvement resulting from reduced ROW development.

Emphasis Areas

Kevin Rim, all three buttes of the Sweet Grass Hills and the Cow Creek area would be designated ACECs. A management zone would be established around Kevin Rim and the Sweet Grass Hills to apply raptor guidelines and other surface stipulations to federal mineral developments in areas with private and state surface ownership.

The 1/4-mile buffer zone for active raptor nests in the Kevin Rim would be replaced with the Rocky Mountain Front guidelines for raptor protection (see Appendix 2.8). These guidelines would establish the necessary buffer zone and timing windows to protect nesting raptors and historic peregrine falcon habitat during mineral development. These stipulations would be attached to all new leases and new developments on existing leases. The BLM would not authorize new developments within 1/4-mile below the escarpment, unless impacts to cultural resources could be mitigated.

The BLM would prepare an activity plan for the Sweet Grass Hills to: preserve resource values important for Native American religious uses; pursue a protective withdrawal, maintain valid existing mineral rights; apply the raptor guidelines found in Appendix 2.8; maintain elk winter habitat; and to recommend revoking 529.67 acres of the Bureau of Reclamation withdrawal.

The BLM would prepare an activity plan for the Cow Creek area which would: preserve the scenic, interpretive, recreational and paleontological values associated with the Nez Perce National Historic Trail; revise visual management ratings; and place a strong emphasis on riparian habitat management in the corridor.

Upper Missouri National Wild and Scenic River Management

BLM recreation management would emphasize the maximum preservation of the natural environment and cultural values of the UMNWSR by utilizing a mixture of BLM and private sector initiatives. Interpretive facilities would be restricted to launch/take out points and would be keyed to the Floater's Guide. Undeveloped recreation sites would be maintained. Semi-developed sites would be maintained, unless impacts to natural resources are unacceptable, at which time the sites would be closed. New semi-developed sites would be located only along major roads within recreational segments of the corridor. Developed sites would be restricted to launch/take out points in recreational and scenic segments of the corridor. Major concession services would not be allowed on public lands. Outfitting services would be limited to 30% of the daily user capacity. BLM would assume law enforcement responsibility.

Stringent surface protection measures would moderately impair oil and gas activity associated with existing,valid leases. A significant loss of federal oil and gas reserves could result due to drainage from adjacent non-federal holdings. A moderate benefit in increased public awareness of cultural values would result from development of interpretive sites.

Alternative D— The Preferred Alternative

Land Tenure Adjustment

A total of 15,664 acres of public land would be identified for disposal with an emphasis on exchange. An additional 34,428 acres of public land would be identified for exchange only. Retention and acquisition would be keyed to areas under special management such as WSAs, the UMNWSR and ACECs and in concentrated public land areas with high resource values.

If acquired lands are located in areas identified for more stringent surface constraints, such as WSAs, there would be a moderate negative impact to the minerals industry. A moderate change in vegetation composition from native vegetation to farmland could occur in parcels leaving federal administration. Potentially, 7,381 acres of crucial wildlife habitat could be affected by land tenure adjustment. However, this loss could be offset by acquiring other crucial wildlife habitat. Management options for grazing could be enhanced by consolidating BLM administered public lands through exchange, but could be reduced if parcels of public land were sold rather than exchanged. Consolidation of public lands could significantly improve recreation opportunities with improved access and protection or enhancement of recreational values.

Off-Road Vehicle Management

ORV use would be limited on a yearlong basis in the UMNWSR, WSAs, ACECs and riparian areas; and on a seasonal basis in areas with sedimentary breaks soils and crucial wildlife areas. The total acreage limited to ORV use would be 427,951 acres. Five acres along the lower Gist road would be closed to ORV use.

Soil erosion and sedimentation of water sources could be locally significant as a result of ORV use. Some cultural sites could be destroyed by ORV use. Overall impacts are expected to be minor on 198,142 acres designated open to ORV use.

Right-of-Way Location

Avoidance areas would total 141,560 acres and would include scenic and recreational portions of the UMNWSR Corridor; WSAs; the Kevin Rim, Cow Creek and Sweet Grass Hills ACECs; riparian areas; and areas of sedimentary breaks soils. ROWs would be excluded on 63,357 acres in wild portions of the UMNWSR except through specified windows.

Surface disturbance resulting from ROW location could cause significant soil erosion and sedimentation of waterways. Exclusion areas would total 63,537 acres. No permits would be issued for communication sites on the West Butte of the Sweet Grass Hills. A locally moderate negative impact to the minerals industry would result from increased costs associated with routing oil and/or gas pipelines around exclusion or avoidance areas.

Emphasis Areas

Kevin Rim, East and West Buttes of the Sweet Grass Hills and the Cow Creek area would be designated ACECs. A management zone would be established around Kevin Rim and the Sweet Grass Hills to apply raptor guidelines and other surface stipulations to federal mineral developments in areas with private and state surface ownership. The 1/4-mile buffer zone for active raptor nests in the Kevin Rim would be replaced with the Rocky Mountain Front guidelines for raptor protection (see Appendix 2.8). These guidelines would establish the necessary buffer zone and timing windows to protect nesting raptors and historic peregrine falcon habitat during surface developments. These stipulations would be attached to all new leases and new developments on existing leases. The BLM would not authorize new developments within 1/4-mile below the escarpment, unless impacts to cultural resources could be mitigated.

The BLM would prepare an activity plan for the Sweet Grass Hills which would: consult with Native Americans on proposed developments in the area; allow the area to remain open to mineral entry; apply the raptor guidelines given in Appendix 2.8; emphasize maintaining elk winter habitat; and recommend revoking 529.67 acres of the Bureau of Reclamation withdrawal.

The BLM would prepare an activity plan for the Cow Creek area which would: preserve the scenic, interpretive, recreational and paleontological values associated with the Nez Perce National Historic Trail; revise visual management ratings; and place a strong emphasis on riparian habitat in the corridor.

Upper Missouri National Wild and Scenic River Management

BLM would provide recreational opportunities and visitor services consistent with the Wild and Scenic Rivers Act with an emphasis on mitigating impacts to natural and cultural resources. Areas would be developed for self-guided interpretive study. Undeveloped recreation sites would be maintained and could be upgraded to semi-developed sites. Sites would be signed in recreational and scenic segments of the corridor. Semi-developed sites would be maintained and facilities could be improved, if impacts could be mitigated. In wild segments of the corridor, only improvements capable of being serviced by an existing road or the river would be allowed. Developed sites would be restricted to recreational segments. Major concession developments on public lands would be allowed in recreational segments. Outfitters would be restricted to 30% of the daily user capacity. BLM would continue and may expand its role in public health and safety.

The potential loss of oil and gas reserves within the UMNWSR Corridor would continue, as the area would remain closed to leasing. Development of interpretive sites would moderately improve the public's awareness of cultural values.

CONCLUSION

The impacts of the four alternatives tend to be similar in quality but different in the numbers of acres affected by given management actions. Alternative D is the preferred alternative because it presents a reasonable balance between commodity production and protection of amenity resources.

ACRONYMS

ACEC—Area of Critical Environmental Concern
AIFRA—American Indian Freedom of Religion Act
AMP—Allotment Management Plan
AUM—Animal Unit Month
BLM—Bureau of Land Management
BR—Bureau of Reclamation
CEQ—Council on Environmental Quality
CFR—Code of Federal Regulations
CMR—Charles M. Russell National Wildlife Refuge
DSL—Montana Department of State Lands
EA—Environmental Assessment
EIS—Environmental Impact Statement
EO—Executive Order
EPA—Environmental Protection Agency
FLPMA—Federal Land Policy and Management Act
LU—Land Utilization
MCF—Thousand Cubic Feet
MDFWP—Montana Department of Fish, Wildlife & Parks
MFP—Management Framework Plan
MOU—Memorandum of Understanding
NEPA—National Environmental Policy Act
NRHP—National Register of Historic Places
ORV—Off-Road Vehicle
PILT—Payment in Lieu of Taxes
PL—Public Law
PPM—Parts Pollutant per Million Parts
R&PP—Recreation and Public Purposes Act
RA—Resource Area
RMP—Resource Management Plan
ROW—Right-of-Way
SHPO—State Historic Preservation Office
TDS—Total Dissolved Solids
T&E—Threatened and Endangered
UMNWSR—Upper Missouri National Wild and Scenic River
USDI—United States Department of Interior
USFS—United States Forest Service
USFWS—United States Fish and Wildlife Service
VRM—Visual Resource Management
VUD—Visitor User Day
WSA—Wilderness Study Area

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INTRODUCTION

This document is a draft resource management plan/ environmental impact statement (RMP/EIS). The environmental impact statement consists of the information discussing the four alternatives throughout this draft. This document has been prepared in accordance with the Bureau of Land Management's (BLM) planning regulations in the Code of Federal Regulations and the Council on Environmental Quality (CEQ) regulations for implementing the National Environmental Policy Act (NEPA) of 1969.

The information contained in this document reflects current policy and regulatory information as of January 31, 1987. Policy or regulatory changes after this date will be reflected in the final RMP/EIS. Policy or regulatory changes after the RMP is finalized will be incorporated through plan maintenance, unless they reflect a change in management direction. In that instance the RMP will be amended or a new RMP written.

LOCATION OF THE PLANNING AREA

The West HiLine Planning Area (see Fig. 1.1) includes the entire Havre Resource Area (Hill and Blaine Counties and that portion of Chouteau County north of the Missouri River) and that portion of the Great Falls Resource Area located in Glacier, Toole and Liberty Counties. Small portions of the Judith Resource Area in Fergus County and the Phillips Resource Area in Phillips County were included in this project when management of the Upper Missouri National Wild and Scenic River (UMNWSR) Corridor, and its related lands became an issue in this RMP.

The planning area is located in the north central portion of Montana. It is bounded on the north by Canada, on the east by the Phillips Resource Area, on the south by the Judith Resource Area and to the west by Glacier National Park.

The planning area encompasses 11,285,024 acres, of which 626,098 surface acres (5.5%) and 1,328,014 subsurface acres are administered by the BLM. The majority of landownership is private. Other significant landownerships include the Blackfeet, Rocky Boys and Fort Belknap Indian Reservations, small portions of Glacier National Park, and the Lewis and Clark National Forest, and some state lands. Table 1.1 portrays the ownership by resource area within the planning area.

This plan only covers the management of public lands administered by the BLM. It does not affect private lands or lands administered by other federal agencies, within the planning area.

Purpose & Need 1

TABLE 1.1

OWNERSHIP BY RESOURCE AREA IN THE PLANNING AREA[1]

RESOURCE AREAS	SURFACE						SUBSURFACE	
	BLM	Private	State	Native American Lands	Other Federal	Total Surface	BLM	Other
Great Falls	37,334	2,057,332	294,772	1,313,563	439,452	4,142,453	178,658	3,963,795
Havre	541,573	5,217,867	597,000	632,000	85,000	7,073,440	1,111,952	5,961,488
Judith[2]	42,588	15,155	6,475	0	0	64,218	32,770	31,448
Phillips[2]	4,603	224	87	0	0	4,914	4,634	280
TOTAL	626,098	7,290,578	898,334	1,945,563	524,452	11,285,025	1,328,014	9,957,011

[1] Montana Department of State Lands, 1984
BLM Public Lands Digest Montana, 1984

[2] These acreage figures are for lands important to river management only.

PURPOSE AND NEED

The West HiLine RMP will provide a master plan for managing and allocating public land resources within the planning area over the next 10 to 15 years. This RMP also resolves several resource issues. It identifies lands for retention, acquisition and disposal; identifies areas as open, limited or closed to off-road vehicle (ORV) use; identifies areas not suitable for transmission lines and communication site right-of-way location; identifies areas where management emphasis may be required; and determines management direction for the Upper Missouri National Wild and Scenic River Corridor.

Management guidance for other resources in the planning area is found in the Management Common to All Alternatives section of Chapter 2 in this document. This guidance was carried forward from five management framework plans and five major environmental documents prepared in the 1970s and 1980s. The guidance given in that section will be followed no matter which alternative is selected and is a substantial portion of this RMP.

When finalized, this RMP will supersede all previous planning efforts. It will also consolidate all major land use decisions for BLM administered lands in the planning area into one document.

ISSUES

At the beginning of the planning process, the BLM, general public, other federal agencies and state and local governments identified the following issues and management concerns for the planning area.

Land Tenure Adjustment

The BLM manages a variety of public lands in the West HiLine Area, including public domain (lands which have never left federal ownership), land utilization (lands which left federal ownership and were later acquired under the Bankhead-Jones Act), and mineral estate (subsurface) lands. Many of these lands are widely scattered and often pose multiple resource management problems. This document will identify which lands should be retained, acquisition areas and lands which may leave federal ownership.

Off-Road Vehicle Management

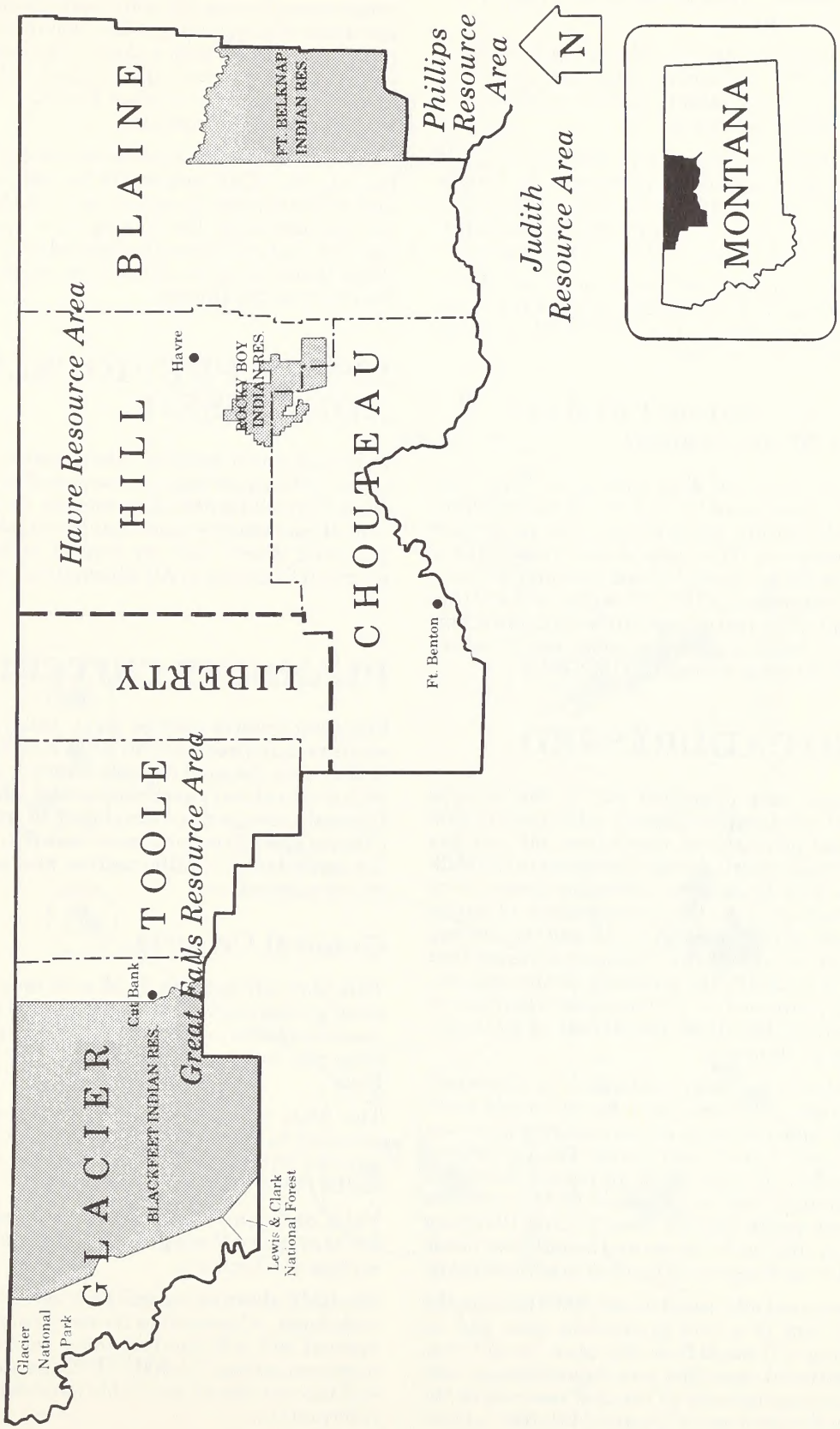
Off-road vehicle use is increasing throughout the planning area and access roads are extending into previously unroaded areas. Executive Order (EO) 11644 as amended by EO 11989, directs that all public lands be designated as open, limited or closed to off-road vehicle use. This project will identify those designations within the planning area.

Right-of-Way Location

This project will identify public lands for avoidance and exclusion areas for transmission line rights-of-way location. These facilities, regardless of size, transport a commodity.

The BLM will also identify areas which are not suitable for communication site location.

Figure 1.1 Location Map of the West HiLine Resource Management Area.



Emphasis Areas

Three areas in the Great Falls and Havre Resource Areas were identified during the scoping process as emphasis areas; that is areas which may need management emphasis to protect or preserve particular resources. Figure 1.2 is a location map of these areas.

The Kevin Rim has high potential as a peregrine falcon reintroduction area. It is currently a high use area for a variety of raptors and also contains portions of the oldest active oil and gas field in Montana.

The Sweet Grass Hills are significant because of their importance as a religious and cultural use area for Native Americans; because they are an historical hard rock mining area; because they contain high value recreation lands; and because they support diverse wildlife populations.

The Cow Creek area contains the Nez Perce National Historic Trail, the Cow Island Trail, portions of the Cow Creek Wilderness Study Area (WSA), the UMNWSR, and the Lewis and Clark National Historic Trail.

Upper Missouri National Wild and Scenic River Management

The Upper Missouri National Wild and Scenic River was designated in 1976, because of its high value recreational, historical, cultural, wildlife, mineral, geologic, range and unique natural resources. This area is also considered a premier segment of the Lewis and Clark National Historic Trail, which was designated in 1978. This plan will address future development of recreation resources and protection or development of cultural and historical resources on approximately 88,153 acres along the UMNWSR.

ISSUES NOT ADDRESSED

Numerous concerns were identified during the scoping process that could not be appropriately addressed in this RMP. The disposal of produced water from oil and gas production; the development of water resources in the Milk River Valley; the Milk River water diversion proposal by the Bureau of Reclamation; the management of range resources on Bureau of Reclamation lands; and the cleanup of the Kevin Sunburst oil field are examples of issues that can't be resolved in an RMP. The guidance for the majority of these issues is contained in various memorandums of understanding among the BLM, the Bureau of Reclamation and the state of Montana.

Access to public lands has been addressed, to the extent possible, with existing information. Access needs have been addressed in general terms and for geographic areas rather than for specific needs and routes. The Lewistown District is committed to completing an access inventory that will, with public involvement, allow BLM to address the specific access needs for the West HiLine Planning Area. Information on specific routes and acquisition needs will be presented in an access activity plan in several years.

Coal development is not addressed in this RMP because the planning area is not in a coal production area and no federal coal leasing will result from this plan. In addition, major coal and mineral operators and organizations were contacted to determine interest in the coal reserves in the planning area, and there was no apparent interest in these reserves. Any potential federal coal leasing would be guided by the federal coal management regulations (43 CFR 3425). Any future application for a coal lease would be studied for acceptability utilizing these four planning screens: (1) verification of coal development potential; (2) application of the 20 unsuitability criteria; (3) surface owner consultation (for split estate lands); and (4) multiple use trade-offs involving other resource values compared to coal. For underground coal mine development, the surface owner consent screen is not applicable. Unsuitability criteria will be applied to surface facilities that are associated with underground mining.

Application of these screens would constitute an amendment to this RMP and would be subject to Gubernatorial and public review. If some areas would be found acceptable for consideration for leasing, the applicant maintains interest, and evidence of surface owner consent is provided, these lands could be offered for competitive lease by the Secretary of the Interior.

ISSUES PREVIOUSLY ADDRESSED

Concerns about grazing management, riparian management, wilderness management and oil and gas management were all identified during the scoping process. However, these resource issues have been addressed in previous planning efforts and are further addressed in the Management Common to All Alternatives section of Chapter 2.

PLANNING CRITERIA

Planning criteria may be legal, policy, or regulatory constraints that direct or limit BLM's ability to resolve issues, or they may respond to public input or coordination efforts with state or local governments and other federal agencies. General criteria were developed to guide the RMP/EIS. Criteria specific to each issue were then developed to guide the formulation of alternatives and selection of the preferred alternative.

General Criteria

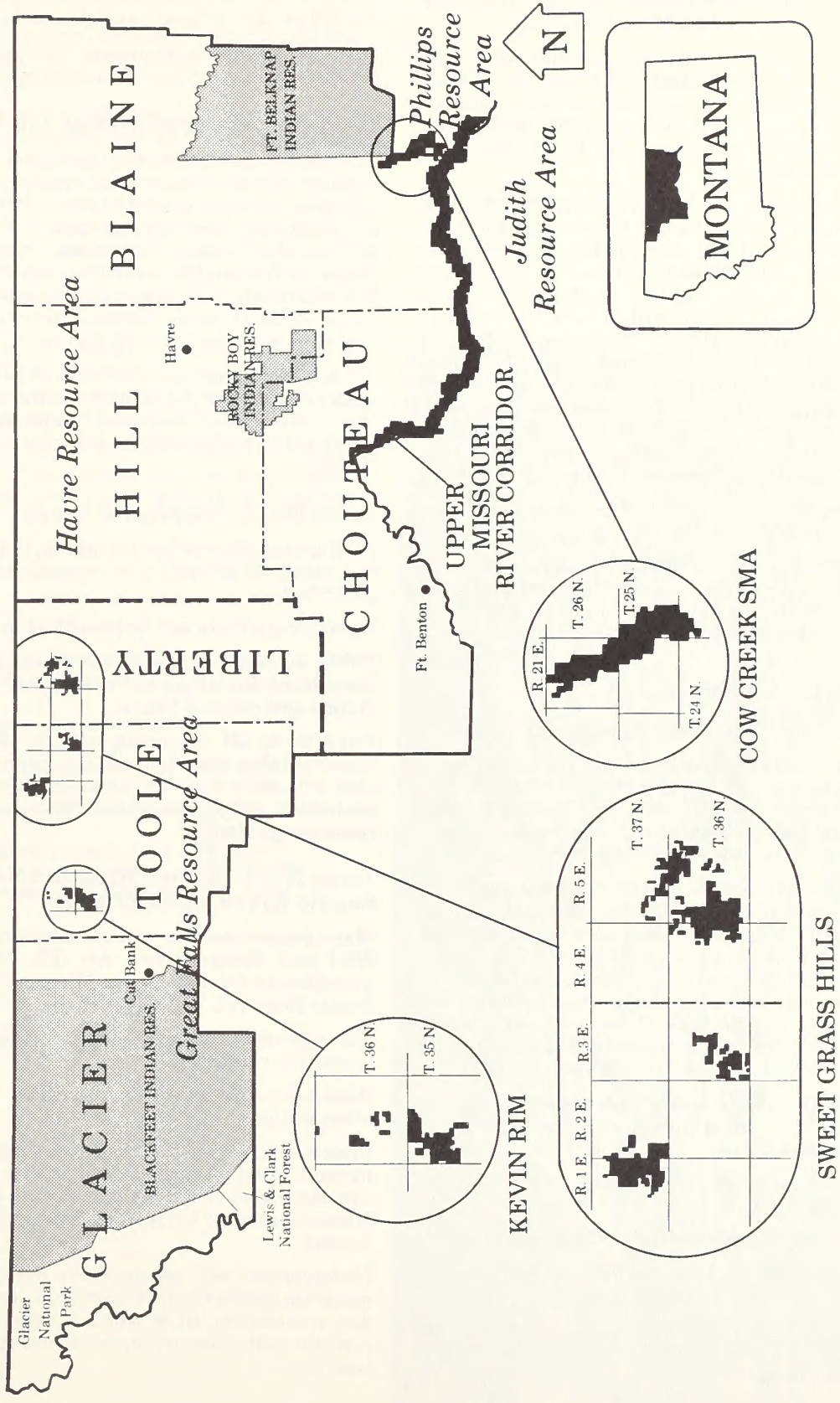
This plan will provide BLM with broad resource management guidelines to implement a variety of activity plans to meet the planning objectives in all programs. Specific guidance will only be used to resolve major management conflicts.

The BLM will adhere to the guidance for all programs provided by BLM's Washington Office Supplemental Guidance for RMPs (1986) and the State Director's Guidance for RMPs (1983/1984).

Valid decisions from existing documents will be carried forward in the Management Common To All Alternatives section of Chapter 2.

The RMP alternatives will be developed on a planning area wide basis. Alternatives for resource protection and development will only analyze those issues requiring management resolution. The RMP/EIS and supporting documents will incorporate all available valid decisions, analysis and information.

Figure 1.2 Location Map of the Emphasis Areas and the Upper Missouri National Wild and Scenic River Corridor.



The RMP will apply mitigating measures or stipulations only to resolve existing or projected management conflicts. Again, most of these will be standard operating procedures and will be identified in the Management Common to All Alternatives section of Chapter 2.

Any decision or mitigative measure required by the RMP will be enforceable and lend itself to monitoring.

To the extent possible, the plan will dovetail with local, county, state and other federal agency plans. We will rely on our counterparts in other agencies, to the maximum extent possible, for assistance in determining consistency with their plans. This assistance will be accomplished through the review process.

The RMP will be used as the basic planning document to guide our management and budget requests for the planning area over the next 10-15 years. Revisions will be made as necessary. The final RMP will be divided to address two planning units. One planning unit is the entire Havre Resource Area (which for now will include the management guidance for the UMNWSR). The decisions affecting the UMNWSR will later be incorporated into the Judith and Phillips RMPs when those documents are prepared. The other planning unit is the northern portion of the Great Falls Resource Area. The Great Falls section will incorporate pertinent decisions from the Headwaters RMP, thus providing the Great Falls Resource Area with one RMP.

The alternatives chosen for study will be economically and socially feasible and acceptable.

The RMP will develop criteria by which lands placed under BLM management in the future, either through withdrawal revocation, exchange or purchase, will be evaluated and brought under multiple use management.

Issue Specific Criteria

Issue No. 1: Land Tenure Adjustment

Lands which meet the criteria listed in the Federal Land Policy and Management Act (PL 94-759, FLPMA Sec. 203(a), Sec. 206(a) and the Recreation and Public Purposes Act would be available for disposal through exchange, sale or sale under the Recreation and Public Purposes Act.

The State Director's Guidance for RMPs will be applied to help determine which lands meet the disposal criteria. Appendix 1.1 details the State Director's Guidance, lists the land adjustment criteria for the Havre and Great Falls Resource Areas and gives the legal description for adjustment and disposal lands. The land adjustment criteria was derived from State Director's Guidance on Land Pattern Review and Land Adjustment (USDI-BLM 1984) and further refined to suit the needs of each resource area.

Public lands which have important resource features would normally be retained unless exchanged for lands with equal or greater values.

Economic and social conditions created by land adjustment will be considered.

Issue No. 2: Off-Road Vehicle Management

Areas within the planning area will be identified as open, closed, or limited for off-road vehicle use.

Public interest and/or demand for off-road vehicle use areas will be used to determine the need for restrictions under a limited designation. These restrictions will be needed to minimize: damage to soils, watershed, and vegetation; harassment of wildlife; impacts to WSAs; destruction of historic and archaeological sites listed on the National Register of Historic Places and those sites with the potential to be listed; and visual intrusions.

Limited or closed designations will be used to avoid public hazard areas (i.e., sour gas fields, old mine areas).

Use area designations (open and limited) will minimize conflicts with other programs and resource plans.

Issue No. 3: Right-of-Way Location

An area will remain open to lineal and communication site right-of-way location unless restrictions are needed to: minimize adverse impacts to soil, watershed and vegetation; minimize adverse impacts to high value wildlife habitat; minimize visual intrusions to the Upper Missouri National Wild and Scenic River Corridor; avoid impacts to WSAs; and to avoid destruction of historic and archaeological sites listed on the National Register of Historic Places and sites with potential for listing.

All future transmission line sitings will consider the Montana Interagency Agreement for right-of-way sitting and the Department of National Resources and Conservation siting rules. Future sitings will also consider existing corridors.

Issue No. 4: Emphasis Areas

All high resource values including, but not limited to, wildlife, cultural, mineral and recreational resources will be identified.

Resource conflicts will be identified in emphasis areas.

Public needs and demands for the resources present will be considered, including but not limited to, existing mining claims and mineral leases.

Impacts to all resources will be identified when one resource takes precedence in the emphasis areas. The decision will strive to balance resource use while ensuring the protection and preservation of the significant and relevant resources present.

Issue No. 5: Upper Missouri National Wild and Scenic River Management

Management actions will maintain consistency with the Wild and Scenic Rivers Act (PL 90-542 1968) and its amendment for the Upper Missouri National Wild and Scenic River (PL 94-486, 1976).

Management direction will provide for utilization of recreation resources.

Resource conflicts will be identified and resolved in the alternatives.

Direction will be established to provide for visitor services through a blend of private and public initiatives within the constraints of the Wild and Scenic Rivers Act and the Memorandum of Understanding with the National Park Service.

Management will continue the segregation of locatable minerals within the wild segments of the UMNWSR Corridor. In addition, BLM will not lease minerals within the corridor until rules are made known by the Secretary of the Interior.

INTRODUCTION

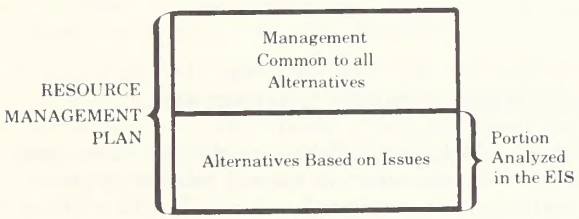
This chapter is presented in two major portions; the Management Common to All Alternatives section and the alternative descriptions.

The guidance given in the Management Common to All Alternatives section has been carried forward from existing laws, regulations and previous planning efforts. It is current, valid management guidance which will be followed no matter which alternative is selected and is a substantial portion of the resource management plan (RMP). This section combined with the selected alternative will form the RMP for the entire planning area. Figure 2.1 shows the relationship of this guidance and the alternatives.

The second portion of this chapter describes the four proposed alternatives (Alternatives A, No Action; Alternative B; Alternative C; and Alternative D, the Preferred Alternative) to resolve the issues discussed in Chapter 1.

All four alternatives comply with the Federal Land Policy and Management Act requirement that the public land be managed on the basis of multiple use and sustained yield.

Figure 2.1 Relationship of Alternatives to Management Common to All Alternatives.



2 The Alternatives

ALTERNATIVES ELIMINATED FROM DETAILED STUDY

No alternatives proposing maximum resource production or protection of one resource at the expense of other resources were considered because this would violate the Bureau of Land Management's (BLM) legal mandate to manage public land on a multiple use, sustained yield basis.

MANAGEMENT COMMON TO ALL ALTERNATIVES

The following guidance will continue regardless of which alternative is selected. It's the result of existing laws, regulations and previous planning efforts and will not be changed by any of the alternatives described later in this chapter. This guidance constitutes a part of each alternative analyzed and combined with the selected alternative will serve as the resource management plan.

This section is organized by ecological and human resource components. Two of the ecological components (vegetation and wildlife and fisheries) are subdivided to identify which BLM resource program is responsible for carrying out the guidance. Thus, the vegetation component is subdivided to include vegetation related guidance for soil and water, riparian, forestry, wildlife, grazing and fire programs in an effort to group similar information. In a similar effort, the wildlife component is subdivided to include related information from the recreation program.

Air Quality Management

Under all alternatives, the BLM will comply with national and state air quality standards. The BLM will evaluate impacts to air quality, at the activity level plan, to ensure the continuation of the Class II airshed.

Implementation

Prior to approving any activity, the BLM will evaluate all actions and apply mitigating measures to ensure the air quality of the region is not degraded. These measures will generally require actions to be undertaken during specific wind conditions to either disperse smoke or prevent chemical spray drift.

Prescribed fires in the area require Montana Department of Health and Environmental Science, Air Quality Bureau approval. All such plans will be forwarded to the appropriate airshed zone coordinator.

Venting or flaring hydrocarbon gases associated with hydrogen sulfide (H_2S, sour gas) requires approval under the provisions of Notice to Lease-4A. The Montana State Air Quality Bureau monitors this activity for compliance.

Soils Management

Under all alternatives, the BLM will maintain and improve soil productivity in the planning area by reducing erosion and increasing vegetative cover.

Implementation

Prior to authorizing any surface disturbing activity (including but not limited to range improvement, mineral development, right-of-way location, or livestock grazing) the BLM will evaluate the activity and if necessary apply mitigating measures; deny the authorization; or relocate the activity to a more suitable soil type. Specific measures will be developed for soils with high erosion susceptibility, steep slopes, sparse vegetation and shallow soil depth. Surface disturbing activities on floodplains will have riparian objectives and/or mitigation measures in the activity plans to protect ground cover and streambank stability and to reduce sediment yields. All surface disturbing activities will require an on-site evaluation to develop mitigation to reduce erosion and soil compaction and improve soil stability and salinity control. These mitigation measures will also prescribe revegetation programs.

All proposed reservoirs will be designed to minimize erosion, saline seeps, salt accumulations (i.e., selenium) and rapid sedimentation.

Roads and trails, when part of an approved transportation plan, will be built or upgraded with due regard for environmental considerations. Cut and fill slopes should be no steeper than 3:1. After access roads are no longer needed, they will be contoured to a natural appearance and seeded with native species.

Topsoil will be stockpiled for all surface disturbing activities and will be used to rehabilitate the area when the project is completed. Exceptions to this may be granted, based on a site specific evaluation.

Water Resource Management

Under all alternatives, surface and groundwater quality will be maintained to meet or exceed minimum state and federal water quality standards. The BLM will continue to obtain water rights for all projects and comply with Montana water laws. The BLM, in conjunction with the Montana Department of Fish, Wildlife and Parks (MDFWP), will recommend instream flows on the Missouri and Marias Rivers to protect stream morphology and biological and recreational uses. Information on the recommended instream flows for the Missouri River can be found in the Missouri River Instream Flow Report, available in the Lewistown District Office.

The BLM will improve or maintain vegetative cover, especially on highly erosive soils, to reduce runoff.

Implementation

The objectives for areas with riparian vegetation or the potential to support such vegetation, will be to maintain or improve riparian vegetation, water and groundwater quality and control streambank erosion.

All proposed reservoirs will require a soils survey and a hydrologic evaluation of the site. Reservoirs must be designed with a minimum 15-year life expectancy. All proposed reservoirs will be evaluated to determine the need for off-site water facilities.

All surface disturbing activities will require an on-site evaluation to mitigate impacts to water quality and quantity. Surface disturbing activities should not alter stream courses. Other measures to protect stream courses will be evaluated for environmental impacts prior to project approval.

Pumping facilities used to extract water from the Missouri River will be permitted in accordance with PL 94-486. An environmental assessment will be completed prior to permit issuance. Visual resources and surface disturbance impacts will be mitigated.

Small amounts of oil field produced water which do not meet water quality standards will be disposed of in accordance with Notice To Lease-2B and/or Environmental Protection Agency (EPA) guidelines.

The BLM will participate in the development of instream flow recommendations for the Marias River.

TABLE 2.1

ACREAGE SEGREGATED FROM MINERAL ENTRY[1]

County	Acres
Blaine	21,479.62
Hill	0
Chouteau	26,907.33
Liberty	540.00
Toole	0
Glacier	0
Fergus	20,326.20
	TOTAL — 69,253.15

[1]BLM, 1987

Paleontological Resource Management

Major paleontological deposits within the planning area will be protected by current Bureau policy.

Implementation

Permits will continue to be issued by the Montana State BLM office to qualified paleontologists to conduct work on the public lands in the Lewistown District. These permits can be issued for the study of significant fossils that are vertebrate, invertebrate or plant remains.

Potential impacts to paleontological resources will be considered on a case by case basis. If paleontological resources are encountered during construction activities, the contractor must report these findings to BLM for evaluations and determinations concerning the disposition of such resources.

Management plans may be developed to protect paleontological resources of scientific interest.

Mineral Resource Management

Valid, existing mineral rights within the planning area will not be changed by any decision in this document.

Under all alternatives, the BLM will continue to provide for the exploration and development of coal, oil, gas, locatable minerals and mineral materials. Table 2.1 identifies by county, the acreage segregated from mineral entry. Table 2.2 identifies the acreage within the UMNWSR that is closed to mineral leasing and location. Appendix 2.1 contains a solicitor's opinion which explains BLM's mineral leasing program within the UMNWSR. No seismic exploration will be allowed in any section of the UMNWSR Corridor.

TABLE 2.2

ACREAGE MANAGED UNDER A NO LEASE POLICY[1]

All acreage is within the scenic and recreational sections of the UMNWSR Corridor and WSAs.

County	Acres
Blaine	19,448.73
Chouteau	5,343.66
Fergus	11,958.44
Phillips	4,634.40
	TOTAL — 41,385.23

[1]BLM, 1987

Implementation

The standard stipulations in Appendix 2.2 will be part of all oil and gas leases granted. These stipulations may be modified by the Rocky Mountain Front raptor criteria for management of the Kevin Rim and Sweet Grass Hills areas only.

Coal licenses for exploration and small scale use will be granted after a complete environmental review by resource specialists and the development of environmental constraints.

Access across federal surface to mining claims will be allowed after an environmental review of the notice or plan. Access must be granted under the mining laws, but may be conditional to prevent unnecessary and undue degradation.

Surface management of locatable mineral development on public lands will be guided by the 43 CFR 3809 regulations and the Memorandum of Understanding (MOU) between the Montana Department of State Lands (DSL) and BLM. The 43 CFR 3802 regulations will regulate locatable mineral development in wilderness study areas.

Disturbance exceeding the casual use level, (usually involving mechanized equipment) but less than 5 acres, may proceed 15 days after a notice is filed with the BLM District Office. Disturbance of greater than 5 acres requires filing a Plan of Operations. For operations covered by the MOU with the Montana's Department of State Lands, formal approval is granted by DSL with BLM concurrence.

A Plan of Operations must always be filed, regardless of disturbance acreage, and formal approval received from BLM prior to surface disturbance in wilderness study areas (WSA), areas of critical environmental concern (ACEC), and other areas listed in 43 CFR 3802 and 43 CFR 3809. In these areas the MOU with DSL does not apply and BLM will be responsible for developing mitigating measures and plan approval.

Once a Plan of Operations is filed with the BLM, the proposed action will be analyzed (with DSL, where appropriate) and the mitigating measures needed to prevent unnecessary and undue environmental degradation will become conditions of approval. In WSAs the nonimpairment of eligibility criteria for wilderness area designation will determine needed mitigating measures. The mitigation required will be consistent with provisions of the 43 CFR 3802/3809 regulations and with the guidance in this document to protect the public resources.

Vegetation Management

Under all alternatives, the BLM will maintain the public lands that are in satisfactory ecological condition. On public lands with unsatisfactory ecological condition, BLM will manage according to multiple use objectives based on ecological site potential for specific uses. These objectives will be economically and biologically feasible. An example might be the need to maintain certain wildlife habitat for specific species in an ecological condition that is less than good or excellent.

Livestock is allocated 114,212 animal unit months (AUMs) each year from the public lands in the planning area; 7,958 AUMs in the Great Falls Resource Area, 83,294 AUMs in the Havre Resource Area and 22,960 AUMs along the Upper Missouri National Wild and Scenic River (UMNWSR) Corridor. Established allocations will be monitored for actual use, utilization, and condition trends. The monitoring guidelines can be found in the Great Falls Monitoring Plan, the Judith Monitoring Plan, the Phillips Monitoring Plan and the Natural Resource Monitoring Plan for the Havre Resource Area. These plans are available at the respective offices. All allotments in the planning area have been assigned to a management category dependent on the resources and problems contained in the allotment. Appendix 2.3 lists the management category, AUMs allotted, range condition and season-of-use for allotments in the planning area.

All unallocated parcels will remain available for livestock grazing. Allocations and administration of livestock grazing will occur as provided for in 43 CFR 4100. An environmental assessment will be prepared for areas not previously grazed by livestock. Grazing allocations on acquired lands will be based on management needs and reasons for acquisition. The allocation may range from zero to full capacity and will be made on a yearly basis after completion of the activity plan.

Wildlife is currently allocated 79,260 AUMs within the planning area. However, populations will be allowed to expand into existing habitat, providing they do not reduce livestock grazing AUMs. The BLM will cooperate with Montana Department of Fish, Wildlife and Parks to determine habitat and population size.

All vegetation increases will be allocated to watershed, until soils are stabilized to a satisfactory condition as determined by an interdisciplinary team prior to increasing livestock or wildlife allocations.

Forest products are available for sale (commercial or personal use) outside of wilderness study areas and the Upper Missouri National Wild and Scenic River Corridor.

The BLM will continue to take full suppression action on all fires occurring on public lands not covered by a Fire Management Plan. The resource areas will identify areas where resource management objectives can best be met by using prescribed fire or limited suppression plans. These areas will be detailed in a Fire Management Plan for each resource area and the UMNWSR Corridor. The use of fire and its impacts will be discussed in each plan.

Fire is a viable, economical tool and will be considered in a vegetation manipulation project. Each resource program will identify areas where prescribed fire can be used to achieve vegetation management objectives.

Soil and Water Implementation (Vegetation Related)

Allotments in predominately fair ecological range condition should have grazing methods which periodically defer early use (April 1—May 15). Grazing methods and land treatments (keyed to specific soil subgroups) in selected areas will be implemented to improve cover and reduce soil compaction.

Surface disturbance will be successfully revegetated to as near 90% predisturbance condition as possible. If revegetation is not expected to occur naturally within 3 years, the BLM will require the initiating party to rehabilitate the disturbance at the time the project is completed. Revegetation species will be determined during the site specific environmental analysis phase.

A minimum rest period of two growing seasons will be required after any major disturbance to vegetation communities. More rest may be required depending on the situation. Major disturbances are defined as mechanical manipulation of the range, i.e., seeding, chiseling and fire (wild or prescribed). Specific timing and the type of rest will be determined at the site specific environmental assessment phase for small disturbances.

Riparian Area Implementation (Vegetation Related)

All manageable riparian areas will have management plans implemented by the year 2001 to maintain, restore, or improve riparian areas to achieve a healthy and productive ecological condition for maximum long-term benefits and values. This goal is stated in the Montana Riparian Management Strategy.

Management objectives will be applied to the riparian areas along the following streams and rivers: Lodge Creek, 30-mile Creek, Bullwhacker Creek, Woody Island Coulee, Corregan Coulee, Cow Creek area, East Fork of Battle Creek, Savoy Creek, Irvins Coulee, Sand Coulee, Lyons Coulee, the Missouri River, Marias River, Cut Bank Creek, and Battle Creek. Management will be implemented to obtain 90% of optimum streambank cover within 4-10 years. Management practices may include but are not limited to riparian pastures, specific grazing methods or exclosures.

Livestock grazing in specialized, high use recreation sites along the Upper Missouri National Wild and Scenic River will be controlled through fencing and/or selective grazing. Allotment management plans (AMPs) will be developed or revised to include specific objectives for the improvement and maintenance of riparian areas. In some cases additional site specific data may be needed before development or revision of an AMP can begin. In most cases, though, site specific data is adequate to proceed with development of alternatives for protecting and managing these areas. The on-the-ground effects of livestock grazing will be determined through monitoring and evaluating these areas to determine if objectives are being met.

Measures to mitigate environmental impacts presented in the Missouri Breaks Grazing Environmental Impact Statement (EIS) will be observed. This will include the use of an interdisciplinary team to review the location of all proposed projects and an inventory of riparian habitats to determine appropriate protection measures.

All high value waterfowl and fisheries reservoirs will be evaluated to determine the need for fencing to promote riparian vegetation establishment. These areas will be monitored and when the riparian vegetation is well established, returned to management under a grazing method designed to protect the vegetation community. Other areas may need fencing to restore the riparian community.

Management plans would be written or revised to contain riparian objectives to improve existing riparian communities. These objectives will include management direction to develop potential riparian areas or maintain and improve existing riparian areas. Management prescriptions would be based on intensive grazing systems to achieve better livestock distribution and upland use. Livestock exclosures to protect riparian communities may be used until riparian conditions improve. Where feasible, riparian pastures will be established to allow rehabilitation of riparian areas while still allowing the proper use of grazing AUMs.

Pastures with riparian areas would not be grazed by livestock during the hot season more than 1 year out of 3 in order to maintain or improve riparian communities in satisfactory condition (i.e., narrow stream channel, raise the water table, or increase woody vegetation to maintain 90% canopy cover). If exclosures are used, they would be in place until riparian management objectives are attained. Within the UMNWSR, the major riparian areas, listed in Appendix 2.4, may receive priority for intensive management during the life of this plan. Riparian pastures outside the UMNWSR Corridor will be grazed in the cool season (May 15—June 30) to maintain or improve woody vegetation.

As new information on riparian grazing becomes available, these guidelines may be changed.

The following known saline seeps will be evaluated and fenced if necessary to reclaim the seep: BR-10, BR-14, BR-31, BR-42, BR-48, BR-52, BR-71, BR-115, Bend, Nathan, Honker, O.K. and Change Reservoirs. Other saline seeps will be evaluated to determine management needs.

All existing and future riparian exclosures will be maintained and monitored until monitoring data shows the exclosures are no longer necessary. At that time, AMPs will be revised to allow management to maintain the riparian community condition.

Potential riparian sites within the UMNWSR Corridor will be inventoried and an activity plan written. Five riparian sites may be developed over the life of the plan.

The BLM will continue to manage Two Calf, Dillon Island and Grand Island Natural Areas within the UMNWSR in cooperation with the Charles M. Russell National Wildlife Refuge (CMR).

Forest Management Implementation (Vegetation Related)

All forest product sales will undergo an environmental analysis during the site specific evaluation phase.

Recreational use of forest products within the UMNWSR Corridor will be limited to dead and down material.

Wildlife & Fisheries Implementation (Vegetation Related)

The BLM will maintain a diversity of forbs, grasses and shrubs on antelope range through proper livestock stocking rates and grazing methods.

Grazing methods will be used to maintain good or excellent forage and cover among grasses, forbs and shrubs on 5,100 acres of crucial elk habitat in the Sweet Grass Hills to support approximately 150 elk.

The BLM will use grazing methods to enhance bighorn sheep habitat and allow their expansion in the Missouri Breaks.

Livestock grazing methods (which may include the termination of grazing by October 31) will be used to maintain sagebrush stands with 15-50% canopy cover and 15 inches in height within 2 miles of sage grouse leks.

Grazing Management Implementation (Vegetation Related)

Allotment management plans will be developed with multiple use objectives to enhance vegetation production, maintain and enhance wildlife habitat, protect watersheds, reduce bare ground to the target soil vegetation cover by soil subgroups (see Chapter 3 and Appendix 2.5) and to minimize livestock/recreation conflicts. Allotment management plans will implement some form of grazing method (i.e., rest rotation, deferred rotation, seasonal or other methods). Appendix 2.3 shows AMP status for the entire planning area. Grazing management methods will be implemented prior to mechanical treatments, unless it is clear that grazing practices alone will not reach management objectives.

Existing AMPs will be updated as dictated by monitoring results or changes in the livestock operation.

Monitoring data and analysis will be used to ensure grazing management is reaching its objectives. The monitoring data and analysis will be used to allow temporary increases or decreases in AUMs and to revise AMPs.

Allotments grazed between March 1 and May 31, will be evaluated in accordance with the Natural Resource Monitoring Plan for the Havre Resource Area and the Great Falls, and the Judith and Phillips Monitoring Plans. If problems (such as adverse impacts to watersheds and/or wildlife) are identified, the AMP will be revised to mitigate the impacts.

Section 15 leases will be monitored according to the schedule in the resource area monitoring plan. Livestock adjustments will be made depending on the results of monitoring and inventory.

Crested wheatgrass seedings will be maintained for maximum livestock forage production; 70% of the production may be allocated to livestock when soils are stabilized to a satisfactory condition. Existing seedings will be fenced and restored to maximum production to allow for manageable pastures. Additional crested wheatgrass seedings may be used to consolidate existing scattered stands of crested wheatgrass into a manageable unit. In addition, new seedings will be allowed on allotments where no other option is available to improve the vegetative condition.

Chemical, fire or mechanical manipulations of vegetative communities will be planned, developed and implemented to ensure that negative impacts to other resources (wildlife, soils, range, and watershed primarily) are identified and mitigated. Treatments will be applied if maintenance or improvement cannot be achieved with grazing management practices. Watershed parameters, topography, soil type, infiltration, and soil loss potential will also be considered and mitigated, as necessary, in vegetation manipulation projects.

Blue grama-clubmoss rangelands may be treated by mechanical means (i.e., chisel plowing or scalping) where improvement cannot be attained by using a grazing method.

The Ervin Ridge Wild Horse Herd Management Area would remain free of wild horses, as directed by the 1985 South Bearpaw Management Framework Plan (MFP) amendment.

The BLM will control, eradicate and/or contain noxious weed infestations on public lands under cooperative agreements with county weed boards. If weed problems occur in a checkerboard ownership pattern the BLM will initiate control measures in conjunction with the other landowners.

The containment/eradication of noxious weeds will proceed as analyzed in the programmatic environmental assessment on Containment/Eradication of Selected Noxious Plants in the BLM Lewistown District, May 1986.

Fire Management Implementation (Vegetation Related)

The North Fergus Modified Suppression Plan is the only fire management plan in the area. Information will be compiled to develop fire management activity plans/environmental assessments (EAs) for each resource area within the next 4 years. The following criteria will be used in identifying limited suppression areas; economics, low resource values and difficult suppression areas.

All wildfires within the UMNWSR Corridor will receive an initial attack unless a modified suppression plan is in effect.

Standard mitigation measures for maintaining the vegetation communities are found in Appendix 2.6.

Wildlife & Fisheries Management

The BLM will maintain and enhance habitat for all species of wildlife. The emphasis for habitat maintenance and development will be placed on present and potential habitat for sensitive, threatened and/or endangered species, nesting waterfowl, fisheries and crucial big game winter ranges.

General forage allocations and habitat decisions for wildlife can be found under the Vegetation Management section of this chapter. The Montana Department of Fish, Wildlife and Parks is responsible for population management; the BLM has made some general habitat decisions to support the populations identified by the MDFWP.

Implementation

The BLM will minimize or prevent road and trail development on crucial deer and sharptailed grouse habitat areas.

Habitat enhancements (islands, nesting platforms) will be constructed on new or existing reservoirs, ponds, potholes or river systems where feasible.

Easements on or across public land for the development of private water sources will carry stipulations to enhance waterfowl habitat.

Livestock water developments will not be built on the terminal portions of finger ridges in the Missouri Breaks in order to minimize deer/livestock competition in the UMNWSR Corridor.

Expansion of big game populations into existing but previously unoccupied habitat will be allowed as long as herd expansion does not reduce the allocations to watershed and livestock.

A cooperative agreement to transplant bighorn sheep into Little Bullwhacker, Cow Creek and Bull Creek will be pursued with the MDFWP. No changes in livestock class from cows to domestic sheep will be allowed in areas occupied by bighorn sheep.

Identified great blue heron and cormorant rookeries on public lands will be protected from roads, campsite developments, timber cutting and other intrusions. A buffer zone of 1,000 feet around rookeries from the start of nesting to the fledging of young birds is needed for protection against disturbance.

No action will be initiated on public lands which will jeopardize any federally listed threatened and endangered (T&E) plant or animal. Impacts to other sensitive species and state designated species of special interest will be evaluated and mitigated prior to the initiation of any action on public lands.

The BLM will work with the U.S. Fish and Wildlife Service (USFWS) to recover threatened and endangered species including reintroduction efforts. The species of interest are the bald eagle, peregrine falcon and piping plover.

Underwater rights-of-way (ROWs) crossing the Missouri River will be constructed between June 15—August 15, to protect spawning paddlefish. Other mitigation to protect spawning paddlefish will be applied as necessary.

The BLM will consult with the USFWS when any action may affect a threatened or endangered species.

The prairie dog town located in T. 33 N., R. 22 E., Sec. 28 will be managed to provide habitat for associated species. It may also be managed to provide some recreational shooting. Should any control measures be considered in the future, threatened and endangered or special interest species will be given priority, and necessary mitigation will be developed prior to initiating any control measures. Prairie dog towns smaller than 10 acres will not be actively managed.

Recreation Management Implementation (Wildlife & Fisheries Related)

Consistent with the 10-year cooperative Fish Management Plan between the BLM and the Montana Department of Fish, Wildlife and Parks, the MDFWP will be requested to stock the following reservoirs with fish: South Cassidy, Reser, BR-12, Burns, Don, North Faber, Salmo, Butch, Glynda, F. R., Carol, Ridge, Zero, Gezob, and Diane. In the future, other reservoirs may be identified for fisheries management; priority consideration will be given to reservoirs near residential areas, particularly the Hogeland-Turner area. Consideration of fisheries potential will be given during the design phase of any new reservoirs.

Standard mitigation measures to protect the wildlife resources from disturbance are found in Appendix 2.6.

Cultural Resource Management and Protection of Traditional Cultural Values

All alternatives will provide for the enhancement and protection of cultural resources and the protection of traditional cultural values. Cultural resources are defined as those fragile and non-renewable remains of past human activities. For the purpose of this document, traditional cultural values are restricted to Native American religious activities.

Implementation

Cultural resources will be given full consideration in all land use planning and management decisions. The BLM will seek to ensure its undertakings avoid inadvertent damage to both federal and non-federal cultural resources.

The BLM will seek to preserve a representative sample of the full array of cultural resources for the benefit of scientific and socio-cultural use for present and future generations.

All BLM actions which may potentially affect cultural resources will comply with he National Historic Preservation Act of 1966, as amended and as implemented by 36 CFR 800. This legislation and regulation (called Section 106 process) requires the following steps to be taken before initiation of BLM actions:

Prior to any federal undertaking, cultural resources eligible to be listed or listed on the National Register of Historic Places (NRHP) must be identified. Cultural resources identified within the project area and potentially affected by a BLM action are evaluated in consultation with the State Historic Preservation Officer (SHPO). Agreement between the BLM and SHPO on eligibility constitutes consensus, permitting the compliance process to proceed.

Once consensus exists, the nature of the effect on historic properties is determined. One of the three following determinations are made: (1) No effect—the agency, in consultation with SHPO, determines the federal undertaking will not impact eligible cultural resources. (2) No adverse effect—the agency in consultation with the SHPO determines there will be an effect but the effect will not be adverse. The agency submits to the Advisory Council on Historic Preservation (ACHP) a report which describes the nature of the undertaking and a justification for a determination of no adverse affect. The ACHP, may concur, object with conditions (project may proceed if conditions are met) or object (in this case a consultation process is initiated among ACHP, the agency and SHPO). (3) Adverse effect—when the agency determines the effect on cultural resources will be adverse, the agency, SHPO, and the ACHP will consider ways to avoid or mitigate the impact of the federal undertaking on cultural resources. Measures considered during consultation may include preservation of the cultural resource, restoration (restoring, repairing) of the cultural resource documentation (photographs, drawings, and histories of buildings and structures), reducing the magnitude of the undertaking, redesigning the project, and data recovery (refers to archaeological sites where data may be recovered through controlled excavation). Once the consulting parties agree on the measures to avoid or mitigate the impact to eligible cultural resources by the federal undertaking, and the conditions or stipulations have been met, the project may proceed.

The procedures outlined above have been modified in portions of the RMP area by agreement between the BLM and the Montana SHPO. These modifications have reduced the need for cultural resource surveys to identify sites possibly eligible for the National Register of Historic Places.

BLM requires that all persons conducting cultural resource field work on public lands obtain a cultural resource use permit from the Montana State Office. The District Manager authorizes and is responsible for monitoring the field work proposed and actually conducted. This is accomplished through the field work authorization process.

Activity plans may be developed for significant cultural resources on public lands. These plans will be written for sites evaluated through the BLM cultural resource use evaluation system. The cultural resources use categories are described in Appendix 2.7. Sites assigned a use category will be managed to achieve that use.

BLM has a clear responsibility and mandate to manage the cultural resources along the Upper Missouri National Wild and Scenic River for both preservation and enhancement. This direction has been developed into a series of management plans, including a cultural resource management plan. All of these are due for reviews in the next 2 years (1987-1989).

Specific prescriptions for management of the cultural resources along the Upper Missouri National Wild and Scenic River will consider that:

1. Historic sites will be evaluated and then monitored or maintained based on; their historic value, the attraction they have for visitors and their use as safety shelters.

2. Prehistoric sites will be evaluated and then monitored, protected or excavated based on their scientific value and what they can add to knowledge and interpretation of the UMNWSR.

3. Historic and archaeological opportunities along the UMNWSR will be enhanced by developing interpretive potential at selected cultural sites. Resources will be selected based on access, information potential and the potential to provide important parts of river history or prehistory via interpretation. These enhancements would be subject to any constraints of the final RMP.

Standard mitigating measures to protect cultural resources are listed in Appendix 2.6. These measures will be applied as applicable to all federal actions.

Implementation for Traditional Cultural Values

As required, the Bureau will consult with Native American tribes when its actions have the potential to affect areas of concern to practitioners of traditional religions. In the RMP area, that consultation will require contact with the Blackfeet, Rocky Boys and Fort Belknap Reservations. The kinds of activities of concern might cause degradation to the visual or esthetic nature of an area. They might also cause loss of plant species or other resources important to Native Americans.

Recreation Management

Under all alternatives, the BLM will maintain the recreational quality of public lands by providing opportunities for fishing, hunting, sightseeing, hiking, snow sports and other outdoor opportunities.

The BLM will maintain and enhance the recreational and visual quality of public lands along river systems in the planning area.

The wilderness values in three identified wilderness study areas (WSAs) Stafford, Ervin Ridge, Cow Creek will be maintained. The Secretary of the Interior is required to report his recommendations to the President by October 21, 1991, and the President is required to report his recommendations to Congress by October 21, 1993. Congress ultimately decides whether to designate areas as wilderness.

The quality of the scenic (visual) values on public lands throughout the RMP area will be maintained.

The Upper Missouri National Wild and Scenic River will be managed to protect and preserve the remarkable scenic, recreational, geological, fish and wildlife, historic, cultural, and other values as directed by Congress in the Wild and Scenic Rivers Act (PL 90-1968) and the amendment for the Upper Missouri (PL 94-486, 1976). The BLM will cooperate with the National Park Service's (NPS) Rocky Mountain Regional Office in managing the UMNWSR and with the NPS's Mid-west Regional Office in managing the Lewis and Clark National Historic Trail. The BLM will manage the segment of the Lewis and Clark National Historic Trail within the planning area in a manner that is consistent with the purposes and provisions of Public Law 90-543 (the National Trail Act) as amended by Public Law 95-265.

Implementation

The BLM will provide recreation access maps and brochures for recreational use of the public lands and to promote better sportsman/landowner relations.

The BLM will strive to improve public access to rivers at road and highway intersections and to acquire lands to enhance recreational opportunities. Other developments may be allowed, based on public demand and BLM recreational studies. Management priority will be on the Missouri and Marias Rivers.

Roads, trails and public lands will be signed to aid people recreating on public lands. Priority will be given to intensive use areas.

Recreational use studies will be conducted on a continual basis to determine concentration areas and future access needs.

A pack in/pack out policy at recreation sites will be implemented.

All acquired lands will be evaluated for wilderness values as part of the lands review process.

Wilderness study areas will continue to be managed in compliance with the Interim Management Policy (IMP) until they are reviewed and acted upon by Congress. Acquired areas studied for wilderness will be managed to prevent unnecessary and undue degradation of the land, and when it does not conflict with valid and existing rights, they will be managed to meet the non-impairment standard as well. Any lands within WSAs in the UMNWSR Corridor will continue to be managed under the IMP.

The draft Missouri Breaks EIS recommended 21,590 acres of the 34,050 acre Cow Creek WSA as preliminarily suitable for wilderness designation. None of the 4,800 acre Stafford WSA or 10,200 acre Ervin Ridge were recommended as suitable. More information on these WSAs can be found in Appendix 2.8 and the draft Missouri Breaks Wilderness EIS.

Areas added to the National Wilderness Preservation System by Congress will be managed in compliance with the Wilderness Management Policy. Site-specific wilderness management plans will be developed for such areas.

Areas reviewed by Congress but not added to the National Wilderness Preservation System will be managed under the applicable guidelines in this resource management plan.

Surface developments will be designed or mitigated to complement and harmonize with the natural features and the Visual Resource Management (VRM) Class objectives. The visual contrast rating will be used as a guide for all major projects proposed on public lands that fall within VRM Classes I, II, and III areas which have high sensitivity levels.

Existing VRM data will be updated for the Missouri Breaks Range EIS area in the planning area.

Implementation Within the Upper Missouri National Wild and Scenic River (Recreation Related)

The BLM will coordinate with the U.S. Fish and Wildlife Service on bankside recreation use and management within the Charles M. Russell National Wildlife Refuge boundaries from river miles 139-149.

No impairment to the view shed will be allowed in Class I VRM areas in wild sections of the UMNWSR Corridor. The level of change to the natural landscape from management activities should be very low and must not attract attention.

In the scenic and recreational sections of the UMNWSR Corridor, Class II VRM areas will not allow evident changes in the view shed. Management activities may be seen, but should not attract the attention of the casual observer.

Both motorized and non-motorized watercraft will be permitted in all river segments. There is a no-wake speed limitation during the primary recreation use season for the wild and scenic river segments. A no-wake speed is defined as the speed whereby there is no whitewater in the track or path of the vessel or in created waves immediate to the vessel.

Hazardous Waste Management

The BLM would not permit the establishment of a hazardous waste dump on public lands under any of the alternatives.

Implementation

Lands needed for the disposal of hazardous wastes will be identified and made available (through disposal) to the private sector for this purpose.

Land Resource Management

Under all alternatives, the BLM will continue to identify areas with legal access and those areas lacking legal access. Access will then be addressed in an activity plan that will identify specific tracts or routes for acquisition. Acquisition needs will be identified by individual program activities and public involvement. Access needs identified at this time, for administrative purposes, include the Kevin Rim area, the East and West Buttes of the Sweet Grass Hills and the Marias River.

The BLM will continue withdrawal review as provided for under Federal Land Policy and Management Act (FLPMA) and Department Manual 603.

BLM will take aggressive action on any unauthorized agricultural use of public lands. Emphasis will be on detection/resolution and publication of the results of those activities. Inventories of unauthorized agricultural use will be initiated and completed where not already current. A plan for abatement will be a priority in the future budget developments. Emphasis will be given to immediate resolution of newly identified unauthorized uses; termination or authorization, as appropriate. Administrative processes will seek fair-market value land use compensation, damages and/or land restoration. Each district will develop standard stipulations for restoration of disturbed land.

Implementation

A transportation plan will be updated to identify existing legal access to public lands as well as areas where public access is lacking. Access will then be addressed in an activity plan that will identify specific tracts or routes for acquisition. Acquisition needs will be identified by individual program activities and through public involvement.

Access will be obtained to provide more recreation in the recreational and scenic portions of the UMNWSR Corridor. Priority will be given to: Evans Bend at river mile 6; launch/takeout sites; Black Bluff Rapids; and bankside use areas. Other access will be obtained as needed. The only new access allowed in the wild portions of the UMNWSR Corridor will be to provide required access to valid, existing leases.

The BLM recommends revoking the power site classification and power site reserve number 757. These power site classifications and reserves are within the UMNWSR where legislative actions preclude water power and water storage development. Other power site classifications and power site reserves will be reviewed to determine if the withdrawals are still valid.

If a withdrawal (including power site withdrawals) is terminated, the lands will be assessed for retention or disposal qualities. If these lands are retained, they will be managed under the guidance provided for the surrounding or nearby lands or for the specific values on the lands.

Distribution facilities (electrical systems, pipelines, roads, railroads, etc.) will be encouraged to parallel existing facilities.

BLM field personnel are encouraged to establish cooperative relationships with local U.S. Department of Agriculture (USDA) or other agencies for the purpose of greater federal efficiency in federal program administration. Specifically, local offices of Agricultural Stabilization and Conservation Service and Soil Conservation Service should be consulted/communicated with on a frequent basis. Shared land status, field and or photo use analysis, land use surveillance, coordinated inventory, and investigation will lead to greater program efficiency for BLM and the USDA organizations.

Land acquisition will be for lands of greater resource values than those lands disposed. Acquired lands will be placed under the guidance found in this resource management plan. Lands acquired through fee simple title or easement in a designated emphasis management area (i.e., the Upper Missouri National Wild and Scenic River Corridor, WSAs) will be managed under the specific management guidance for the area. Lands acquired to supplement and enhance emphasis management areas will come under the specific guidance for the area.

ALTERNATIVES

This section describes four different alternatives to resolve the issues described in Chapter 1; land tenure adjustment, off-road vehicle management, right-of-way location, emphasis areas, and Upper Missouri National Wild and Scenic River management. Alternative A represents the No Action or Continuing Current Management Alternative; Alternative B presents a combination of management guidance and actions that would favor the use of public land resources; Alternative C presents a combination of management guidance and actions which favors the protection and preservation of public land resources and; Alternative D presents a balance of management guidance and actions proposed in the previous three alternatives.

These alternatives were developed as a range of reasonable combinations of resource uses and management practices to respond to the planning issues. Each alternative combined with the Management Common to All Alternatives guidance will provide management direction for all resources.

Maps showing allocation differences between the alternatives for land tenure adjustment, ORV management and ROW location are located in the back of this document. Map 1 and the overlay to map 1 identify land status and constraints to minerals management. Map 2 shows the land tenure adjustment for Alternative A; and Map 3 shows the land tenure adjustment Alternative B, C and D. Map 4 shows the ORV management options and ROW locations for all the alternatives.

ALTERNATIVE A (NO ACTION)

This alternative represents a continuation of present management direction. It would continue to implement policies, regulations, and decisions from five management framework plans, several grazing environmental impact statements (EISs), a wilderness EIS, various programmatic environmental assessments, activity level plans, and the State Director's Guidance for RMPs (83/84). This alternative serves as a baseline for the comparison of other alternatives. If selected, this alternative plus the guidance given in the Management Common To All Alternatives section would form the RMP.

Land Tenure Adjustment

The BLM would continue to exchange lands under the State Director's Guidance on Land Pattern Review and Land Adjustment (see Appendix 1.1). The emphasis of this guidance is to attain a land pattern conducive to ease of management or optimum utilization of resources. This is generally achieved through managing large blocks of public surface lands. Land adjustment actions would generally dispose of lands outside the retention areas identified on Map 2 in the back of this document. Land exchanges may be considered within the retention areas. Land adjustment would be achieved through state or private exchange, Recreation and Public Purposes Act (R&PP) sale and mineral exchanges. Acquisition lands would meet the criteria found in Appendix 1.1.

Implementation

All land adjustments would be through exchange or the Recreation and Public Purposes Act and a land report would be completed for each exchange.

Acquisition tracts would generally be in areas of major federal holdings such as the Missouri River Corridor, Northern Blaine County, the Sweet Grass Hills and other areas within and outside of the planning area.

Off-Road Vehicle Management

The BLM would continue to allow unrestricted off-road vehicle (ORV) use under an open designation for the majority of the planning area (477,763 acres). Map 4 in the back of this document defines this open area.

Travel would continue to be limited to existing roads and vehicular ways in the wilderness study areas. Under the limited designation, ORVs would be restricted to existing roads and trails in areas of sedimentary breaks soils with slopes greater than 30%. Combined, these areas total 148,335 acres.

ORV restrictions do not constrain administrative access to leases (grazing, mineral or other). However, such access would be granted on a case-by-case basis.

Implementation

An ORV implementation plan would be completed. This plan would contain detailed information on roads and trails open to travel, on signing the area and on monitoring use in the area. The BLM would publish and distribute a map of the limited areas which shows the roads and trails open for use. All limited areas would be signed with an explanation of use restrictions in the area.

Wilderness study areas designated as suitable for wilderness by Congress would be closed to all vehicular traffic at the time of designation. A portion of the Cow Creek WSA is currently recommended as preliminarily suitable for designation. WSAs which are not designated would be managed under the ORV constraints of adjacent lands, if any apply.

Permits would be issued for vehicular use in limited and closed areas for administrative purposes.

The BLM would acquire access to intensive use areas through exchange, easement or purchase.

Right-of-Way Location

The BLM would continue to grant lineal rights-of-way throughout the planning area, if an environmental review of each request indicates the impacts may be mitigated. The entire planning area would remain open to communication site location.

Implementation

An environmental analysis of the proposed project would identify any standard stipulations necessary to mitigate impacts to resources. Standard stipulations (see Appendix 2.6) would be used as a minimum.

Emphasis Areas

Current management practices and allocations would be continued in the Kevin Rim, Sweet Grass Hills and Cow Creek areas (see Figures 2.2, 2.3, 2.4). All three areas would be managed for the multiple use of all resources with no additional stipulations, unless needed on a site specific basis.

Figure 2.2 Kevin Rim Emphasis Area Land Ownership Map.

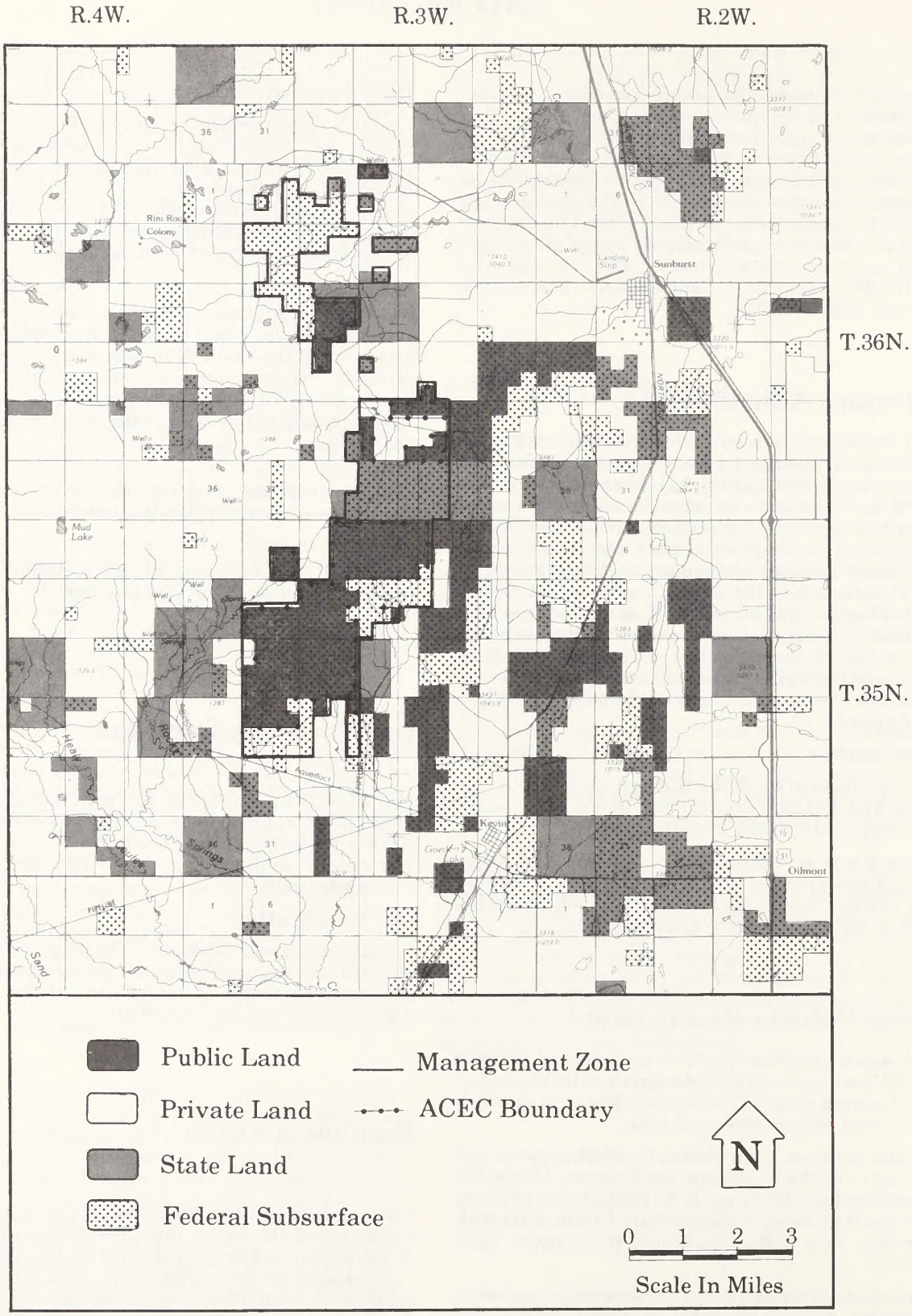


Figure 2.3 Sweet Grass Hills Emphasis Area.

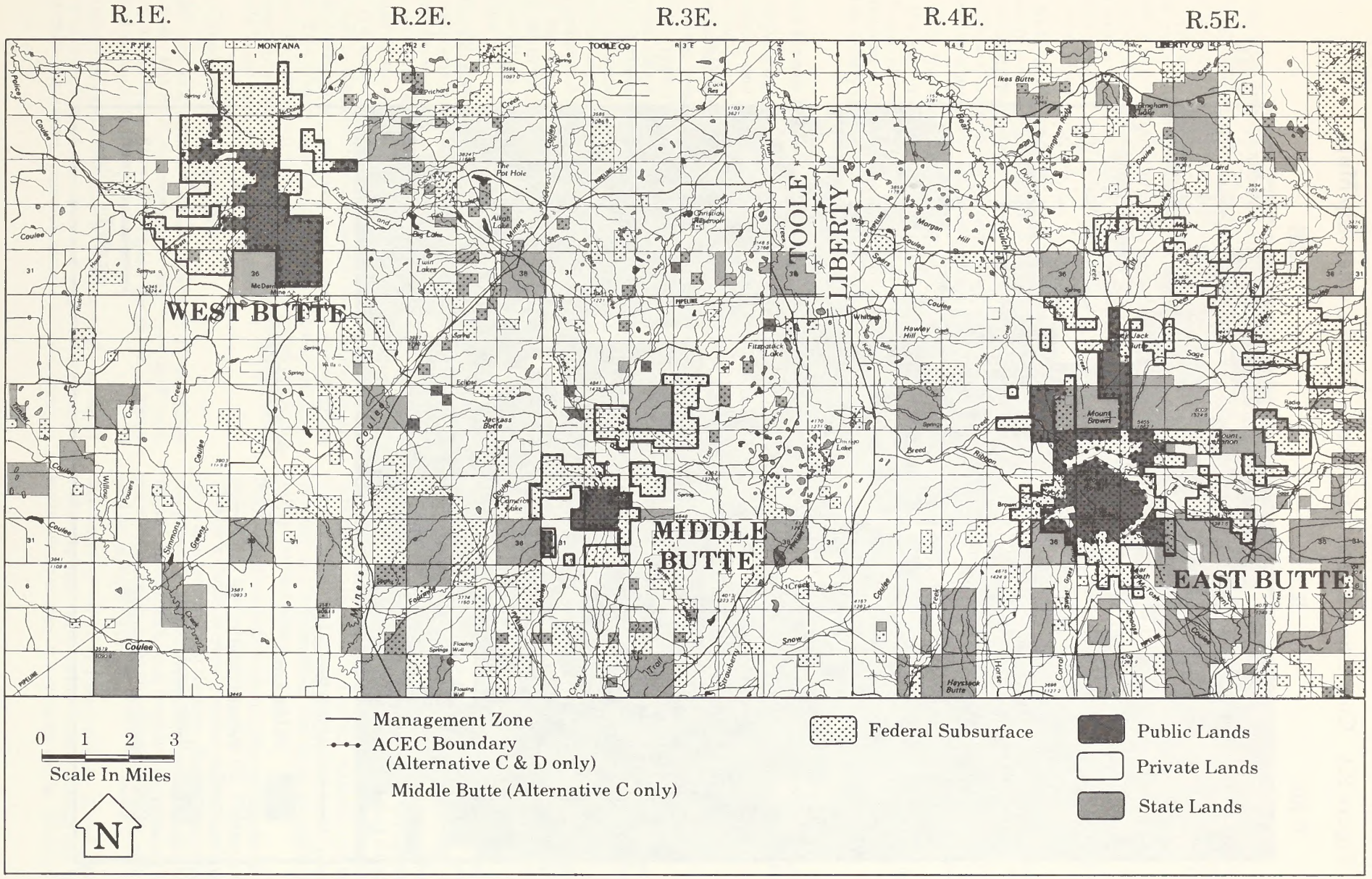
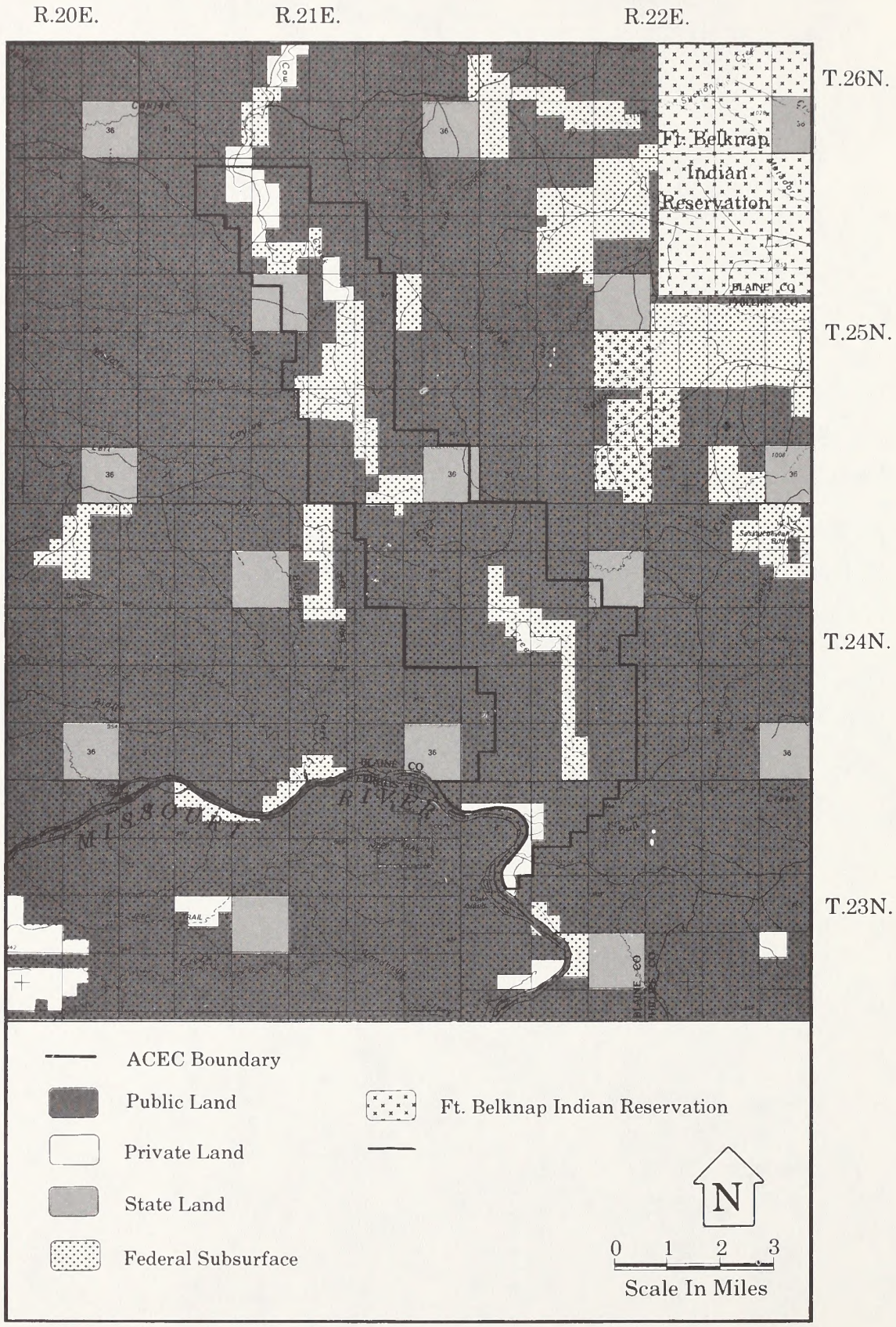


Figure 2.4 Cow Creek Emphasis Area — Land Ownership Map



Kevin Rim Implementation

Standard protective stipulations would continue to mitigate surface disturbing activities (primarily oil and gas) and impacts to the raptor and cultural resources. A 1/4 mile buffer zone would continue around surface disturbing activities to protect active raptor nests through the fledging of the young birds. Dates during which raptor nests are used can be found in Table 3 of Appendix 2.9 the Rocky Mountain Front raptor guidelines; only Table 3 applies to this alternative.

The BLM would continue to require a cultural resource inventory on all surface disturbing projects prior to approval. If cultural resources are discovered, the project would avoid them if possible, or the impacts would be mitigated. Mitigation may involve archaeological excavation.

The BLM would continue to permit rights-of-way in the area if an environmental analysis determines the project can be completed without significant impacts. This determination may be made after mitigation measures are developed to modify the impacts.

Sweet Grass Hills Implementation

The BLM would continue to lease and permit mineral exploration and development under the standard stipulations (see Appendix 2.2). The area would remain open to operation under existing mining laws. Standard protective stipulations would include the 1/4 mile buffer zone to protect active raptor nests, and seasonal no surface occupancy on crucial elk wintering and calving areas. Protective wildlife stipulations may be applied to locatable mineral development only where they are needed to prevent unnecessary and undue degradation. The standard cultural stipulations (see Appendix 2.6) would also apply to the area. The BLM would consult with Native American tribes on actions which might impact the area. The current grazing methods would continue, unless altered by the Great Falls Monitoring Plan.

The BLM has reviewed the East Butte, Bureau of Reclamation (BR) withdrawal and recommended that 40 acres of the withdrawal be retained and the remaining 529.67 acres returned to BLM administration. The withdrawal was originally granted as a riprap source for reclamation projects. The actual quarry is located on private land. The 40 acres still needed by BR is adjacent to the existing quarry and provides riprap reserves that may be needed in the future. The area revoked from the withdrawal would be opened to mineral entry and would be managed under the management guidance for the area. All other agency withdrawals in the area would be continued.

Cow Creek Implementation

Multiple use management would continue in the Cow Creek area. The BLM in cooperation with the U.S. Forest Service, would write an activity plan for the Nez Perce National Historic Trail.

Minor modifications of the current grazing methods would occur in order to incorporate the riparian guidelines necessary to maintain current riparian areas on Cow Creek.

Surface disturbing activities such as mineral development, right-of-way location and/or range improvements would be subject to the standard stipulations (see Appendices 2.2 and 2.6).

Upper Missouri National Wild and Scenic River Management

It is BLM policy to manage the Upper Missouri National Wild and Scenic River and its related resources in a manner consistent with providing a meaningful recreational experience for recreational users, while maintaining or enhancing the existing unique quality environment of the management area.

Recreation use including, but not limited to boating, hiking, fishing, and hunting, will be permitted to the extent that the wild and scenic characteristics of the Missouri River are not degraded.

BLM management would be consistent with the Wild and Scenic Rivers Act (PL 90-542 1968) and the amendment to the Wild and Scenic Rivers Act which designated the Upper Missouri River (PL 94-486, 1976).

Implementation

Visitor Services

Floater user capacity is based on the amount of public land available for campsites and would remain the same. The use capacity is 210 individuals/day between Coal Banks and Judith Landing and is 234 individuals/day between Judith Landing and Fred Robinson Bridge. Minor adjustments would be made if additional, suitable land is acquired. Outfitters are limited to 30% of overall carrying capacity (133 individuals/day).

The visitor contact station in Fort Benton and the ranger stations at Coal Banks and Judith Landing would be operated between Memorial Day and Labor Day. The visitor contact station would be managed under the Memorandum of Understanding with the National Park Service, to provide visitors with necessary permits and safety information for their float. In addition, the center would provide interpretive information on the natural and cultural history of the river. The ranger stations would provide visitor permits and information and serve as public health and safety contact sites.

All interpretive activities and sites within the river corridor will be self guided and keyed to the Floater's Guide. The Floater's Guide increases visitor understanding of regulations and resources on the river. It provides information on the natural, cultural, historical and geological features of the river. Information or interpretive signs, except hazard warnings visible from the Missouri River, will be prohibited on all federal lands.

Recreational use of islands would be discouraged through visitor contact and publications during the spring and early summer season to protect young wildlife.

Facility Management

Three categories of recreation sites exist along the river. Undeveloped sites are primitive camping areas used on a regular basis, but lacking capital improvements (i.e., pit toilets). Semi-developed campsites are areas with some capital improvements and camping use is fairly frequent. Developed sites are those areas with tent or trailer spaces, potable water, access roads, refuse containers, pit or chemical toilets and qualify for fee collection under the Land and Water Conservation Act of 1965. These definitions are applicable to all alternatives.

The BLM would continue monitoring and maintenance (i.e., litter collection) on major undeveloped use sites. Those sites along the recreational segment to Coal Banks Landing would be signed to help alleviate trespass problems on private lands.

The existing semi-developed sites would be maintained by BLM. Additional sites may be developed based on the following criteria—

(1) increasing use of the river or undeveloped campsites;

(2) impacts to soil and vegetation becoming long term; (i.e., heavy use begins to compact soils and kill vegetation beyond acceptable limits) as determined by monitoring;

(3) sanitation becomes a health problem;

(4) more or different sites are needed in order to rest existing sites (to reclaim soils and vegetation at existing sites); and/or

(5) better distribution of use is desired in the more popular areas. Development at these sites will be limited to pit or chemical toilets and potable water sources. Sites will be developed and maintained to provide a primitive recreational experience.

Developed campsites as defined above, would only be allowed at major launch/take out sites in the recreational segments.

The BLM would continue to manage the Montana Fish, Wildlife and Parks Department campgrounds as provided under agreement with the State of Montana. This includes facilities at Coal Banks Landing, Hole-In-The-Wall, Slaughter River, Judith Landing and Cow Island Landing.

Concession Management

Concessionaire services would be limited to outfitting, guiding and boat rentals.

Health and Safety

The BLM would continue visitor services to provide for public health and safety. All law enforcement and search and rescue operations would continue as a cooperative effort. Local and state agencies will have lead responsibility, BLM may provide personnel and equipment.

ALTERNATIVE B

This alternative emphasizes the availability of public land for consumptive uses with minimum restrictions. The nonconsumptive resources (cultural, soil, water, air, threatened and endangered species, vegetation, etc.) would be provided the minimum protection required by law. This alternative would generally provide the opportunity for the maximum allowable levels for resource exploration, development and production. If selected, this alternative plus the guidance given in the Management Common To All Alternatives section would form the RMP.

Land Tenure Adjustment

The BLM would attain an economical and manageable public land base. Isolated, uneconomical, or marginally important resource lands would be available for disposal. Acquisition of private and state lands would be pursued to consolidate public lands into large blocks. A total of 50,092 acres of public lands could be available for disposal through FLPMA exchange, sale or Recreation and Public Purposes Act. The remainder of the surface lands would remain in federal ownership, these lands represent high value resource lands. Federal subsurface could be exchanged or sold for fair market value.

The State Director's Guidance on Land Pattern Review and Land Adjustment (USDI-BLM 1984) is being revised by this alternative for the planning unit only. The criteria presented in the State Director's Guidance has been refined and applied to the lands in the RAs. The criteria applicable to each resource area can be found in Appendix 1.1. As a result of evaluating the lands in the planning area against the criteria, the map presented in the State Director's Guidance no longer applies to the planning area; it is replaced by Map 3 of this document.

Implementation

The BLM would pursue land adjustment through exchange. However, the lands (50,092 acres) identified as available for disposal appear to meet the criteria in FLPMA for sale and could be disposed through exchange, sale and/or R&PP sale. At the time a proposal for acquisition or disposal is made, the specific tract would be thoroughly evaluated against the FLPMA criteria in addition to the criteria in Appendix 1.1.

The BLM would acquire lands of higher value to block up BLM land patterns. Acquisition areas would be pursued in the Sweet Grass Hills, Kevin Rim, Marias River, Missouri River, Cow Creek, the Rocky Mountain Front, and important wildlife habitat areas. The order of these areas has no bearing on priority of acquisition; that is generally dependent on the timing of private/state offerings.

A land report would be completed for each exchange.

Off-Road Vehicle Management

The BLM would maximize opportunities to use off-road vehicles within the planning area. Travel in wilderness study areas (32,000 acres) would be limited to existing roads and trails. The BLM may issue permits for cross country travel for administrative vehicular use in these restricted areas. The remainder of the planning area (594,098 acres) would be open to off-road travel. The BLM would designate about 640 acres of this open designation area for intensive off-road vehicle use.

Implementation

The BLM would prepare an ORV implementation plan for the planning area. The plan would contain detailed information on open and limited areas, the intensive use area, and on signing and monitoring of ORV use.

Travel would be limited to existing roads and vehicular ways in WSAs. The wilderness study areas and the intensive use area would be signed with an explanation of allowed uses.

Wilderness study areas designated as suitable for wilderness by Congress would be closed to all vehicular traffic at the time of designation. A portion of the Cow Creek WSA is currently recommended as preliminarily suitable for designation. WSAs which are not designated as suitable for wilderness would be open for ORV use.

Any intensive ORV use area must meet the following criteria prior to designation—

(1) the area would be at least 5 miles from an emphasis area;

(2) the area would be located in a Class IV VRM area;

(3) the area would be considered a low quality hunting region;

(4) the area would be located on public land with a buffer of public land to reduce conflicts with private landowners;

(5) the area would have good public access or the capability for such access;

(6) areas with open mine shafts and other hazards would not be considered for ORV use;

(7) the area should avoid reservoirs, watersheds, floodplains, stream channels, wetlands and riparian zones;

(8) the area would contain suitable topography and soil conditions to maximize ORV user's enjoyment and reduce health and safety risks (i.e., steep, but not too steep, few surface rocks, non-flooding areas);

(9) the area would be located 1/4 mile from raptor nest sites; 1½ miles from known grouse leks; 1/2 mile from known bald eagle nests, and 1 mile away from known peregrine falcon nests;

(10) the area would be located outside of crucial big game winter ranges;

(11) the area would be located in an undesirable area for livestock grazing, i.e., steep slopes far from water.

The BLM would acquire access to intensive use areas through exchange, easement or purchase.

Right-of-Way Location

The BLM would consider and permit lineal rights-of-way throughout the planning area, except in nationally designated special management areas. The planning area would remain open to communication site location.

Implementation

Lineal rights-of-way would be permitted in the Upper Missouri National Wild and Scenic River Corridor at the following locations: mile 0-1, mile 20.5-21.5, mile 38.5-39.5, mile 88-89, mile 101-103, mile 131.5-132.5 and mile 148.5-149.5. The remainder of the corridor would be an avoidance area.

ROWs proposed through WSAs would have to meet the non-impairment criteria. WSAs designated as suitable for wilderness by Congress, would become exclusion areas for ROW location. If other areas are designated by Congress, they would become ROW exclusion areas or if possible, corridors would be designated through them.

BLM would evaluate each ROW request through an environmental assessment and develop the mitigation required by law to protect various resources (i.e., threatened and endangered species, cultural artifacts).

Emphasis Areas

Current management practices and allocations would be continued in the Kevin Rim, Sweet Grass Hills and Cow Creek areas (see Figures 2.2, 2.3, 2.4). All three areas would be managed for the multiple use of all resources with no additional stipulations.

The BLM would recommend revoking 529.67 acres of the Bureau of Reclamation withdrawal on East Butte. This land would be opened to mineral entry and managed under the current guidance for the area.

Implementation

Please refer to the implementation section for Kevin Rim, Sweet Grass Hills, and Cow Creek in the No Action Alternative.

Upper Missouri National Wild and Scenic River Management

The BLM would maximize the full range of land and water based recreation opportunities in all segments of the river corridor, consistent with the Wild and Scenic Rivers Act (PL 90-542, 1968) and the amendment for the Upper Missouri (PL 94-486, 1976). Visitor center contact services would be provided consistent with the MOU with National Park Service. This may be accomplished through the use of private sector initiatives to provide a full range of visitor services.

Implementation

Visitor Services

The BLM would not set floater capacity limits. Outfitters would not be limited on either the number of people or boats.

The visitor contact station at Fort Benton and the ranger stations at Coal Banks and Judith Landing would be operated for a 6 month season beginning the weekend before Memorial Day. This visitor contact station would provide visitors with the necessary permits and safety information for their float. In addition, the center would provide information on the natural and cultural history of the river. The ranger stations would provide visitor permits and information and serve as public health and safety contact sites.

Interpretive trails and sites would be developed at significant geological, historical, archaeological, paleontological and natural area sites. These developments may include interpretive signs or displays. Significant sites currently identified include the Stafford Ferry, Cow Creek, Evans Bend, Steamboat Point, Little Sandy, and Hole-In-The-Wall. Other sites may be developed if there is substantial public use, the BLM acquires important new lands, or major new resource discoveries are made.

Islands would be used for livestock forage and could be used for developed recreational sites.

Facility Management

The BLM would clear brush (1/4 acre) for pathways and tenting areas on all undeveloped campsites. All such areas would be signed in the recreational and scenic sections of the river. All sites including those in the wild portions would be shown on the river maps. These sites would be upgraded to semi-developed sites thorough the life of the plan (10-15 years).

Semi-developed sites would be maintained. Additional sites may be developed in all sections of the river based on the following criteria—

(1) increasing use of the river or of undeveloped campsites;

(2) impacts to soil and vegetation becoming long term; i.e., heavy use begins to compact soils and kill vegetation as determined by monitoring;

(3) sanitation becoming a health problem;

(4) additional sites are needed to rest existing campsites; and/or

(5) better distribution of campsites is needed.

Development at these sites would be constrained only by the Wild and Scenic Rivers Act. If access is required for capital improvements, the following restrictions would apply. In wild sections of the UMNWSR, roads not needed for administrative purposes would be closed, contoured to a natural appearance and seeded with a native species. In scenic sections, use would be limited to administrative purposes. Standard stipulations (see Appendix 2.6) would be applied to developments in the recreational segments.

The BLM would allow private sector initiatives to establish and manage developed visitor facility sites when economically feasible. These developments would be allowed in the recreational and scenic sections of the river corridor and would be subject to restrictions in the Wild and Scenic Rivers Act. These developments may include marinas, boat rentals, lodging facilities, interpretive services, eating facilities etc.

The BLM would not acquire or manage existing state camping facilities (six sites).

Concession Management

The BLM would encourage private sector initiatives to help achieve the objective of maximizing recreation on the river. These ventures would range from operating campgrounds to full scale developments offering boat rentals, lodging and eating facilities.

Concession services would be managed within the constraints of the Wild and Scenic Rivers Act and under the guidance in this RMP. Failure to comply would cause a revocation of the operators permit.

Health and Safety

Concessionaires would be held accountable under the terms of their permit for visitor health and safety associated with their operations.

Law enforcement would be contracted to the local sheriff's department.

Search and rescue operations would be coordinated and provided by local authorities.

ALTERNATIVE C

The management guidance in this alternative emphasizes the protection of natural and cultural resources. Other public land uses would be constrained by stipulations and/or mitigation developed to provide protection and enhancement of non-consumptive resources (recreation, soil, water and air), the natural resources (wildlife, vegetation, etc.) and cultural resources. If selected, this alternative plus the guidance given in the Management Common To All Alternatives section would form the RMP.

Land Tenure Adjustment

The BLM would emphasize the retention of public lands. Only those lands which meet the FLPMA criteria for sale would be available for disposal. Public lands which appear to meet this criteria (15,664 acres) are identified on Map 3 in the back of this document and listed in Appendix 1.1. These lands may be exchanged, sold or disposed of through the Recreation and Public Purposes Act.

The State Director's Guidance on Land Pattern Review and Land Adjustment (USDI-BLM 1984) is being revised by this alternative for the planning unit only. The criteria presented in the State Director's Guidance has been refined and applied to the lands in the RAs. The criteria applicable to each resource area can be found in Appendix 1.1. As a result of evaluating the lands in the planning area against the criteria, the map presented in the State Director's Guidance no longer applies to the planning area; it is replaced by Map 3 in the back of this document.

Implementation

The BLM would attempt to acquire lands in any specially managed area (i.e., UMNWSR, WSA, ACECs, national historic trail areas, etc.) and in high value resource areas (i.e., crucial big game wintering and calving/fawning areas, threatened or endangered species habitat, important cultural sites etc.). Current areas of interest are (no priority intended) along the Missouri and Marias Rivers, along Cow Creek, North Blaine County and the Sweet Grass Hills. All acquisitions would meet the criteria listed in Appendix 1.1. The BLM would pursue land adjustment through state and private exchanges. However, the BLM could chose to sell lands under certain circumstances.

Off-Road Vehicle Management

The BLM would provide maximum protection to the physical and biological environment to eliminate the negative impacts from off-road vehicles.

Vehicles would be limited yearlong in the following areas: WSAs, the UMNWSR Corridor, the Cow Creek ACEC, the Kevin Rim ACEC, the Sweet Grass Hills ACEC, areas of sedimentary breaks type soils and riparian areas (a total of 329,636 acres). There would be no travel on roads and trails in sedimentary breaks type soils when they are wet. Seasonal restrictions requiring vehicles to use existing roads and trails would be placed on important wildlife habitat areas (99,000 acres). The Gist Road between the cabins and the Missouri River would be closed to vehicular use (5 acres).

Implementation

The BLM would conduct an intensive road and trail inventory in the areas mentioned above. An ORV implementation plan would be written to identify designated roads and trails and plan the closure of unnecessary roads in limited areas. In areas limited to existing roads and trails (including seasonally restricted areas) the implementation plan would identify existing roads and trails. All implementation plans would contain details for signing and monitoring designated areas. Table 2.3 identifies seasonal restrictions which would apply to important wildlife areas.

TABLE 2.3
SEASONAL ORV RESTRICTIONS[1]

Deer/elk winter range	December 1 - March 15
Deer/elk fawning and calving areas	May 1 - June 30
Antelope winter range	December 1 - February 28
Raptor nesting areas	February 1 - August 15
Grouse nesting areas	April 1 - June 30

[1]BLM, 1987

Wilderness study areas designated as suitable for wilderness by Congress would be closed to all vehicular traffic at the time of designation. A portion of the Cow Creek WSA is currently recommended as preliminarily suitable for designation. WSAs which are not designated would be managed under adjoining ORV constraints.

Permits would be issued for vehicular use in limited and closed areas for administrative purposes.

The BLM would acquire access to intensive use areas through exchange easement or purchase.

The BLM would publish maps of the restricted areas. In addition, the BLM would erect signs posting the restrictions in all areas and on designated roads. The BLM would monitor and enforce all designations.

Right-of-Way Location

The BLM would protect important natural and cultural resources and special management areas by designating those areas as avoidance or exclusion areas for the location of rights-of-way. The remainder of the planning area would remain open to ROWs, however, location of new lineal ROWs would be encouraged within a 1 mile corridor of existing facilities. New requests for communication site location would be encouraged to locate with existing facilities if possible. The BLM would not permit communication sites on the Middle and West Buttes of the Sweet Grass Hills.

Implementation

The BLM would only allow ROW location in the UMNWSR Corridor in the areas identified in Table 2.4. In the Kevin Rim area, ROW location would be limited to four ROW corridors (see Map 4 in the back of this document and Fig. 2.2). The BLM would avoid location of ROWs in all WSAs; the Cow Creek ACEC; the Sweet Grass Hills ACEC; riparian areas; and sedimentary breaks type soils, unless the disturbed area would be restored to its predisturbance condition within 2 years. These areas coincide closely with the restricted ORV use areas shown on Map 4 in the back of this document.

TABLE 2.4

EXISTING RIGHT-OF-WAY CORRIDORS IN THE UPPER MISSOURI NATIONAL WILD AND SCENIC RIVER CORRIDOR[1]

River Mile 0	to River Mile 1
River Mile 20	to River Mile 21
River Mile 38.5	to River Mile 39.5
River Mile 88	to River Mile 89
River Mile 101	to River Mile 103
River Mile 131.5	to River Mile 132.5
River Mile 148.5	to River Mile 149.5

[1]BLM, 1987

[2] River miles are identified on map 4 in the back of this document. River mile 0 is located at Ft. Benton. River mile 149.5 is marked by the Fred Robinson Bridge.

Any area designated as suitable for wilderness by Congress would be a ROW exclusion area. Areas not designated would be open to ROW location, unless they fall into the avoidance category because of soils, riparian areas or they become another type of specially managed area.

Every ROW grant request would be subject to environmental review and stipulations and mitigation measures would be developed to ensure complete rehabilitation of the area.

Emphasis Areas

The BLM would provide maximum protection of the significant and relevant resources in the Kevin Rim, Sweet Grass Hills, and Cow Creek areas (see Figures 2.2, 2.3, 2.4). Under this alternative the East, West and Middle Buttes of the Sweet Grass Hills would be designated as ACECs and managed by the following guidance. A management zone would be designated around the Kevin Rim and Sweet Grass Hills to ensure that development of federal minerals under private and state surface would be regulated by the same guidelines implemented on the ACEC. The Kevin Rim would be designated to provide protection, maintenance and/or enhancement to the peregrine falcon habitat, other sensitive raptor habitat, and cultural resources while providing for continued oil and gas development. The Sweet Grass Hills would be designated to protect and maintain the area for Native American religious and cultural practices, public recreation and wildlife habitat. A protective mineral withdrawal would be pursued for this ACEC. The Cow Creek area would be designated to protect, maintain and/or enhance the Nez Perce Trail, Cow Island Trail, and other resources in the Cow Creek area.

Kevin Rim Implementation

Using the following guidance, the BLM would prepare an activity plan detailing specific management for the area. The Rocky Mountain Front raptor guidelines in Appendix 2.9 would be used to determine buffer zones and timing windows for activities in the area. These guidelines would be applied if any activity threatens to disrupt the nesting and rearing cycles of state or federal sensitive raptor species using the rim. These guidelines would be issued as standard stipulations for all new oil and gas leases in the area. In addition, BLM would use the guidelines to develop stipulations for new development on existing oil and gas leases. These guidelines would also be applied to federal mineral development within the management zone.

The BLM would inventory the Kevin Rim area for cultural resources. Based upon this survey and/or additional surveys the BLM would not authorize projects within 1/4 mile of the escarpment, unless impacts to the cultural resources could be mitigated.

The BLM would encourage ROW location off the west side of the Kevin Rim. The BLM would only authorize new ROWs off the escarpment (east side) along the existing ROWs (see Figure 2.2). The BLM would establish a ROW corridor 1/2 mile on either side of the four existing ROWs.

Sweet Grass Hills Implementation

The BLM would prepare an activity plan detailing the specific management of the area. The objectives of this plan would be to preserve the local values for Native American religious uses, wildlife and recreation. The BLM would pursue a protective withdrawal for the ACEC. This protective withdrawal would segregate the ACEC from all mineral entry. This would eliminate all future mining claim location, mineral leasing and mineral sales. Valid and existing rights would remain intact. The BLM would consult with Native American tribes prior to authorizing developments in the area. The BLM would apply the Rocky Mountain Front raptor guidelines in Appendix 2.9 to all new development on existing mineral leases within the management zone to protect state and federal sensitive species. These guidelines would also be used to mitigate impacts caused by new developments on valid, existing claims in the ACEC and management zone to prevent unnecessary and undue degradation. Allotment management plans in the ACEC would be revised to emphasize the maintenance and/or improvement of elk winter habitat. This may be accomplished through season-of-use modification, pasture modification, or temporary exclosures, etc.

The BLM would review and recommend revoking the Bureau of Reclamation withdrawal on the East Butte. A 529.67 acre parcel would be recommended for revocation and managed under the guidance for the ACEC. This parcel would be included in the protective withdrawal.

Cow Creek Implementation

The BLM would prepare an activity plan for the area. The plan would provide guidance to preserve scenic, interpretive, recreation and paleontological values in the Cow Creek area associated with the Nez Perce National Historic Trail. The BLM would coordinate this plan with the USFS since that agency has the lead responsibility for the management of the Nez Perce Trail. The BLM would reevaluate and adjust the visual management ratings in the area. These ratings would be used to determine whether any projects would impact the scenic quality and if so, what mitigating measures would be necessary prior to authorizing the project. The BLM would manage the area with a strong emphasis on riparian management. Existing allotment management plans would be revised to incorporate grazing management practices to improve riparian community conditions. Special emphasis would be given to measures to discourage or prevent livestock congregation along the bottoms. The BLM would protect paleontological sites within the ACEC from surface disturbance by other management activities while still allowing scientific use of this resource. Any future ROW grant would be based on valid, existing rights within the area. All such developments would be subject to strict visual and reclamation stipulations.

Upper Missouri National Wild and Scenic River Management

Bureau recreation management would emphasize the maximum preservation of the natural environment and cultural values of the UMNWSR Corridor. This management may be accomplished through public and private sector initiatives.

Implementation

Visitor Services

The BLM would redetermine user capacity based on the limits of acceptable change (see Appendix 2.10). This process would, with public input, identify how much environmental change would be acceptable. Management would keep the character and rate of change due to human factors within acceptable levels emphasizing the protection of the natural and cultural environment. Parameters considered during the review process would include but would not be limited to, vegetation change; the amount of bare ground near a campsite; bankside trails; sanitation problems; litter; and available firewood.

The Fort Benton Visitor Contact Station would be maintained and operated to provide visitors with permits and information on the river. The center would also provide interpretive information on the cultural and natural history of the area under the provisions of the MOU with the National Park Service (NPS). The ranger stations at Coal Banks and Judith Landing would provide permits and health and safety information to river users. All of these visitor service centers would be operated from the weekend before Memorial Day through Thanksgiving weekend.

Interpretive activities in the corridor would be in conjunction with the current Floater's Guide. No physical improvements or facilities would be provided for interpretation except at launch/take out points on the river. Information or interpretive signs, except hazard warnings visible from the river would be prohibited on all federal lands.

Islands would be closed to all uses. The islands would be set aside for wildlife habitat.

Facility Management

The BLM would continue to maintain the undeveloped campsites by clearing brush, a maximum of 1/4 acre, for campsite location and removing trash left at these areas.

The existing semi-developed sites would be maintained, unless use is impacting natural and cultural resources. If impacts cannot be mitigated the BLM would close those sites. Additional site development would occur only if impacts can be mitigated, old areas can be reclaimed and no crucial habitat or cultural resources are impacted. New capital improvements would only be allowed along major roads within the recreational sections and when a clear public need is identified. Developed sites would be restricted to the existing launch/take out sites in the recreational and scenic sections of the corridor. Development would be dependent on demonstrated need, economic feasibility and whether impacts can be mitigated.

The BLM would acquire the Montana Department of Fish, Wildlife and Parks campsites. These areas would be managed under the constraints listed above.

Concession Management

The BLM would not allow the development of major concession complexes on public land. The BLM would allow private sector initiatives in campground maintenance and development under the constraints discussed above in Facility Management. The BLM would permit outfitters, guides and boat rental within/upon the river. Outfitters would be restricted to 30% of the daily user capacity.

Health and Safety

The BLM would continue and may expand visitor services which provide for public health and safety. BLM would assume responsibility for law enforcement. The BLM would continue cooperative efforts for search and rescue.

ALTERNATIVE D
(The Preferred Alternative)

This alternative is a balance of the preceding alternatives. It balances the demands of resource development and the protection of sensitive areas and important resources. If selected, this alternative plus the guidance given in the Management Common To All Alternatives section would form the RMP.

Land Tenure Adjustment

The BLM would achieve a public land base which consolidates public holdings in areas containing high value resources. Under this alternative 15,664 acres would meet the disposal criteria given in FLPMA. These lands could be considered for disposal through FLPMA exchange or sale and/or the Recreation and Public Purposes Act. An additional 34,428 acres would be determined available for exchange only. These lands do not appear to meet FLPMA sale criteria but have resource values which may be managed in private ownership or moderate resource values which might be exchanged for higher resource values in the area. The BLM would pursue land acquisitions in areas under special management (UMNWSR, WSAs, ACECs, etc.) and in concentrated public land areas with high resource values. All land adjustment would be in compliance with the criteria listed in Appendix 1.1. The tracts available for disposal and exchange are listed in Appendix 1.1.

The State Director's Guidance on Land Pattern Review and Land Adjustment (USDI-BLM 1984) is being revised by this alternative for the planning unit only. The criteria presented in the State Director's Guidance has been refined and applied to the lands in the RAs. The criteria applicable to each resource area can be found in Appendix 1.1. As a result of evaluating the lands in the planning area against the criteria, the map presented in the State Director's Guidance no longer applies to the planning area; it is replaced by Map 3 in the back of this document.

Implementation

The BLM would use exchange as the primary means of achieving land adjustment. However, isolated lands that meet FLPMA sale criteria may be sold. Other circumstances might dictate the use of sale to achieve land adjustment.

The BLM would concentrate acquisition in (no priority intended) the Missouri and Marias River areas, Cow Creek, Sweet Grass Hills and Kevin Rim ACECs, the North Blaine antelope winter range and important wildlife habitat (including areas outside the planning area such as the Rocky Mountain Front). All acquisitions would depend on a willing seller.

A land report would be completed for each exchange.

Off-Road Vehicle Management

The BLM would provide for the public use of off-road vehicles while protecting the resource values and providing for public safety. The BLM would limit off-road vehicle use to designated roads and trails in the UMNWSR Corridor. Travel in WSAs would be limited to existing roads and vehicular ways. Travel would be limited to existing roads and trails in the Cow Creek, Kevin Rim and Sweet Grass Hills ACECs and in important riparian areas(129,912 acres). The BLM would limit off-road vehicles seasonally in the following areas: elk and deer crucial winter areas and calving/fawning areas; antelope crucial winter range; raptor nesting areas, grouse nesting areas and sedimentary breaks type soils (298,039 acres). Travel would be restricted to existing roads and trails during the wet period (April 1—November 1). These areas can be seen on Map 4 in the back of this document. The BLM may issue permits on a case-by-case basis for administrative vehicular use in these areas. The Gist Road between the cabins and the Missouri River would be closed to vehicular use (5 acres).

Implementation

The BLM would conduct an intensive road and trail inventory in the areas mentioned above. An ORV implementation plan would be written identifying designated roads and trails and planning for closure of unnecessary roads in limited areas of the UMNWSR Corridor. All implementation plans would contain details for signing and monitoring designated areas. Table 2.3 identifies seasonal restrictions which would apply to important wildlife areas.

The BLM would publish maps showing designated areas and the applicable restrictions. An area for intensive ORV use would be designated if the need arises based on the following criteria—

(1) the area would be at least 5 miles from an emphasis area;

(2) the area would be located in a Class IV VRM area. A Class IV area would allow a major modification of the landscape;

(3) the area would be considered a low quality hunting region;

(4) the area would be located on public land with a buffer of public land to reduce conflicts with private landowners;

(5) the area would have good public access or the capability for such access;

(6) the area would be located where mineral discovery and development are not likely;

(7) the area would avoid reservoirs, watersheds of important reservoirs, floodplains, stream channels, wetlands and riparian zones;

(8) the area would contain suitable topography and soil conditions to maximize ORV users enjoyment and reduce health and safety risks (i.e., steep, but not too steep, few surface rocks, non-flooding areas);

(9) these areas would be located 1/4 mile from raptor nest sites 1½ miles from known grouse leks; 1/2 mile from known bald eagle nests and 1 mile away from known peregrine falcon nests.

(10) these areas would be located outside of crucial big game winter ranges.

(11) these areas would be located in an undesirable area for livestock grazing i.e., steep slopes far from water.

(12) use of an area containing crucial wildlife range would be closed May 1—June 30.

Wilderness study areas designated as suitable for wilderness by Congress would be closed to all vehicular traffic at the time of designation. A portion of the Cow Creek WSA is currently recommended as preliminarily suitable for designation. WSAs which are not designated would be managed under adjoining ORV constraints, if any, applied to the area.

Permits could be issued for vehicular use in limited and closed areas for administrative purposes.

The BLM would acquire access to intensive use areas through exchange, easement or purchase.

Right-of-Way Location

The BLM would permit rights-of-way, provided the impacts can be mitigated. Areas under specific management prescriptions (ACECs, WSAs, etc.) or having important, sensitive resources would be avoidance areas. Nationally designated areas for natural or cultural resources (Wilderness Areas, etc.) would be exclusion areas. Corridors would be established 1/2 mile either side of existing major facilities. These corridors would be the preferred location for new rights-of-way (see Map 4 in the back of this document). Communication sites would be excluded from the West Butte of the Sweet Grass Hills.

Implementation

The Wild sections of the UMNWSR would be exclusion areas for ROW siting.

The Scenic and Recreational sections of the UMNWSR would be avoidance areas. Table 2.4 lists the windows for ROW siting through these sections. New facilities would only be permitted in these segments if the natural, physical and cultural qualities of the corridor could be maintained.

The Kevin Rim ACEC would be an avoidance area for ROWs. Four windows for ROW siting would be established (see Map Figure 2.2). No future ROWs could be sited outside these corridors unless the raptor habitat can be maintained or restored.

Cow Creek and the Sweet Grass Hills ACECs, WSAs, riparian and wetland areas which meet the definition of wetland and areas of sedimentary breaks soils would be avoidance areas. Future ROW siting would only be permitted if impacts in these areas could be completely mitigated.

Communication site location would be encouraged at existing sites but may be permitted elsewhere in the planning area, provided impacts are mitigated. No communication sites would be permitted on the West Butte in the Sweet Grass Hills.

Emphasis Areas

The BLM would provide maximum protection of the significant and relevant resources in the Kevin Rim, Sweet Grass Hills, and Cow Creek areas (see Figures 2.2, 2.3, 2.4). These three areas would be designated ACECs and managed under the following direction. A management zone would be designated around the Kevin Rim and Sweet Grass Hills to ensure that development of federal minerals under private and state surface will be regulated, where authority exists, to follow the same guidelines implemented on the ACEC. The Kevin Rim would be designated and managed to protect, maintain and/or enhance the peregrine falcon habitat, other sensitive raptor habitat, cultural resources and provide for the continued oil and gas development. The Sweet Grass Hills would be designated to provide for Native American religious and cultural practices, public recreation and wildlife habitat. The Cow Creek area would be designated to protect, maintain and/or enhance the Nez Perce Trail, Cow Island Trail, and other resources.

Kevin Rim Implementation

The BLM would use the following guidance to prepare an activity plan detailing specific management of the area. The Rocky Mountain Front raptor guidelines in Appendix 2.9 would be used to determine buffer zones and timing windows for activities in the area. These guidelines would be applied to any new activity which threatens to disrupt the nesting and rearing cycles of state or federal sensitive raptor species using the rim. These guidelines would be issued as standard stipulations to all new oil and gas leases in the area. In addition, BLM would use the guidelines to develop stipulations for new development on existing oil and gas leases. These guidelines would also be applied to federal mineral development within the management zone.

The BLM would inventory the Kevin Rim area for cultural resources. Based upon this survey and/or additional surveys the BLM would not authorize projects within 1/4 mile of the escarpment unless impacts to the cultural resources could be mitigated.

BLM would encourage ROW off the west side of Kevin Rim. The BLM would authorize new ROWs off the escarpment (east side) along the four established ROW corridors (see Figure 2.2). The BLM would establish a ROW corridor 1/2 mile on either side of existing ROWs.

Sweet Grass Hills Implementation

The BLM would use the following guidance to prepare an activity plan detailing the specific management of the area. The area would remain open to mineral entry. Guidelines would be developed in the activity plan to attempt to resolve future conflicts between Native American religious concerns. The BLM would consult with Native American tribes prior to authorizing disturbance in the area. The BLM would apply the raptor guidelines in Appendix 2.9 to all new mineral leases and to new development on existing mineral leases within the ACEC and management zone to protect state and federal sensitive species. Allotment management plans in the ACEC would be revised to emphasize the maintenance and/or improvement of elk winter habitat. This may be accomplished through season of use modification, pasture modification, temporary exclosures, etc.

The BLM would review and recommend revoking the Bureau of Reclamation withdrawal on 529.67 acres on the East Butte. This parcel would then be managed under the guidance for the ACEC.

Cow Creek Implementation

The BLM would use the following guidance to prepare an activity plan for the area. The plan would provide guidance to preserve scenic, interpretive, recreation and paleontological values in the Cow Creek area associated with the Nez Perce National Historic Trail.

The BLM would coordinate this plan with the USFS since that agency has the lead responsibility for the management of the Nez Perce Trail.

The BLM would reevaluate and adjust the visual management ratings in the area. These ratings would be used to determine whether any projects would impact the scenic quality and if so, what mitigating measures would be necessary prior to authorizing the project. The BLM would manage the area with a strong emphasis on riparian management. Existing allotment management plans would be revised to incorporate grazing management practices to improve riparian community conditions. Special emphasis would be given to measures to discourage or prevent livestock congregation along the bottoms. The BLM would protect paleontological sites within the ACEC from surface disturbance by other management activities. Scientific use of the resource would be allowed. Any future ROW grant would be based on valid, existing rights within the corridor. All such developments would be subject to strict visual and reclamation stipulations.

Upper Missouri National Wild and Scenic River Management

The BLM would provide recreational opportunities and visitor services consistent with the Wild and Scenic Rivers Act. Future developments would also mitigate impacts to natural and cultural resources. Mitigation measures would be determined after a site specific evaluation. Impacts not mitigated would not necessarily curtail development which is consistent with the Wild and Scenic Rivers Act.

Implementation

Visitor Services

The BLM would redetermine user capacity based on the limits of acceptable change (see Appendix 2.10). This process would, with public input, identify how much environmental change would be acceptable. Management would keep the character and rate of change due to human factors within acceptable levels. Parameters to be considered during the review process would include but would not be limited to, vegetation change; amount of bare ground near a campsite; bankside trails; sanitation problems; litter; and available firewood.

The Fort Benton Visitor Contact Station would be maintained and operated to provide visitors with permits and information on the river. The center would also provide interpretive information on the cultural and natural history of the area under the provisions of the MOU with the NPS. The ranger stations at Coal Banks and Judith Landing would provide permits and health and safety information to river users. All of these visitor service centers would be operated from Memorial Day through Thanksgiving weekend.

Areas would be developed for self guided interpretive study. These sites would be significant areas of geological, historical, cultural, paleontological value or natural areas. These developments may include interpretive signs and displays. Current sites which would be developed are Stafford Ferry, Cow Creek, Evans Bend, Steamboat Point, Little Sandy, and Hole-In-The-Wall. Other sites may be developed if there is substantial public use or where BLM acquires important new lands or major new resource discoveries are made.

Recreational and livestock use of islands would not be permitted during deer fawning and waterfowl brood rearing times. Islands would be closed to use from April 1—May 15.

Facility Management

The BLM would continue to maintain the undeveloped campsites by clearing brush (maximum 1/4 acre) for campsite location and removing the trash left at these areas. All undeveloped sites in the recreational and scenic sections of the river would be signed. All sites would be shown on user maps. Undeveloped sites may be upgraded to semi-developed sites in scenic and recreational sections if the following criteria are met—

(1) increasing use of the river or of undeveloped campsites;

(2) impacts to soil and vegetation become long term; i.e., heavy use begin to compact soils and kill vegetation as determined by monitoring;

(3) sanitation becomes a health problem;

(4) additional sites are needed to rest existing campsites;

(5) better distribution of campsites is needed.

The BLM would maintain all semi-developed sites. New sites would be developed when the above criteria are met. New capital improvements would be allowed if impacts could be mitigated. Improvements in the wild section would be allowed if the developments can be serviced by existing roads or by river. All improvements would comply with the Wild and Scenic Rivers Act.

The BLM would restrict developed sites to the recreation segments of the river. Such sites would only be established after a need and economic feasibility report has been concluded the site is in the best interest of the public.

The BLM would continue to manage state campsites under the Memorandum of Understanding with State of Montana. These sites would be managed under BLM management guidance for the river as presented in this RMP.

Concession Management

Major concession developments would be restricted to the recreational segments of the river and would be subject to the constraints addressed in the Facility Management discussion above.

The BLM would allow private sector initiatives in campground maintenance and development under the constraints listed above. The BLM would permit outfitters, guides and boat rental within/upon the river. Outfitters would be restricted to 30% of the daily user capacity.

Health and Safety

The BLM would continue and may expand visitor services operations to provide for public health, safety and law enforcement. Search and rescue operations and law enforcement would continue as a cooperative effort with local and state agencies.

BUDGET ASSUMPTIONS

The decisions outlined in the RMP will be implemented over a period of 10 to 15 years, depending on budget and staff availability. The current funding level would be adequate to implement the No Action Alternative. Alternative B would require a 3 to 5% increase and Alternatives C and D would require increases between 5 and 10%.

However, the existing funding levels will probably decrease over the life of the plan. This is based on the trend over the last 3 years when funding levels declined an average of 6% a year. The difference between the required funding level and the probable decline in the budget would affect time and implementation of management actions and project proposals but would not affect resource allocations made under this RMP.

MONITORING AND EVALUATION

The decisions outlined in the RMP will be implemented over a period of 10 years or more, depending on budget and staff availability. The effects of implementation as seen through resource monitoring will be evaluated on a periodic basis over the life of the plan. The general purposes of this resource monitoring and plan evaluation will be—

(1) to determine if an action is fulfilling the purpose and need for which it was designed, or if there is a need for modification or termination of an action;

(2) to discover unanticipated and/or unpredictable effects;

(3) to determine if mitigative measures are effective as prescribed;

(4) to ensure that decisions are being implemented as scheduled;

(5) to provide continuing evaluation of consistency with state and local plans and programs; and

(6) to provide for continuing comparison of plan benefits versus costs including social, economic, and environmental.

A specific monitoring plan was prepared (1984) for the wildlife, watershed and grazing management programs in each of the four resource areas included in the RMP area. These monitoring plans will be used to monitor the implementation of specific management guidance and actions which effect wildlife, watershed and grazing management.

Wildlife Resources

Monitoring is directed at the biotic resource components using both temporary and permanent studies. The results of these studies can be used to determine responses in habitat condition and trend; food availability, composition, and vigor; changes in cover and habitat effectiveness; and habitat management objectives.

Some of the methodologies available include: canopy cover transects, browse transects, woody riparian survey and photo plots, habitat condition ratings, color infrared aerial photography, fish, bird and mammal species composition and population surveys, waterfowl population dynamics, raptor use and mortality of powerlines, and selected threatened and endangered species inventories.

Watershed Resources

Monitoring the impacts of management activities on watershed condition is done in the following ways; ground cover will be measured to assess erosion and sedimentation potential; runoff, sediment production, water quality and water quantity will be measured at stream gauging stations, runoff plots at selected reservoirs; streambank stability and riparian communities will be monitored at selected sites and demonstration units will be established to exhibit the affects of management on riparian communities; and observation wells will be monitored for groundwater level and quality. Climatic data (precipitation, air temperature, soil moisture and soil temperature) will be collected and used in evaluation along with other monitoring data.

Grazing Management

The grazing management plans provide a framework for choosing the study methods that will provide the information needed to issue and implement specific management decisions which effect watershed, wildlife and grazing management. Monitoring efforts will focus on allotments in the I category. Methodologies are available for monitoring vegetative trend, forage utilization, actual use (livestock numbers and periods of grazing) and climate. The data collected from these studies will be used to evaluate current stocking rates, to schedule livestock moves from pasture to pasture, to determine levels of forage competition, to detect changes in plant communities and to identify patterns of forage use. Some of the methodologies to be used include Daubenmire canopy transects, photo plots, key forage plant utilization transects, aerial and ground reconnaissance of animal numbers and grazing patterns, actual use questionnaires and low altitude aerial photography transects.

Priorities for monitoring grazing allotments are established in these plans. The methodology and intensity of study chosen for a particular allotment will be determined by the nature and severity of the resource conflicts present in that allotment.

COMPARISON OF ALTERNATIVES

Table 2.5 presents a summary of resource allocations and management actions to resolve the issues as they would occur under each alternative. Table 2.6 summarizes the moderate and significant environmental consequences by issue for each alternative. For additional information on environmental consequences refer to Chapter 4, Environmental Consequences.

TABLE 2.5 WEST HILINE ALTERNATIVE SUMMARY TABLE

	ALTERNATIVES			
	A (No Action)	B	C	D (Preferred)
LAND TENURE	BLM would attain a land pattern conducive to ease of management. Land adjustment would be by land exchange or purchase under the State Director's Guidance on Land Pattern Review and Land Adjustment. 44,143 acres would be available for land adjustment by exchange or R&PP. Acquisitions would be concentrated in retention areas.	A more manageable land pattern would be attained through disposal by exchange, R&PP sale, or sale. 50,092 acres appear to meet FLPMA criteria for land adjustment through exchange, sale and R&PP sale. Acquisitions would be concentrated in areas with large federal holdings.	BLM would retain the majority of the public lands. 15,664 acres would be available for land adjustment through exchange, R&PP sale or sale. Acquisitions would be concentrated in special management and high value resource areas.	BLM land adjustment actions would consolidate high value resource lands. 15,664 acres appear to meet FLPMA criteria for land adjustment through exchange, R&PP sale or sale; 34,428 acres meet criteria for land adjustment by exchange for lands with higher resource values. Acquisition would be concentrated in special management and high value resource areas.
IMPLEMENTATION	Land adjustment would be by exchange. Acquisitions will be concentrated in UMNWSR Corridor, North Blaine County, and the Sweet Grass Hills.	Land adjustment would be achieved primarily by exchange for lands of equal or better values. Acquisition would be concentrated in the Sweet Grass Hills, Kevin Rim, Marias River, UMNWSR Corridor and Cow Creek.	Exchange would be the preferred method to achieve land adjustment for lands of equal or greater resource values. Acquisitions would be concentrated in UMNWSR, Kevin Rim, Sweet Grass Hills, Cow Creek, Marias River, North Blaine County and important wildlife habitat areas.	Exchange would be the preferred method of achieving land adjustment. Acquisitions would be concentrated in UMNWSR, Kevin Rim, Sweet Grass Hills, Cow Creek, Marias River, North Blaine County, important wildlife habitat and other areas within or outside the planning area.
ACREAGE AVAILABLE				
Land Adjustment (exchange preferred)		50,092 acres	15,664 acres	15,664 acres
Exchange Only	44,143 acres			34,428 acres

OFF-ROAD VEHICLE MANAGEMENT	Wilderness Study Areas and sedimentary breaks soils with greater than 30% slopes would be designated "limited" for ORV use.	The BLM would maximize ORV use. WSAs would be designated "limited" areas.	Limited yearlong restrictions would apply to WSAs, ACECs, UMNWSR, sedimentary break soil areas and riparian areas; seasonal restrictions would apply in important wildlife areas. The Gist Road would be designated "closed" from the cabins to the river.	Limited yearlong restrictions would apply to WSAs, ACECs, UMNWSR, and riparian areas. Seasonal restrictions would apply in sedimentary breaks soil areas and important wildlife areas. The Gist Road would be designated "closed" from the cabins to the river.
IMPLEMENTATION	Publish ORV map and sign area.	Publish ORV map and sign WSAs. Designate and manage an intensive ORV use area of about 640 acres using criteria in the document.	Inventory road trails in above areas, publish map of road restrictions for each area. Sign areas.	Inventory road trails in above areas, publish map of road restrictions for each area. Sign areas. An intensive ORV use area of about 640 acres may be designated based on public demand.
ACREAGE DESIGNATED				
Open	477,763	594,098	197,462	198,142
Limited				
Yearlong	148,335	32,000	329,636	129,912
Seasonal	0	0	99,000	298,039
Closed	0	0	5	5

TABLE 2.5 WEST HILINE ALTERNATIVE SUMMARY TABLE (Cont.)

ALTERNATIVES	A (No Action)	B	C	D (Preferred)
RIGHT-OF-WAY LOCATION				
	The planning area would remain open to lineal ROW and communication site location.	The BLM would permit lineal ROWs outside the Upper Missouri National Wild and Scenic River Corridor. Windows would be provided through the UMNWSR corridor.	The BLM would protect important natural and cultural resources by designating WSAs, ACECs, riparian areas and areas of sedimentary soils as avoidance areas. The UMNWSR and the Kevin Rim would be exclusion areas. Windows would be provided through these areas. Communication sites would be excluded from West and Middle Butte of the Sweet Grass Hills.	The BLM would permit ROWs if impacts could be mitigated. Corridors would be established along existing major facilities. The following areas would be avoidance areas for ROWs: scenic and recreational segments UMNWSR; ACECs; WSAs; riparian areas and sedimentary breaks areas. The wild sections of UMNWSR would be exclusion areas. No communication sites would be located on West Butte.
	BLM would perform environmental review and stipulate necessary mitigating measures prior to authorization.	BLM would perform environmental review of ROW location projects. Projects must be able to be mitigated prior to permit.	BLM would attempt to route ROWs along existing corridors, if a location is in an avoidance area the environmental analysis must show the disturbance can be fully mitigated.	BLM would attempt to route ROWs along existing corridors. If a ROW must be located in an avoidance area the environmental analysis must show the disturbance can be mitigated.
ACREAGE DESIGNATED				
Open	626,098	537,945	420,501	421,181
Avoidance	0	88,153	112,629	141,560
Exclusion	0	0	92,968	63,357
EMPHASIS AREAS				
	BLM would continue to manage the Kevin Rim, Sweet Grass Hills and Cow Creek areas under current guidance.	BLM would continue to manage the Kevin Rim, Sweet Grass Hills and Cow Creek areas under current guidance.	BLM would provide maximum protection to resources in Kevin Rim, Sweet Grass Hills and Cow Creek. The three areas would be designated ACECs. Federal minerals under private and state surface surrounding Kevin Rim and Sweet Grass Hills would be designated as a management zone.	BLM would provide maximum protection to resources in Kevin Rim, Sweet Grass Hills and Cow Creek. The three areas would be designated ACECs. Federal minerals under private and state surface surrounding Kevin Rim and Sweet Grass Hills would be designated as a management zone.
IMPLEMENTATION				
KEVIN RIM				
	Kevin Rim would not be designated as an ACEC. Standard oil and gas stipulations would be applied to exploration and development activities.	Kevin Rim would not be designated as an ACEC. Standard oil and gas stipulations would be applied to exploration and development activities.	Public surface would be designated as an ACEC. A management zone (private surface/federal minerals) would be designated, surrounding the ACEC. Raptor guidelines included in Appendix 2.8 would be applied as stipulations within the ACEC and the management zone. BLM would not authorize unmitigated surface disturbance activities within 1/4 mile of the rim to protect cultural resources. ROWs would be restricted to corridors.	Public surface would be designated as an ACEC. A management zone (private surface/federal minerals) would be designated, surrounding the ACEC. Raptor guidelines included in Appendix 2.8 would be applied as stipulations within the ACEC and the management zone. BLM would not authorize unmitigated surface disturbance activities within 1/4 mile of the rim to protect cultural resources. ROWs would be restricted to corridors.
ACEC Acreage			4,815 acres	4,815 acres
Management Zone Acreage			4,361 acres	4,361 acres

TABLE 2.5 WEST HILINE ALTERNATIVE SUMMARY TABLE (Cont.)

EMPHASIS AREAS (Cont.)

ALTERNATIVES A (No Action)	B	C	D (Preferred)
SWEET GRASS HILLS			
The Sweet Grass Hills would not be designated as an ACEC. Current uses would continue under present guidance.	The Sweet Grass Hills would not be designated as an ACEC. Current uses would continue under present guidance.	The public lands on all three buttes (East, West and Middle) of the Sweet Grass Hills would be designated as ACECs. A management zone, surrounding the ACEC (private surface/federal minerals) would be designated.	The public lands on East and West Butte of the Sweet Grass Hills would be designated as ACECs. A management zone, surrounding the ACEC (private surface/federal minerals), would be designated.
A 1/4 mile buffer zone would be established around active raptor nests (standard stipulation).	A 1/4 mile buffer zone would be established around active raptor nests (standard stipulation).	Raptor guidelines included in Appendix 2.8 would be applied as stipulations within the ACEC and the management zone.	Raptor guidelines included in Appendix 2.8 would be applied as stipulations within the ACEC and the management zone.
Existing allotment management plans (AMPs) would continue to be implemented.	Existing allotment management plans (AMPs) would continue to be implemented.	An activity plan would be developed to attempt to resolve conflicts Native American religious concerns and future developments and to emphasize the maintenance of elk winter habitat.	An activity plan would be developed to attempt to resolve conflicts Native American religious concerns and future developments and to emphasize the maintenance of elk winter habitat.
The area would remain open to mineral entry.	The area would remain open to mineral entry.	The ACEC would be segregated from mineral entry by a protective withdrawal.	The area would remain open to mineral entry.
ACEC Acreage		7,636	6,957
Management Zone Acreage		18,179	17,499
COW CREEK			
A management plan would be written in cooperation with USFS to manage the Nez Perce Historic Trail. Allotment management plans may be modified to incorporate riparian objectives.	A management plan would be written in cooperation with USFS to manage the Nez Perce Historic Trail. Allotment management plans may be modified to incorporate riparian objectives.	The BLM would prepare a coordinated activity plan with an emphasis on managing the Nez Perce Trail, the riparian areas and the visual resources. The plan would be coordinated with USFS on the management of the Nez Perce Trail.	The BLM would prepare a coordinated activity plan with an emphasis on managing the Nez Perce Trail, the riparian areas and the visual resources. The plan would be coordinated with USFS on the management of the Nez Perce Trail.
ACEC Acreage		14,000 acres	14,000 acres

TABLE 2.5 WEST HILINE ALTERNATIVE SUMMARY TABLE (Cont.)

ALTERNATIVES			
A (No Action)	B	C	D (Preferred)
BLM would continue to provide recreation opportunities consistent with the Wild and Scenic Rivers Act (PL 90-542) and amendment (PL 94-486).	Recreation opportunities in all segments within the corridor would be maximized through an emphasis on private sector initiative. Management would be consistent with the Wild and Scenic Rivers Act (PL 90-542) and amendment (PL 94-486).	BLM management and private sector initiatives would emphasize the maximum preservation of the natural and cultural values of the corridor. Management would be consistent with the Wild and Scenic Rivers Act (PL 90-542) and amendment (PL 94-486).	BLM would provide recreation opportunities and visitor services consistent with the Wild and Scenic River Act (PL 90-542) and amendment (PL 94-486) with an emphasis on mitigating impacts to natural and cultural resources disturbed by future development.
IMPLEMENTATION			
VISITOR SERVICES			
Floater use capacity would remain the same.	Floater capacity limits would be eliminated.	Floater use capacity would be redetermined based on "limits of acceptable change" given in Appendix 2.9.	Floater use capacity would be redetermined based on "limits of acceptable change" given in Appendix 2.9.
The visitor contact center at Fort Benton and ranger stations at Coal Banks and Judith Landing would operate from Memorial Day to Labor Day.	The visitor contact center at Fort Benton and ranger stations at Coal Banks and Judith Landing would operate from Memorial Day through Thanksgiving.	The visitor contact center at Fort Benton and ranger stations at Coal Banks and Judith Landing would operate from Memorial Day through Thanksgiving.	The visitor contact center at Fort Benton and ranger stations at Coal Banks and Judith Landing would operate from Memorial Day through Thanksgiving.
Interpretive facilities and sites would be self-guided and keyed to the Floater's Guide.	Interpretive trails and sites would be developed historical, archaeological, paleontological and natural areas.	Interpretive activities would be keyed to the "Floater's Guide". restricted to launch/takeout points.	Areas would be developed for self-guided interpretive study. Interpretive sites may include signs and displays.
Recreational use of islands would be discouraged.	Islands would be available for recreational uses.	Islands would be closed to all uses.	Islands would be closed to recreational uses April 1 - May 15.
FACILITY MANAGEMENT			
BLM would maintain undeveloped sites. Additional semi-developed sites would be allowed based on specific criteria in the document. Developed sites would be allowed at major launch and takeout in the recreational sections.	Undeveloped sites would be maintained and upgraded to semi-developed sites over the life of the plan. Additional semi-developed sites may be developed in all sections of the river in accordance with criteria listed. Developed sites would be allowed in the scenic and recreational segments of the river corridor.	BLM would maintain or relocate existing undeveloped and semi-developed sites. Additional sites may be developed only if impacts can be mitigated. Capital improvements would be restricted to the recreational sections. Developed sites would be restricted to launch and take-out sites in the recreational and scenic sections.	BLM would maintain undeveloped sites and may upgrade these sites if they meet criteria in the document. New semi-developed sites may be allowed if they meet the criteria and impacts can be mitigated. Developed sites would be restricted to the recreational sections of the river.
BLM would continue management of state recreation sites under MOU with MDFWP.	BLM would not manage state recreation sites.	BLM would acquire the state recreation sites.	BLM would continue management of state recreation sites under MOU with MDFWP.
CONCESSION MANAGEMENT			
Concession services would be limited to outfitting and boat rental.	A full range of concession services would be encouraged, ranging from campgrounds to marinas.	Major concession services would not be allowed on public lands. Concession services such as outfitting, boat rental, and campground/maintenance would be allowed.	Major concession services would be allowed in recreational segments on public lands. Other concession services such as outfitting, boat rental, and campground/maintenance would be allowed.
All concession services would be managed under the guidance in the RMP.	All concession services would be managed under the guidance in the RMP.	All concession services would be managed under the guidance in the RMP.	All concession services would be managed under the guidance in the RMP.
HEALTH AND SAFETY			
BLM would continue to cooperate with state and local authorities responsible for search and rescue and law enforcement operations.	Law enforcement would be contracted to local sheriffs departments. Search and rescue operations would be the responsibility of local authorities.	BLM would assume responsibility for law enforcement. BLM would continue coordination with local authorities responsible for search and rescue.	BLM would continue the cooperative efforts and may expand its role in law enforcement and search and rescue operations.

TABLE 2.6 SUMMARY IMPACTS TABLE

	Alternative A	Alternative B	Alternative C	Alternative D
LAND TENURE ADJUSTMENT				
Minerals	Locally significant impacts, negative or positive, to development of locatable and salable minerals could result from specific land tenure adjustment proposals.	Same as "A"	Same as "A"	Same as "A"
	If land adjustments result in a net gain of federal minerals managed under surface constraints more stringent than standard stipulations, it could result in locally moderate negative impacts to the minerals industry.	Same as "A"	Same as "A"	Same as "A"
			If lands with both surface and subsurface rights are obtained, in the Sweet Grass Hills, a protective withdrawal would be pursued. This would be a locally significant, long-term negative impact to mineral development in the area.	
Vegetation	Disposal of 44,143 acres could result in a moderate negative impact if these lands were farmed, thereby destroying native vegetation.	Disposal of 50,092 acres could result in a moderate negative impact if these lands were farmed, thereby destroying native vegetation.	Disposal of 15,664 acres could result in a moderate negative impact if these lands were farmed, thereby destroying native vegetation.	Same as "B"
Wildlife and Fisheries	The loss of 5,740 acres of crucial big game and upland game habitat would be a moderate negative impact.	The loss of 9,885 acres of crucial big game and upland game habitat would be a moderate negative impact.	The loss of 625 acres of crucial big game and upland game habitat would be a moderate negative impact.	Same as "B"
	Acquisitions of crucial value wildlife areas would produce moderate positive impacts.	Same as "A"	Same as "A"	Same as "A"
Grazing	There could be a moderate positive impact to management opportunities if private land is acquired in areas of predominately public land. A total of 44,143 acres could be exchanged.	There could be a moderate positive impact to management opportunities if private land is acquired in areas of predominately public land. A total of 50,092 acres could be exchanged.	There could be a moderate positive impact to management opportunities if private land is acquired in areas of predominately public land. A total of 15,664 acres could be exchanged.	Same as "B"
		If these 50,092 acres were sold there would be a moderate decrease in grazing management opportunities.	If 15,664 acres were sold there would be a moderate decrease in grazing management opportunities.	Same as "C"
Recreation	Land adjustments could provide significant positive impacts because of increased public access and consolidated public lands.	Same as "A"	Same as "A"	Same as "A"

TABLE 2.6 SUMMARY IMPACTS TABLE (Continued)

	Alternative A	Alternative B	Alternative C	Alternative D
OFF-ROAD VEHICLE MANAGEMENT				
Soils	Erosion from vehicle use of roads and trails on 148,335 acres within the limited ORV use area would produce locally significant negative impacts. Erosion and soil compaction on 168,855 acres of sedimentary soils open to ORV use would produce locally significant negative impacts.	Erosion from vehicle use of roads and trails on 32,000 acres within the limited ORV use area would produce locally significant negative impacts. Erosion and soil compaction on 285,190 acres of sedimentary soils open to ORV use would produce locally significant negative impacts.	Erosion from vehicle use of roads and trails on 317,190 acres within the limited ORV use area would produce locally significant negative impacts.	Same as "C" There could be locally significant impacts from ORV use on 199,034 acres when seasonal restrictions don't apply.
Water	Locally significant negative impacts to water quality could result from the runoff from 148,335 acres where ORV use is limited. Locally significant negative impacts to water quality could result from the runoff from 168,855 acres of sedimentary breaks soils open to ORV use.	Locally significant negative impacts to water quality could result from the runoff from 32,000 acres where ORV use is limited. Locally significant negative impacts to water quality could result from the runoff from 285,190 acres of sedimentary breaks soils open to ORV use.	Locally significant negative impacts to water quality could result from the runoff from 317,190 acres where ORV use is limited.	Same as "C" There could be locally significant impacts from ORV use on 199,034 acres when seasonal restrictions don't apply.
Vegetation	ORV impacts to vegetation could be locally significant in areas receiving concentrated ORV use.		Moderate benefits would result because of greater restrictions on ORV use would protect vegetation.	Same as "C"
Wildlife and Fisheries		Moderate impacts to wildlife would result from habitat deterioration and stress from social intolerance in the sedimentary breaks soil areas (Missouri Breaks).		Moderate positive benefits would occur from seasonal protection of crucial wildlife habitat.
Cultural	The potential exists for locally moderate long-term impacts through the loss of cultural sites.	Same as "A"	Same as "A"	Same as "A"

TABLE 2.6 SUMMARY IMPACTS TABLE (Continued)

	Alternative A	Alternative B	Alternative C	Alternative D
RIGHT-OF-WAY LOCATION				
Soil	Locally significant negative erosion impacts would occur on 100,000 acres of sedimentary soils with slopes greater than 25%.	Locally significant negative erosion impacts would occur on 72,000 acres of sedimentary soils with slopes greater than 25%.	Locally significant impacts could occur with ROW location through the windows in the UMNWSR and associated disturbance in sedimentary breaks soil types.	Same as "C"
Water	Locally significant negative impacts to water quality could result from the runoff from 100,000 acres of sedimentary soils with slopes greater than 25%.	Locally significant negative impacts to water quality could result from the runoff from 72,000 acres of sedimentary soils with slopes greater than 25%.	Locally significant impacts could occur with ROW location through the windows in the UMNWSR and associated disturbance in sedimentary breaks soil types.	Same as "C"
Minerals	Leaving the planning area open to ROW location would result in a moderate positive impact to the minerals industry by allowing mineral companies to select the most cost effective route.		Requiring the minerals industry to locate pipelines around designated ROW avoidance areas would be a moderate negative impact.	Same as "C"
Vegetation			Moderate beneficial impacts would occur because ROWs would be excluded in several areas and avoided in several others.	
EMPHASIS AREAS				
Soil	ALL AREAS - Locally significant long-term impacts would continue around oil and gas exploration and development sites. Soil compaction, soil excavation and drilling pollutants reduce soil productivity and increase soil erosion.	Same as "A"	COW CREEK - Intensive management of riparian areas would produce locally significant positive impacts to the soils in those areas.	Same as "C"
Water	KEVIN RIM, SWEET GRASS HILLS - Locally significant impacts would continue around oil and gas exploration and development sites. The runoff from excavation work, roads, pipelines and drilling pollutants would decrease water quality.	Same as "A"	COW CREEK - Intensive management of riparian areas would produce locally moderate positive impacts to streambank stability and water quality.	Same as "C"
Minerals		Same as "A"	KEVIN RIM - The Kevin Rim protection stipulations would result in significant negative impacts to the minerals industry by increasing costs due to delays. SWEET GRASS HILLS - The protective withdrawal on the Sweet Grass Hills could result in a significant negative impact due to drainage of federal oil and gas by producing fee and state wells on adjacent lands.	Same as "C"

TABLE 2.6 SUMMARY IMPACTS TABLE (Continued)

	Alternative A	Alternative B	Alternative C	Alternative D
	SWEET GRASS HILLS - Opening the BR withdrawal on East Butte to mineral entry would produce a significant positive impact for the minerals industry.	Same as "A"	SWEET GRASS HILLS - Placing the BR lands under protective withdrawal would be significant negative impact to the minerals industry. Exploration to assess mineral development potential and mining to extract economic deposits would not be allowed since there are no valid existing rights in the BR withdrawal. SWEET GRASS HILLS - Withdrawal of the Sweetgrass Hills ACEC would be a moderate negative impact to the minerals industry. While valid existing rights could continue there are unclaimed areas, potentially valuable, that would be eliminated from future exploration or development.	Same as "A"
	SWEET GRASS HILLS - A moderate negative impact to exploration and development of locatable minerals in Sweet Grass Hills could occur from conflicts with Native American religious practices.	Same as "A"	Same as "A"	Same as "A"
Vegetation	SWEET GRASS HILLS - Major hardrock mining development could produce locally significant negative impacts to vegetation communities.	Same as "A"	SWEET GRASS HILLS - Major hardrock mining developments on valid, existing claims could produce locally significant negative impacts to vegetation communities. COW CREEK - Intensive management of riparian areas would produce locally significant positive impacts to vegetation.	Same as "A" Same as "C"
Wildlife and Fisheries	KEVIN RIM - Surface disturbing activities could significantly disrupt raptor breeding and nesting activities, which may end in nest or territory abandonment.	Same as "A"	KEVIN RIM - Restrictions on mineral leases and land use authorizations would produce locally significant positive impacts to raptors. SWEET GRASS HILLS - Modifications in grazing management and raptor stipulations would produce locally significant positive impacts for elk and raptors. COW CREEK - Intensive management of riparian areas would produce locally significant wildlife habitat improvements.	Same as "C" Same as "C" Same as "C"
	SWEET GRASS HILLS - A large open pit hardrock mining operation could significantly reduce big game habitat.	Same as "A"	SWEET GRASS HILLS - Large open pit hardrock mining operations on valid, existing claims could significantly reduce big game habitat.	Same as "A"

TABLE 2.6 SUMMARY IMPACTS TABLE (Continued)

	Alternative A	Alternative B	Alternative C	Alternative D
EMPHASIS AREAS				
Cultural	A moderate negative impact could occur to cultural resources from unmitigatable oil and gas development.	Same as "A"	KEVIN RIM - The stipulations along the Kevin Rim escarpment would produce a moderate positive impact for cultural resources.	KEVIN RIM - The stipulations along the Kevin Rim escarpment would produce a moderate positive impact for cultural resources.
	SWEET GRASS HILLS - Moderate impacts to Native American religious sites would occur from mineral and other developments in the Sweet Grass Hills.	Same as "A"	SWEET GRASS HILLS - The reduction of mining activity and greater emphasis on resource management could produce a moderate positive impact for cultural resources.	SWEET GRASS HILLS - Continued mining would produce significant negative impacts to cultural resources.
			COW CREEK - More stringent development standards would produce significant positive impacts for cultural resources.	Same as "C"
Recreation			COW CREEK - A moderate positive impact would occur because visual and natural qualities would be enhanced and protected.	Same as "C"
Social and Economics	SWEET GRASS HILLS - This alternative could cause a significant change in the solitude and undisturbed environment of the area for Native Americans who use it for religious purposes.	Same as "A"	SWEET GRASS HILLS - This alternative could cause a moderate change in the solitude and undisturbed environment in the area of valid, existing mining claims. This would impact Native Americans using the area for religious purposes.	Same as "C"
UPPER MISSOURI NATIONAL WILD AND SCENIC RIVER				
Soil		Increased human traffic at recreation facilities along the UMNWSR would reduce streambank stability and cause soil compaction. This would be a localized moderate impact.		
Minerals	Drainage of federal minerals by future private and state wells adjacent to BLM lands could be a significant negative impact.	Same as "A"	Same as "A"	Same as "A"
Vegetation	Locally significant impacts could occur because of increased soil compaction, erosion, and trampling with a large increase in visitor use.	Same as "A"		
Cultural			Moderate positive impacts would occur due to increased public awareness of cultural values through increased development of interpretive sites. Moderate positive impacts would result because facility development would be foregone if cultural resources impairment could not be mitigated.	Same as "C"

INTRODUCTION

Chapter 3 contains a description of the resources and socioeconomic conditions found in the planning area. Much of this information is summarized from the Management Situation Analysis document on file in the Lewistown District Office and the Havre and Great Falls Resource Area Offices.

The Emphasis Area section includes information on all resources significant to the particular emphasis area. This will enable the reader to gather a full description of resources pertaining to an emphasis area in one section.

CLIMATE

The planning area lies within portions of the Great Plains and the Northern Rocky Mountain physiographic provinces. The climate is dry continental with short summers and long winters. Average July temperatures range from 65-70 degrees Farenheit (°F.) and January temperatures vary from 11 to minus 15°F. The growing season lasts 116-151 days. Precipitation ranges from 10-14 inches, except over portions of the Bear's Paw Mountains where the average is 15-20 inches. May and June are usually the months of highest precipitation.

The prevailing wind direction in the area is from the southwest, (National Oceanic and Atmospheric Administration, 1981). Yearly wind speeds average 10 miles per hour (mph) with higher winds accompanying local thunderstorms and frontal weather systems. Wind speeds in excess of 50 mph occur frequently during the winter months. Winds associated with winter frontal weather systems are known locally as "Chinooks" and can raise temperatures dramatically (often as much as 50° F. in a few hours) melting and evaporating ice and snow. However, since the ground usually remains frozen, little of this moisture penetrates the soil.

AIR

Air quality in the planning area is usually excellent and meets or exceeds Montana Class II standards. A Class II area is defined as any area cleaner than federal quality standards, which is designated for a moderate degree of protection from future air quality degradation. Moderate increases in new pollution may be permitted in a Class II area.

Localized and short-term sources of air pollution result from farm and ranch operations such as plowing, pesticide applications, burning, etc. However, these temporary air quality degradations are acceptable in a Class II area.

Hydrogen sulfide (H_2S), a poisonous gas with a characteristic rotten egg smell, is a by-product sometimes associated with oil and gas production. There are oil storage facilities in the planning area with approval to flare sour gas.

The amount of H_2S in a producing reservoir usually increases with time as a result of secondary and tertiary recovery methods which spread the H_2S generating microorganisms to all portions of the reservoir. If venting or flaring begins to approach levels of pollution in excess of the air quality standards, the approval to flare is rescinded. At this point the only alternative for proper disposal is through pipelines connecting the facility with H_2S recovery plants.

3 The Affected Environment

SOIL

Specific soil information for the RMP area is available from the following four soil surveys.

The Blaine County Soil Survey covers the eastern portion of the Havre Resource Area (RA). The field work for this Order II survey was completed by the Soil Conservation Service (SCS) in 1976, and published in April, 1986. The survey was made for agricultural and rangeland management.

A Bureau of Land Management (BLM)—SCS reconnaissance soil survey of the public lands in Hill, Liberty and Toole Counties and Chouteau County north of the Missouri River was done in 1979, and the unpublished legend is on hand at BLM offices in Havre and Great Falls. This Order III survey was made primarily for rangeland management uses.

The Glacier County Soil Survey covers Glacier County. It was completed in 1968, and published in 1980. The survey was done by the Soil Conservation Service.

An Order II soil survey is underway in Chouteau County. It is approximately 50% completed, with a projected completion date of 1991. As this survey information becomes available for public lands, it will be used to update survey information. This survey is being made primarily for agricultural and rangeland management.

These soil surveys identified three distinct landforms with associated soils in the planning area. The soils of this planning area are derived mainly from sedimentary bedrock, glacial till and alluvium from mixed rock sources. The landscapes have complex and diverse soil patterns, varying greatly in characteristics, topography, and productivity.

For descriptive purposes the soils were grouped into 19 geomorphic soil subgroups (see Appendix 2.5). Each of these soil subgroups have unique capabilities and limitations for land uses and treatments based on climate, parent material, topography and soil properties. A more detailed description of these soil subgroups is given in the Draft Prairie Potholes Environmental Impact Statement (EIS).

Glaciated Prairie

The glaciated prairie landform is composed mostly of loamy and clayey soils on glacial till uplands. The most common soil subgroups in this landform are 1, 2, 7 and lesser amounts of 6, 8 and 17 (see Appendix 2.5.) Steep shale, siltstone, and sandstone bedrock exposures and gravel capped rims along the valley walls of deeply dissecting drainages are common in this landform. Upland potholes, valley bottoms, terraces, fans and valley footslopes are also significant inclusions, with complex soil patterns and physical properties.

These nearly level to rolling prairies have slight to moderate erosion hazards, due to the prominence of dense clubmoss-blue grama sod. When disturbed or cultivated, erosion hazards increase, especially the wind erosion hazard. The loamy and clayey alluvial soils in floodplains and drainages contain areas of wetland or riparian vegetation where water tables are at or near the soil surface. This glacial till parent material is naturally high in salts and contributes to saline seeps in drainages below reservoirs and on some slopes and upper drainages.

Sedimentary Breaks

The sedimentary breaks landform is composed mostly of clayey soils weathered from acid and calcareous shales. The most common soil subgroups in this landform are 3, 4, 5, 16 and lesser amounts of 6, 10, 11, 12, 13 and 17. Included in this landform area are loamy sedimentary uplands adjacent to stream valleys with complex soil patterns and physical properties. Floodplains, terraces, fans and footslopes with contrasting soils occur in these valleys. The floodplains are dominated by loamy and clayey soils with a forest canopy cover in local areas. Some areas have sandy soil textures next to stream banks. The sedimentary parent materials in this landform range from shale to sandstone. These soils are usually fragile and extremely erosive because of the dominance of steep slopes and extreme physical properties such as high clay content, shallow depth to parent material, slow permeability, rapid surface water runoff and sparse vegetative ground cover.

Active geologic erosion is obvious throughout the sedimentary landform. The shale ridges are dissected by numerous drainages and valley walls that rise abruptly above the narrow floodplains. The high erosion and sedimentation rates have a detrimental impact on the life span of reservoirs in the area.

These sedimentary breaks soils are highly susceptible to compaction and due to the fragile nature of the soils and topography, vehicle travel and access are severely limited during seasonally wet periods.

Mass movement, or slumping, is a naturally occurring process in these sedimentary breaks areas, but it can also be the result of surface disturbing activities (like cutting roads into hillsides dominated by clays over shale).

Foothills and Mountains

The foothills and mountain areas are composed primarily of loamy and clayey soils in local mountainous areas with forest and intermixed grassland cover. The most common soil subgroups in this landform are 15, 18, 19 and lesser amounts of 9. These shallow to deep soils are found on hard bedrock ridges and on some footslopes forming rolling to very steep terrain with areas of bare rock and talus. Many areas have rock fragments throughout the soil.

These areas generally receive more precipitation than the surrounding prairies and therefore have greater vegetative ground cover. Erosion hazards are slight to moderate and compaction susceptibility is moderate to high. Areas that are shallow to bedrock are difficult to rehabilitate after surface disturbing activities. The foothills and mountains in this landform are valuable watersheds for many streams in the RMP area.

WATER

Water studies covering the planning area include a 1983 United States Geological Survey (USGS) study and a BLM summary report completed in 1980, for the Prairie Potholes Environmental Impact Statement (EIS).

Surface Water

The primary sources of surface water resources in the planning area include 3 major rivers, (the Missouri, Marias and Milk Rivers), 3 smaller perennial streams, 18 intermittent streams, 773 reservoirs and 728 potholes. The primary uses of surface water include water for livestock, and wildlife consumption, providing waterfowl and fisheries habitat and maintaining instream flows.

Surface water in the area is generally a very hard, calcium-bicarbonate type. Sodium and sulfate concentrations are also high, possibly contributed by numerous saline seeps from shale and siltstone outcrops. Water quality is usually best during periods of high flow due to the dilution effect, but still cannot be used for human consumption without some type of treatment. During periods of low flow total dissolved solids (TSD), fecal coliform and bacteria, and turbidity increase in concentration.

Water quality is generally good for livestock and wildlife year-round.

Groundwater

Shallow groundwater (within 500 feet of the surface) is scarce or absent throughout most of the RMP area. Where present, shallow groundwater can be found in alluvial deposits along the larger streams and in buried pre-glacial alluvial channels. Yields range from 1 to 100 gallons per minute (gpm), but average 2-5 gpm. The quality of this water is suitable for livestock and wildlife but high TDS levels (1000-5000 parts per million) make it unsuitable for domestic use.

Other shallow aquifers such as the Judith River and Eagle sandstones occur in the RMP area, but their extent is so limited they cannot be considered major sources of groundwater.

Groundwater of better quality and quantity is available from deeper aquifers such as the Madison formation, but the costs associated with development make it prohibitive for use except for large commercial interests or municipalities.

Produced Water

Produced water is a by-product of oil-gas production, especially in the Kevin Rim area. Several oil-gas wells dispose of their produced water into pits for livestock consumption, at the request of area ranchers. This water is suitable for livestock and wildlife but high TDS levels make it unsuitable for domestic use. Water quality is monitored annually by the oil-gas companies. Produced water that is unsuitable or not needed for livestock is injected back into the formation from which it comes.

The use of produced water must be permitted by the state and none is allowed to flow uncontrolled into nearby surface drainages.

PALEONTOLOGICAL RESOURCES

Paleontological resources consist of fossil plants and animals derived from past life on earth. Early explorations (1870s—1880s) in the region yielded many new fossils, particularly dinosaurs. A BLM palentological survey along a portion of the Missouri River was completed in 1984. This survey documented many vertebrate and invertebrate sites. Major geologic formations in the planning area contain fossils from the Cretaceous period (around 65-80 million years ago). The remains of dinosaur, crocodile, shark, turtle and various other fossils were found in the Judith River formation. Dinosaurs have also been found in the Two Medicine formation. Marine reptiles and a variety of invertebrate fossils are found in the Bear's Paw formation.

MINERAL RESOURCES

The planning area is underlain by sedimentary deposits including sandstones, shales, limestones and dolomites. These stratigraphic units have been folded, faulted and intruded (by igneous bodies) resulting in complex and diverse geologic conditions, ranging from glaciated flat lying sediments in north-central Montana to the massive overthrusts present along the Rocky Mountain Front.

Three uplifts, the Sweet Grass Arch, the Bear's Paw Mountain Arch, and the Sweet Grass Hills are prominent structural features. Portions of the Montana Disturbed Belt and the Rocky Mountain Overthrust Belt cross the western edge of the planning area. Evidence of glacial activity is prevalent as large amounts of glacial till and outwash were deposited in the region.

Leasables

The most common leasable minerals within the planning area include oil, gas and coal. The BLM issues leases for exploration and development of these resources.

Oil & Gas

Significant deposits of oil-gas lie within the planning area (see Figure 3.1). The northwest portion of the planning area holds the greatest amount and numbers of known reserves. Structural and stratigraphic traps within Cretaceous and Mississippian age formations contain most of the oil and gas deposits. Devonian age formations are known to contain some hydrocarbons but the ultimate potential is not yet known. Concentrations of reserves are found in the Kevin Sunburst Dome, the Bear's Paw Mountain Uplift, the Overthrust Belt, the Sweet Grass Arch and related structures.

Historic development and production of oil-gas in the planning area dates back to the early part of this century. Oil fields in Kevin-Sunburst and Cut Bank were discovered in 1922 and 1932, respectively. Both fields, as well as later discoveries, have since been developed.

Figure 3.1 High to Moderate Oil & Gas Development Potential for West HiLine Resource Management Plan.

Early gas fields include the Havre field discovered in 1914, and Whitlash field developed in 1927. The Havre field was abandoned in 1926, however the Whitlash field is still producing. A gas pipeline was completed from the Whitlash field to Great Falls in 1928. Most new gas activity is dependent on existing or proposed pipelines.

Oil and gas production figures are provided in the Social and Economic Conditions section at the end of this chapter. The number of leases and acres by county are indicated in Table 3.1.

TABLE 3.1

OIL AND GAS LEASE INFORMATION BY COUNTY[1]

County	No. of Leases	Acres Leased
Blaine	710	714,464
Hill	116	123,947
Chouteau	150	164,216
Liberty	185	75,404
Toole	351	126,119
Glacier	34	24,949
Fergus	3	880
Totals	1,549	1,229,979

[1]Current to August 1985, Derived from the ALMRS data source, BLM.

Coal

The eastern portion of the planning area (generally east of a line from western Liberty County to Fort Benton) contains the only assumed recoverable coal deposits. These coal deposits are contained in the Upper Cretaceous Age Eagle, Judith River and Hell Creek formations and in the Tertiary age Fort Union formation.

An estimated 897,300 tons of coal has been mined from the Big Sandy and Milk River coal fields in Blaine County between 1890 and 1960. No coal production is occurring at this time.

Generally, the coal in the planning area is subbituminous with a British Thermal Unit (BTU) rating of 8,300—11,500 BTU per pound (lb). An exception to this is found on the West Butte of the Sweet Grass Hills. Records indicate that a 2 foot thick coal seam was mined from the McDermott mine on West Butte during the early 1900s. This coal is bituminous and contains 10,500—14,000 BTU/lb.

Overall, the coal in the planning area is similar in grade and BTU content to the coal mined from the Powder River Basin in southeastern Montana and northeastern Wyoming. The exception is that the coal beds in the planning area are thinner and less continuous in lateral extent. Currently, these localized deposits are passed over in favor of the more strippable coal deposits in the Powder River Basin. Shippable deposits in the planning area would be localized in relatively rare areas of thicker coal beds (>5′) combined with thin overburden (<0′). Estimated coal reserves, by county, are identified in Table 3.2.

TABLE 3.2

ESTIMATED COAL RESERVES[1] (MILLION TONS)

	COUNTY		
	Chouteau	Hill	Blaine
Measured & Indicated	0.9 MM Tons (2.5′-5′seam) 0.6 MM Tons (5′-10′seam)	28.0	None
Inferred	None	49.0	62.0

[1] Combo, J.X., Coal Resources of Montana, Geol. Survey Circ. 53, 1949, p. 12.

Locatables

The planning area contains deposits of gold, copper, lead, zinc and silver. Igneous intrusions have been the predominate factor in the formation of locatable minerals which are found primarily in uplifts such as the Bear's Paw Mountains and Sweet Grass Hills.

In the Breaks region of Blaine County there are several igneous intrusions, about the size of a city block. These intrusions originated at extreme depth from within the earth and are called diatremes. The composition of these diatremes is similar to kimberlite which contains diamonds in South Africa and other diamond producing areas. Bulk sampling and analysis of the diatremes in the Breaks has not revealed any occurrence of diamond.

Saleables

The planning area contains deposits of sand and gravel that originated from fluvial and glacial sources. The BLM issues permits for the use of these materials. Most of the commercially developed gravel sources are privately owned. The primary users of federally-owned mineral material deposits are state and county governments.

There may be a potential for clay and bentonite in the shallow formations throughout Toole and Liberty Counties, but neither has been tested for suitability for brick making or expanded aggregate. There is currently no known activity for the exploration and development of clay or bentonite resources in the planning area.

VEGETATION

Vegetative species are dependent on specific climatic and soil requirements. The planning area supports a diverse number of plant species because of the wide range of soil types, geology, and climatic conditions.

The following descriptions of each vegetation type will describe common and less common plant species, landforms, forage production and major uses. The carrying capacity of each vegetation type is based on forage production and is measured in animal unit months (AUMs). An AUM is defined as the amount of forage necessary for the sustenance of one cow, with calf, or its equivalent, for one month.

Grass

The grass vegetation type consists mainly of short and mid-grasses. It is predominately associated with silty, claypan, and thin silty range sites. This vegetation type occurs mainly on rolling uplands of the glaciated plains.

Common plant species in this vegetative type include grasses and grass-like plants such as western and thickspike wheatgrass, needleandthread, Junegrass, Sandberg bluegrass, inland saltgrass, blue grama and sedges; forbs such as American vetch, scarlet globemellow, fringed sagewort, cudweed sagewort, pussytoes and bastard toadflax, plains clubmoss, and prickly pear; and shrubs including silver sagebrush and winterfat.

Less common plant species include green needlegrass and bluebunch wheatgrass, plains reedgrass, prairie sandreed, nuttal saltbush, rabbitbush and skunkbush sumac. The grass vegetation type provides between 72 and 285 lbs. of forage per acre and it requires 11.1 to 2.8 acres in this vegetation type to provide an AUM.

The major wildlife species utilizing this vegetation type include antelope, sharp-tailed grouse and waterfowl. Antelope use this area yearlong. Sharp-tailed grouse and waterfowl generally prefer the tall residual grass areas for cover and nesting.

Grass/Silver Sagebrush

The grass/silver sagebrush type is similar to the grass vegetation type with slight differences in species composition and range sites. This type commonly occurs on the silty, thin silty, and sandy range sites. These lighter soils tend to favor the growing requirements of silver sagebrush; resulting in its increased frequency and plant composition.

Like the grass vegetation type, the grass/silver sagebrush type occurs primarily on the rolling uplands of the glaciated plains. It also exists in drainage slopes and bottoms in association with the rose/snowberry vegetation type.

Species composition is generally the same as in the grass vegetation type except for an increased proportion of silver sagebrush and greasewood.

The grass/silver sagebrush vegetation type provides between 72 and 320 lbs of forage per acre. It requires 11.1 to 2.5 acres in this vegetation type to provide one AUM.

Important wildlife species utilizing this vegetation type include antelope, mule deer, sharp-tailed grouse, sage grouse and waterfowl. Antelope and mule deer use these areas primarily in the fall and winter, utilizing silver sagebrush as a major food source. Sage grouse utilize these areas year-round for feeding, nesting and broodrearing.

Rose/Snowberry

The rose/snowberry vegetation type is primarily associated with slopes dropping into small drainages and drainage bottoms. It is common to the thin silty and overflow range sites. The grass/silver sagebrush vegetation type overlaps into this type on the thin silty range sites occurring on sideslopes of drainages. This type will also occur as understory in the cottonwood/willow type.

This vegetation type is primarily dominated by deciduous shrubs such as rose and snowberry. Buffaloberry, western wheatgrass, slender wheatgrass, alkali bluegrass, American vetch, perennial sunflower, two grooved milkvetch, western yarrow, lomatium, fringed sagewort, dotted gayfeather, scurfpea, hairy goldenaster and white milkweed are also common.

Other species that occur are buffaloberry, serviceberry, skunkbush sumac, silver sagebrush, green needlegrass, and needleandthread. Basin wildrye and Canada wildrye exist in small communities.

The rose/snowberry vegetation type provides between 72 and 471 lbs. of forage per acre. It requires 11.1 to 1.7 acres in this vegetation type to provide one AUM.

This vegetation type is important to mule deer and sharp-tailed grouse for food and cover. Sharp-tailed grouse will also utilize these areas for broodrearing.

Cottonwood/Willow

This vegetation type exists mainly on overflow, subirrigated or wet meadow range sites that are wet for long periods of time or the water table is high. The understory on most of these sites is of the rose/snowberry type.

Common species are the same as the rose/snowberry type with an increased proportion of willow and cottonwood. Box elder trees also occur in this vegetation type.

The cottonwood/willow vegetation type provides between 119 and 2,000 lbs of forage per acre. It requires 6.7 to 0.4 acres to provide one AUM.

This vegetation type is utilized by mule deer, white-tailed deer, sharp-tailed grouse, ring-necked pheasants and high populations of non-game birds. It is the primary habitat on public land for white-tailed deer and pheasant due to the dense understory often found in these areas.

Wetlands

Wetlands are transitional lands between terrestrial and aquatic systems where the water table is usually at or near the surface or land is covered by shallow water. For purposes of this classification, wetlands must have one or more of the following three attributes; (1) at least periodically, the land supports predominately hydrophytes; (2) the substrate is predominately undrained hydric soil; and (3) the substrate is nonsoil and is saturated with water or covered by shallow water at sometime during the growing season of each year (BLM Wetland Policy, 1986).

Riparian areas are those areas within wetlands, geographically delineated by distinctive resource values and characteristics that are comprised of aquatic and riparian ecosystems. Riparian areas may be associated with lakes, reservoirs, estuaries, potholes, springs, bogs, wet meadows, and ephemeral, intermittent, or perennial streams.

Species common to this type vary widely from site to site. Table 3.3 is a list of species which occur in riparian areas. Riparian areas within the planning area are found along rivers and streams such as the Missouri, Marias and Milk Rivers, tributaries and other locally wet areas. There are approximately, 14,000 acres of riparian vegetation within the planning area.

TABLE 3.3
PLANT SPECIES FOUND IN RIPARIAN AREAS[1]

Grasses	Forbs	Shrubs
Alkali sacaton	American licorice	Big sagebrush
American sloughgrass	Bull thistle	Buffaloberry
Canada wildrye	Canada thistle	Chokecherry
Cheatgrass	Cinquefoil	Diamond willow
Foxtail barley	Cocklebur	Gooseberry
Intermediate wheatgrass	Curley cup gum	Greasewood
Japanese brome	Dandelion	June berry
June grass	Death camas	Rabbitbrush
Kentucky bluegrass	Farnweed	Red Dogwood
Needleandthread	Golden pea	Rose
Prairie cordgrass	Horsetail	Russian olive
Quack grass	Lambsquarter	Silver sagebrush
Reed canary grass	Leafy spurge	Skunkbrush
Six Weeks fescue	Milkweed	Snowberry
Slender wheatgrass	Mustard	Sticky current
Smooth brome	Pepperweed	Slender willow
Tall wheatgrass	Prickley pear	White willow
Tufted hairgrass	Russian knapweed	
Western wheatgrass	Smartweed	**Trees**
Green needlegrass	Spotted knapweed	Black cottonwood
Canada wildrye	Yarrow	Box Elder
Basin wildrye	Yellow sweetclover	Green Ash
Grass-like		Lanceleaf cottonwood
Beaked sedge		Narrow leaf cottonwood
Nebraska sedge		Peachleaf willow
		Plains cottonwood
		Quaking aspen
		Hawthorne

[1]BLM, 1987

This vegetation type provides between 119 and 2,000 lbs. of forage per acre. It requires 6.7 to 0.4 acres to provide one AUM.

This vegetation type is utilized by mule deer, white-tailed deer, elk, and ring-necked pheasants. This is the primary habitat on public land for white-tailed deer, morning doves, and pheasant due to its dense understory. Many non-game birds are present in this type. In fact, a wider diversity of non-game species occurs within this vegetation type than in any other.

Big Sagebrush/Grass

This vegetation type is found mostly on upland benches and ridge tops within the Missouri and Marias River Breaks. It's found often on clayey, shallow clay, dense clay and coarse clay range sites and to a lesser extent, on silty range sites.

Western and thickspike wheatgrass, prairie Junegrass, Sandberg bluegrass and needleandthread are the most widely spread grasses throughout this vegetation type. Common forbs include broom snakeweed, American milkvetch, wild onion, Astragalus species, fringed sagewort, bastard toadflax, scarlet globemellow, lomatium and scurfpeas. The most prevalent shrub is big sagebrush.

Plains muhly and plains reedgrass are also present, but not to the same extent. On the poorer condition silty range sites, blue grama grass is present. On the better condition rangeland, green needlegrass and bluebunch wheatgrass can be found. On the lighter sandy soil and coarse clay, little bluestem and prairie sandreed are usually present. Other perennial forbs scattered throughout this vegetation type include buckwheat, cutleaf goldweed, prairie clover, pussytoes and white milkwort. Annual forbs will flourish on normal to wet years. On the sandy range sites, yucca is prevalent with American licorice and green sagewort. Rabbitbrush is also present, but in scattered communities. Other shrubs which occur in this vegetation type are Nuttal saltbush, creeping juniper, and winterfat. Scattered ponderosa pine is also present especially along the edge of ridges.

The big sagebrush/grass vegetation type provides between 72 and 320 lbs of forage per acre. It requires 11.1 to 2.5 acres to provide one AUM.

Important wildlife species occurring in this vegetation type include antelope, mule deer and sage grouse. Antelope utilize these areas yearlong and are dependent on sagebrush for winter browse. Mule deer utilize edges of sagebrush ridges adjacent to conifer forests for food year-round. They also utilize sagebrush heavily during the winter. Sage grouse are dependent on sagebrush year-round.

Wooded Breaks

Ponderosa Pine/Juniper

This vegetation subtype exists on the sideslopes of drainages within the Missouri River Breaks and is associated with the shallow clay and coarse clay range sites. It can overlap with the big sagebrush/grass type on the edges of ridges and benches.

Ponderosa pine and juniper are prominent but can be scattered, leaving open parks. The understory is rather scant in the ponderosa pine and juniper stands. The big sagebrush/grass vegetation type is the primary understory in the open timbered areas and open parks (refer to big sagebrush/grass vegetation for species composition).

The Ponderosa pine/juniper vegetation sub type provides forage production similar to the big sagebrush/grass vegetation type; 72-320 lbs/acre and 11.1 to 2.5 acres/AUM.

Mule deer and sharp-tailed grouse utilize this vegetation type for food and cover.

Ponderosa pine and juniper provide material for fuelwood, posts and poles. Ponderosa pine provides a limited opportunity for lumber.

Douglas-Fir/Ponderosa Pine

The Douglas-fir/ponderosa pine subtype is found in the foothills and higher terrain of the Bear's Paw Mountains. This vegetation type occurs primarily on the north and east facing slopes in the Missouri River Breaks. The timber stands are not generally heavy with understory. This vegetation type is most common on shallow clay and coarse clay range sites.

Other than the presence of Douglas-fir, the vegetation composition is the same as the ponderosa pine/juniper type.

Where the timber is dense, the available forage will be negligible but will increase in the less dense timber. The open timber and open parks have the same production as the big sagebrush/grass vegetation type; 72-320 lbs/acre and 11.1 to 2.5 acres/AUM.

These areas provide excellent cover for mule deer however, due to their scant understory, few food plants are available. Douglas-fir and Ponderosa pine provide material for fuelwood, posts and poles and a limited opportunity for lumber. Douglas-fir also provides a source of Christmas trees.

Non-Wooded Breaks

This vegetation type occurs on the lower slopes below the wooded breaks, primarily on shallow clay, thin clayey, shale, overflow and saline lowland range sites. The thin clayey and shale range sites are on the lower side slopes and the overflow and saline lowland range sites are on the drainage bottoms. Vegetation on the shallow clay and thin clayey and shale range site can be fairly scant. The shale range site will be lightly vegetated to completely barren. The steep slopes (>20%) limit livestock use on this vegetation type except on the large drainage bottoms.

Within this vegetation type, a separation between the slopes and drainage bottoms can be made, although there is considerable overlap. Big sagebrush is present on both the slopes and in the drainage bottoms while greasewood is mainly present in the drainage bottoms. Other woody species include Nuttal saltbush, shadescale, winterfat and rabbitbrush. Cottonwood trees exist in the wetter overflow range sites in the drainage bottoms.

Common grass species include western and thickspike wheatgrass, bluebunch wheatgrass, green needlegrass, prairie Junegrass, needleandthread, and Sandberg bluegrass while common forbs include American vetch, bluebell, cudweed sagewort, fringed sagewort, western yarrow, horsemint, thermoposis and yellow sweetclover.

Other grasses such as plains muhly, bottlebrush squirreltail and sedge species occur in the drainage bottoms. Blue grama and inland saltgrass are present on the poorer condition areas on alluvial fans. Prairie cordgrass and basin wildrye can be found along the drainage.

The non-wooded breaks vegetation type provides between 20 to 470 lbs. of forage per acre. It requires from over 40 to 1.7 acres in this type to provide one AUM.

These areas provide food and limited cover for mule deer. Deer utilize sagebrush and rabbitbrush as food sources and the rough, broken topography offers some cover.

Grass/Ponderosa Pine

This vegetation type occurs only on small scattered tracts of public land in the foothills of the Bear's Paw Mountains. Most of these tracts are open grass parks with scattered ponderosa pine timber. Shallow and silty range sites dominate this vegetation type. About 10 to 75% of the composition by weight is grass or grass-like species.

Rough fescue, Idaho fescue, bluebunch wheatgrass, balsamroot, lupine, western yarrow, fringed sagewort, American vetch, Astragalus, wild onion and phlox are the predominate species in this vegetation type. Other species present throughout this vegetation type are needleandthread, western wheatgrass, mountain brome, sedges thermoposis, milkvetch, penstemon, pussytoes, sticky geranium, stickseed, larkspur, Douglas-fir, snowberry, rose, bitterbrush and big sagebrush.

This vegetation type provides between 119 and 471 lbs of forage per acre and it requires 6.7 to 1.7 acres to provide one AUM.

This vegetation type is high value mule deer and sharp-tailed grouse habitat. Mule deer utilize browse and forbs as a good source and use timbered areas for escape and thermal cover. White-tailed deer can be found in aspen groves within this vegetation type.

Ponderosa pine provides material for fuelwood, posts and poles and limited opportunities for lumber.

Vegetation types, range sites and habitat types have been cross-referenced in Table 3.4 to assist the reader in better understanding resource program terminology.

TABLE 3.4

VEGETATION CROSS-REFERENCES[1]

Vegetation Types	Range Sites	Habitat Types
Grass	Silty Claypan Thin Silty	Grassland
Grass/Silver Sagebrush	Silty Claypan Thin Silty Sandy	Grassland Shrub
Rose/Snowberry	Thin Silty Sandy Overflow	Woodland
Big Sagebrush/Grass	Thin Silty Sandy Clayey	Grassland Shrub
Cottonwood/Willow	Sandy Overflow Subirrigated Wet Meadow	Riparian
Wetlands	Sandy Overflow Subirrigated Wet Meadow	Riparian
Ponderosa Pine/Juniper	Clayey Shallow Clay Dense Clay Coarse Clay	Woodland
Douglas-Fir/Ponderosa Pine	Clayey Shallow Clay Dense Clay Coarse Clay	Woodland
Non-Wooded Breaks	Thin Clayey Shallow Clay Shale Overflow Saline lowland	Grassland Shrub

[1]BLM, 1987

Noxious Plants

Table 3.5 identifies the noxious plant species present and the approximate size of infested areas in the planning area.

Noxious plant infestations are concentrated along the Teton, Marias, Missouri, and Milk Rivers as well as the Milk River tributaries.

TABLE 3.5

NOXIOUS PLANTS FOUND IN THE PLANNING AREA[1]

Noxious Plants	Acreage
Canadian Thistle	3,013 acres
Leafy Spurge	3,383 acres
Russian Knapweed	1,328 acres
Spotted Knapweed	921 acres
Whitetop	680 acres

[1]BLM, 1987

Threatened and Endangered Plant Species

No plants, listed as endangered or threatened under the Endangered Species Act are known to occur within the planning area. However, potential habitat exists for *Antennaria aromatica* and *Rorippa calycina* which are both potential candidates for listing as threatened or endangered species. The potential habitat also exists for these Montana species of special concern: *Carex crawei, Carex sychnocephala, Hedysarum alpinum, Muhlenbergia andina, Plagiobothrys leptocladus, Psilocarphus brevissimus* var. *brevissimus, Ranunculus cardiophyllus* and *Triqlochin concinnum* var. *debile.*

Forest Products

Approximately, 62,700 acres of forest exist in the planning area, including 16,800 acres classified as productive forest land.

Ponderosa pine is the predominant tree species with Douglas-fir, lodgepole pine and Rocky Mountain juniper also present. Cottonwood and willow grow along the Missouri, Marias and Milk Rivers. Ponderosa pine is found at lower elevations in the Missouri Breaks and Bear's Paw Mountains. Lodgepole pine is found at higher elevations in the Sweet Grass Hills and Bear's Paw Mountains. Douglas-fir is found on north facing slopes in the Missouri Breaks, Sweet Grass Hills, and Bear's Paw Mountains.

There is currently no commercial demand for forest products within the planning area. The use of forest products has been limited to personal use on a dispersed basis. The use of forest products during the last 10 years has averaged 68 cords of fuelwood and 19 Christmas trees per year.

Fire

Most wildfires in the RMP area occur in Blaine County and north Hill County. There have been two fires in the rest of the RMP area in the last 20 years. One occurred in the Sweet Grass Hills and the other on the Rocky Mountain Front.

An average of seven fires per year occur on public domain, within the RMP area. An average of two fires occur per year in the sagebrush-grass community and burn an average of 79 acres each year. An average of five fires per year occur in the wooded breaks vegetation type and burn an average of 200 acres.

Fires in the sagebrush-grass vegetation types tend to occur early in the summer and burn at low intensities. Fires in the wooded breaks vegetation type occur from mid to late summer and burn at high intensity levels and create the most resource damage.

Fire suppression and presuppression activities have kept fires to very small acreages, on the average, reducing the risk of large resource damaging fires.

Prescribed fire activity is not being utilized in the RMP area. Prescribed fire is a natural vegetation manipulation tool. It could best be utilized in the sagebrush grass and wooded breaks type with heavy climax vegetation understory (juniper) during periods when fires with low intensity levels could be utilized. The periods from April 1st to June 15th and September 15th to November 1st are considered low intensity burn levels that would not damage the resource. These burns are generally conducive to increased forage production in both communities.

RANGE

There are 390 grazing allotments in the planning area, of which 211 allotments are administered under Section 3 of the Taylor Grazing Act and 179 under Section 15 of the Act. Section 3 lands are those within a recognized BLM grazing district while section 15 lands are located outside of grazing districts. The Great Falls RA directly administers 64 Section 15 allotments while Havre RA administers the remainder.

One hundred and sixty-five ranch operators are authorized to graze Section 3 public lands with 144 operators authorized under Section 15. The Great Falls RA administers 56 Section 15 grazing leases and the Havre RA administers the remainder of the Section 15 grazing leases and all of the Section 3 grazing leases. Most of the grazing permits and leases are for cow/calf operators, although a few operations are for yearling herds and sheep herds.

Management categories have been assigned to each of the 390 grazing allotments. The three categories are maintain (M), improve (I) or custodial (C). Maintenance category allotments are defined as allotments whose range condition is satisfactory (good or better) and no resource conflicts exist. Custodial means that no intensive management practices will be attempted in the allotment. Improvement category allotments are those that have ecological range conditions of fair or less and may have resource conflicts that warrant intensive livestock management planning and range improvement investments. Management categories are listed for each allotment in Appendix 2.3.

Updating Allotment Management Plan (AMP) development is prioritized by management category and ranch operator interest. The development and updating of AMPs is first priority on I category allotments. However, development and updating are done on M and C category allotments, when operator interest is such that improvement in resource management is possible. The development and updating of AMPs is accomplished in a multiple use manner. That is, the AMP is developed and updated with an interdisciplinary approach. Objectives are prepared and a grazing system is developed to meet all resource needs within the allotment and on surrounding allotments.

Range improvements are planned as part of the AMP process. They too are planned to meet multiple use objectives set in the AMP. Water development is an important range improvement which improves distribution of livestock and provides waterfowl, fisheries and wildlife habitat.

Proposed water developments include pit reservoirs, retention reservoirs, wells, spring developments, raintraps, moats, pipelines and siphon systems. Where possible, new retention reservoirs are planned with pipelines to stock-tanks and exclosure fences. Siphon systems are being evaluated on existing reservoirs where waterfowl and/or fisheries are important. These systems exclose the reservoir from livestock grazing. The purpose of exclosing reservoirs from livestock grazing is to preserve shoreline vegetation and vegetation in tail waters. This will improve waterfowl and fisheries habitat as well as provide silt filtration to improve water quality and prolong the reservoirs useful life.

Other planned range improvements include division fences to allow rotation grazing; shading facilities to keep cattle from shading up in drainage bottoms/riparian areas; fences to form riparian pastures for improved riparian management; vegetation manipulation projects such as chiseling or scalping to improve forage production on clubmoss/blue grama rangelands; and crested wheatgrass seeding projects to provide spring deferment on native vegetation.

WILDLIFE & FISHERIES

The responsibility for wildlife management on public lands in the study area is divided among the Montana Department of Fish, Wildlife and Parks (MDFWP), which manages the animals, the U.S. Fish and Wildlife Service (USFWS), which is responsible for threatened and endangered species, and the BLM, which manages the wildlife habitat in the planning area.

A variety of habitat types support an equally large variety of wildlife species. Riparian and woodland habitats support the greatest variety and quantity of species because of diverse layers of trees, shrubs, and herbs.

Threatened and Endangered Wildlife Species

The planning area hosts a number of threatened and endangered species. An endangered species is one that faces extinction throughout all, or a significant portion of its range. Threatened species are those likely to become endangered in the foreseeable future.

The bald eagle is the only endangered species which routinely uses public lands within the planning area. No known active nest sites exist in the RMP area however, historical nest sites exist along the lower Marias and Missouri Rivers and these areas have the potential for future nesting sites. The Missouri, Milk and Marias Rivers are commonly used during migrations in March, April and November.

Peregrine falcons have been sighted during the spring and fall, probably while migrating. An historical peregrine nest site is located on the Kevin Rim, but has not been used recently. The south facing cliff of West Butte, in the Sweet Grass Hills is the primary peregrine hacking site within the planning area. This site, together with the east side of the Rocky Mountain Front and Kevin Rim, is considered a priority reintroduction site in the state by the USFWS Peregrine Falcon Recovery Team.

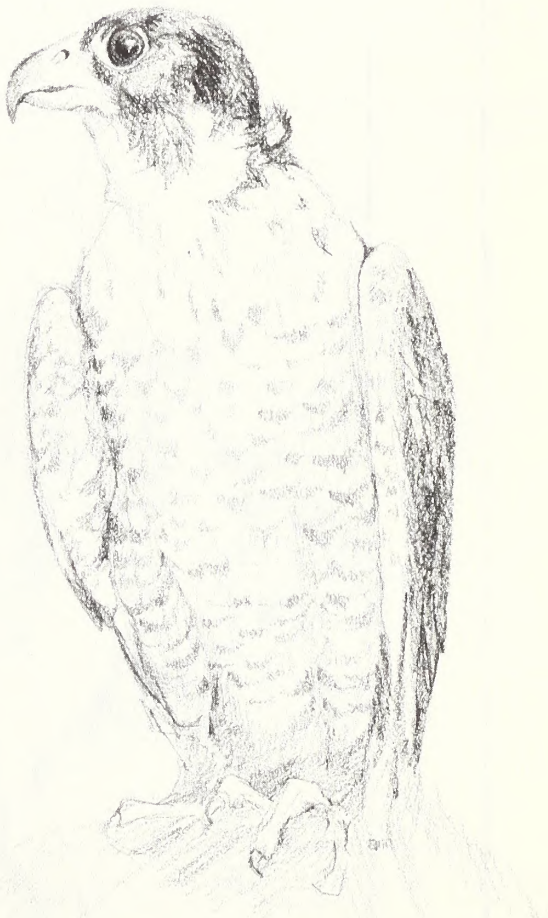
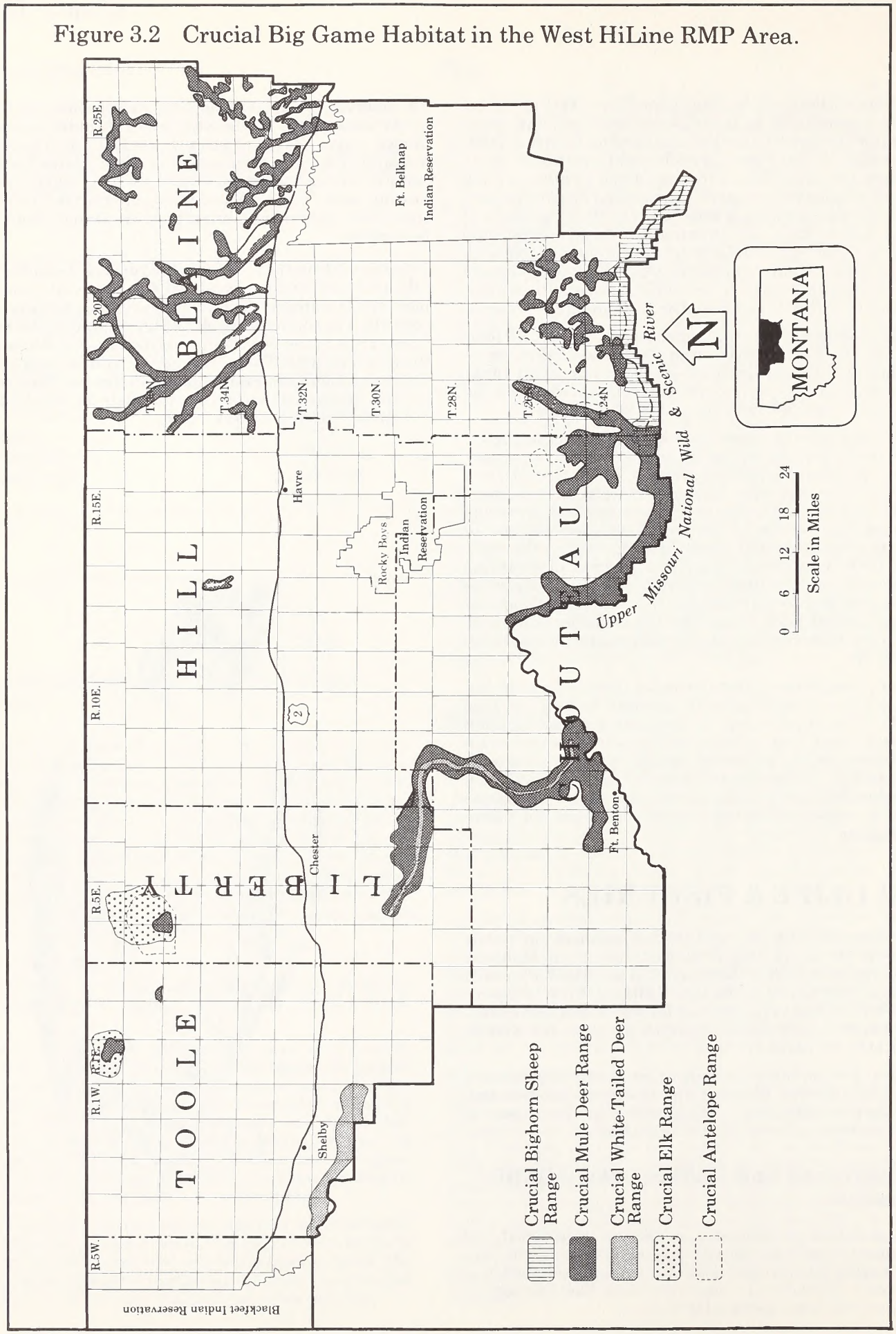


Figure 3.2 Crucial Big Game Habitat in the West HiLine RMP Area.



No critical habitat for the gray wolf or grizzly bear exists in the planning area though an occasional wolf is sighted.

The grizzly bear, also an endangered species, is found in Glacier National Park and the Blackfeet Indian Reservation; areas not administered by BLM.

No black-footed ferrets have been sighted in the planning area. The BLM does manage one black-tailed prairie dog town over 200 acres in size which could provide habitat for the ferret. Other small towns occur throughout the planning area but they are not suitable ferret habitat. These towns will be managed for the other sensitive species associated with prairie dog towns.

The piping plover was recently added to the threatened list. It commonly occurs on the bare shorelines of large water bodies or rivers. Although none have been observed, potential habitat is present within the RMP area.

Big Game

A variety of big game species use public land habitat in the planning area. Crucial big game habitats are shown on Figure 3.2.

Deer

Deer are the most numerous big game animals in the planning area, with mule deer easily outnumbering white-tailed deer on public land.

Mule deer inhabit drainage bottoms, broken side slopes, wooded breaks and mountain foothills, while white-tailed deer use drainage bottoms with riparian and brushy vegetation and areas adjacent to private cropland. Public lands provide about 254,000 acres of crucial and high value habitat for mule deer and about 8,000 acres of crucial and high value whitetail habitat. Deer populations vary depending on the severity of winters, quantity and quality of forage and other factors. Currently mule deer populations appear to be declining, while white-tailed deer are expanding their range. A MDFWP study indicates a density of 3-22 deer per square mile, with an average density of 6.75 deer. The only area supporting more than seven deer per square mile is the Sweet Grass Hills.

Grasses are used for food during the spring, followed by extensive use of forbs with some browse during the summer. Heavy use of big sagebrush, silver sagebrush, rubber rabbitbrush, skunkbrush sumac, western snowberry and rose occurs during the fall, winter and early spring. Sagebrush may be the only available food source during periods of deep snow.

Deer in the area are essentially non-migrating, but do concentrate on south facing slopes which are more snow free and warmer during winter months. Escape and thermal cover is also important.

Antelope

Pronghorn antelope habitat and populations are abundant throughout the planning area. Public lands provide approximately 137,000 acres of crucial and high value pronghorn habitat. Current survey data from the MDFWP indicates that populations are increasing. A survey by this same agency, indicates a density of 2-4.5 antelope per square mile. Resident and Canadian herds migrate to areas along the Milk River during severe winters. The Canadian herds usually migrate back to their summer ranges in the spring.

Forbs comprise the major food source for antelope, except during the winter when sagebrush, and to a lesser degree, creeping juniper become critical food sources. Periodic severe winters substantially reduce antelope herds by starvation.

Elk

Approximately 150 elk inhabit about 7,200 acres of public land in the Sweet Grass Hills. Of this area about 4,000 acres are identified as crucial habitat. No food habit studies have been conducted of elk in the Sweet Grass Hills however, food preference studies in similar habitats indicate a preference for grasses, except during the spring when forbs are preferred. Aerial surveys indicate major winter and spring use in open grass parks on south facing slopes. Elk also inhabit the Cow Creek area and portions of the Missouri River Corridor. While population estimates are not available, the estimated elk capacity on the north side of the Missouri River Corridor and in the Cow Creek area is 600-800 head. The estimated capacity on the south side of the Missouri River Corridor is 120 head. These are MDFWP estimates, based on the amount of primary habitat available. However, based on past elk expansion rates, it is not likely the elk populations will reach these levels within the life of this plan (15 years).

Past elk expansion in these areas has shown no predictable pattern other than a preference for areas with little use by cattle.

Bighorn Sheep

About 90 bighorn sheep reside in the planning area. The population on the north side of the river resulted from the partial migration of a 1980 sheep transplant on the south side of the Missouri River. The population appears to be healthy and expanding on both sides of the river.

Upland Game Birds

Upland game birds are quite numerous in the planning area and occupy most suitable habitats (see Figure 3.3). Sage grouse are primarily associated with sagebrush communities and occupy about 86,000 acres of public land. Sharp-tailed grouse occupy about 102,000 acres of habitat on public land. Sharp-tailed grouse occupy a diverse variety of habitats and are the most hunted upland game bird. Fourteen leks, or mating grounds, have been identified for each species on public land in the eastern portion of the planning area.

Pheasant and to a lesser extent gray partridge, are associated with private agricultural lands, but do utilize adjacent public lands with adequate cover.

Migratory Game Birds

Canada, snow and white fronted geese, whistling swans and 20 species of ducks occur in the planning area. Of particular importance, is the potholes region located in the northern portion of the planning area, which provides important goose and duck breeding habitat. Reservoirs become increasingly important during dry years when potholes do not maintain adequate amounts of water. The larger rivers such as the Missouri, Milk and Marias also provide suitable habitat. Cover on upland areas adjacent to bodies of water and on islands is necessary for nesting. Approximately 65 artificial islands have been constructed on reservoirs within the planning area and exclosures have been built around some reservoirs in an effort to protect shoreline cover and nesting habitat. Canada geese occupancy rates on these islands average 60-70%.

Mourning doves are abundant within the UMNWSR Corridor, occurring primarily in riparian and agricultural areas. Although little or no hunting occurs for doves, huntable populations are present.

Fisheries

Fisheries within the planning area consist of the Missouri, Milk and Marias Rivers; approximately 100 miles of BLM administered stream bank along tributaries to these rivers; and 14 BLM livestock reservoirs.

The Marias River, Cut Bank Creek, Upper Cow Creek and most reservoirs are cold water fisheries. The Marias River supports rainbow and brown trout and mountain whitefish while the two creeks support populations of brook trout. Rainbow trout reside in cold water reservoirs. Warm water fisheries in the planning area support large mouth bass, crappie, northern pike, sauger, walleye, channel catfish, burbot, paddlefish and sturgeon. The Missouri River supports one of the last known stable populations of paddlefish.

Non-Game

Numerous non-game species occur throughout the West HiLine RMP area. The planning area provides habitat for over 300 non-game species. Several species have been identified by the MDFWP to be of "Special Interest or Concern" (Flath, 1984). These are species whose numbers and/or habitat are limited or may be in future years if not properly managed. These species receive special management consideration in all phases of land use planning for maintenance or enhancement of their respective habitat. A complete list of wildlife species, including state sensitive species, can be found in the Management Situation Analysis documents in the Lewistown District Office.

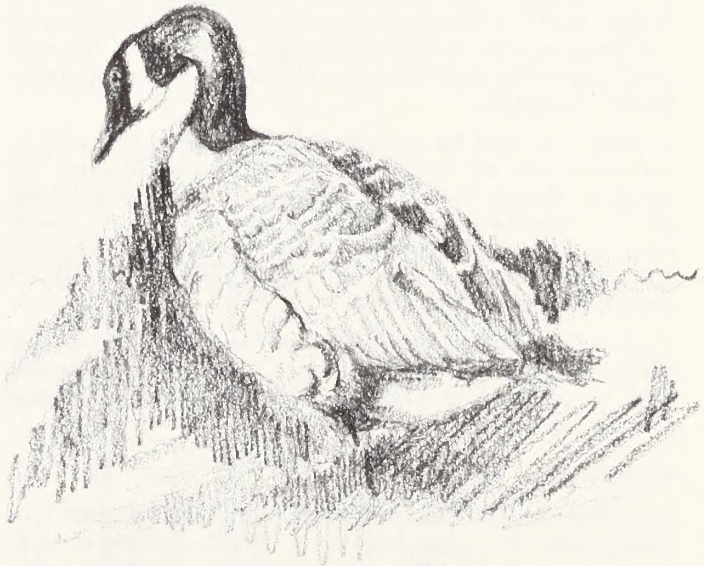
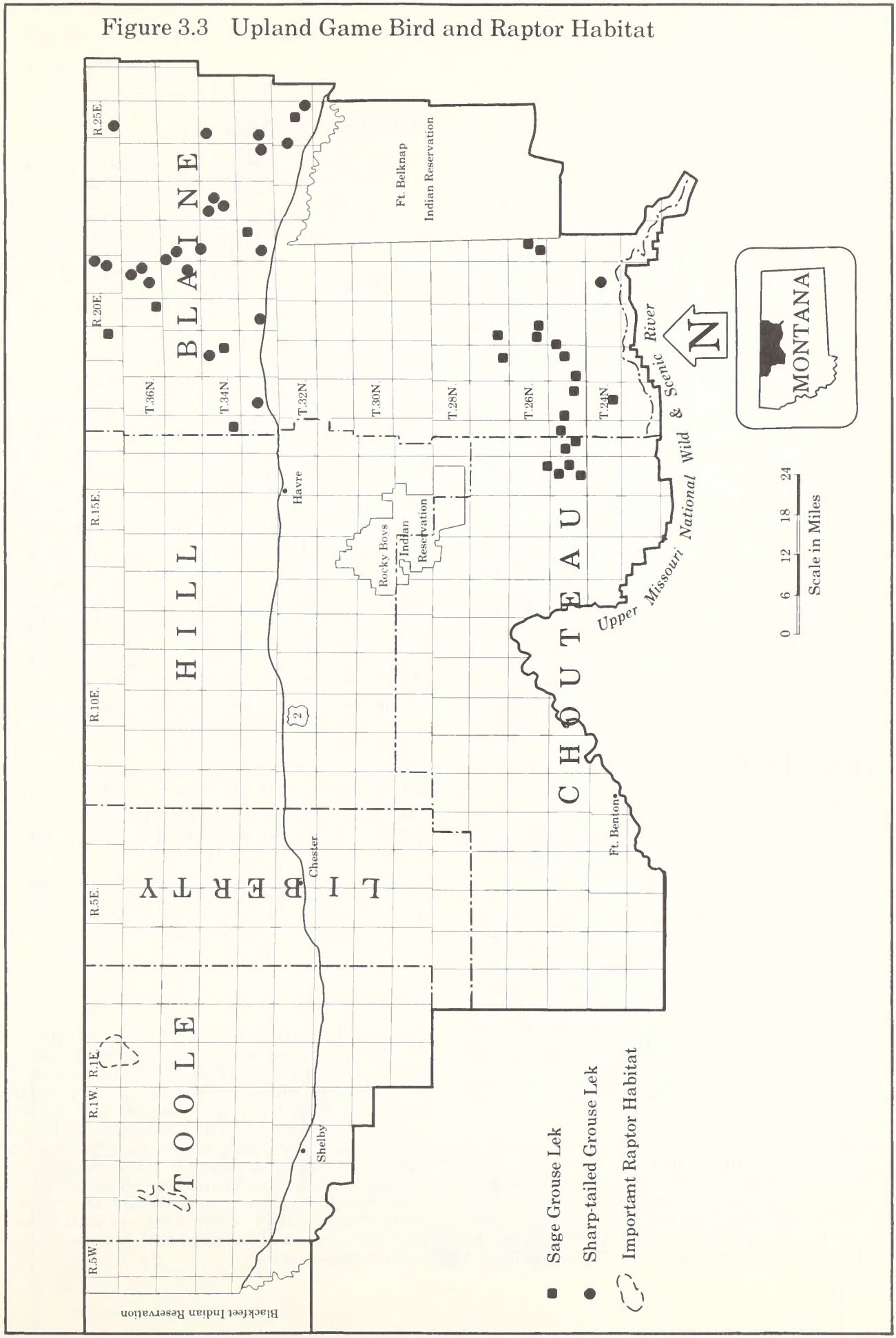


Figure 3.3 Upland Game Bird and Raptor Habitat



CULTURAL RESOURCES

Archaeological resources in the planning area consist of artifacts, features and sites representing occupation of the area by Native Americans. Approximately 1,500 archaeological sites have been recorded in the planning area. There is evidence indicating that occupation of the area began with Ice Age hunters, about 12,000 years ago, but most of the prehistoric, aboriginal remains date from the last 3,000 years. Tipi rings, stone piles, stone tools, buffalo jumps and other features related to subsistence or religious activities, are the typical remains within the planning area.

About 250 historic sites have been recorded in the planning area. Historic resources are the remains of settlement and exploitation of the area by Euro-Americans. The historic period begins with early 19th century explorers and trappers such as Lewis and Clark, who explored along the Missouri and Marias Rivers. Several fur trade forts were built along the Missouri River and steamboats operated on the river somewhat later. The planning area hosted a variety of occupations, including gold seekers, fur traders, settlers and businessmen during the 1800s.

Historically important were several Indian wars, construction of a railroad, and oil discoveries. Construction of the Great Northern Railway from Minot, North Dakota through Havre, to Great Falls and Helena in the late 1880s changed the entire character of the study area. Many new communities sprang up along the railroad line. The railroad also paved the way for the homestead boom. Most of the historic remains in the planning area originate from the homesteading period of 1910-1925.

RECREATION

General

Except for lands lying along the Upper Missouri National Wild and Scenic River, recreation in the planning area is dispersed and mostly associated with hunting and fishing. There are many other forms of recreation that also occur on public lands such as sightseeing, hiking, camping, ORV use, snowmobiling and others. Two undeveloped sites, Butch Reservoir and Reser Reservoir, have been identified for recreational purposes as well as several sites along the UMNWSR. Access has been acquired along the Marias River, specifically for recreational programs. Five general recreation management areas (RMAs) comprise this planning area. These delineate different use areas for planning purposes, budget and management. These RMAs are: the UMNWSR, Sweet Grass Hills, Marias River and its upper reaches, Nez Perce National Historic Trail, and the remainder of planning area.

The planning area contains several areas of regional or national significance. Approximately 134 miles of the 149 mile UMNWSR Corridor flow through the planning area. The river and its corridor are managed under the multiple use concept. A large portion of the planning area is traversed by the Lewis and Clark National Historic Trail and the Nez Perce Trail which is part of the National Historic Trail System.

Off-Road Vehicle

Off-road vehicle (ORV) use is dispersed and usually associated with other activities such as hunting. Please refer to Map 4 in the back of this document for the location of current ORV use designations. This includes the UMNWSR Corridor, Missouri Breaks and WSAs. Approximately 23.7% of the RMP area is currently under a limited ORV use designation. The rest of the planning area is open to ORV use.

Visual

Visual resource inventories were completed for the planning area during the Missouri Breaks and Prairie Potholes EIS projects. Visual management classes were developed based on visual characteristics of the area compared to the physiographic province in which it's located. The planning area includes two physiographic provinces, the Northern Rocky Mountains province and the Great Plains province. Management classes range from Class I in the Wild Sections of the UMNWSR to Class IV near the Canadian Border. Visual impacts should be minimized whenever possible, however Class I areas are the most restrictive in terms of meeting visual resource management class guidelines. Approximately 6% of the planning area is Class I, 12% Class II, 3% Class III and 79% Class IV (see Figure 3.4). The visual classes are defined as follows:

Class I — Allows for very limited management activities with the majority of change being tied to natural ecological happenings.

Class II — Management activities may be seen but should not attract the attention of the casual observer.

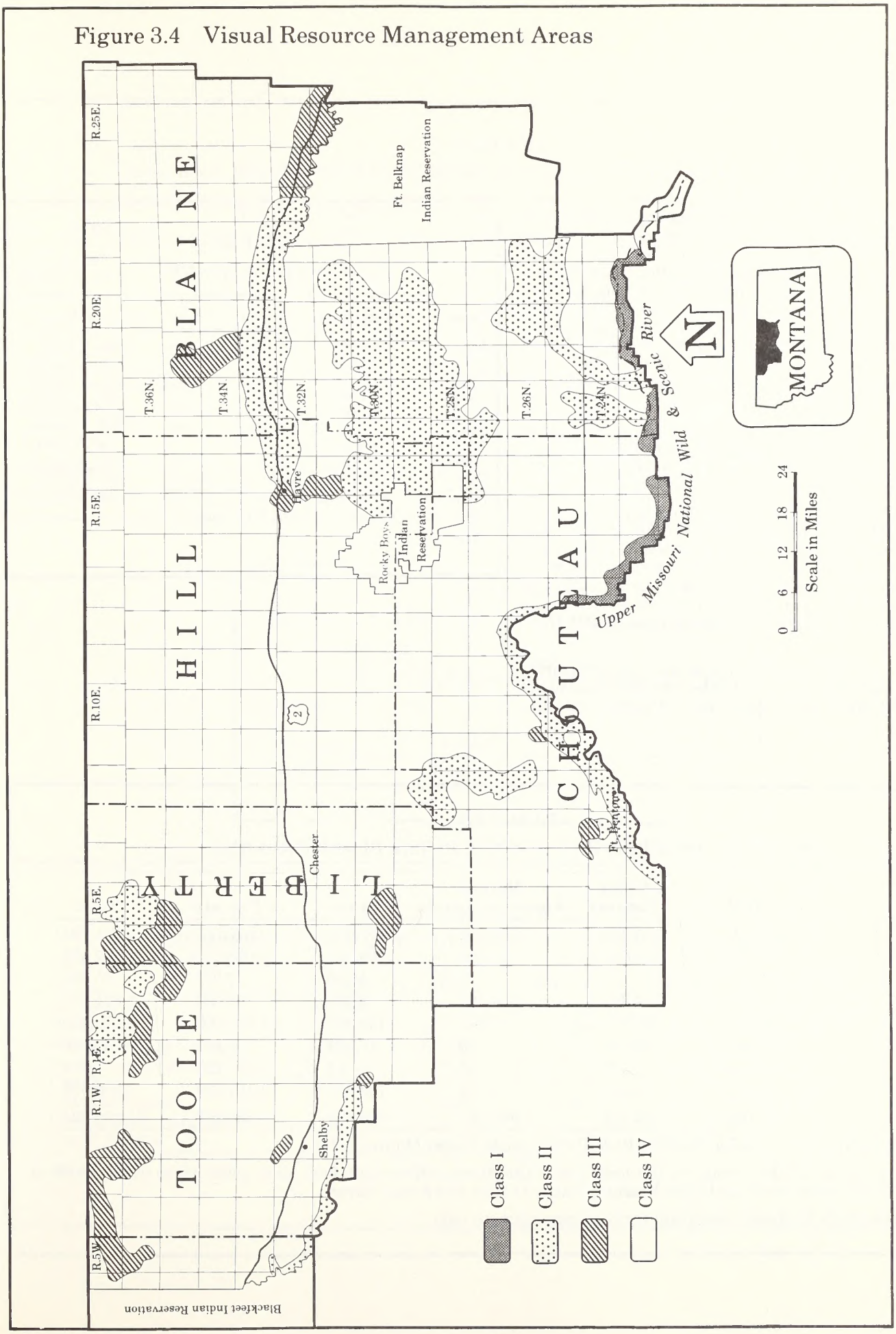
Class III — Management activities may attract attention but should not dominate the view of the casual observer.

Class IV — Management activities may dominate the view and may be the major focus of the viewer's attention.

Wilderness

There are currently no designated wilderness areas within the RMP area. Three wilderness study areas (WSAs) have been studied as a result of the Bureau's Intensive Wilderness Inventory and are now managed under BLMs Interim Guidance Policy. These WSAs are Stafford, Ervin Ridge and Cow Creek. Based on the Draft Missouri Breaks Wilderness Suitability Study/EIS (May, 1982), the Stafford and Ervin Ridge WSAs were not recommended for wilderness designation. A portion (21,590 acres) of the Cow Creek WSA was preliminarily recommended for inclusion; of which approximately 10,500 acres are within the RMP area. Each of the BLM administered WSAs is described in detail in Appendix 2.7.

Figure 3.4 Visual Resource Management Areas



LANDS

Public lands in the planning area are generally scattered. Some local concentration of BLM administered lands can be found in the Breaks region of southern Blaine County, adjacent to Fresno and Tiber Reservoirs and in the Sweet Grass Hills. A significant number of scattered land utilization (LU) lands are located in north Blaine County. These LU lands are lands which returned to federal ownership from private ownership. Most lands in this area were returned under the Bankhead Jones Act. Table 3.6 details the surface ownership by county in the planning area. Table 3.7 provides information on the subsurface acreages administered by BLM.

Rights-of-way (ROWs) are issued for various utility and transportation purposes. Table 3.8 identifies ROWs by county. Table 3.9 identifies the miles of ROWs granted across the Missouri River.

Significant amounts of public lands have been withdrawn for various purposes. Withdrawals can and often do overlap other withdrawals. Major withdrawals within the planning area have been made for purposes such as national wildlife refuges, Indian reservations, Bureau of Reclamation withdrawals and potential powersites. Table 3.10 describes the number and type and size of withdrawals by county.

Easements for access and/or protection of visual resources have been obtained for the public's benefit. Four easements totaling 3,428 acres have been obtained within the planning area.

TABLE 3.7
BLM SUBSURFACE[1]

County	All Minerals	Oil-Gas	Coal	Other	Total
Blaine	640,964	18,103	105,644	7,980	772,691
Chouteau	149,231	16,057	48,547	374	214,209
Fergus	32,005	565	200	0	32,770
Glacier	2,401	3,524	0	0	5,925
Hill	51,605	22,724	50,003	7,203	125,052
Liberty	36,985	17,068	240	237	54,530
Phillips	4,468	166	0	0	4,634
Toole	75,353	40,443	1,914	493	118,203
Totals	993,012	118,650	206,548	9,804	1,328,014

Rights-of-way (ROWs) are issued for various utility and transportation purposes. Table 3.12 identifies ROWs by county.

[1]BLM, 1987

TABLE 3.6
SURFACE OWNERSHIP BY COUNTY IN THE PLANNING AREA[1]

County	BLM	Other Federal	Native American Lands	State	Private	Total
Blaine	455,927	3,000	520,000	177,000	1,575,867	2,731,794
Chouteau[2]	81,311	48,000	34,000	268,989	2,055,175	2,487,475
Fergus[3]	32,593	0	0	4,486	7,980	45,059
Glacier	1,062	392,253	1,313,563	8,269	156,330	1,871,477
Hill	14,330	34,000	78,000	153,000	1,594,000	1,873,330
Liberty	7,820	28,878	0	86,564	799,698	922,960
Phillips[3]	4,603	0	0	87	224	4,913
Toole	28,452	18,321	0	199,939	1,101,304	1,348,016
Total	626,098	524,452	1,945,563	898,334	7,290,578	11,285,024

[1]Montana Department of State Lands, 1984 BLM Public Lands Digest Montana, 1984.

[2]These figures include all the acreage on the north side of the Missouri River and those lands south of the river important for recreation management of the Upper Missouri National Wild and Scenic River.

[3]These figures are for the lands important for river management only.

TABLE 3.8

FEDERAL RIGHTS-OF-WAY NUMBER ISSUED/ACRES OR FEET BY COUNTY[1]

ROW Type	Toole No./Size	Liberty No./Size	Glacier No./Size	Blaine No./Size	Chouteau No./Size	Hill No./Size	Fergus No./Size
Powerlines	3/11.8 mi	3/1.66 mi	1/.32 mi	3.5 mi	12 mi	6 mi	1 mi
Material Site	1/15 acres	00	00	—	2/<5 acres	—	00
Roads	5/3.46 mi	00	00	9.5 mi	—	—	00
Pipelines	5/4.6 mi	1/.72 mi	2/.68 mi	19.5 mi	6 mi	<1	2.5 mi
Telephone	1/.24 mi	1/.83 mi	00	68 mi	<1 mi	>1 mi	00
Railroad ROW	2/9.1 mi	00	00	1 mi	2 mi	<1	00
RR Station Grounds	3/28.8 acres	00	00	00	00	00	00
Communication Sites	1/0.23	25/2.3 acres		00	00	00	00
Reservoirs	2/112 acres	00	00	12 mi *	00	00	00
Acquired ROWs	1/.15 mi	00	00	00	00	00	00
Water Wells	00	00	00	6 mi	00	00	0

[1]BLM, 1987

* 7 Ditches

TABLE 3.9

RIGHTS-OF-WAY GRANTED ACROSS UMNWSR[1]

	Northern Chouteau	Blaine	Southern Chouteau	Fergus	Phillips
Powerlines	2.1 mi.	—	1.75 mi.	1 mi.	—
Gas Pipelines	—	1.10 mi.	2.5 mi.	—	—

[1]BLM, 1987

TABLE 3.10

NUMBER AND SIZE OF WITHDRAWALS BY COUNTY (NO./ACRES)[1]

	Chouteau	Hill	Blaine	Glacier	Toole	Liberty
Power Site	3/12,548	—	5/8,338	1/1,230	2/3,050	2/5,240
Reclamation	5/15,781	13/29,885	5/64,800	9/42,986	9/3,162	12/10,621
Wildlife Refuge	1/280	2/6,708	1/1,160	—	—	—
Native American Res./BIA	1/31,306	1/78,000	1/500,226	9/1,314,698	—	—
Coal Res	1/33,060	—	1/15,188	—	—	—
Internat'l Bndry.	—	1/308	1/376	1/57	1/310	2/174
Glacier Natl. Park	—	—	—	2/364,755	—	—
Forest Service	—	—	—	2/27,507	—	—

[1]BLM, 1987

EMPHASIS AREAS

Emphasis areas are areas that may require special management to protect resource or human values.

The UMNWSR Corridor is currently the only designated emphasis area in the planning area. There are three other areas identified as possible emphasis areas. They are the Kevin Rim, Sweet Grass Hills and Cow Creek area. Each of these areas has resource and or human values that are unique within the planning area. Only these unique values will be discussed in detail for each area. The values and/or resources that a potential emphasis area has in common with the entire planning area will not be discussed individually except for a brief overview of land uses, social and economic status, vegetation communities and livestock utilization. For a description of those common resources please refer to the appropriate section in this chapter. Figure 1.2 shows the location of these emphasis areas.

Kevin Rim

The Kevin Rim contains significant resources (exceptional raptor habitat, a major oil-gas field and significant archaeological sites) which are unique to the planning area. These resources and values form the basis for considering this area as an emphasis area. Figure 3.5 identifies the boundaries of the unique resources in the Kevin Rim area.

The Kevin Rim serves as a primary breeding and nesting area for a number of raptors including state sensitive species such as the golden eagle and ferruginous hawk. Other raptors using the rim include the prairie falcon and rough-legged hawk. The steep, south facing walls of the rim provide optimum habitat for raptor breeding and nesting and is an uncommon feature in this area of gently rolling plains. Yearlong raptor use of the rim also occurs however, a complete raptor inventory has not been made of the rim area.

The Kevin Rim also has potential high value habitat for peregrine falcons, a federally listed endangered species. No known use of the rim is presently occurring. However, peregrine falcons have used a nest site on Kevin Rim in the past. The rim has been identified as a reintroduction peregrine site.

Most raptors, including those using the rim, are quite susceptible to disturbance. This is especially crucial during the breeding and nesting period and may be a significant factor limiting maximum raptor use of the rim.

Most of the oil-gas resources within the Kevin Rim area are located in the Kevin-Sunburst field and the Amanda gas field. The discovery well for the Kevin-Sunburst field was drilled in March of 1922. By 1930, approximately 400 oil/gas wells had been drilled. By this time the margins of the field were fairly well defined (except for the west side) and it was quite obvious this area contained a large volume of oil-gas. The 1984 estimate of original oil in place was 273,240,000 barrels.

In 1984, production from the Kevin-Sunburst field was approximately 810,000 barrels of oil with cumulative production in excess of 75,000,000 barrels. Oil production is mainly from the Madison limestone and Sunburst sandstone, with minor occurrences in the Cretaceous age Kootenai and Colorado groups.

Gas occurs mainly in the Sunburst sandstone with minor production from the Madison limestone and the Blackleaf formation. The estimated gas production during 1984, was 754,000 cubic feet. Few wells have tested the potential of the Devonian strata, however it is known to have gas flows containing large amounts of carbon dioxide and some hydrogen sulfide. Recently, to the east of this region, a well was drilled to the Devonian age Nisku formation and completed as an oil well. It is highly probable that further exploration into deeper zones will prove quite productive.

Spacing regulations allow nine oil wells per 40 acres in the Kevin-Sunburst field. Gas wells are spaced so no gas wells will be closer than 2,400 feet of producing from the same formation. Presently 119 wells have been drilled in the proposed emphasis area. Approximately three wells are drilled yearly with two wells located on federal minerals.

The Amanda gas field founded in 1979, in the Swift formation established a 320 acre spacing regulation for gas wells. Approximately nine wells have been drilled on federal minerals in this field since its formation. Most of the production is from the Bow Island, Sunburst and Swift formations.

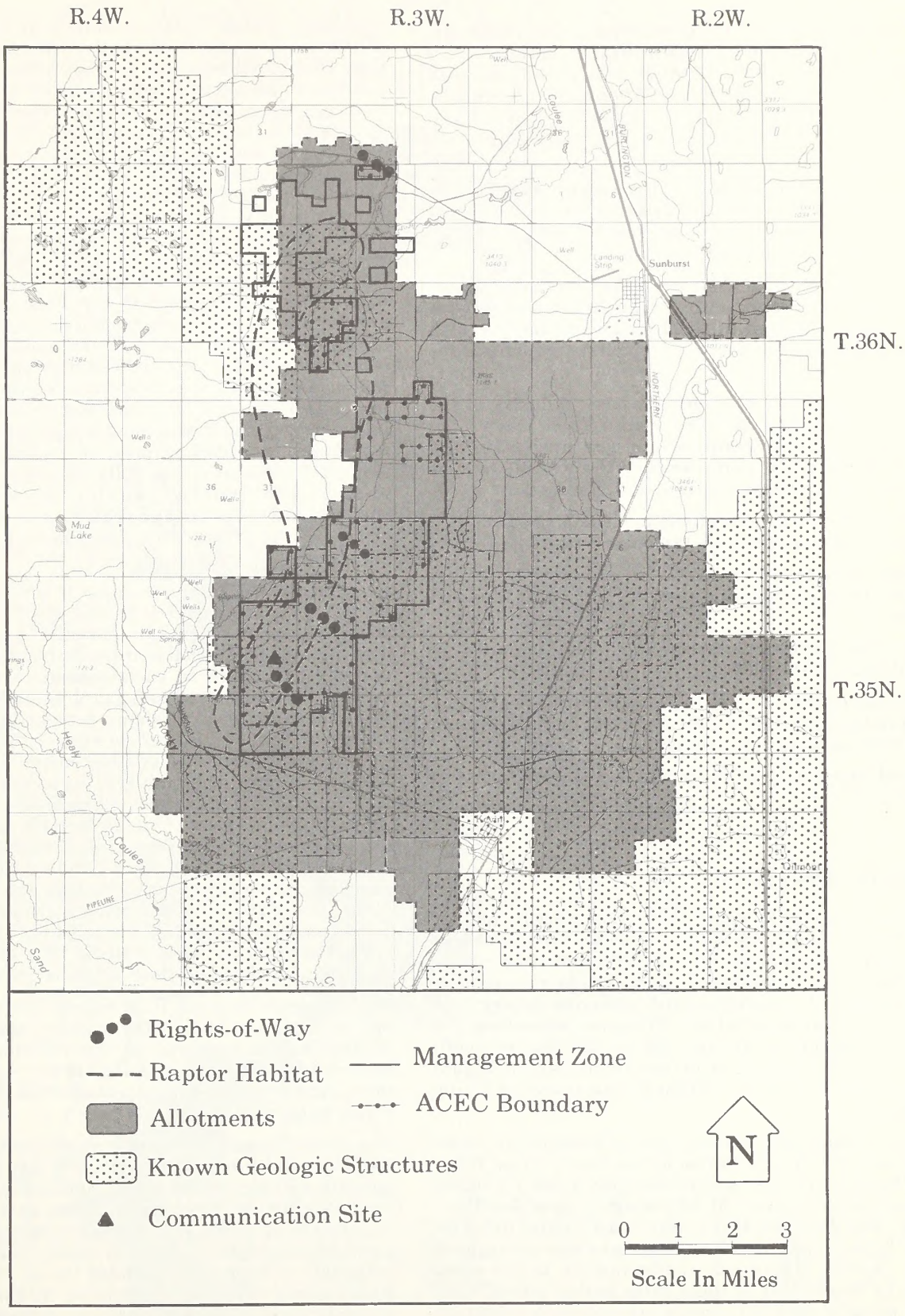
Generally, the locatable mineral potential in the Kevin Rim area is considered to be low. There are no mining claims located on these lands. However, there is a high potential for the occurrence of magnetite sand deposits inside the proposed Kevin Rim emphasis area. Occurrences of rare earths, iron and titanium are also known to be present in the region. The development potential of all these minerals is low. There is no qualitative data indicating concentrations approaching commercial grades.

Archaeological resources are significant. The Kevin Rim is a major escarpment located near numerous lakes and ponds. The area offered excellent buffalo hunting opportunities during prehistoric and early historic times. The rim was used for jumps which involved driving the buffalo over the edge to be killed by a fall of over 60 feet. The buffalo were then processed and consumed on the plains below as evidenced by hundreds of occupation sites along the base of the rim and extending outward for several miles.

Although the inventory data is incomplete, a number of buffalo jump sites are known along the edge of the Kevin Rim. At least four of the sites have pairs of rock alignments or "drive lines", leading to the edge of the rim, and two of these are known to have extensive bone beds in the deposits below. The area below the rim has better inventory data which indicates a high density of archaeological sites (approximately 1 site per 40 acres or 16 sites per section). Most of the sites consist of stone circles, or "tipi rings", and many of these are quite extensive (one site covers 160 acres and contains almost 300 tipi rings).

Many of the known sites, and those yet to be discovered, are important for their potential to provide archaeological information on prehistoric peoples who inhabited the western fringe of the Great Plains and interacted with Plateau peoples further west. Moreover, the area offers an opportunity for archaeologists to study the relationship of a variety of sites to a complex environment. The Kevin Rim area is considered a sensitive zone for cultural resources.

Figure 3.5 Kevin Rim Emphasis Area



Resource discussions of land uses, social and economic conditions, soil types, and livestock utilization specific to this area are provided below. Although not significant to the question of whether or not this area should receive emphasis management attention, these resources and land uses complement the discussion of significant resources by providing an overview of the area.

Rights-of-way within the Kevin Rim area consist of roads, pipelines, etc. associated with oil-gas activity as well as one communication site located on the rim. No easements have been obtained by BLM within the area.

Agriculture is the basic industry of the study area providing 400 jobs in the agriculture sector of the economy for Toole County. The use of BLM rangeland for livestock grazing is not significant to the agriculture industry in the area.

Oil and gas production is another basic industry of the study area providing 260 jobs within Toole County. In 1984, 12.8% of Toole County's total gas production and 46.4% of its oil production was from the Kevin-Sunburst field. This production was valued at $25 million.

Social attitudes and perceptions are similar to the planning area as a whole and are typical of a rural area.

Soil types include loamy glacial till uplands, loamy and clayey sedimentary uplands and slow permeable fans and terraces.

Five livestock permittees run cow-calf operations, utilizing 1,775 AUMs of public forage.

Other resources and values found in Kevin Rim are common to the entire planning area and are described in the appropriate section of this chapter.

The legal description of the Kevin Rim area is given in Appendix 3.1.

Sweet Grass Hills

The Sweet Grass Hills emphasis area is unique because of its traditional religious importance to the Blackfeet, Chippewa-Cree and other Native American tribes; gold, coal, silver and copper mining history; habitat potential for reintroduction of the endangered peregrine falcon; and important elk and deer habitat. These resources form the basis for considering this area for special management. Figure 1.2 shows the location of this emphasis area. Figure 3.6 identifies the boundaries of the unique resources in this emphasis area.

The area being considered for special attention includes East, West, and Middle Buttes of the Sweet Grass Hills. Middle Butte is only being considered for Areas of Critical Environmental Concern (ACEC) designation under Alternative C. The West and Middle Buttes are located in northeastern Toole County, and East Butte is located in northern Liberty County. There are approximately 18,719 acres within the boundaries of these three buttes. About 7,107 surface acres of the total acreage are administered by the BLM. An additional 11,072 acres of subsurface area also managed by the BLM.

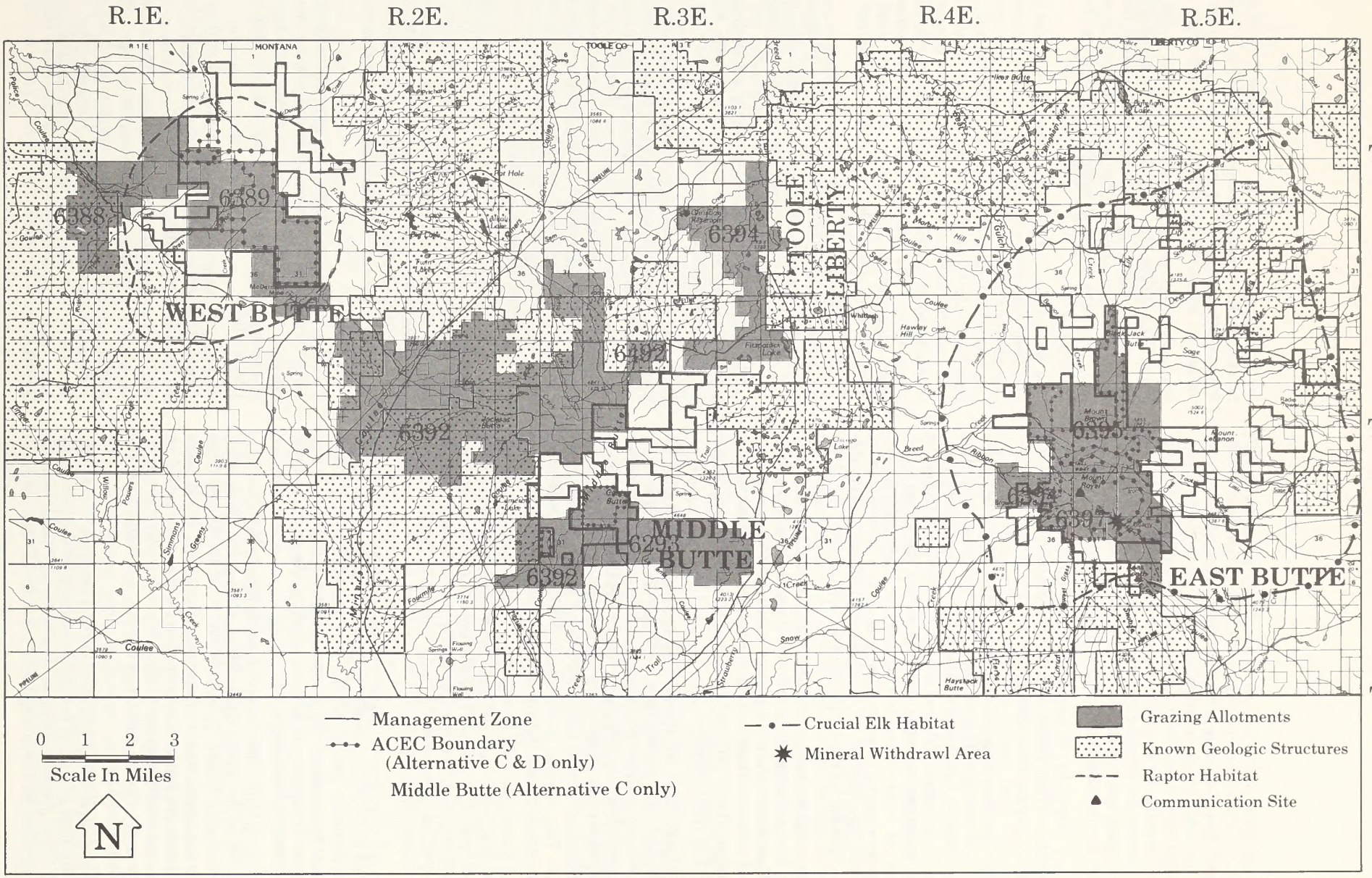
The Sweet Grass Hills are important to the Blackfeet, Chippewa-Cree and Gros Ventre tribes for the practice of their traditional religious activities. There are numerous published and unpublished sources on file that document this importance. As some examples, the Sweet Grass Hills were noted as important to traditional Blackfeet religious activities in the Congressional report on the American Indian Religious Freedom Act hearings in 1978. The Gros Ventres are reported to have used Middle Butte and Porcupine Butte for vision quests in the late 1880s. Modern religious use of Mount Brown by members of the Rocky Boys Reservation is documented in the BLM files. Such use is also reported by ranchers in the Sweet Grass Hills and has been further documented in the BLM sponsored ethnographic overview of Montana. With the current resurgence of traditional religion and the religious practices which have occurred all along, Native Americans continue to seek places to exercise their ceremonial practices. A resurgence has taken place to combat social problems through improvement of self-image and is expressed in learning the traditional language, dances, ceremonies, and religious rituals. The Sweet Grass Hills offer the solitude and an undisturbed environment which are key elements for these customs and the peace and solitude appreciated by many, especially for those who practice traditional religious activities.

Religion along with the language is seen as central to the Blackfeet for keeping their culture alive. They are central elements for contact with the Blackfeet past. Principal figures in the Blackfeet religion are the bundle holders. These are the individuals in each generation who have been selected to receive and safeguard specific sets of sacred information or sacred medicine. Among the Blackfeet there are now only 12 of these people while in the past there were many more. Each holder of a sacred bundle has a group of followers and this community is the basic unit of Blackfeet religious practice. There is considerable movement between the followers of bundle holders depending on the needs of the people and the kind of spiritual guidance or medical help they need. Each bundle holder does have a particular place, a geographic locality, that is important to them, and of the 12 bundle holders presently among the Blackfeet, 4 have a special relationship to the Sweet Grass Hills. For them the area is where they must go for their sacred responsibilities, their religious activities.

There are records in the BLM files for archaeological sites on the summit of Mount Royal and on the slopes of West Butte. The sites consist of the remains of structures regarded by Plains archaeologists as vision quest structures. Additional inventory and research will undoubtedly reveal more sites.

The Sweet Grass Hills contain significant mineral deposits. West Butte is a 30 square-mile exposure of diorite porphry and monzonite, a rock similar to granite but with very little quartz. East Butte covers an area of approximately 9 by 10 miles. The igneous rocks consist of syenite, syenitic lamprophyres, and low quartz rocks. Sedimentary rocks which have been intruded by the laccoliths in the Sweet Grass Hills show alteration by contact metamorphism in localized areas. The Madison limestone is uplifted and exposed on the north, east and south slopes of East Butte.

Figure 3.6 Sweet Grass Hills Emphasis Area



There are areas of contact metamorphic mineralization on East Butte. One is at the head of Tootsie Creek, located on the north flank of Mount Royal, and extending eastward along Tootsie Creek. Another mineralized deposit can be found in the same vicinity down the south and southwest slope of Mount Royal, at the head of Ribbon Gulch. West Butte has no publicly known mineralized zones, however second-hand reports indicate that wire gold was found there in a talus slope at the turn of the century.

There are currently 165 unpatented mining claims on East Butte alone. West Butte and Middle Butte also contain numerous unpatented mining claims.

Gold prospecting was widespread on East Butte near the turn of the century. The principal areas of placer mining were on Tootsie Creek and on the south slope of East Butte. However, the total gold production was small. Distribution of the workings suggest that the placer gold has been derived in part from the fluorspar lodes along the limestone-syenite contact. There is also a possibility of large tonnage, low grade, gold mineralization within the syenite, similar to the Little Rockies occurrence.

The potential for the occurrence of gold and silver deposits in the Sweet Grass Hills is high. A quantitative sample from East Butte shows a gold content of 0.073 ounces per ton and silver content of 1.75 ounces per ton (Ross, 1950). Development potential is dependent on the extent and consistency of such deposits.

Iron, copper, lead, zinc, and fluorspar are also found on East Butte. Past efforts to mine these deposits have been sporadic and generally unsuccessful. The best iron deposits occur on claims patented in 1896. Here the iron occurs in beds up to 50 feet wide over a surface length of 700 to 800 feet. Samples assay about 60% iron and contain some copper. The claims have been worked intermittently, though it's doubtful any ore was ever shipped.

At the Sweetgrass Mine on East Butte, several tons of copper, lead, zinc and 651 ounces of silver were produced before it was abandoned. In 1966, the Anaconda Company smelted 100 tons of a high silica ore containing lead, copper, silver and traces of gold from the vicinity of the Brown-eyed Queen Mine.

On West Butte, igneous intrusions into formations containing coal beds, have locally metamorphosed the seams to semi-anthracite grade. At the McDermott Mine a 2-foot seam has been mined. There is currently no coal mining in the area. There are no known recoverable coal resource areas classified for this area.

Stone and riprap have been extracted from quarries in the intrusives in the Sweet Grass Hills. Currently, there is an inactive riprap quarry in Section 32, T. 36 N., R. 5 E. This quarry is located on a patented mining claim. The Bureau of Reclamation has a withdrawal in Sections 29 and 32 for preserving riprap sources needed for reclamation projects. However, no riprap sources were ever developed on the withdrawn lands.

Another unique feature of the Sweet Grass Hills is the high value habitat potential for reintroduction of the peregrine falcon. The peregrine falcon is a federally listed endangered species. South facing cliffs provide excellent habitat for breeding and nesting. Such cliffs are an uncommon feature in this area of gently rolling plains. Use of the cliffs for breeding and nesting would allow peregrine falcons to utilize the surrounding prairies as a food base.

No peregrines are currently known to use the Sweet Grass Hills. The Sweet Grass Hills have been proposed as an important portion of a reintroduction area. If peregrines were to be reintroduced, they would be introduced to a hack site. The hack site would imprint the site as their "natal" breeding area.

The Sweet Grass Hills also provide excellent habitat for elk, mule deer and white-tailed deer. The forested habitat, topographic relief and lush drainages are unique to the prairies of northern Montana. Elk inhabit both buttes and number from 130-150 head depending on the production and harvest. One inventory flight in the winter of 1982-83 yielded a total of 156 elk. The East Butte generally harbors about 66% of the elk, the West Butte the remaining 34%. Some mid-winter and spring inventory work has been accomplished, but little is known of elk habitat and needs for the remainder of the year.

Elk inhabiting the East Butte tend to concentrate during winter on the east side in the general locale of Mount Lebanon. Here they use the wind swept (mostly warmer, southerly exposures) slopes where grasses are available, while bedding in the nearest timber where thermal cover provides protection. Elk on the West Butte, likewise, use southern exposures in the winter.

It is suspected that calving occurs on the upper reaches of these exposures where timber meets open range. Calving should peak about the beginning of June. Summer months are probably spent in high-timbered areas, and this would likely be the period when elk are most dependent on public lands. At the onset of the rut and as the vegetation at the higher elevations tends to dry up, elk probably begin to congregate along the lush vegetation areas of the drainages and make heavy use of crop land.

It is at this time that archery season begins, which tends to scatter elk to more secure areas where access (from either a permission or physical standpoint) is difficult. Following archery season, the rifle season also keeps elk in secure, less accessible areas. Rifle hunting for elk is by permit only, and recently 50 permits (20 either sex and 30 cows) per year have been given. The success rate for this hunt is high (60-70%).

The degree, types of, and areas of competition between elk and livestock are undetermined at this time. An increase of elk over the present number or complaints by either grazing lessees or sportsman would create the need for a competition study.

The most numerous big game animal within the Sweet Grass Hills is the mule deer. Surveys have yielded densities as high as 22 deer per square mile.

Mule deer, as do elk, prefer the south-facing wind blown slopes during the winter, concentrating at the prairie timber edges. But mule deer are scattered throughout the Hills, and heavy concentration areas are hard to pin-point. Deer also form smaller wintering groups than elk, therefore, winter concentration areas are more numerous and scattered.

Mule deer use drainage bottoms, hay and alfalfa crop lands during all seasons of the year. Mule deer use of some of the higher elevation timbered areas, dominated by public lands, is highest during the summer.

White-tailed deer are common to all drainages extending from the hills. The rank deciduous-shrub vegetation lining these drainages creates excellent cover as well as forage for whitetails. The heads of some of these drainages lie mid-slope in the hills and the deer habitat can extend for over 5 miles down their length. Hay cropland can be important as feeding sites for the whitetails.

Resource discussions of land uses, social and economic conditions, soil types, and livestock utilization specific to this area are provided below. Although not significant to the question of whether or not this area should receive emphasis management attention, these resources and land uses complement the discussion of significant resources by providing an overview of the area.

One communication site exists on Mount Royal in the East Butte of the Sweet Grass Hills. Ten buildings, housing 25 users make this the area's major communication site. The Mount Royal Users Association is composed of the current users and governs the use of its members.

Six livestock operators are authorized 674 AUMs within the East and West Buttes of the Sweet Grass Hills. The use of rangeland for livestock production is important to the local economy of the area.

Hunting is prominent in the lifestyle of many area residents and is important to area residents.

Soil types include loamy and clayey soils on fans and footslopes of mountains and foothills; loamy and clayey soils on forested mountains; loamy and loamy skeletal soils on bedrock ridges and footslopes of mountains; and medium texture soils on terraces, footslopes and fans.

Other resources and values found in the Sweet Grass Hills are common to the entire planning area and are described in the appropriate section of this chapter.

Appendix 3.2 gives the legal description of this emphasis area.

Cow Creek

The Cow Creek area is in southeastern Blaine County. There are approximately 18,800 acres inside the unit. Although the majority of the area is public land, 4,000 acres (21%) of the creek bottom is privately owned. Three tracts of Montana state owned land, or 800 acres are scattered along the units border. The BLM is near finalizing an exchange that would acquire an additional 850 acres of the private land.

The Cow Creek area contains a portion of the Nez Perce National Historic Trail; a portion of the Lewis and Clark National Historic Trail; the Cow Island Trail; high scenic quality; and important paleontological sites. All of these resources are unique to the planning area. The Cow Creek emphasis area also overlaps portions of the UMNWSR and the Cow Creek WSA. Figure 1.2 shows the location of this emphasis area. Figure 3.7 identifies the boundaries of the unique resources in the area.

A premier portion of the Nez Perce (Nee-Me-Poo) National Historic Trail is found in the Cow Creek area (see Figure 3.7). This portion has been recognized as extremely important for several reasons. First, it runs through an area that is largely unchanged since the Nez Perce made their famous journey. It is also an area where an extensive portion of this trail has remained in federal ownership.

These outstanding characteristics were recognized in the planning documents prepared by the United States Forest Service (USFS) that set the stage for National Historic Trail designation in 1986. Those documents recommend developing a total of 464 miles of the trail with an emphasis on the recreational opportunities of foot and horse travel. Of the 464 miles, 119 miles are in the Cow Creek emphasis area; one of the few trail segments the public can enjoy almost exactly as it was in 1877.

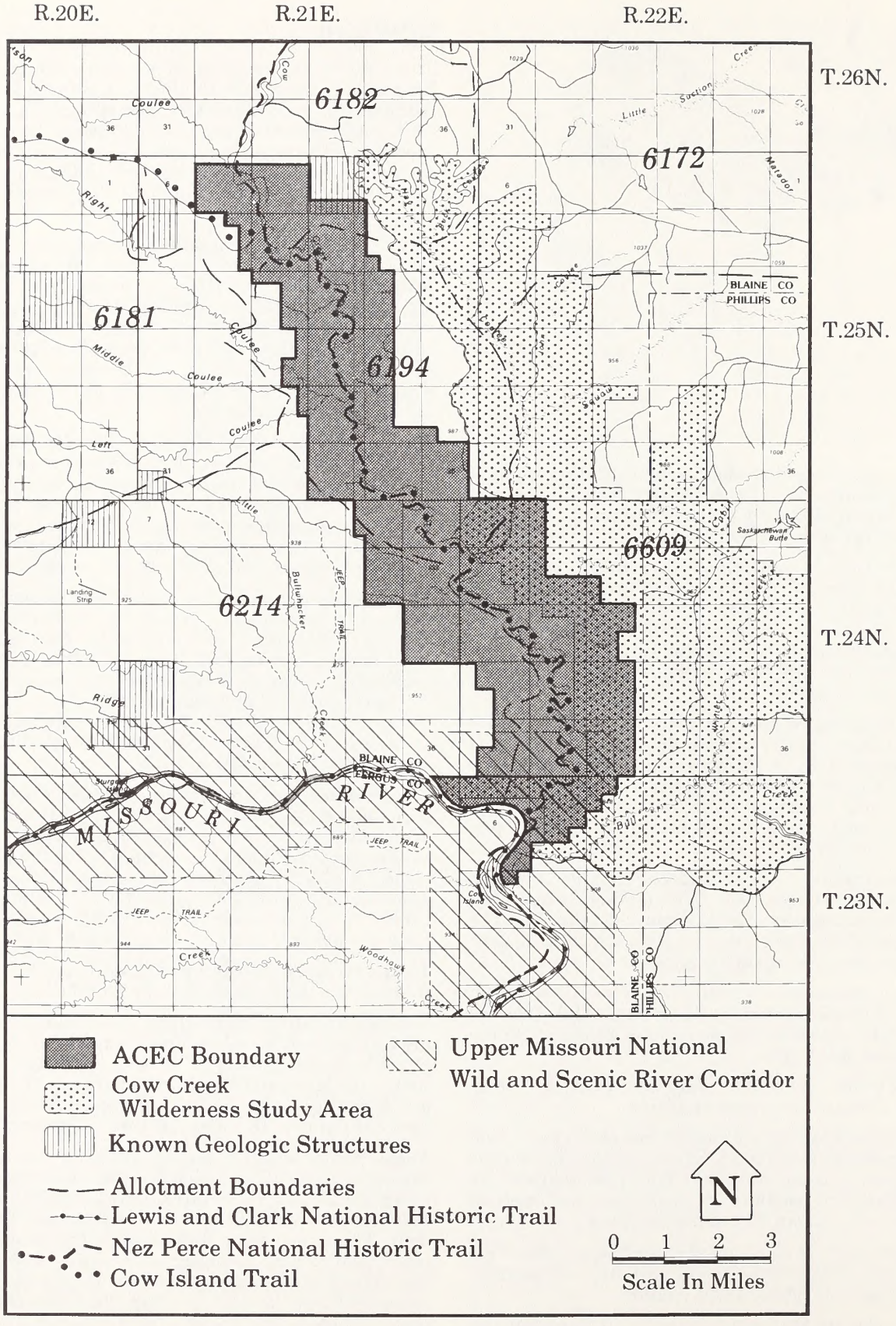
The 16 mile long corridor also includes a portion of the regionally significant Cow Island Trail. It was the main overland route for carrying persons and goods from the Cow Island Landing to Fort Benton, when the steam boats could not advance upstream. The scenery of the land is still extremely similar to that period of time. This portion of the trail is no longer used by vehicle traffic. Some abandoned out buildings still lie in the vicinity of the trail.

The Lewis and Clark National Historic Trail (the Missouri River) forms the southern boundary of the Cow Creek area.

Except along the Missouri River, the land in the Cow Creek area is rated as Visual Resource Management (VRM) Class IV with a scenic quality of "B" or good scenery. The lands within the Missouri River Corridor are rated Class I with a scenic quality of "A" or excellent scenery. The VRM inventory was done for the Missouri Breaks Grazing EIS.

This is not an accurate portrayal of the visual qualities in this area. The entire landscape is extremely dissected with steep cliffs and rock outcroppings. Sharp contrasts between the creek bottom and overlooking ridges are evident. The topographic difference in the area can range nearly 800 vertical feet over distances less than 1 mile. The only major difference between the visual quality of the Missouri River Corridor and that of the Cow Creek area is the visual contrast of the ecosystem associated with a large river.

Figure 3.7 Cow Creek Emphasis Area



The area has significant paleontological values. Early explorations (1870s-1880s) yielded many new fossils, particularly dinosaurs. Though most were identified by incomplete skeletons, a dinosaur (*Triceratops*) was found in the Eagle Sandstone at the mouth of Cow Creek. Extensive surveys by the BLM in 1983-84 along the Missouri River between PN Landing and Kipp State Park made substantial contributions to the interpretation of geology and paleontology of this section of the Missouri Breaks.

Discussions about land uses, social and economic conditions, soil types, vegetation communities and livestock utilization specific to this area are provided below. Although not significant to the question of whether or not this area should receive special management attention, these resources and land uses complement the discussion of significant resources by providing an overview of the area.

Agricultural and oil and gas production are basic industries for the local economy in Blaine County. The Cow Creek area contains portions of five grazing allotments with, current authorized use estimated at about 1,500 BLM AUMs or 1.7% of the total AUMs licensed by the Havre RA. Livestock projects primarily include small pit/retention reservoirs, fences and wells. The use of BLM rangeland for livestock production is important to the local economy in this area.

Information on visitor use in the area is not available to estimate the expenditures associated with recreation use. The Nez Perce and Cow Island Trails currently have limited use by recreationists but this could change with the special designation and associated publicity. Camping and hunting mule deer throughout the area are important recreational activities. These activities provide expenditures to the local economy in sporting goods stores, motels, service stations and other services.

Soil types found within the area include clayey acid shale uplands, calcareous or bentonitic shale uplands, loamy sedimentary uplands and clay shale uplands with forest cover. Soils are fragile and have naturally high erosion potential.

The Cow Creek area currently provides medium to high value mule deer and sharp-tailed grouse habitat. The area also supports large populations of non-game birds, particularly in the cottonwood groves. There are signs of beaver activity along the creek bottom.

The fisheries potential for the area, based on current management, is limited by the lack of year-round water in the Cow Creek. Appendix 3.3 is a legal description of the Cow Creek Emphasis Area.

UPPER MISSOURI NATIONAL WILD AND SCENIC RIVER

The UMNWSR is situated along the southern boundary of the planning area between Fort Benton and US Highway 191. This 149 mile portion of the Missouri River flows through Chouteau, Blaine, Fergus and Phillips Counties. Included in the planning area are the river, its management corridor, and adjacent lands important to river management where bank to bank boundary limitations are in effect.

The Upper Missouri supported periods of exploration, fur trade, steamboat navigation, military activity, early settlement, development of the livestock and farming industries, homesteading, and today provides a great deal of recreation. The scenery along the river is interesting and varied; changing from a broad valley rich in riparian vegetation below Fort Benton, to the unique and beautiful "White Cliffs" below Coal Banks Landing, to the sharply carved and rugged "Badlands" below Judith Landing, to the rolling pine and juniper covered slopes of the "Breaks" below Cow Creek. These contrasting habitats also provide for a diverse and plentiful wildlife population.

Boating the Upper Missouri just for the sake of being on the water occurs, but the beauty and the solitude along the route are highly important. For the history buff, the river is an avenue into the past, providing the opportunity to visit the sites of prehistoric and historic events to try to imagine how it was. For the wildlife enthusiast, especially the bird watcher, the river is a living museum of natural history. For those interested in geology, the river has exposed a fascinating display of Cretaceous age formations, and the effects of more recent faulting and volcanic eruptions. Subsequent erosion has created a unique array of strangely beautiful land forms.

The river valley's unique beauty and abundant wildlife have been noted ever since the Lewis and Clark expedition passed through here in 1805. In our modern, urbanized, high tech society, the area's pristine scenery and opportunities for solitude and recreation in an unconfined setting are extremely important values. Much of the attention focused on the Upper Missouri result from its long and colorful history.

Formal recognition of the Upper Missouri's significant recreational values was first provided by the State of Montana in 1966, when it was designated a component of the Montana Recreational Waterway System. The importance of these values was confirmed by the river's inclusion in the National Wild and Scenic River System in 1976.

As required by Congress (P.L. 94-486), the BLM completed a management plan in 1977, which established boundaries; designated portions of the river as wild, scenic or recreational; and developed management guidelines. The boundaries were established as rim to rim (or the area seen from the river), except for the portions between Fort Benton and Coal Banks Landing and within the Charles M. Russell National Wildlife Refuge. Within these portions, a bank to bank boundary was established by Congress, although significant historic sites and necessary campsites and access points can be included. The various portions of the river were designated as outlined in Table 3.11. The river classifications and the recreation facilities are shown on Figure 3.8.

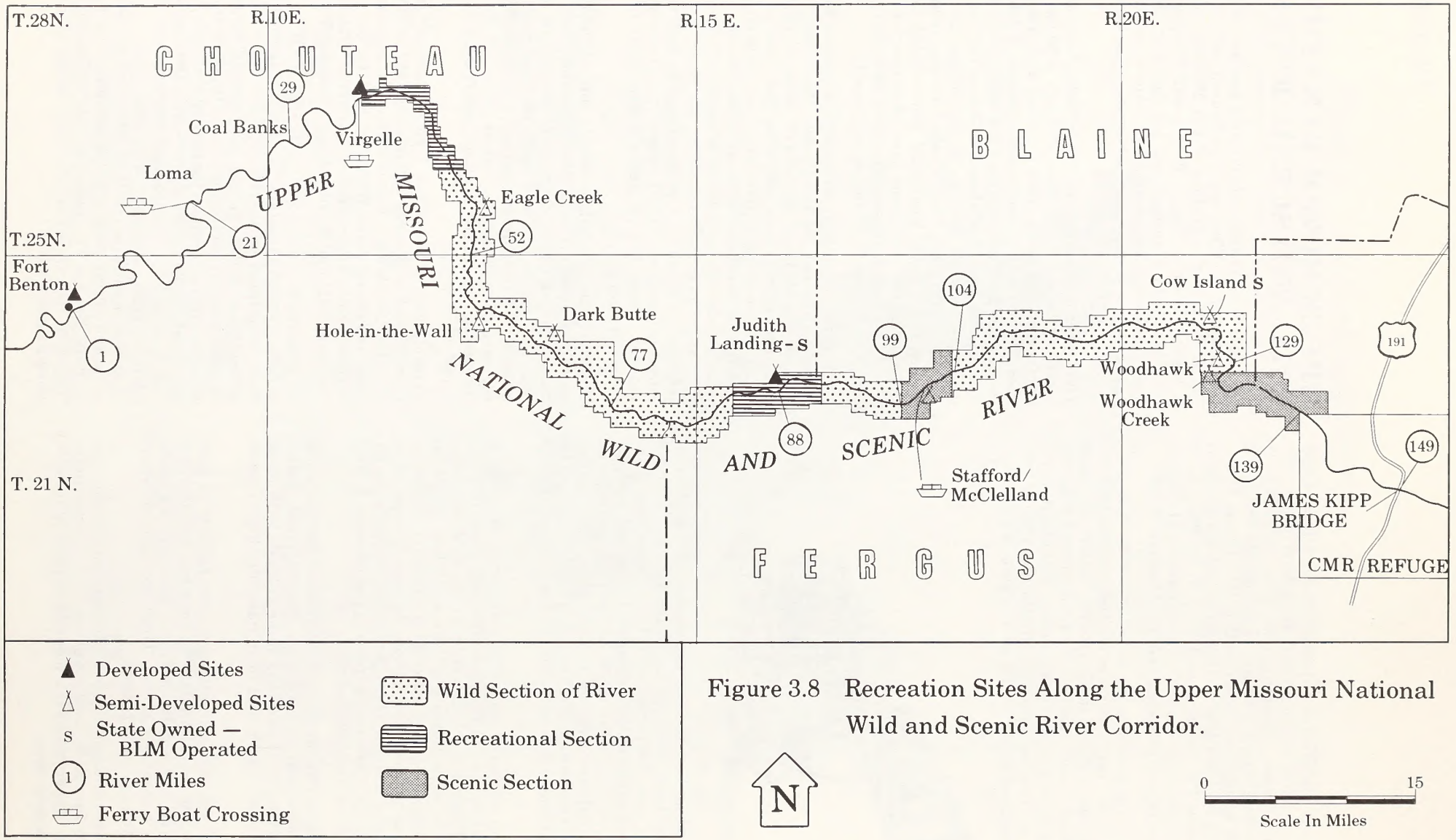


Figure 3.8 Recreation Sites Along the Upper Missouri National Wild and Scenic River Corridor.

TABLE 3.11
MANAGEMENT CLASSIFICATION FOR UMNWSR[1]

River Miles	Place Name	Length (Miles)	Management Classification
1 - 52	Fort Benton - Ebersole Bottom	52	Recreational
52 - 85	Ebersole Bottom - Deadman Rapids	33	Wild
85 - 92	Deadman Rapids - Holmes Rapids	7	Recreational
92 - 99	Holmes Rapids - Leslie Point	7	Wild
99 - 104	Leslie Point to Magdall Homestead	5	Scenic
104 - 128	Magdall Homestead to Cow Island	24	Wild
128 - 149	Cow Island - Fred Robinson	21	Scenic

Wild: Those rivers or sections of rivers that 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.

Scenic: Those rivers or sections of rivers that are free of impoundments, with shorelines or watersheds still largely primitive and shorelines largely undeveloped, but accessible in places by roads.

Recreational: Those rivers or sections of rivers that 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.

[1]BLM, 1987

A unique provision of the Act (P.L. 94-486) was that the Upper Missouri also be managed in accordance with the provisions of the Taylor Grazing Act (48 Stat. 1269), as amended (43 U.S.C. 315), under principles of multiple use and sustained yield as long as this management stays consistent with the provisions of this Act (P.L. 94-486) and the Wild and Scenic Rivers Act (P.L. 90-542). Management of the UMNWSR is currently guided by the *Upper Missouri Wild and Scenic River Plan*. This plan will be updated after this RMP/EIS is finalized.

In 1978, the Lewis and Clark National Historic Trail was designated. The Upper Missouri is recognized as a premier component of that system. The expedition spent the better part of 21 days along this segment of the Missouri during the outbound trek, and Captain Lewis spent an additional 4 days here during the return trip. Twelve of their outbound campsites have been carefully located (they spent more than a week at the Marias River campsite) as have three of the return campsites. Nowhere else along the route of the "Corps of Discovery" are the opportunities better for reading the journals of Lewis and Clark and experiencing the scenes that are described. The magnitude of the undertaking, the stature of the men, and the quality of their work take on new meaning in this little changed setting.

The Upper Missouri was included in the National River Recreation Study, which was supervised by the North Central Forest Experiment Station, St. Paul, Minnesota, during 1977, 1978 and 1979. A great amount of information about visitor characteristics, perceptions, activity and resource preferences, and trends in use was developed by this study. Table 3.12 illustrates the distribution of use and length of stay along various portions of the river.

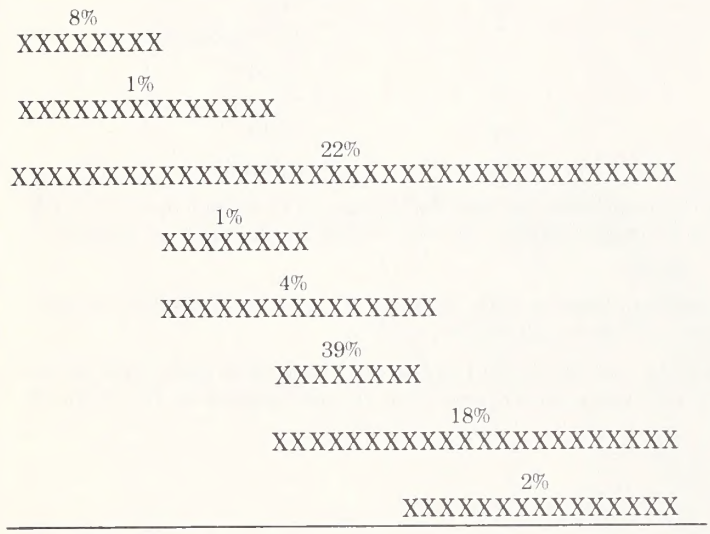
The study results for the Upper Missouri showed that, in descending order of preference, the experiences sought were viewing scenery, peace and calm, learning new things, escaping crowds, and being with friends. Problems identified were too few sources of drinking water, poor quality campsites, and livestock. Evaluation of activities in which visitors wanted to participate finds seeing historical sites and visiting archaeological sites at the top of the list.

The number of archaeological sites identified along the river is now 274, and 90% of the public lands within the river corridor remain to be inventoried. These sites include tipi rings, drive lines and rock cairns along the rims and butchering, processing and camping sites across the river terraces. Sites along the rims are often fully exposed, while terrace sites are usually buried. These sites date from 10,000 years ago, and several of them have proven to be very significant. Two major archaeological sites, Holms Terrace and Lost Terrace, have been excavated, greatly adding to the data base from which to develop visitor information and interpretation. Both man and the meandering nature of the river are having serious impacts on these sites.

The number of historic sites is 102, and they relate to the fur trade, steamboat era, early settlement and homestead days. Interpretive projects have been implemented and stabilization attempted in an effort to help protect these resources for the benefit and enjoyment of present and future generations. In 1985, the BLM entered into a cooperative agreement with Montana State University for the management of cultural resources in the area. This effort has proven very helpful in the protection and interpretive efforts.

TABLE 3.12

DISTRIBUTION OF USE BY RIVER SEGMENT (1979)



LENGTH OF STAY BY RIVER SEGMENT (1979)

Trip	Number of Days									
	1	2	3	4	5	6	7	8	9	10
	Percent									
Coal Banks to Judith Landing	1	21	56	19	3	—	—	—	—	—
Coal Banks to Robinson Bridge	—	—	5	26	29	32	8	—	—	—
Fort Benton to Robinson Bridge	—	—	6	9	8	19	32	15	0	11

[1]A Recreation Manager's Guide to Understanding River Use & Users, USDA, Forest Service, Gen. Tech. Report WO-38, Feb. 1984, 37 p.

Since the completion of the management plan in 1978, 3,331 acres have been added to the federal estate along the river through exchange or purchase. Scenic or scenic/access easements have been acquired on an additional 4,000 acres. This has added 18.77 miles of shoreline in fee title and 7.2 miles in easement. The success of the acquisition program has created new opportunities for protecting the visual resources and for activities like camping, hiking, fishing, etc., and it has increased responsibilities in areas like cultural resources management and visitor health and safety. Table 3.13 details the landownership classifications along the UMNWSR.

Most of the known paleontological resources in the planning area have been located along the river. BLM surveys in 1983/84 between Judith Landing and US Highway 191 identified 104 sites in the Judith River Formation. These sites varied from incomplete dinosaur skeletons, diverse invertebrates to "wash" sites consisting of small teeth, scales, vertebra and similar materials.

Visitor use of the Upper Missouri has been increasing ever since its designation (see Table 3.14), and recent monitoring efforts have demonstrated that as much or more use is occurring outside of the primary use season. Most of this additional use is occurring during the fall hunting season. A recent review of the methodology used to calculate visitor use data, especially bankside and hunting use, reveals that it may have been an ultra-conservative approach, and that actual use is much greater than that calculated, approaching 40,000 to 50,000 visitor days annually.

There is little recreational development along the river away from the launch/take out points and most camping is primitive in nature. Several pit toilets, a few of them within livestock exclosures, constitute most of the development (see Table 3.15). Boaters are usually attracted to cottonwood groves along the river for their picnic and camp sites. The groves provide shade, firewood, and an attractive setting for these activities. Livestock are also attracted to these groves next to their water source, and conflicts do occur. Many of the groves along the river are decadent, and few new groves are developing.

The Upper Missouri is an easy river to boat, and as such is attractive to a wide variety of age groups and skill levels. It is particularly popular with novice canoers. However, existing and potential hazards exist; the river contains shifting gravel bars, snags and strong undertows. Three ferry boats cross the river (see Figure 3.8), and they create a strong undertow, while their low cables are an ever-present capsizing hazard. During high water, these cables often touch the water surface and are not apparent. Around campsites, the brittle nature of cottonwood is a hazard because high winds can send large branches crashing to the ground unexpectedly. Sanitation around the campsites is a human health hazard that is directly proportional to increased use.

A visitor contact station has been established in Fort Benton for registering boaters and supplying maps, litter bags and river and tourist information. In the station, simple interpretive displays and programs on the river and its resources are provided. There is a heavy emphasis on river safety. Positive experiences and a growing relationship with the Fort Benton community indicate potential for an expanded operation in the future. Rangers are also stationed at Coal Banks and Judith Landings to provide similar services in a less formal setting, usually at the boat ramp.

TABLE 3.13
LANDOWNERSHIP CLASSIFICATION ON UMNWSR

COUNTY	TYPE	CLASSIFICATION								
		Surface Ownership	Power Site Classification	Coal Reservation Mont	Easements S(1)	Easements A(2)	Easements S/A(3)	Trespass	Fed. Mineral Ownership; Wild (4)	Corridor Scenic/ Recreation (5)
North Chouteau (HRA)	FED	16,585.42	4,399.05	10,930.00	3,614.59	154.62	802.54	12,000	18,760.82	1,653.48
	ST	1,539.73	0	5,301.29						
	PVT	16,522.31	771.05	160.00						
Blaine (HRA)	FED	27,342.77	6,272.31					22.00	21,479.62	5,373.73
	ST	1,539.73								
	PVT	2,068.39	409.08							
South Chouteau (JRA)	FED	9,994.94	2,854.36	120.00					8,146.51	1,937.61
	ST	1,989.30		121.34						
	PVT	6,964.46	291.02							
Fergus (JRA)	FED	32,593.22	8,115.70	49.10					26,234.16	11,958.44
	ST	4,485.94								
	PVT	7,980.14	201.61							
Phillips (PRA)	FED	4,602.98	567.88							4,634.40
	ST	87.47								
	PVT	224.76	58.35							
TOTAL for UMNWSR	FED	91,119.33	22,209.30	11,099.10	3,614.59	154.62	802.54	22.00	74,621.11	25,557.66
	ST	9,642.17		5,422.63						
	PVT	33,760.06	1,731.11	160.00						

1 — Scenic easement
2 — Archaeological easement
3 — Scenic and access easement
4 — Lands in the wild sections are formally withdrawn from mineral entry.
5 — Lands within the corridor classified as scenic and recreational are a discretionary no lease area for mineral development.
6 — FED - BLM Administered
7 — ST — State
8 — PVT — Private

TABLE 3.14
VISITOR USE UPPER MISSOURI NATIONAL WILD AND SCENIC RIVER

	PRIMARY USE SEASON[1]					LATE SEASON/HUNTER[2]				TOTALS	
	Boating			Bankside		Boating		Non-Boating			
FY	No. of Parties	No. of Visitors	No. of Visitor Days	No. of Visitors	No. of Visitor Days	No. of Visitors	No. of Visitor Days	No. of Visitors	No. of Visitor Days	No. of Visitors	No. of Visitor Days
'75	Unavail.	1,648	6,890	Unavail.	Unavail.	Unavail.	Unavail.	Unavail.	Unavail.	1,648	6,890
'76	Unavail.	2,228	9,313	Unavail.	Unavail.	Unavail.	Unavail.	Unavail.	Unavail.	2,228	9,313
'77	Unavail.	1,293	5,402	Unavail.	Unavail.	Unavail.	Unavail.	Unavail.	Unavail.	1,293	5,402
'78	Unavail.	2,056	8,281	Unavail.	Unavail.	Unavail.	Unavail.	Unavail.	Unavail.	2,056	8,281
'79	Unavail.	2,394	9,576	Unavail.	Unavail.	Unavail.	Unavail.	Unavail.	Unavail.	2,396	9,576
'80	329	1,848	6,877	Unavail.	Unavail.	Unavail.	Unavail.	Unavail.	Unavail.	1,848	6,877
'81	332	1,859	7,487	5,535	5,783	Unavail.	Unavail.	Unavail.	Unavail.	9,153	13,270
'82	356	2,115	7,260	7,282	7,995	259	961	Unavail.	Unavail.	9,656	16,216
'83[3]	443	2,995	8,910	7,200	8,000	116	450	Unavail.	Unavail.	10,311	17,360
'84	387	2,151	7,090	7,264	8,272	697	1,981	1,080	2,700	11,192	20,043
'85	470	1,687	7,792	8,135	18,877	945	3,545	Unavail.	Unavail.	10,767	30,214
'86	499	2,382	8,589	6,622	10,483	859	1,437	567	2,127	10,430	22,636

[1] Actual Observed Numbers
[2] Observation & Extrapolation
[3] Readjusted

TABLE 3.15

RECREATION FACILITIES

Facility Name	River Mile	Facilities Available	Public Land Access	Ownership
Fort Benton Visitor Center	1 N	Information, Interpretive Display	Yes	BLM
Fort Benton Boat Launch	1 N	BL	Yes	City
Evans Bend	6.5 S	DC, PT	No	BLM
Rowe Island	13.0 N	DC	No	BLM
Senieurs Reach	16.35	DC	No	BLM
Black Bluff Rapids	19.3 N	DC	Yes	BLM
Loma Ferry	21	BL	Yes	S
Wood Bottom	21.2 N		Yes	
Marias Island	22.5 N		Yes	
Spanish Islands	27.2 S	DC	No	P
Virgelle Ferry	39	BL	Yes	S
Coal Banks Landing	41.5 N	C, BL, W, PT, RS	Yes	S
Little Sandy Creek	46.7 N	DC, PT	Yes	BLM
Little Sandy Creek	47.4 N		Yes	
Lanning Ranch	51 N	L	Yes	P
White Rocks	53.1 N		Yes	
Eagle Creek	55.7 N	DC, PT	Yes	P
Hole-In-The Wall	62.8 S	C, S, PT	Yes	S
Dark Butte	69 N	DC, PT	No	BLM
Pablo Bottom	72.8 N	DC, PT	No	BLM
Stoos Ranch	75.3 N	L	Yes	P
Slaughter River	76.5 N	C, S, PT	Yes	S
Arrow Creek	77 S		Yes	P
Judith Landing	88.5 N	C, BL, PT, W, RS	Yes	S
Stafford Ferry	101.8 S	CT, W, BL	Yes	S
Gist Ranch	122.6 N		Yes	BLM
Cow Island Landing	125.5 N	DC, PT		S
Bull Creek	127 N		Yes	P
Woodhawk Bottom	130.6 S	DC, PT	Yes	BLM
	131.0 S			
Power Plant Bottom	132.3 N	L	Yes	P
Heller Bottom	136 S		Yes	P
Kendall Bottom	144 N		Yes	CMR
Knox Bottom	145.3 S		Yes	CMR
Le Clair Bottom	148.1 N		Yes	CMR
James Kipp State Park	149 S	C, PT, W, BL	Yes	S

Legend

River Mile
- N — North
- S — South

Facilities
- BL — Boat Landing
- DC — Designated Campsite
- PT — Pit Toilet
- C — Campground
- W — Water
- RS — Ranger Station
- S — Adirondack Shelter
- L — Private Launch Site

Ownership
- BLM
- S — State
- P — Private
- CMR–C M Russell Wildlife Refuge

SOCIAL AND ECONOMIC CONDITIONS

This section describes the aggregate character of an eight county study area; Blaine, Chouteau, Fergus, Glacier, Hill, Liberty, Phillips and Toole Counties. This study area covers the northern portion of the Great Falls RA, the entire Havre RA and the UMNWSR Corridor.

The population of the eight counties was 68,032 in 1980 (8.6% of Montana's total population). This was less than a 1% increase from 1970, however, the population decreased 11% from 1960 to 1970.

The largest community in the study area is Havre, with a 1980 population of 10,981, an increase of 4% over 1970. Other towns in the study area include Chinook (1980 pop. 1,660), Harlem (1,023), Big Sandy (835), Fort Benton (1,693), Cut Bank (3,688), Chester (963), Shelby (3,142), Malta (2,367) and Lewistown (7,104).

The urban population showed very little change between 1970 and 1980, while there was a shift in population from rural farm to rural non-farm. Part of this shift may be due to the decrease in the number of farms and ranches in the area. From 1974 to 1982, the total number of farms and ranches in the study area decreased 7.2%.

The study area is sparsely settled with 2.5 persons per square mile. With the exception of Hill County (6.2 persons/square mile), the population density of the area is well below the state average of 5.4 persons per square mile. This area is expected to see little population growth over the next 20 years.

Employment figures for 1978 and 1983, show agriculture, government, services and retail trade to be the main sources of employment in the study area (see Table 3.16). Those four sectors of the economy account for 74% of the 1983 total wage and salary employment. During 1983, 8% of the work force was employed in the agriculture sector, 26% in government, and 40% in services and retail trade. Total employment decreased from 1978 to 1983 by 5.4%. During this same period, employment in Montana increased by 1%.

The work forces in Blaine, Chouteau, Toole, Phillips and Liberty Counties are primarily employed in agriculture and government while the work forces in Glacier, Fergus and Hill Counties are primarily employed in the retail trade and service sectors. Havre, in Hill County and Lewistown in Fergus County serve as the areas retail trade and service centers while Glacier County serves the tourists from adjacent Glacier National Park. Employment is seasonal for the area with peak employment levels in July and August and low employment levels in January and February. This is typical of an agrarian based economy where jobs associated with agriculture occur for the most part during the late spring to early fall months. The percent of change in county employment from 1978 to 1983 ranged from -10.6% for Blaine County to 14.3% for Phillips County. Phillips was the only county to show an increase in employment for this time period.

Table 3.17 shows the study area's earnings by source for 1978 and 1983. In 1983, government contributed 21% of the study area's total earnings while agriculture and services contributed 17 and 16% respectively.

TABLE 3.16

EMPLOYMENT BY TYPE AND BROAD INDUSTRIAL SOURCE IN THE STUDY AREA: 1978-1983[1]

Wage & Salary	1978	% of Total	1983	% of Total	% Change 1978-1983
Farm	1,805	7.3	1,764	7.5	-2.3
Agr. Ser. For. Fish	149	0.6	174	0.7	16.8
Mining	958	3.9	792	3.4	-17.3
Construction	1,328	5.4	756	3.2	-43.1
Manufacturing	880	3.5	732	3.1	-16.8
Trans & Pub. Utilities	1,902	7.7	1,490	6.4	-21.7
Wholesale Trade	1,118	4.5	1,070	4.6	-4.3
Retail Trade	4,061	16.4	4,049	17.3	0.3
Fin., Ins. & Real Est.	698	2.8	763	3.3	9.3
Services	5,165	20.8	5,616	23.9	8.7
Government	6,344	25.6	6,005	25.6	-5.3
Total	24,794		23,456		-5.4

Note: Totals may not add due to data not shown to avoid disclosure of confidential information

[1]Bureau of Economic Analysis, U. S. Department of Commerce, Regional Economic Information System.

TABLE 3.17

PERSONAL INCOME BY MAJOR COMPONENT IN THE STUDY AREA: 1978-1983 ($1,000)[1]

Earnings by Industry	1978	% of Total	1983	% of Total
Farm	92,923	24.8	72,557	17.4
Agr. Ser., For., Fish	2,176	0.6	2,251	0.5
Mining	17,044	4.5	22,660	5.4
Construction	26,998	7.2	17,427	4.1
Manufacturing	11,731	3.1	13,188	3.2
Trans. & Pub. Utilities	40,923	10.9	49,912	11.9
Wholesale Trade	16,245	4.3	10,823	5.0
Retail Trade	37,573	10.0	44,333	10.6
Fin., Ins. & Real Est.	10,606	2.8	12,364	3.0
Services	50,876	13.6	69,172	16.6
Government	62,468	16.6	86,919	20.8
Total	375,427		417,757	

Note: Totals may not add due to data not shown to avoid disclosure of confidential information

[1]Bureau of Economic Analysis, U. S. Department of Commerce, Regional Economic Information System.

Since farm earnings in the planning area vary considerably from year to year, non-farm labor income can provide a measure of change in economic activity. After adjusting for inflation, non-farm earnings peaked in 1979, and then declined in 1980 and 1981 with the recent recession. Economic activity declined significantly in 1982, with non-farm earnings decreasing 8%. This compares with a 3% decline for Montana and a 1% decline for the United States from 1981 to 1982.

A major portion of the public revenues within the planning area are supported by industries such as oil-gas and agriculture. In 1984, net proceeds from oil-gas production accounted for 41% of the total taxable valuation for the eight counties and varied from less than 1% for Fergus County to 50% for Toole County. Property tax assessment on agricultural land and equipment accounted for 31% of the total taxable valuation and varied from 74% for Chouteau County to 13% for Glacier County.

Counties receive revenues from BLM lands under the Bankhead-Jones Farm Tenant Act, Taylor Grazing Act (section 15 payments) and Payment-in Lieu of Taxes Law (PILT). The State of Montana receives revenue under the Mineral Leasing Act and Taylor Grazing Act (section 3 payments). Table 3.18 shows BLM mineral and grazing receipts by county and the distribution of those funds along with PILT payments for 1983. BLM receipts for the study area were approximately $6.2 million in 1983, with $0.1 million going back to the counties, $2.3 million to the Montana State Treasurer, $0.9 million to the U.S. Treasury, $1.8 million to the Reclamation Fund of the Bureau of Reclamation and $0.8 million to range betterment funds.

Regional Economy

Like the State of Montana, the study area derives its economic strength from the natural resources. These resources include land which is used for crop and livestock production, oil-gas production, and water and wildlife that offer outdoor recreation opportunities. Most of the area's employment, personal income and gross regional product are derived from the utilization of natural resources. Many of the economic sectors are directly related to some type of natural resource and several other sectors are indirectly related to natural resource production, extraction or utilization.

Agriculture, oil-gas extraction and tourism/travel comprise the industries within the planning area that have the potential to be affected by BLMs management decisions.

A brief description of these industries is given below and whenever possible, production data is given for each industry to indicate historic output levels and the relative contribution of each industry to the economic base of the region. Table 3.19 shows average production data for livestock sales and oil-gas production in the study area. In addition, production levels associated with public resources will be discussed along with a comparison to the total production in the study area. Agriculture is the basic industry of the area providing 4,900 jobs in the agriculture sector and an estimated 15,900 jobs in other sectors of the economy. Agriculture directly and indirectly accounts for 65% of the total employment in the study area (proprietors and wage/salary employment).

TABLE 3.18

BLM RECEIPTS AND THE DISTRIBUTION OF THOSE RECEIPTS FOR 1983 AND PILT[1]

County	Mineral and Grazing Receipts*	Distribution					PILT
		Counties	State Treasurer	U.S. Treasury	BOR Reclamation Fund	Range Betterment Fund	
Blaine	$1,174,100	$101,600	$368,800	$189,400	$291,000	$223,200	206,157
Chouteau	237,800	11,600	107,300	21,500	85,900	11,600	101,074
Hill	93,000	1,300	45,200	9,000	36,200	1,300	32,765
Fergus	447,100	27,400	151,400	73,800	116,200	78,300	325,518
Phillips	3,223,200	214,500	1,124,100	494,000	883,700	507,000	130,809
Glacier	134,800	200	67,200	13,400	53,800	200	283,869
Liberty	204,900	1,000	101,500	20,300	81,200	1,000	21,891
Toole	722,500	3,500	357,700	71,500	286,200	3,500	29,978
Total	$6,237,400	$361,100	$2,323,200	$892,900	$1,834,200	$826,100	$1,132,061

*Totals may not add due to rounding.

[1]Public Lands Digest, 1984; and RMAS, 1984

TABLE 3.19

AVERAGE ANNUAL LIVESTOCK SALES AND OIL/GAS PRODUCTION WITHIN THE STUDY AREA (AVERAGE PRODUCTION BASED ON THE 5 YEAR PERIOD 1979-1983)[1]

County	Livestock Sales ($1,000)	Oil Production (Bbls)	Natural Gas Production (MCF)
Blaine	18,269	280,946	11,275,030
Chouteau	14,990	4,583	1,252,689
Fergus	32,189	0	3,354
Glacier	11,303	1,496,049	2,661,474
Hill	7,793	1,893	6,820,335
Liberty	4,419	390,737	2,248,354
Phillips	21,568	662	8,487,331
Toole	5,891	1,121,342	6,252,507
Total	116,422	3,296,212	39,001,074

[1]Reports of the State Department of Revenue July 1, 1978 to June 30, 1984, Montana Agricultural Statistics 1978 to 1983.

This area is a major contributor to Montana's wheat and barley production. From 1979 and 1983 the area produced 23% of Montana's wheat and 13% of the state's barley. Other agricultural products include oats, hay and cattle/calves. From 1979 to 1983, the study area's livestock sales accounted for 14% of Montana's total livestock sales and provided 1,500 jobs in the agriculture sector and 5,200 jobs in other sectors of the economy.

The BLM authorizes livestock grazing on 412 allotments with current authorized use to local ranch operators of 110,000 AUMs. BLM forage contributes an estimated $2.1 million annually to livestock sales. Livestock sales of $2.1 million from BLM forage generates an estimated $7.1 million in business activity, $2.2 million in earnings and the equivalent of 110 jobs in the economy (see Table 3.20). Most of the business activity and employment occurs in the agriculture and agricultural processing/miscellaneous manufacturing sectors of the economy along with the retail trade and service sectors.

Oil and gas production is another basic industry of the area providing 800 jobs in oil and gas sector and an estimated 2,400 jobs in other sectors of the economy. In 1984, 76% of Montana's total gas production and 12% of the oil production was from the study area. Currently, almost all of the federal mineral estate eligible for oil-gas leasing has been leased. In 1984, oil production from federal leases accounted for 23% of the area's oil production and 24% of the area's natural gas production. Oil and gas produced from federal leases is a substantial portion of the area's mineral production. The value of oil-gas produced from federal leases is estimated at $44.8 million since 1984. It is estimated that this production generates an estimated $72.3 million in business activity with about $14.4 million in earnings and 770 jobs in the economy (see Table 3.20). Most of the business activity and employment occurs in the petroleum and natural gas extraction, construction and transportation sectors of the economy along with the retail trade and service sectors.

TABLE 3.20

BUSINESS ACTIVITY, EMPLOYMENT AND EARNINGS RELATED TO AND DERIVED FROM PUBLIC LAND RESOURCES IN THE STUDY AREA[1]

Resource	Units	Production	Value Production	Business Activity	Employment			Total Earnings
					Direct	Indirect	Total	
Grazing	AUMs	110,000	2,067,000	7,126,000	26	86	112	2,162,000
Oil	Bbls	837,000	26,066,000	42,076,000	115	333	448	8,357,000
Gas	MCF	8,913,000	18,717,000	30,213,000	82	240	322	6,001,000
Recreation	VUD	33,000	681,000	1,254,000	8	7	15	381,000

[1]Business activity, employment and earnings were estimated using coefficients from the Montana BLM Economic/Demographic Model.

NOTE: AUM — Animal Unit Months
Bbls — Barrels
MCF — Thousand Cubic Feet
VUD — Visitor Use Day

Evaluating the economic significance of the recreation, tourism and travel industry is difficult because data are often unavailable and this industry's employment and income earnings cut across many other industry sectors. Non-resident travel in Montana was estimated at 2.2 million visitors in 1983 with expenditures by non-resident travelers at $423 million. This spending supported about 10,500 jobs and created $106 million in earnings for Montana workers. BLM land in the study area provides approximately 12,000 hunter-days and recreation use within the UMNWSR Corridor is estimated at 21,000 visitor days. This includes floater plus non-floater use such as camping and picnicking. Recreationists using public lands spend an estimated $700,000 annually. These expenditures represent direct payments to sporting goods stores, motels, service stations and other services. As recreation expenditures circulate through the economy, an estimated $1.3 million will be generated in business activity with $400,000 in earnings and the equivalent of 15 jobs primarily in the retail trade and service sectors (see Table 3.20).

Social Setting/Lifestyles

Indicators of social well-being considered include the number of physicians, crime rates, income, education, employment and household conveniences. These indicators present a mixed picture, suggesting the area has both the positive and negative factors associated with remote rural areas.

When comparing the study area to Montana, the area is lacking some basic services: the number of physicians per person is lower, education levels are slightly lower, the proportion of housing lacking some or all plumbing is higher, mean family income is lower and the proportion of families below the national poverty level is high. Positive factors include the area's remoteness and sparse population which result in freedom from many urban problems, such as high crime rates and overcrowding. In addition, the area's unemployment rate is lower than the state average.

The Native American population in the study area shows the same characteristics as the Native American population in the state: a lower percentage of high school graduates; significantly higher unemployment rates; and lower mean family incomes. Although Blaine County, with the Fort Belknap Indian Reservation, has the lowest unemployment rate among Native Americans, it also has the lowest mean family income in the study area. Hill County, with the Rocky Boys Indian Reservation, has the highest Native American unemployment rate.

These indicators have changed from 1970 to 1980 and show that, overall, the study area's standard of living has improved. The number of physicians per person increased slightly from 1970 to 1980, the percentage of families with income below the poverty level has decreased and education levels are higher. At the same time per capita income increased 24% and mean family income increased 26% (adjusted for inflation). This compares with a 20% increase in per capita income and a 28% increase in mean family income for Montana during the same time period.

While the study area's income and education levels have increased, so have crime and unemployment. The 1970 unemployment rate was 3.6% compared to the 1980 rate of 5.7%. The latest estimate of the study areas unemployment shows a 7.1% rate for July 1985 (Montana Department of Labor and Industry, August 1985).

Attitudes and perceptions are based on a study completed by ABT Associates in 1980, and includes only the information collected from Blaine County, where the majority of the study areas surface acreage is located. The residents exhibit attitudes and values typical of a rural farm/ranch-oriented society in the western United States. Residents value the rural character of the area, wide open spaces, naturalness and solitude. Positive aspects of the area include the independence and industriousness of the local people, the lack of urban problems, relaxed pace and personal freedom. Residents have a strong sense of heritage. These people have grown with the area, have seen changes occur and are extremely concerned about any management decisions that would potentially disrupt their lifestyles. Perceived threats to the existing lifestyle revolve around potential energy development, water rights and the conversion of rangeland to farmland. Hunting and fishing are the primary forms of recreation. Recreational opportunities represent a necessary portion of the local lifestyle and are not perceived as a conflicting land use. The residents felt that current vegetation allocations are beneficial for both game and non-game species.

Native Americans are known to use locations in the RMP area for the practice of their religion. Areas that are sought for such purposes are generally remote and usually free of modern land uses. These characteristics are sought because the activities Native Americans wish to pursue require uninterrupted solitude, availability of specific kinds of plants or other special and scarce resources. These locations have become less and less available and therefore more important to Native Americans. The activities that express traditional cultural values include vision questing, ceremonial sweats, collection of plants for ceremonial and medicinal purposes and the collection of various minerals for paints. Usually, Native Americans do not equate the conduct of these activities with specific localities but with a more generalized setting that affords the opportunities they feel are important. The Sweet Grass Hills section of this chapter contains a discussion of Native Americans religious practices in the area.

INTRODUCTION

Chapter 4 identifies the physical, biological, social and economic impacts of implementing the alternatives described in Chapter 2. It discusses only the impacted resources. No impacts to geology or topography would result from any of the alternatives.

This chapter is divided into several sections: (a) Impacts Common To All Alternatives; (b) Impacts Of Each Alternative; (c) Short-Term Uses Versus Long-Term Productivity; and (d) Irreversible and Irretrievable Commitment Of Resources.

A mitigation measures section, normally presented in this chapter has not been included. Measures to avoid or reduce environmental impacts have been designed into the proposed management actions. Additional mitigation measures might be applied, if further assessment of environmental concerns at the activity plan level indicate the need.

Impacts are defined by four terms; no impact, minor impact, moderate impact and significant impact. No impact is self explanatory. A minor impact is defined as a short-term impact, usually lasting less than 5 years, which might be apparent as long as 15 years, but would not be evident after 15 years or result in a cumulative impact. A moderate impact is defined as a short-term impact which would extend into the long term (past 15 years). There could be some long-term and/or cumulative impacts. A significant impact is defined as a short or long-term impact which results in major long-term and/or cumulative impacts. Additional quantification of impacts such as acreage figures, etc. have been provided when this information was available.

ANALYSIS ASSUMPTIONS AND GUIDELINES

The following assumptions were used to analyze the impacts of each alternative to the ecological components.

General Assumptions

Present uses and trends concerning public land resources would continue.

Each alternative was analyzed by an interdisciplinary team as if it were a fully funded plan, with all the personnel required to implement the plan's decisions.

Implementation of the Resource Management Plan (RMP) would begin in 1988 and would be completed within 10 years.

Impacts would be monitored and management practices adjusted as necessary, to achieve the stated objectives.

Implementation of activity plan level projects would be subject to environmental analysis under the National Environmental Policy Act (NEPA).

BLM would conform to state and local regulations and policy to the fullest extent possible.

The amount of impact would be proportional to the extent of interference or disturbance to an activity or resource value.

Resource Specific Assumptions

Soil

Erosion rates would be proportional to the amount of surface disturbance.

Water

The necessary water rights would be obtainable.

Mineral Resources

Mineral exploration and development activity would be dependent on economic and other external factors.

Further definition of mineral resource quantities and quality can be expected from future mineral exploration.

Recreation

The potential may exist within the Upper Missouri National Wild and Scenic River Corridor (UMNWSR) for a variety of private initiatives to provide needed services. Private initiatives might range from operation of a small campground to more elaborate concessions, similar to those now providing extensive services in national parks.

Different types of off-road vehicles (ORV) use would create comparable impacts. The current trend in ORV use on public land is expected to gradually increase.

Lands

Disposal of public lands would include conveyance through sale, exchange or other means, with priority given to exchange. Some of the disposal land placed into private ownership may be put into agricultural production.

IMPACTS COMMON TO ALL ALTERNATIVES

Previous management direction has been provided in the South Bearpaw, Triangle, Fergus, Phillips, and Blaine Management Framework Plans (MFPs). A number of actions from these MFPs were brought forward into the Management Common To All Alternatives section of Chapter 2. The majority of these decisions have been analyzed in programmatic environmental impact statements and/or environmental assessments. The following documents contain the environmental analysis given in the Management Common To All Alternatives section: the Prairie Potholes Environmental Impact Statement (EIS), Missouri Breaks Grazing EIS, Missouri Breaks Wilderness Suitability Study EIS, Lewistown Oil and Gas Environmental Assessment (EA), and the Lewistown Forest Products EA. The cumulative impacts from these documents can be found in Appendix 4.1. These impacts will continue under each alternative proposed in this document.

Impacts to Air

All current and anticipated future impacts to air quality are short-term, noncumulative and of minor importance. Dust and exhaust emissions from vehicle traffic and construction activities; chemical spraying for noxious weed control; and gas venting or flaring from oil-gas development are examples of air pollutants that dissipate rapidly and have only a minor impact on overall air quality.

Impacts to Water

Most ORV use impacts water resources to some degree, by accelerating natural erosion rates and sediment delivery. Sediment itself shortens the life span of water impoundments and degrades water quality and aquatic habitat.

ORV use on flat or gently sloping grassy areas when soils are dry may have little or no impact, as long as the trail is traveled only once. Continual use of the same trail will result in removal of the vegetative cover and expose the soil to water erosion. Other impacts are listed under the Soils section of each alternative. ORV use on those same areas when wet greatly increases the damage to vegetation and subsequent soil erosion. If ORV use is excluded from damaged areas, natural revegetation will generally occur quickly.

ORV use on sedimentary breaks type soils is damaging during any season, especially on slopes greater than 25%. These soils have the highest water erosion hazard and consequently the highest sediment production. Revegetation is very difficult. Bare soils and eroded areas persist for long terms and generally need some type of mechanical treatment and seeding to stabilize erosion rates.

Impacts to Paleontological Resources

There are no anticipated negative impacts to paleontological resources from the alternatives. Some minor positive benefits may result from the development of interpretive sites.

Impacts to Mineral Resources

Continuing the no lease policy for oil-gas in the UMNWSR Corridor could result in a significant loss of federal mineral reserves thr gh drainage by other state and private leaseholders.

The potential for conflicts between mineral extraction, particularly locatables, and Native American religious practices will continue in the Sweet Grass Hills. These conflicts between mining and the American Indian Freedom of Religion Act are very difficult to resolve and will be present in varying degrees in each alternative. If the conflicts continue, mining interests may be discouraged from investing in exploration and development projects because of the additional costs in legal fees and permitting. This would be a moderate negative impact to the minerals industry.

Land tenure adjustments consolidating mineral ownership in areas containing locatables and saleables would increase operator efficiency by creating large blocks of land and allowing larger mining efforts than are now possible in a scattered ownership land pattern. Lands considered for exchange would have their mineral character and potential evaluated, increasing knowledge of mineral resources on these lands. Separation of federal minerals from surface would complicate BLM administration and increase the industry cost of developing these minerals. These impacts both positive and negative could be locally significant, depending on the specific land tenure proposals.

Impacts to Vegetation

Development of five woodland sites within the UMNWSR Corridor, by modifying vegetation from sagebrush/grass to drought resistant hardwood species, would increase wildlife security cover, provide shade for recreationists and enhance the visual appeal of the area by creating more vegetative diversity. A slight reduction in sagebrush/grass vegetation could lower the amount of livestock forage. Impacts would be minor.

Major hardrock mining development in the Sweet Grass Hills could produce locally significant negative impacts to vegetation communities.

Impacts to Land Resources

Impacts created from the land tenure adjustment issues are identified under the affected resource.

If an alternative does not impact a resource component, it is not discussed in the following text.

IMPACTS OF ALTERNATIVE A: (NO ACTION)

Impacts to Soils

Land Tenure Adjustment

A total of 44,143 acres of public lands would be disposed of by exchange and the Recreation and Public Purposes Act (R&PP).

Some of the public land transferred to private ownership would be farmed, and some of that land would be highly erodible and/or farmed without proper conservation practices, which would contribute to increased wind and water erosion and decreased soil productivity. The greater the public land disposal acreage, the greater the potential for increased wind and water erosion of soil and the subsequent loss of productivity.

Off-Road Vehicles

Off-road vehicles lower the natural productivity of soil through compaction and increased wind and water erosion. The soils of the Missouri Breaks (soil subgroups 3, 4, 5, and 16) and sedimentary soils (see Appendix 2.5) along glaciated prairie drainages could be significantly impacted by ORVs due to sandy or clayey textures; high erodibility factors; and slopes greater than 25%. The significant impact rating is due to water erosion, especially rill and gully erosion, and wind erosion on sandy areas. These impacts are caused by vehicular travel, both on and off roads and trails and are compounded by vehicular travel on wet soils. During dry periods increased wind erosion would result in a locally significant impact. Even limited ORV use on fragile soils would generally cause a drastic reduction in soil productivity and values.

There is potential for locally significant impacts to soils in riparian areas in the form of streambank instability. ORV use would break down banks and increase wind and water erosion of these areas.

This alternative limits vehicular use to existing roads and trails on 148,335 acres. There could be locally significant negative impacts from vehicular use of existing roads and trails.

An additional 168,855 acres of sedimentary breaks soils would be open to ORV use. Locally significant impacts, both on and off existing roads and trails, would occur in this area. Within this area is a 640 acre area which receives intensive use by cross-country motorcycle activities. This use has denuded native vegetation from portions of the area; increasing wind and water erosion in the area.

The remainder of the planning area, 308,908 acres, is open to ORV use. Impacts in these areas are expected to be minor and short term.

Rights-of-Way

Impacts from rights-of-way (ROW) facilities are usually associated with construction activities. Areas with high erosion susceptibility, shallow soils, steep slopes (greater than 25%), sparse native vegetation, and known slumping or mass wasting areas would have locally significant impacts from any surface disturbing activity. This alternative has the potential for locally significant impacts in areas normally recognized as ROW avoidance areas. Impacts to soils (from ROW location) in areas other than sedimentary breaks soil types would be minor and short term.

The planning area contains approximately 100,000 acres of sedimentary breaks type soils with slopes greater than 25%, which are difficult and expensive to rehabilitate after disturbance. Where ROW facilities are located on these steep fragile soils there is the potential for the mitigative measures to fall short of rehabilitation goals and for locally significant long-term impacts. Impacts to soils, from ROW location, in areas other than sedimentary breaks type soils would be minor and short term.

Emphasis Areas

Locally significant long-term impacts would continue around oil and gas exploration and development sites. Soil compaction, soil excavation and drilling pollutants reduce soil productivity and increase soil erosion.

Upper Missouri National Wild and Scenic River Management

Facility Management

Facilities being considered (campgrounds and fences) would create minor impacts to soils. Facility location near streambanks would decrease streambank stability. Considerable and concentrated recreation use would increase soils compaction, reduce ground cover, reduce infiltration and increase erosion potential.

Impacts to Water

Land Tenure Adjustment

A total of 44,143 acres would be disposed of by exchange and/or the Recreation & Public Purposes Act sale.

If disposed of public land is farmed, erosion may occur, resulting in a negative impact to water quality through increased sedimentation. The degree of impact would depend on the amount farmed.

BLM acquisition of land along water courses would present minor potential for improvement of water quality through increased emphasis on improvement of riparian vegetation.

Off-Road Vehicles

ORV use impacts occur as vegetation and ground cover are removed. The bare soil in the ruts and trails left by ORVs is exposed to rill, gully and wind erosion, resulting in accelerating headcut advancement and deepening ruts. Sediment eroded from these ruts and trails is redeposited in downstream pools and reservoirs, thereby altering stream channels and shortening the life expectancy of water impoundments. Water quality is also lowered with the increase in sediment concentration.

The impacts of ORV use is especially evident on sedimentary breaks type soils (soil subgroups 3, 4, 5, 16; see Appendix 2.5) and on other soils with slopes greater than 25%. The impacts are compounded even further when these soils are wet.

Impacts also occur to riparian zones as streambank stability is reduced. Wind and water erosion would increase and water quality would decrease.

This alternative limits vehicular use to existing roads and trails on 148,335 acres. Locally significant impacts could occur on these existing roads and trails, especially during wet periods. Vehicles maneuver around rutted areas and potholes, widening existing roads and exposing more soils to potential erosion.

An additional 168,855 acres of sedimentary breaks type soils would be open to ORV use. Locally significant impacts, both on and off existing roads and trails, would occur. Within this area, a 640 acre parcel would be designated as an ORV intensive use area. Wind and water erosion would greatly increase as vegetation and ground cover is destroyed.

The remainder of the planning area, 308,908 acres, would be open to ORV use. These areas contain more suitable soils with less steep terrains and would experience only minor, short-term impacts.

The damage caused by ORV use could be reclaimed on areas with suitable soils and flatter slopes simply by restricting use until natural revegetation occurs. Other areas, such as extensive use areas, sedimentary breaks type soils and areas with slopes greater than 25% may require mechanical treatment and seeding in addition to restricting ORV use. Some areas may not respond to reclamation in the short term and accelerated wind and water erosion would persist into the long term.

Rights-of-Way

Water quality impairment from ROW facilities is usually associated with construction, is short term and generally reclaimable. In areas of sedimentary breaks type soils that have slopes greater than 25% (approximately 100,000 acres) ROW facility location has the potential for locally significant impacts to water resources due to runoff, erosion, and sedimentation.

Emphasis Areas

Locally significant impacts would continue around oil and gas exploration and development sites. The runoff from excavation work, roads, pipelines and drilling pollutants would decrease water quality.

Upper Missouri National Wild and Scenic River Management

Facility Management

Pit type toilets would be placed only where the bottom of the pits would be at least 10 feet above the water table. This would greatly reduce the potential for contamination of groundwaters. However, the more facilities with toilets, the greater the chance for contaminated water.

Streambank stability could be impacted at facility locations, however, the anticipated impacts would be minor and varied with the number of new facilities.

Impacts to Mineral Resources

Table 4.1 details the constraints on oil and gas development under this alternative.

Land Tenure Adjustment

A total of 44,143 acres would be disposed of by the R&PP Act and/or exchange in this alternative.

Land tenure adjustment impacts to mineral resources could occur where mineral potential is high. It is expected that only surface resources would be exchanged. Disposal of surface acreage located over federal minerals, with known mineral potential, results in diminished surface use control when permitting development of subsurface minerals. Reuniting federal minerals with federal surface would allow increased surface use control and facilitate better management of federal minerals. Detailed analysis of mineral potential would be required to prevent significant negative impacts when disposing of federal subsurface.

If BLM acquires federal minerals in areas managed under more stringent surface constraints (such as wilderness study areas), it could create locally moderate impacts to oil and gas development.

Off-Road Vehicle Management

There would be a minor negative impact to the minerals industry as a result of restrictions on ORV use in WSAs and in limited designation areas.

These restrictions would have a minor negative impact on exploration and development of locatable minerals. Properly filed notices and/or plans of operations constitute ORV authorization.

Right-of-Way Location

Under present management, the entire planning area would remain open to ROW locations. This is a moderate positive impact because it allows the minerals industry to select the most cost effective route.

Emphasis Areas

Kevin Rim

At present, observance of a 1/4 mile buffer zone around active raptor nesting sites causes minor impacts to oil-gas exploration and development by requiring work to be delayed or routed differently.

Sweet Grass Hills

Opening 529.67 acres in the Bureau of Reclamation withdrawal on East Butte of the Sweet Grass Hills to mineral entry is part of this alternative. This would be a significant positive impact to the minerals industry because these lands have a high potential for the occurrence of gold and silver deposits. Opening these lands to mineral entry would allow exploration activities to more accurately assess the development potential of these lands, and would provide for the extraction of any economic deposits discovered.

TABLE 4.1

CONSTRAINTS ON OIL & GAS EXPLORATION & DEVELOPMENT (ALTERNATIVE A)[1]

Management Categories	High Development Potential	Acres	Moderate Development Potential	Acres
1. **Open Subject to Standard Terms and Conditions** These are areas where standard terms and conditions are sufficient to protect other land uses or resource values.	Total subsurface acreage with high development potential minus acreage in Categories 2 and 3 below.	412,147	Total subsurface acreage with moderate development potential minus acreage in categories 2 and 3 below.	245,322
2. **Open Subject to Seasonal or Other Minor Constraints** These are areas where moderately restrictive lease stipulations (such as seasonal restrictions) may be required to mitigate impacts to other land uses or resource values.	* Kevin Rim * Sweet Grass Hills (East & West Buttes) area. * Crucial wildlife areas in the Havre RA. * Marias River area above Tiber Reservoir.	249,445	* Crucial wildlife areas in the Havre RA. * Marias River area below Tiber Reservoir.	94,440
3. **Closed to Leasing, Discretionary** These are areas where other land uses or resource values cannot be adequately protected even with the most restrictive lease stipulations. Appropriate protection can only be ensured by closing the lands to leasing.	* UMNWSR * WSAs	34,037	* UMNWSR * WSAs	86,076
[1]BLM, 1987		**TOTAL HIGH 695,629**		**TOTAL MODERATE 425,838**

Impacts to Vegetation

Land Tenure Adjustment

A total of 44,143 acres of public land would be disposed of by exchange and/or the R&PP Act in this alternative.

Vegetation on acquired lands would experience minor benefits from land adjustment, which allows for improved resource management. There are currently about 8,000 acres of land within the central portion of the planning area that receive very little management attention. There is little opportunity to improve the vegetation on these lands because it's uneconomical due to small tract size. There are an additional 34,000 acres where vegetation improvement could be done but with marginal economic returns. Vegetation enhancement opportunities could be achieved by acquiring private inholdings, through exchange, within the remaining 584,000 public acres with high value resources.

The vegetation types having the most potential for improvement are the rose/snowberry, cottonwood/willow, non-wooded breaks, and riparian/wetlands. Improvement would be expected since these areas are also the most utilized.

Lands disposed of through sale or exchange may be partially or completely farmed which would destroy native vegetation. If disposal is by sale there could be a long-term reduction of native vegetation which would be a moderate impact. If disposal is by exchange, native vegetation acreage would increase or decrease depending on the exchange.

Because of the high ratio of acreage needed for many land exchanges, the total acreage of native vegetation may decrease.

Acquisition of private and state land in the Missouri River Corridor may include riparian habitat. The BLM would institute grazing management and could improve the riparian habitats on these areas.

An increase in noxious plants along roadways and disturbed soils on ROWs could occur, but only minor impacts would be expected.

Off-Road Vehicle Management

ORV use compacts vegetation and lowers soil productivity through soil compaction and erosion. However, this alternative would create only minor impacts to vegetation on a planning area wide basis.

The effects of ORV use on vegetation ranges from minor or short-term (1 growing season) to a significant long-term (more than 15 growing seasons) impact depending on how much vegetative compaction and soil erosion occurs. Damage to vegetation is amplified in sedimentary soils because of the unstable nature of these soils. The loss of vegetative cover on these soils would increase sedimentation and erosion. Under this alternative, ORV restrictions would benefit vegetation on sedimentary soils with greater than 30% slopes, and would allow minor vegetation damage on slopes less than 30% to continue.

Riparian vegetation can be significantly disturbed by ORV use. ORV tracks would remove vegetation on high moisture content riparian soil, exposing soils to potential erosion during high rainfall periods. There are approximately 2,997 acres of riparian vegetation that could be affected by ORV use.

Current ORV use levels have not significantly impacted vegetation, except on about 640 acres where a motorcycle group has made annual weekend trips. This use level has caused severe damage to vegetation on about 6 acres.

Right-of-Way Location

Impacts to vegetation resulting from ROW location would be minor. Common impacts would include physical trampling or removal of vegetation and indirect damage by increasing soil erosion and compaction. ROW activities would continue to be mitigated on sensitive areas such as riparian areas and sites that have sedimentary soils. These areas are the hardest to reclaim to natural vegetation.

Emphasis Areas

This alternative would have only minor impacts on vegetation within the Kevin Rim, Sweet Grass Hills or Cow Creek emphasis areas.

Upper Missouri National Wild and Scenic River Management

Ecological condition and trend would decline in localized areas around recreation facilities within the UMNWSR Corridor. This decline would result in soil compaction, erosion, and trampling. Native plant species would compete less favorably than more aggressive, less desirable plants such as noxious plants and others. Impacts could be locally significant if there is a large increase in visitor use.

Impacts to Wildlife and Fisheries

Land Tenure Adjustment

A total of 44,143 acres of public land would be disposed of by exchange and/or the R&PP Act in this alternative.

Wildlife values would decrease on disposed of public lands due to the possibility of farming these lands and decreasing yearlong wildlife habitat. Lands in mountainous terrain and steep breaks could not be farmed; therefore, those wildlife values would probably remain unchanged, although they would no longer be in federal ownership.

A decline in wildlife habitat through exchange or sale would not be as great in steep, broken terrain as on lands with level topography. The habitat value of approximately 750 acres of crucial winter antelope range; 424 acres of high value yearlong, and 2,640 acres of crucial spring sharptail grouse habitat; 1,900 acres of crucial spring/winter sage grouse habitat; 240 acres of crucial yearlong ring-necked pheasant habitat; 210 acres of crucial white-tailed deer habitat; 11,655 acres of high value, yearlong mule deer habitat; and one 39-acre unit containing wetlands would decline if all 44,143 acres would be disposed. Thus, land disposal through sale could have a moderate negative impact to wildlife since impacts would be long term.

The individual evaluation of each land action, the policy that exchange would be the preferred method of disposal, and that all exchanges would follow planning area criteria would result in a moderate positive benefit for wildlife resources because of the acquisition of high value wildlife lands. This would include crucial habitat such as riparian on the Missouri and Marias Rivers, big game winter range, wetland habitat, endangered species habitat in the Kevin Rim and Sweet Grass Hills etc. Land tenure adjustment would result in gains and losses for wildlife but the overall impacts would be minor.

Off-Road Vehicle Management

ORV use resulting from this alternative would have a minor affect on wildlife.

Habitat disturbance resulting from unrestricted ORV use would include compaction of vegetation needed for cover, food and rearing of young as well as social intolerance to human activity. Increased activity and human presence would cause short-term species movement from the area due to social intolerance. Approximately 20,000 acres of crucial winter antelope habitat would be disturbed by ORV use. Elk in the Missouri River Breaks would be disturbed. Approximately 35,000 acres of crucial sage grouse winter and spring habitat would be disturbed. About 25,500 acres of crucial sharp-tailed grouse habitat would be disturbed. Some minor disturbances to waterfowl, raptors, and non-game bird nesting would occur.

There would be no impacts to wildlife where limiting designations confine the public to existing roads and trails.

Right-of-Way Location

Most ROWs would cause minor disturbances to habitat and temporary wildlife harassment. ROW applications would continue at three to four per year within the planning area. Potential impacts to specific habitat types cannot be determined, since it is not known where future ROWs would occur. Impacts to wildlife can only be discussed in general terms.

ROWs would cause short-term harassment of most wildlife species and would cause temporary movement of species from the area. There would be a minor loss of habitat from most ROWs such as transmission,pipe and telephone lines. ROWs through wetlands could disturb aquatic habitat by destroying fragile wetland vegetation, increasing sedimentation, and affecting annual runoff.

Emphasis Areas

Kevin Rim

Surface disturbing activities would result in significant negative impacts to nesting raptors. The current 1/4-mile radius protection zone does not protect sensitive raptors from visual and sound disturbances created by conventional mineral and oil-gas exploration-development actions under most terrain circumstances. Breeding and nesting activities would generally be disrupted, which may end in nest or territory abandonment.

Sweet Grass Hills

Although there may be one ROW application every 3 years that affects the area, there is a minor impact.

Hard rock mining negatively impacts big game through the loss of elk habitat and disruption of calving and wintering areas. Impacts are minor from a small operation. However, a large open pit type operation may create a significant, long-term loss of big game habitat.

Present mining and oil-gas activities are limited in the area so negative impacts to wildlife resources are minor. Surface disturbance activities could negatively impact raptor nest sites by disrupting nest construction, premature nest abandonment and increased harassment.

Cow Creek

About 220 acres of crucial mule deer habitat exists in the Cow Creek area. This acreage should remain about the same with current management. Riparian areas are principally decadent cottonwood stands and are of limited value to non-game. Past beaver activity is evident in some areas however, no beaver population is presently known to occur.

Wildlife populations would remain about the same. Current allotment grazing is designed for proper use. As a result, mule deer, sharp-tailed grouse and non-game species habitat is available. However, with current warm season grazing, riparian habitat could be expected to deteriorate over time until existing cottonwood trees are dead. Little or no seedling regeneration would occur.

Upper Missouri National Wild and Scenic River Management

Visitor Services

Public or private recreation management would have little direct impact on wildlife resources. A minor impact to wildlife could occur from increased harassment, causing short-term displacement and minor habitat damage in and around campsites if recreational activities increase on the river.

Facility Management

Short-term displacement and minor habitat damage would occur. Facility management activities would have a minor impact on wildlife resources.

Concession Management

Wildlife values would be reduced proportionate to the degree of human activity (concessions) development. There would be minor impacts to wildlife resources.

Impacts to Grazing Management

Land Tenure Adjustment

A total of 44,143 acres of public land would be disposed of by exchange and/or the R&PP Act in this alternative.

Many of the tracts identified under the State Director's Guidance for disposal are small tracts of less than 640 acres, surrounded by private land, resulting in limited livestock management opportunities. Management opportunities could be greatly enhanced if these tracts would be used to acquire private land in areas of predominately public land. These opportunities would include acquisition of tracts with range improvement potential such as water developments, spring pasture developments, and consolidation of public landownership in a pasture and/or allotment. Moderate positive benefits to grazing management would result from continuance of the No Action Alternative.

Off-Road Vehicle Management

Negative impacts from ORV use in areas designated open to ORV use would include physical damage to native vegetation, an increase in habitat potential for noxious plants on disturbed roadways, livestock harassment, compacted soil, and resultant encouragement of new vehicle trails on public land. The majority of the ORV use occurs from grazing lessees, oil-gas operations and hunters. These uses would continue without ORV restriction. Minor negative impacts could continue unabated under this alternative.

Increased public access to recreation areas could increase fence and cattleguard maintenance.

Restricted ORV use in limited areas would allow livestock operators and other authorized permittees to use limited areas only on a case-by-case basis when permitted by BLM.

Rights-of-Way

Minor vegetative impacts to grazing could result because of an increase in noxious plant habitat due to ROW disturbance of soils and vegetation. A minor negative impact would result.

Emphasis Areas

Kevin Rim and Sweet Grass Hills

This alternative would have only minor impacts on grazing in the Kevin Rim and Sweet Grass Hills areas.

Cow Creek

The inclusion of riparian management objectives in the five existing allotment management plans (AMPs) would probably entail construction of livestock exclosures on a temporary basis (4-10 years) to allow cottonwood and willow establishment. Approximately 100 acres along Cow Creek would be subject to exclosures. This would exclude about 33-50 AUMs of grazing forage from livestock use. This forage would be lost over time and unavailable for livestock use. This would be a minor negative impact to vegetation.

Upper Missouri National Wild and Scenic River Management

Increased livestock management activity would be necessary if any of this alternative would be implemented. The increased intensity would take the form of developing riparian pastures and using them in a manner to favor riparian vegetation. This would require more intensive livestock management.

Impacts to Cultural Resources

Land Tenure Adjustment

The BLM State Director's Guidance identifies 44,143 acres of BLM administered land to be disposed of through exchange and/or the R&PP Act. The mean site density for the region is roughly one archeological site per 110 acres. If all tracts are disposed of, the BLM could lose about 430 sites of varying significance or value. About 20%, or 86 sites, would be of sufficient value (eligible for the National Register of Historic Places) to warrant retention. There could also be a number of sites on the lands that BLM would acquire, which would presumably be of equal value, thus the overall adverse impacts would be minor.

Land exchanges and acquisitions would have a beneficial effect on cultural resources where more valuable historic or archaeological sites would be acquired than disposed of. Lands with significant cultural resources should receive a high priority for acquisition (see Appendix 1.1).

Off-Road Vehicle Management

ORV impacts to cultural resources are primarily caused by erosion resulting from concentrated vehicle traffic for an extended time. In areas where travel is restricted to roads and trails, there would be no greater impact to archaeological or historical sites than is now occurring. In areas where travel is open, a number of sites could be affected for the first time. There is no way to estimate the quantity of impacts since BLM has not inventoried much of the land in the principal ORV areas (Missouri River Breaks).

It is likely that some sites would be impacted and due to the irreplaceable nature of cultural resources this could result in a moderate long-term local impact.

Right-of-Way Location

Physical impacts to cultural resources are usually avoided by rerouting rights-of-way, but the practice can have economic repercussions. The alternative of mitigating sites can also be costly. Another set of costs is associated with survey for cultural resources in new rights-of-way. However, impacts are minor because mitigation is always done.

Emphasis Areas

Kevin Rim

This alternative requires current uses and management practices to continue. While project relocation has been a successful procedure in avoiding impacts to significant cultural resources in the past, it may not be so in the future. This is due to a high site density (about one per 70 acres) and because of dwindling space for new oil-gas developments. It is estimated that there are 70 sites on the public lands and another 270 sites on public mineral estate. If the well spacings are standardized at 10 acres or less, there is about a 15% chance that a site would be encountered, and possibly affected since the space to move the well facilities is limited. The problem is more acute along the Kevin Rim escarpment, where proper space to move is even more restricted and where the most important archeological sites occur. This would be a moderate negative impact to the local area.

Sweet Grass Hills

This alternative calls for the continuation of current uses with a reactive management policy; that is, no active management takes place unless someone proposes to use the resources in the Sweet Grass Hills. Presently there is no accurate estimate of the number and variety of cultural resources in the area because very little inventory work has been undertaken. However, it is very probable that all the higher peaks have at least one Native American religious site on them, which may be modern, historic, or even prehistoric in age. These sites are particularly susceptible to the audio and visual intrusions, owing to their geographical nature. Continued mining and other development in the area would seriously alter the solitude of the surrounding environs; making a religious experience difficult to obtain. These impacts could be long term and cumulative, so are considered moderate. Impacts to historic and prehistoric resources from the same activity are only considered minor because of required mitigation.

Reopening 529.67 acres to mineral entry on East Butte could lead to audio and visual intrusions resulting from mineral exploration and development. These intrusions would seriously impair the solitude of East Butte, making it difficult for the Blackfeet, Chippewa, Cree and Gros Ventre tribes to obtain a traditional religious experience. Mining activity would also disturb historical and archaeological sites, though not as severely as religious sites, since these are more easily avoided.

Cow Creek

This alternative would have only minor impacts on cultural resources since current oil and gas development in the area is minimal. The most important cultural resource is the historic Nez Perce Trail, the remains of which are not visible on the land. Present use by livestock and oil-gas developers does not seriously detract from the historic setting of the trail.

Upper Missouri National Wild and Scenic River Management

Facility Management

Developments proposed in this alternative, depending on where they would occur, may affect cultural resources by increasing visitor traffic or constructing facilities. The effect may be physical disturbance, theft, or the introduction of visual intrusions into a historic scene.

Concession Management

Developments in this alternative may affect cultural resources depending on where they would be located. The impacts may be physical disturbance from construction activity and visitor traffic, or the introduction of visual intrusions that are out of character with historic settings. Most impacts can be avoided by careful planning and placement of the developments.

Health and Safety

Cultural resources may benefit from the presence of the BLM river management staff (rangers) on the river because vandalism and theft of artifacts may be reduced.

Impacts to Recreation

Land Tenure Adjustment

A total of 44,143 acres of public lands would be disposed of by exchange and/or the R&PP Act in this alternative.

About 10,640 acres of scattered public land with public access would be disposed of. The largest tract with public access lost in this alternative would be 640 acres. The maximum overall loss of public access lands would be 2% if no new public access is acquired through exchange. The recreation value of those public lands is limited to occasional hunting. These impacts would be minor.

Land adjustments would provide a multitude of significant positive benefits. Access would be provided to a number of important areas so users can maximize each area's recreational values. These areas generally include the Missouri and Marias Rivers, the WSAs, the Sweet Grass Hills, important fishing reservoirs and hunting areas, etc. Some of the public lands would be consolidated so the recreational values are better protected or enhanced. In addition, a more defineable federal land pattern would reduce confusion for recreational users.

Off-Road Vehicle Management

ORV use is primarily associated with BLM administration, hunting, ranching, and oil-gas exploration/development. These users generally stay on existing roads and trails. The planning area is not a high-use area and ORV disturbances are infrequent. There is infrequent motor bike club use of BLM administered land. ORV impacts to recreation would be minor.

Approximately 80% of the area would remain open to ORV use. This would be a positive benefit to ORV users. It would be a negative impact on steep terrain that has primitive values such as in the Sweet Grass Hills and the Marias River since additional ORV trials would be established over time. This impact would be minor because most of the public land in these areas does not have public access.

Rights-of-Way Location

Unrestricted location of ROW would create minor impacts to recreation through the life of this plan. However, the impacts to recreation would be most noticeable in the UMNWSR Corridor.

Emphasis Areas

Sweet Grass Hills

The visual quality of the area, particularly of the East Butte area, could be reduced by mining, oil-gas activities and road building. The primitive character of the area might be reduced if these activities would accelerate. This would be in non-conformance with VRM objectives.

Cow Creek

Management of this area would not be given special attention.

Upper Missouri National Wild and Scenic River Management

Visitor Services

If BLM continues to manage BLM campgrounds, it would provide safe/sanitary, primitive visitor conditions.

Continuance of cooperative agreements with the State of Montana would provide better coverage of sites, build better river rapport between BLM and the state and permit BLM to provide greater capabilities through the river ranger staff. A negative feature would be some duplication of efforts.

Continued operation of the Fort Benton Visitor Center by BLM would provide greater river user safety, resource protection, interpretation, public information, maintain a good rapport with local community, and provide a base of operations for search-rescue. Some negative features would be shifting of the river management capability to this facility.

The operation of ranger stations at Coal Banks and Judith Landing during the management season would improve visitor contact, provide emergency locations, and locations for site operations. Operation, of these sites would require a budget which has direct bearing on BLM's capacity elsewhere on the river.

Livestock in recreation sites areas would remove understory such as rose, which would provide better tent sites. Some negatives would be more and greater visitor-livestock conflicts, increased sanitary problems from livestock manure and flies, loss of wildlife habitat, loss of riparian communities, and continued exposure of public to potentially troublesome or dangerous livestock.

Health and Safety

The current cooperative effort with the county provides rapport and coordinated search and rescue and support in law enforcement. A negative feature of this practice is that search and rescue costs strain budgets and current staff.

IMPACTS TO SOCIAL AND ECONOMIC CONDITIONS

Land Tenure Adjustment

A total of 44,143 acres of public lands would be disposed of by exchange and/or the R&PP Act in this alternative.

Land exchanges would tend to block up BLM administered lands making them easier to manage.

The holder of a grazing lease and/or the adjacent landowner on a tract identified by BLM for disposal could be offered the opportunity to acquire it through exchange. The ability of the lessee or adjacent landowner to participate can vary widely and there is a potential for minor adverse impacts to some ranch operations through loss of the leased area.

County governments would experience some effect on payment in lieu of taxes (PILT) if public lands in their counties are exchanged for lands in another county. The net fiscal effects on local governments would depend on whether the land adjustment is with private landowners or state and local governments. Fiscal effects would also depend upon whether exchanges are largely within or between counties and how the property taxes on lands passing into private ownership compare with the level of PILT. Tax exempt lands acquired from state or local governments through exchanges would be excluded from PILT. However, this loss of revenue to the counties could be partially offset by lands acquired by the state which might be subject to State Equalization Payments. Landownership transactions under Alternative A could result in the disposal of 44,135 acres of public lands. The exchange of public lands for private and/or state lands would have a minor net fiscal effect on PILT, State Equalization Payments and annual county property tax revenues. The net fiscal effect would depend on whether the land adjustment is with private landowners or state and local governments. Additional analysis of impacts will be necessary when specific land adjustment tracts are identified.

Off-Road Vehicle Management

Limiting travel to existing roads and vehicular ways in WSAs and certain areas with sedimentary breaks soils (slopes greater than 30%) could require affected ranch operations to substitute horses or foot travel for casual vehicle use, thereby increase management costs. Access maintained in all other areas for recreation, ranching and mineral activities has not curtailed the opportunity to open an area for resource development. There would be no change in the current economic or social conditions.

Rights-of-Way

All areas open to rights-of-way location would be available for development of transmission lines or communication sites. There would be no change in the current economic and social conditions.

Emphasis Areas

Kevin Rim

Grazing, recreation, oil-gas, mineral and other resource development would continue in the Kevin Rim area. The current 1/4 mile buffer zone around active raptor or peregrine nest sites would have minimal restrictions for resource development and subsequently the associated economic benefits. There would be no change in current economic and social conditions.

Sweet Grass Hills

Grazing, recreation, oil-gas, mineral and other resource development would continue in this area. Revoking the Bureau of Reclamation withdrawal on 529.67 acres and opening the area to mineral entry to East Butte would offer more opportunities for mineral resource exploration and development. Mineral exploration would offer very limited employment and income opportunities for the local economy. If exploration leads to mineral development, the local economy would benefit from long-term employment and income opportunities. Benefits from hardrock mining could be partially offset by curtailing some recreation use and the associated benefits to the local economy. Hunting is prominent in the lifestyle of many area residents and this use of the Sweet Grass Hills is important to these people.

The practice of traditional religion by Native Americans has caused some concern regarding changing the character of the area by mineral exploration and/or development. The area offers the pristine qualities and solitude that are required for these religious practices which are important to Native Americans in maintaining their traditions and culture. Exploration and mining in the Sweet Grass Hills would seriously alter the solitude of the surrounding environment, making a religious experience difficult to obtain. This management action could cause a significant change in the solitude and undisturbed environment of this area for Native Americans who use it for religious purposes.

Cow Creek

Grazing, recreation, oil-gas, mineral and other resource development would continue. There would be no change in current economic and social conditions.

Upper Missouri National Wild and Scenic River Corridor

Continuing to manage the UMNWSR Corridor under special management guidelines would not change current economic and social conditions. Hunting, fishing and other recreation use in the area is expected to increase in the short and long term, with existing outfitters and guides receiving additional income over time. Currently, permitted outfitters offer services along the river, ranging from fully outfitted and guided trips to basic canoe services. In addition, two companies in Fort Benton utilize large pontoon craft. The local economy would benefit from an increase in expenditures for recreation services (motels, service stations, restaurants, etc.) but these changes will only have a minor impact to the local economy.

IMPACTS OF ALTERNATIVE B

Impacts to Soils

Land Tenure Adjustment

A total of 50,092 acres of public land would be disposed of by sale, the R&PP Act and/or exchange in this alternative.

Some disposed of tracts would have native vegetative cover plowed to cultivate agricultural crops, resulting in increased wind and water erosion. Acquisition of private land in areas of high resource interest would stabilize soils by increasing vegetative cover.

Off-Road Vehicles

Off-road vehicles lower the natural productivity of soil through compaction and increased wind and water erosion. The soils of the Missouri Breaks (soil subgroups 3, 4, 5, and 16) and sedimentary soils (see Appendix 2.5) along glaciated prairie drainages can be significantly impacted by ORVs due to sandy or clayey textures, high erodibility factors and slopes greater than 25%. The significant impact rating is due to water erosion, especially rill and gully erosion, and wind erosion on sandy areas. These impacts are caused by vehicular travel, both on and off roads and trails. These impacts are compounded by vehicular travel on wet soils. During dry periods, increased wind erosion would result in a locally significant impact. Even limited ORV use on fragile soils would generally cause a drastic reduction in soil productivity and values.

There is the potential for locally significant impacts to soils in riparian zones in the form of streambank instability. ORV use would break down banks and increase wind and water erosion of these areas.

This alternative limits vehicular use to existing roads and trails on 32,000 acres. There could be locally significant negative impacts from vehicular use of existing roads and trails.

An additional 285,190 acres of sedimentary breaks soils would be open to ORV use. Locally significant impacts, both on and off existing roads and trails, would occur in this area. Within this area is a 640 acre area which would be designated for intensive use by cross-country motorcycle activities. This use would continue to denude portions of the area of native vegetation increasing wind and water erosion in the area.

The remainder of the planning area, 304,908 acres, is open to ORV use. Impacts in these areas are expected to be minor and short term.

Right-of-Way Location

Impacts from ROW facilities are usually associated with construction activities. Areas with high erosion susceptibility, shallow soils, steep slopes (greater than 25%), sparse native vegetation, and known slumping or mass wasting areas would have locally significant impacts from any surface disturbing activity. This alternative has the potential for locally significant impacts in areas normally recognized as ROW avoidance areas as described above.

There are approximately 100,000 acres of sedimentary breaks type soils which have slopes greater than 25% that are difficult and expensive to rehabilitate after disturbance. Where ROW facilities are located on these steep fragile soils there is a potential for the mitigative measures to fall short of rehabilitation goals and for locally significant long-term impacts to occur.

The potential for these impacts would be reduced on approximately 28,000 acres within the UMNWSR Corridor. However, these impacts could still occur on 72,000 acres of sedimentary breaks soils including the ROW windows within the river corridor.

Impacts to soils, from ROW location, in areas other than sedimentary breaks type soils, would be minor and short term.

Emphasis Area Management

All impacts would be the same as those described in Alternative A.

Upper Missouri National Wild and Scenic River Management

Facility Management

Development of recreation facilities along the Missouri River would reduce streambank stability, cause soil compaction and reduced vegetative cover as a result of human traffic at these facilities.

Impacts would be locally moderate within the UMNWSR Corridor but minor to the entire planning area.

Impacts to Water

Land Tenure Adjustment

A total of 50,092 acres of public land would be disposed of by sale, the R&PP Act and/or exchange in this alternative.

Some disposed of tracts would have native cover plowed to cultivate agricultural crops, resulting in a minor increase in erosion and sedimentation of streams and reservoirs below these areas.

Acquisition of land in areas of high resource interest would benefit watershed values by increasing vegetative cover.

Off-Road Vehicles

ORV use impacts occur as vegetation and ground cover are removed. The bare soil in the ruts and trails left by ORVs is exposed to rill, gully and wind erosion; resulting in accelerating headcut advancement and deepening ruts. Sediment eroded from these ruts and trails is redeposited in downstream pools and reservoirs, thereby altering stream channels and shortening the life expectancy of water impoundments. Water quality is also lowered by increased sediment concentration.

The impacts of ORV use are especially evident on sedimentary breaks type soils (soil subgroups 3, 4, 5, and 16; see Appendix 2.5) and on other soils with slopes greater than 25%. The impacts are compounded even further when these soils are wet.

Impacts also occur to riparian zones as streambank stability is reduced. Wind and water erosion would increase and water quality would decrease.

This alternative limits vehicular use to existing roads and trails on 32,000 acres. Locally significant impacts could occur on these existing roads and trails, especially during wet periods. Vehicles maneuver around rutted areas and potholes, widening existing roads and exposing more soils to potential erosion.

An additional 285,190 acres of sedimentary breaks type soils would be open to ORV use. Locally significant impacts, both on and off existing roads and trails, would occur. Within this area, a 640 acre parcel would be designated as an intensive ORV use area. Wind and water erosion would greatly increase as vegetation and ground cover is destroyed.

The remainder of the planning area, 308,908 acres, would be open to ORV use. These areas contain more suitable soils and less steep terrains and would experience only minor, short-term impacts.

Damage caused by ORV use could be reclaimed on areas with suitable soils and flatter slopes simply by restricting use until natural revegetation occurs. Other areas, such as extensive use areas, sedimentary breaks type soils and areas with slopes greater than 25% may require mechanical treatment and seeding in addition to restricted of ORV use. Some areas may not respond to reclamation in the short term and accelerated wind and water erosion would persist into the long term.

Right-of-Way Location

Water quality impairment from ROW facilities is usually associated with construction, is short term and generally reclaimable. In areas of sedimentary breaks type soils that have slopes greater than 25% (approximately 100,000 acres), ROW facility location has the potential for locally significant impacts to water resources due to runoff, erosion and sedimentation.

The potential for these impacts would be reduced by 28,000 acres within the UMNWSR Corridor. However, these impacts could still occur on 72,000 acres of sedimentary breaks soil and on the ROW windows within the corridor.

Emphasis Areas

All impacts would be the same as those described in Alternative A.

Upper Missouri National Wild and Scenic River Management

Facility Management

Pit type toilets would only be located where the bottom of the pits would be at least 10 feet above the water table. This would greatly reduce the potential for contamination of groundwaters. Streambank stability could be impacted at facility locations, however, the anticipated impacts would be minor and varied with the number of new facilities.

Impacts to Mineral Resources

Table 4.2 details the constraints on oil and gas development under this alternative.

Land Tenure

A total of 50,092 acres of public land would be disposed by exchange, the R&PP Act and/or sale in this alternative.

Lands considered for exchange would have their mineral character and potential evaluated, increasing the knowledge of mineral resources on these lands. Separation of federal minerals from surface would complicate and increase the cost of development of minerals. These are minor in terms of overall impact on lands action. If BLM acquires federal minerals in areas managed under more stringent surface constraints (such as in WSAs), it could create a locally moderate impact to oil and gas development.

Off-Road Vehicle Management

There would be a minor negative impact to mineral resources in WSAs from the limited designation.

A minor positive impact for mineral development would result from opening more of the planning area to unlimited cross-country ORV travel.

Right-of-Way Location

Costs to develop new pipelines across the Upper Missouri National Wild and Scenic River would increase, because location of the pipeline would have to coincide with identified corridors. This would be a minor negative impact.

Emphasis Areas

Kevin Rim

Observing a 1/4-mile buffer zone around active raptor nesting sites could cause a minor impact to oil-gas exploration and development by requiring work to be delayed or routed differently.

Sweet Grass Hills

Opening 529.67 acres in the Bureau of Reclamation withdrawal on East Butte to mineral entry would occur under implementation of this alternative. This would be a significant positive impact to the minerals industry because of the high potential for the occurrence of gold and silver deposits. Opening these lands to mineral entry would allow exploration activities that would more accurately access the development potential of these lands, and would provide for the extraction of any economic deposits discovered.

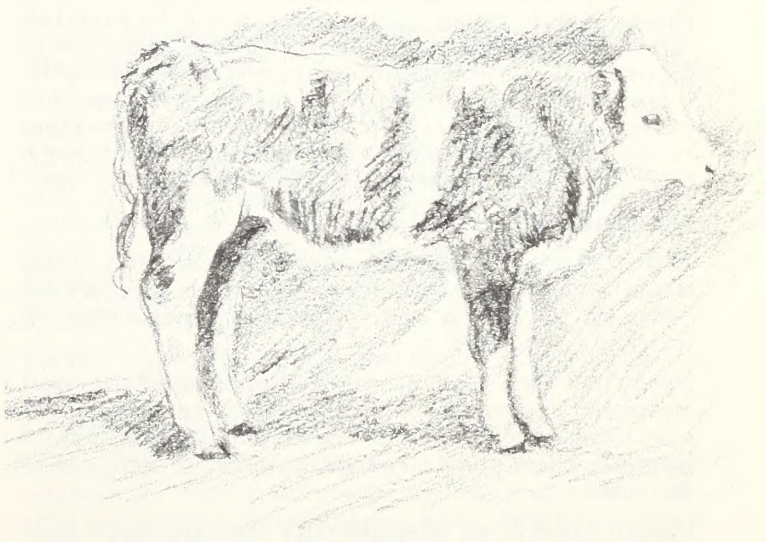


TABLE 4.2

CONSTRAINTS ON OIL & GAS EXPLORATION & DEVELOPMENT (ALTERNATIVE B)[1]

Management Categories	High Development Potential	Acres	Moderate Development Potential	Acres
1. **Open Subject to Standard Terms and Conditions** These are areas where standard terms and conditions are sufficient to protect other land uses or resource values.	Total subsurface acreage with high development potential minus acreage in categories 2 and 3 below.	411,618	Total subsurface acreage with moderate development potential minus acreage in categories 2 and 3 below.	245,322
2. **Open Subject to Seasonal or Other Minor Constraints** These are areas where moderately restrictive lease stipulations (such as seasonal restrictions) may be required to mitigate impacts to other land uses or resource values.	* Kevin Rim area * Sweet Grass Hills (East & West Buttes) area plus the 529 acre withdrawal revocation on East Butte * Crucial wildlife areas in the Havre Resource area * Marias River area above Tiber Reservoir	249,974	* Crucial wildlife areas in the Havre Resource Area * Marias River area below Tiber Reservoir	94,440
3. **Closed to Leasing Discretionary** These are areas where other land use or resource values cannot be adequately protected even with the most restrictive lease stipulations. Appropriate protection can only be ensured by closing the lands to leasing.	* UMNWSR * WSAs	34,037	* UMNWSR * WSAs	86,076
[1]BLM, 1987	**TOTAL HIGH**	**695,629**	**TOTAL MODERATE**	**425,838**

Impacts to Vegetation

Land Tenure Adjustment

A total of 50,092 acres of public land would be disposed of by sale, the R&PP Act and/or exchange in this alternative.

Improved management on blocked-up areas would improve vegetative condition, especially for rose/snowberry, cottonwood willow, non-wooded breaks and riparian/wetland vegetation types. These vegetation types are the most likely to have water sources within them, and hold the greatest potential for improvement through management. However, only minor improvement would be expected, since these areas are also the most utilized. Disposal of scattered parcels would eliminate opportunities for vegetative management on these parcels, many of which could be converted from native vegetation to other vegetative types in private ownership. This would result in moderate negative impacts over the long term when disposal is by sale.

Off-Road Vehicle Management

This alternative would create only minor impacts to vegetation on a planning area wide basis, even though ORV use compacts vegetation and lowers soil productivity, on which plants depend.

Open ORV use on sedimentary soils of over 30% gradient would damage vegetation and indirectly increase soil erosion. Growing conditions for noxious plants would improve in areas where plant communities may be destroyed or disturbed.

Identification of an intensive ORV use area would completely eliminate vegetation on about 20 acres. A slight increase in compaction of vegetation would occur in other heavy use areas. Short-term, non-repeating ORV use may aid in establishing more preferred species such as western wheatgrass on blue grama ranges by destroying the blue grama.

Rights-of-Way Location

Impacts to vegetation resulting from ROW location would be minor. Common impacts would include physical trampling or removal of vegetation and indirect damage by increasing soil erosion and compaction. Damage to vegetation in the UMNWSR Corridor would be limited to the identified windows. Damage would consist of physical trampling or removal of vegetation and indirect damage by increasing soil erosion and compaction. Conditions favoring the growth of noxious plants would increase.

Emphasis Areas

This alternative would have only minor impacts on vegetation within the Kevin Rim, Sweet Grass Hills or Cow Creek emphasis areas.

Upper Missouri National Wild and Scenic River Management

Visitor Services

Ecological condition and trend would decline in localized areas around recreation facilities within the UMNWSR Corridor. This decline would result in soil compaction, erosion, and trampling and an increased proportion of noxious plants. Impacts could be locally significant if there is a large increase in visitor use.

Impacts to Wildlife and Fisheries

Land Tenure Adjustment

A total of 50,092 acres of public land would be disposed of by sale, the R&PP Act and/or exchange in this alternative.

Land tenure adjustments under this alternative would create both moderate positive and negative impacts to wildlife.

Lands acquired under this alternative would have the same positive impacts as those discussed in Alternative A. Disposal of scattered tracts would result in more habitat for tolerant, agricultural based species and less habitat for species requiring a less disturbed setting. A monoculture could become more prevalent if disposed of lands are farmed. This type of habitat would have lower species diversity and would be unable to fully support food and cover requirements for most species. Impacts would be reduced by the inability to till those tracts in rough, steep terrain.

Wildlife habitat on the 50,092 acres available for disposal includes: approximately 7,340 acres of crucial mule deer habitat; 405 acres of crucial antelope winter habitat; 200 acres of crucial ring-necked pheasant habitat; 1,210 acres of crucial spring sharp-tailed grouse; 730 acres of crucial winter/spring sage grouse habitat; and a 39 acre tract.

If the 50,092 acres are disposed through sale the 9,885 acres of crucial habitat described above would be lost; this would be a moderate negative impact. However, if land adjustment is accomplished through exchange, a moderate positive impact could occur through acquisition of wildlife habitat.

Off-Road Vehicle Management

Moderate impacts to wildlife would result from ORV use under this alternative. Impacts would be greater under this alternative than the others because ORV restrictions would be minimal.

Opening 238,000 acres of sedimentary breaks soils (Missouri Breaks) to ORV use would result in habitat deterioration through trampling, and indirect damage to habitat through soil compaction and disturbance, which would lower plant vigor. Wildlife species would also be stressed as a result of social intolerance to human activity. Mule deer would be the primary species affected.

Impacts to wildlife, resulting from identification of an intensive ORV use area, would be minor. Mule deer and raptors would be displaced during periods of frequent ORV use. Less than 1% of the wildlife forage and cover in the affected area would be lost. Some disturbance would occur to nesting birds.

Right-of-Way Location

Impacts to wildlife resulting from ROW location under this alternative would be minor, short term and localized.

Restricting new ROWs within the UMNWSR Corridor to identified windows would discourage infringement on 6,200 acres of crucial mule deer habitat. This would maintain existing wildlife habitat and reduce the levels of human activity.

Emphasis Areas

Kevin Rim

Surface disturbing activities would result in significant negative impacts to nesting raptors. The current 1/4-mile radius protection zone does not protect sensitive raptors from visual and sound disturbances created by conventional mineral and oil-gas exploration-development actions under most terrain circumstances. Breeding and nesting activities would generally be disrupted, which may end in nest or territory abandonment.

Sweet Grass Hills

Although there may be one ROW application every 3 years that affects the area, there is minor impact.

Hard rock mining negatively impacts big game through the loss of elk habitat and disruption of calving and wintering areas. Impacts are minor from a small operation. However, a large open pit type operation may create long-term significant impacts to wildlife through the loss of habitat.

Present mining and oil-gas activities are limited in the area so negative impacts to wildlife resources are minor. Surface disturbance activities could negatively impact raptor nest sites by disrupting nest construction, promoting premature nest abandonment and increased harassment.

Cow Creek

About 220 acres crucial mule deer habitat exists in the Cow Creek area. Riparian areas are principally decadent cottonwood stands and of limited value to non-game. Past beaver activity is evident in some areas however, no beaver population is presently known to occur.

Wildlife populations would remain about the same. Current allotment grazing is designed for proper use. As a result, mule deer, sharp-tailed grouse and non-game species habitat is available. However, with current warm season grazing, riparian habitat could be expected to deteriorate over time until existing cottonwood trees are dead. Little or no seedling regeneration would occur.

Upper Missouri National Wild and Scenic River Management

Visitor Services

Public or private recreation management would have a minor overall impact on wildlife. Extending maintenance of BLM campground facilities to a 6 month season would increase the number of hunters in the UMNWSR Corridor, creating additional disturbance to wildlife and associated habitat.

Facility Management

Facility management activities would create only minor impacts to wildlife resources.

Concession Management

Concession facilities along the Upper Missouri would increase the number of hunters and fishermen using the river and increase use of riparian areas. This would create additional disturbance to wildlife and associated habitat. Impacts would be minor.

Impacts to Grazing Management

Land Tenure Adjustment

A total of 50,092 acres of public land could be disposed of by sale, the R&PP Act and/or exchange in this alternative.

Exchange of small isolated tracts of public land for private inholdings would create a moderate positive impact. It eliminates management of small acreage allotments which are uneconomical to manage and concentrates federal acreage which improves management opportunities. Disposal of lands by sale would eliminate the potential of improved grazing management opportunities. A total of 50,092 acres could be lost as trading stock for high value range resources. This would create moderate negative impact.

Off-Road Vehicle Management

ORV use on slopes over 30% gradient within watersheds would increase sedimentation in reservoirs below these areas and would damage livestock forage.

About 20 acres of forage would be severely impacted under projected use (about two to four AUMs). Some harassment of livestock may occur on a temporary basis each year.

Overall, ORV impacts to grazing would be minor under this alternative.

Right-of-Way Location

Providing windows through the UMNWSR Corridor would limit ROW disturbance to livestock forage to only these windows. Forage disturbance resulting from ROW location would include the total elimination of forage in small areas and trampling of forage on a more widespread basis. Disturbance to soils and vegetation would increase erosion, lower forage productivity and increase the potential for noxious plants. Impacts would be minor because rehabilitation stipulations are required in ROW grants.

Emphasis Areas

This alternative would have only minor impacts on grazing within the Kevin Rim and Sweet Grass Hills emphasis areas.

Cow Creek

The inclusion of riparian management objectives in the five existing AMPs would probably entail construction of livestock exclosures on a temporary basis (4-10 years) to allow cottonwood and willow establishment. Approximately 100 acres along Cow Creek would be subject to exclosures. This would mean about 33-50 AUMs of grazing forage excluded from livestock use. This forage would be lost over time and unavailable for livestock use. This would be a minor negative impact to vegetation.

Upper Missouri National Wild and Scenic River Management

Visitor Services

There is a potential for livestock harassment, resulting in disrupted grazing patterns. Livestock could be forced to avoid shaded areas used for rest, resulting in diminished weight gains. Overall impacts would be minor and localized.

Impacts to Cultural Resources

Land Tenure Adjustment

This alternative would result in the disposal of 50,092 acres of scattered tracts. Approximately 440 cultural resource sites of varying significance would be lost. Approximately 20% of these, or 88 sites, would be of sufficient value (eligible for the National Register of Historic Places) to retain the lands on which they are located.

Land exchanges and acquisitions would result in a beneficial impact to cultural resources, if the lands acquired in exchange have more valuable historic or archaeological sites. The acquired sites would be provided greater protection in federal ownership because of laws and regulations. Lands with significant cultural resources would receive a high priority for acquisition.

Off-Road Vehicle Management

ORV impacts to cultural resources are caused primarily by erosion resulting from concentrated vehicle traffic for an extended time. In areas where travel is restricted to roads and trails (such as WSAs), there would be no greater impact to archaeological or historical sites than is now occurring. In areas where travel is open, a number of sites could be affected for the first time. However, there is no way to estimate the quantity of impact since BLM has not inventoried much of the land in the principal ORV areas (Missouri Breaks).

It is likely that some sites would be impacted and due to the irreplaceable nature of cultural resources, this could result in a moderate long-term local impact.

Right-of-Way Location

Random development of ROWs, outside the UMNWSR Corridor, would continue to disturb or destroy all or part of some historic and archaeological sites and alter their settings or visual environments. Overall impacts would be minor since these sites can usually be avoided. Limiting lineal ROWs through the UMNWSR Corridor to designated windows, would allow a more thorough inventory of cultural resources by limiting disturbance to fewer areas. Fewer cultural clearances would be needed as ROWs would utilize the same windows.

Emphasis Areas

Kevin Rim

This alternative requires current uses and management practices to continue, subject to standard stipulations. While project relocation has been successful in avoiding impacts to significant cultural resources in the past, it may not be so in the future. This is due to a high site density (about one per 70 acres) and dwindling space for new oil-gas developments. It is estimated there are 70 sites on the public lands and another 270 sites on public mineral estate. If the well spacings are standardized at 10 acres or less, there is about a 15% chance that a site would be encountered, and possibly affected since the space to move the well facilities is limited. The problem is more acute along the Kevin Rim escarpment proper, where space to move is even more restricted and where the most important archaeological sites occur. This would be a moderate negative impact to the local area.

Sweet Grass Hills

This alternative calls for continued current uses with a reactive management policy; that is, no active management takes place unless someone proposes to use the resources in the Sweet Grass Hills. Presently, there is no accurate estimate of the number and variety of cultural resources in the area because very little inventory work has been undertaken. However, it is very probable that all the higher peaks have at least one Native American religious site on them which may be modern, historic, or even prehistoric in age. These sites are particularly susceptible to the audio and visual intrusions, owing to their geographical nature. Continued mining and other development in the area would seriously alter the solitude of the surrounding environs, making a religious experience difficult to obtain there. These impacts could be long term and cumulative so are considered moderate. Impacts to historic and prehistoric resources from the same activity are only considered minor because of required mitigation.

Reopening 529.67 acres to mineral entry on East Butte could lead to audio and visual intrusions resulting from mineral exploration and development. These intrusions would seriously impair the solitude of East Butte, making it difficult for the Blackfeet, Chippewa, Cree and Gros Ventre tribes to obtain a traditional religious experience. Mining activity would also disturb historical and archaeological sites, though not as severely as religious sites, since these are more easily avoided.

Cow Creek

This alternative would have only minor impacts on cultural resources since current extractive use of the area is minimal. The most important cultural resource is the historic Nez Perce Trail, the remains of which are not visible on the land. Present use by livestock and oil-gas development does not seriously detract from the historic setting of the trail.

Upper Missouri National Wild and Scenic River Management

Visitor Services

This alternative would have only minor impacts on cultural resources. The potential always exists for recreational users to damage cultural resources both intentionally and unintentionally. However, continuance of river patrols and other enforcement activity along with improved public knowledge of the nature of cultural remains, via development of interpretive sites, would make the impacts minor.

Impacts to Recreation

Land Tenure Adjustment

A total of 50,092 acres of public land would be disposed of by sale, exchange and or the R&PP Act in this alternative.

Land adjustments would provide a multitude of significant positive benefits. Access would be provided to a number of important areas so users could maximize each area's recreational values. These areas generally include the Missouri and Marias Rivers, the WSAs, the Sweet Grass Hills, the Kevin Rim, Congressionally designated trails, important fishing reservoirs and hunting areas, etc. Some of the public lands would be consolidated so the recreational values would be better protected or enhanced. In addition, a more definable public land pattern would reduce confusion for recreational users.

Disposal of lands would result in visual impairment to these lands since various structures and land practices could be applied. Overall, these impacts would be minor compared to the large land base of public lands. Acquisition of lands in areas of higher resource values would aid in maintaining visual quality by reducing the potential for visual impairment in these areas.

Off-Road Vehicle Management

Elimination of restrictions on ORV use in sedimentary breaks soils would disturb the solitude of recreationists using these areas, including use along the UMNWSR. At the same time, motorized recreation opportunities would increase. The visual quality of these areas would decline as a result of new ORV trails. Impacts to recreation use resulting from ORV use would consist of a minor overall negative impact.

Identification of an intensive ORV use area would encourage increased use of adjacent WSAs, the Upper Missouri National Wild and Scenic River and several national recreation trails. Increased ORV use would create additional trails and noise. Visual contrasts would increase. Hunting quality within the intensive use area would decrease slightly because of the disturbance to game animals. These impacts would increase only slightly because of the moderate amount of ORV use anticipated in the area.

Right-of-Way Location

Limiting lineal ROWs within the UMNWSR Corridor to identified windows would allow continued enjoyment of primitive forms of recreation in areas not identified as windows. These areas would have had potential for increased access and visual impairment as a result of ROW development. These impacts would be minor.

Emphasis Areas

Sweet Grass Hills

Revoking the Bureau of Reclamation withdrawal, and subsequent opening of this area to mineral activity, would decrease the quality of primitive types of recreation because of an increase in access and visual impairment. Impacts would be minor because recreational use of the Sweet Grass Hills is quite low.

Cow Creek

This area would not be given special management attention. The values associated with the Nez Perce and Cow Island Trails, the Wild and Scenic Missouri River, and the WSAs would not be combined into one activity plan which could direct recreational users to an area that has a multitude of interpretive values. Impacts would be minor.

Upper Missouri National Wild and Scenic River Management

Facility Management

Private sector initiative in developing recreation facilities would provide a wide range of facilities of higher quality than can generally be provided by public agencies. Costs to the public for use of these facilities would be greater because of better facilities. Impacts would be minor.

Health and Safety

Contracting out the law enforcement duties on the UMNWSR would increase direct enforcement capabilities. Sheriff's department officers or officers from a state agency such as Montana Department of Fish, Wildlife and Parks would have a broad range of enforcement options, including arrest, which are not available now. Search and rescue responsibility would be decentralized among four adjacent counties, creating a logistical problem.

Impacts to Social and Economic Conditions

Land Tenure Adjustment

A total of 50,092 acres of public land would be disposed of by sale, exchange and/or the R&PP Act sale in this alternative.

The social and economic consequences of changes in the landownership pattern vary with the type of adjustment (sale or exchange), the length of time over which adjustments are made, and the magnitude of such adjustments.

The holder of a grazing lease and/or the adjacent landowner on a tract identified by BLM for disposal could be offered the opportunity to acquire it through exchange or sale. The ability of the lessee or adjacent landowner to participate can vary widely and there is a potential for minor adverse impacts to some ranch operations through loss of the leased area.

County governments would experience some effect on payment in lieu of taxes if public lands in their counties are exchanged for lands in another county. The net fiscal effects on local governments would depend on the type of land adjustment (sale or exchange) and whether the land adjustment is with private landowners or state and local governments. Fiscal effects would also depend upon whether exchanges are largely within or between counties and how the property taxes on lands passing into private ownership compare with the level of PILT. Tax exempt lands acquired from state or local governments through exchanges would be excluded from PILT. However, this loss of revenue to the counties could be partially offset by lands acquired by the state which might be subject to State Equalization Payments.

If exchanges were used as the only method of disposal, the exchange of 50,092 acres of public lands for private and/or state lands would have a minor net fiscal effect on PILT, State Equalization Payments and annual county property tax revenues. The net fiscal effect would depend on whether the land adjustment is with private landowners or state and local governments. However, if sales were used as a method of disposal, the sale of public lands to private individuals or organizations would increase annual county property tax revenues as a result of increasing the taxable land base. At the same time, federal PILT on public lands would be reduced as a result of transferring lands out of public ownership. Additional analysis of impacts would be necessary when specific land adjustment tracts are identified.

Off-Road Vehicle Management

Limiting travel to existing roads and vehicular ways in WSAs could require affected ranch operations to substitute horses or foot travel for casual vehicle use and thereby increase management costs. Opening certain areas with sedimentary breaks soils (slopes greater than 30%) to off-road vehicles could relieve affected ranch operations from substituting horses or foot travel for casual vehicle use. This could decrease management costs for those affected ranch operations. Maintaining access in all other areas for recreation, ranching and mineral activities would not limit the opportunity to open an area for resource development.

Under this alternative 640 acres would be designated for intensive ORV use. Assuming an increased level of activity, with designation, the local economies would benefit but the local and regional economic impacts of this alternative would be minor. There would be no significant change in the current economic or social conditions.

Right-of-Way Location

Windows would be established in existing corridor rights-of-way locations in the Upper Missouri National Wild and Scenic River Corridor. This could cause a utility or transportation corridor to take a longer route, and thus increase the cost of construction for transmission lines. The actual impact cannot be assessed further without specific details of a proposed corridor. All other areas open to rights-of-way location would not limit or curtail utility corridor development for transmission lines or the development of communication sites. There would be no significant change in the current economic and social conditions.

Emphasis Areas

Kevin Rim

Grazing, recreation, oil-gas, mineral and other resource development would continue in the Kevin Rim area. The buffer zones established around active raptor or peregrine nest sites would be minimal restrictions for resource development and subsequently the associated economic benefits. There would be no change in current economic and social conditions.

Sweet Grass Hills

Grazing, oil-gas, mineral and other resource development would continue. Revoking the Bureau of Reclamation withdrawal on 529.67 acres and opening East Butte to mineral entry would offer more opportunities for mineral resource exploration and development. Mineral exploration would offer very limited employment and income opportunities for the local economy. If exploration leads to mineral development, the local economy would benefit from long-term employment and income opportunities. The benefits from hardrock mining could be partially offset by curtailing some recreation use and the associated benefits to the local economy. Hunting is prominent in the lifestyle of many area residents and use of the Sweet Grass Hills for hunting is important to these people.

The practice of traditional religion has caused some concern regarding changing the character of the area by mineral exploration and/or development. The area offers the pristine qualities and solitude required for these religious practices. This is important to Native Americans in maintaining their traditions and culture. Exploration and mining in the Sweet Grass Hills would seriously alter the solitude of the surrounding environment, making a religious experience difficult to obtain. This management action could cause a significant change in the solitude and undisturbed environment of this area for Native Americans who use it for religious purposes.

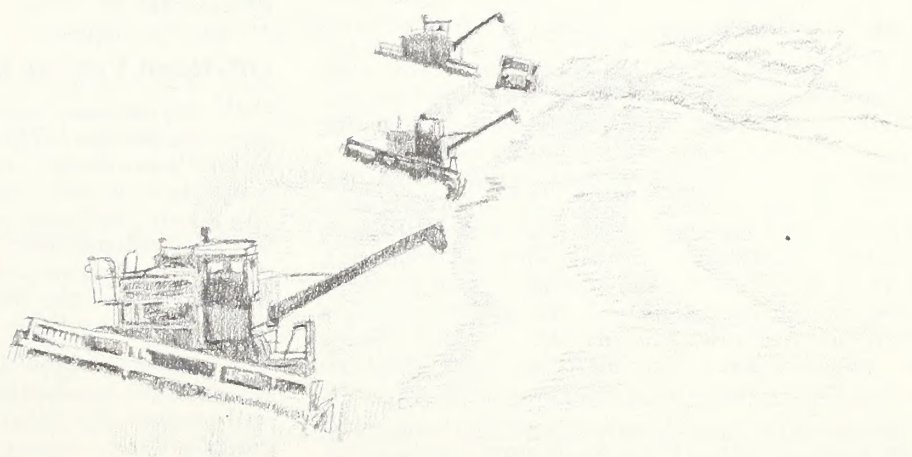
Cow Creek

Grazing, recreation, oil-gas, mineral and other resource development would continue in the Cow Creek area. In the short term, some ranch operations would experience a disruption of grazing practices due to the construction of livestock exclosures for riparian habitat on 100 acres along Cow Creek. This would be insignificant to the local economy. There would be no change in current economic and social conditions.

Upper Missouri National Wild and Scenic River Management

Visitor Services

This alternative would not unduly limit the type and intensity of recreation developments or the expansion of recreation concessions and leases onto public lands. This would provide the opportunity for recreation development by the private sector. Annual revenue for concessions, leases and local businesses would probably increase in the long term. Hunting, fishing and other recreation use in the area is expected to increase in the short and long term, with existing outfitters and guides receiving additional income over time. Currently, permitted outfitters offer services along the river, ranging from fully outfitted and guided trips to basic canoe services. In addition, two companies in Fort Benton utilize large pontoon craft. The local economy will benefit from an increase in expenditures for recreation services (motels, service stations, restaurants, etc.) but these changes would have only a minor impact on the local economy.



IMPACTS OF ALTERNATIVE C

Impacts to Soils

Land Tenure Adjustment

A total of 15,664 acres of public land would be disposed of by sale, the R&PP Act and/or exchange in this alternative.

Some of the public land transferred to private ownership would be farmed, and some of that land would be highly erodible and/or farmed without proper conservation practices. This could contribute to increased wind and water erosion and decreased soil productivity.

The greater the public land disposal acreage, the greater the potential for increased wind and water erosion and the subsequent loss of productivity.

Off-Road Vehicle Management

Off-road vehicles lower the natural productivity of soil through compaction and increased wind and water erosion. The soils of the Missouri Breaks (soil subgroups 3, 4, 5 and 16) and sedimentary soils (see Appendix 2.5) along glaciated prairie drainages could be significantly impacted by ORVs due to sandy or clayey textures, high erodibility factors and slopes greater than 25%. The significant impact rating is due to water erosion, especially rill and gully erosion, and wind erosion on sandy areas. These impacts are caused by vehicular travel, both on and off roads and trails. These impacts are compounded by vehicular travel on wet soils. During dry periods increased wind erosion would result in a locally significant impact. Even limited ORV use on fragile soils would generally cause a drastic reduction in soil productivity and values.

There is the potential for locally significant impacts to soils in riparian zones in the form of streambank instability. ORV use would break down banks and increase wind and water erosion of these areas.

This alternative limits vehicular use to existing roads and trails on 317,190 acres, which would reduce negative ORV impacts. However, there could be locally significant negative impacts from vehicular use of existing roads and trails.

The remainder of the planning area, 197,462 acres, is open to ORV use. Impacts in these areas would be minor and short term.

Right-of-Way Location

Impacts from ROW facilities are usually associated with construction activities. Areas with high erosion susceptibility, shallow soils, steep slopes (greater than 25%), sparse native vegetation, and known slumping or mass wasting areas would have locally significant impacts from any surface disturbing activity. There are approximately 100,000 acres of sedimentary breaks type soils with slopes greater than 25% and approximately 4,000 acres of riparian areas that ROW facilities should avoid if at all possible. The acreage having the potential for significant impacts is therefore reduced, as long as the areas are avoided. If some of these sensitive areas are disturbed they must be reclaimed at the highest level of mitigation within 2 years.

ROW location could cause locally significant impacts in the ROW windows through the UMNWSR Corridor and associated sedimentary breaks soil types. However, impacts to soils, from ROW location, in areas other than sedimentary breaks type soils would be minor and short term.

Emphasis Areas

Kevin Rim and Sweet Grass Hills

This alternative would create only minor positive impacts to soils because of restrictions reducing potential surface disturbances.

Cow Creek

A strong emphasis on intensive management of riparian vegetation would produce locally significant positive impacts to riparian systems and increase streambank stability within the Cow Creek area.

Upper Missouri National Wild and Scenic River Management

Facility Management

Streambanks might be damaged by facilities, and campground soils could be compacted, which would reduce ground cover and water infiltration and increase erosion. Impacts would occur only in the recreation or scenic sections, not wild sections of the corridor. This alternative would produce few negative impacts because facility development would be restricted by natural resource priorities.

Impacts to Water

Land Tenure Adjustment

This alternative could lead to the disposal of 15,664 acres of public lands through exchange, sale and/or the R&PP Act. If the intended future use of disposed of public land is farming, lowered water quality may occur from soil erosion and resultant sedimentation. The amount of impact would depend on the amount of land farmed. Acquisition of lands along water courses by the BLM would present minor potential for improved water quality through increased emphasis on improvement of riparian vegetation.

Overall, negative impacts to water resources resulting from land tenure adjustment, as specified in this alternative, would be minor because of the smaller potential acreage for disposal.

Off-Road Vehicle Management

ORV use impacts would occur as vegetation and ground cover are removed. The bare soil in the ruts and trails left by ORVs would be exposed to rill, gully and wind erosion resulting in accelerating headcut advancement and deepening ruts. Sediment eroded from these ruts and trails would be redeposited in downstream pools and reservoirs, thereby altering stream channels and shortening the life expectancy of water impoundments. Water quality would also be lowered with the increase in sediment concentration.

The impacts of ORV use would be especially evident on sedimentary breaks type soils (soil subgroups 3, 4, 5, 16) and on other soils with slopes greater than 25% (see Appendix 2.5). The impacts would be compounded even further when these soils are wet.

Impacts would also occur to riparian zones as streambank stability is reduced. Wind and water erosion would increase and water quality would decrease.

This alternative limits vehicular use to existing roads and trails on 317,190 acres which would reduce overall negative ORV impacts. However, locally significant negative impacts could occur on these existing roads and trails, especially during wet periods. Vehicles maneuver around rutted areas and potholes, widening existing roads and exposing more soils to potential erosion.

The remainder of the planning area, 308,908 acres, would be open to ORV use. These areas have more suitable soils and less steep terrains and would experience only minor, short-term impacts.

Damage caused by ORV use could be reclaimed on areas with suitable soils and flatter slopes simply by restricting use until natural revegetation occurs. Other areas, such as extensive use areas, sedimentary breaks type soils and areas with slopes greater than 25% may require mechanical treatment and seeding in addition to restricted ORV use. Some areas may not respond to reclamation in the short term and accelerated wind and water erosion would persist into the long term.

Right-of-Way Location

Water quality impairment from ROW facilities is usually associated with construction, is short term and generally reclaimable. In areas of sedimentary breaks type soils that have slopes greater than 25% (approximately 100,000 acres) ROW facility location would have the potential for locally significant impacts to water resources due to runoff, erosion and sedimentation.

In this alternative the location of ROW facilities should avoid these fragile soil areas if at all possible. If some of these sensitive areas are disturbed, they must be reclaimed at the highest level of mitigation within 2 years.

The potential for these impacts would also be reduced by 28,000 acres within the UMNWSR Corridor. However, these impacts could still occur on the ROW windows within the corridor.

Emphasis Areas

Kevin Rim and Sweet Grass Hills

This alternative would be a minor positive impact to water because of restrictions reducing potential surface disturbances.

Cow Creek

This alternative would produce locally significant positive impacts for water quality resulting from intensive management of riparian areas. Intensive management of these areas would decrease soil erosion, increase streambank stability and reduce sedimentation.

Upper Missouri National Wild and Scenic River Management

Facility Management

Pit type toilets would be placed only where the bottom of the pits would be at least 10 feet above the water table. This would greatly reduce the potential for contamination of groundwaters. Streambank stability could be damaged at facility locations. Water quality of the Upper Missouri would improve because of stringent restrictions to protect natural resources. Streambank stability would increase, while erosion would decrease, improving water quality. Impacts, planning area wide, would be very minor.

Impacts to Mineral Resources

Table 4.3 details the constraints on oil and gas development under this alternative.

Land Tenure Adjustment

A total of 15,664 acres of public land would be disposed of by sale, exchange and/or the R&PP Act in this alternative.

Impacts to mineral resources could occur where mineral potential is high. It is expected that only surface resources would be exchanged. Disposal of surface acreage located over federal minerals with known mineral potential results in diminished surface use control when permitting development of subsurface minerals. Reuniting federal minerals with federal surface would allow increased surface use control and facilitate better management of federal minerals. Detailed analysis of mineral potential would be required to prevent significant negative impacts when disposing of federal subsurface.

Land acquisition to consolidate public ownership within identified areas may produce conflicts with private mineral owners, but would allow for greater surface use control.

If land adjustments result in a net gain of federal minerals in areas managed under stringent surface constraints (such as wilderness study areas), it could create locally moderate impacts to oil and gas development. If lands with both surface and subsurface rights are obtained in the Sweet Grass Hills, a protective withdrawal would be pursued. This would be a locally significant, long-term negative impact to mineral development in the area.

Off-Road Vehicle Management

Mineral development could be inconvenienced by the limited ORV designations. The effect would be minor because ORV use authorizations can be obtained on a case by case basis for mining development by filing a notice or under the 3809 Mining Regulations.

ORV map publications and updates would allow better access planning to proposed well sites and production facilities. This would have a minor positive effect on fluid minerals.

New roads resulting from oil-gas activities would have to be reclaimed when no longer needed, which would increase costs to the oil-gas industry. This would be a minor impact.

The closure of Gist Road would have no impact to mineral resources.

Right-of-Way Location

Avoiding identified areas may hinder development if exploration of unknown mineral potential lands results in large, new discoveries. Costs may increase if a pipeline must be located around an avoidance area. This could be a locally moderate impact but would be minor in relation to the entire planning areas.

Planned ROW corridors would provide for necessary connections of mineral development areas separated by designated avoidance areas. Publicizing avoidance and restricted areas would facilitate mineral development. This would reduce the mineral application process and concentrate on the available areas, however this still results in a moderate negative impact due to cost increases.

TABLE 4.3

CONSTRAINTS ON OIL AND GAS EXPLORATION AND DEVELOPMENT (ALTERNATIVE C)[1]

Management Categories	High Development Potential	Acres	Moderate Development Potential	Acres
1. **Open Subject to Standard Terms and Conditions** These are areas where standard terms and conditions are sufficient to protect other land uses or resource values.	Total subsurface acreage with high development potential minus acreage in categories 2 and 3 below.	396,591	Total subsurface acreage with moderate development potential minus acreage in categories 2 and 3 below.	244,954
2. **Open Subject to Seasonal or Other Minor Constraints** These are areas where moderately restrictive lease stipulations (such as seasonal restrictions) may be required to mitigate impacts to other land uses or resource values.	* Kevin Rim area * Sweet Grass Hills (East & West Buttes) area outside ACEC * Cow Creek Corridor ACEC * Crucial wildlife areas in the Havre Resource Area * Marias River area above Tiber Reservoir	257,365	* A small portion of Cow Creek Corridor ACEC * Crucial wildlife areas in Havre Resource Area * Marias River area below Tiber Reservoir	94,808
3. **Closed to Leasing Discretionary** These are areas where other land uses or resource values cannot be adequately protected even with the most restrictive lease stipulations. Appropriate protection can only be ensured by closing the lands to leasing.	* UMNWSR * WSAs Sweet Grass Hills (East, West, & Middle Buttes) ACEC including the 529 acre BOR revocation on East Butte	41,673	* UMNWSR * WSAs	86,076
[1]BLM, 1987	**TOTAL HIGH**	**695,629**	**TOTAL MODERATE**	**425,838**

Emphasis Areas

Kevin Rim

Maximum protection of resource values while continuing provisions for exploration and development of federal minerals would create a significant negative impact to oil-gas developers by increasing operation costs. This could cause drilling and/or well completion delays due to institution of specific drilling windows or time constraints.

The four existing corridors would provide sufficient ROWs for product export pipelines, if significant volumes of CO_2 would be discovered under Kevin Rim.

Mineral projects which would not meet necessary mitigative stipulations to protect surface resources would be denied. Mineral projects that historically were permitted could be denied.

The only locatable minerals in the Kevin Rim are found in a sandstone formation containing iron and titanium. An ACEC designation of this area would have only a minor negative impact on development of these mineral resources. This is because the deposits are remotely located, would require large capitol investments to develop and other national sources exist.

Sweet Grass Hills

A negative impact to oil-gas development would result because future mineral leasing would not be allowed under a protective withdrawal. This may result in drainage of federal minerals by fee and state wells on adjacent lands. This impact would be significant.

Although it is unlikely that oil-gas would be found in the Sweet Grass Hills proper, the uplifted, truncated sediments surrounding the area provide excellent oil and gas traps.

Raptor habitat protection stipulations may delay oil and gas exploration depending on surface disturbance relative to the proximity to raptor habitat.

Withdrawal of the ACEC would eliminate any unclaimed lands from future exploration or mining. Existing claims could still be worked and proceed to patent under this alternative. On lands currently open to entry this would be a moderate negative impact because there is the chance that not all lands valuable for locatable minerals would be claimed.

The 529.67 acres currently in the Bureau of Reclamation withdrawal on East Butte would be put under the protective withdrawal and remain closed to mineral entry. This would be a significant negative impact to the minerals industry because these lands have a high potential for the occurrence of gold and silver deposits. However, there are no existing claims located on the withdrawal to provide development opportunity. On all lands within the ACEC designation, the operator would be required to file a Plan of Operations for any exploration or development; including projects disturbing 5 acres or less previously authorized by filing a notice (43 CFR 3809.1-4). The additional workload involved in plan preparation, over that of a notice, and the need to wait for formal approval, would be a minor negative impact to operators and development of the mineral resources.

On lands within an ACEC, the Memorandum of Understanding (MOU) between BLM and the Montana Department of State Lands (DSL) would not apply. This would be a minor negative impact to effective regulation of hardrock mineral operators because both BLM and DSL would still retain their legal regulatory obligations even though there would be no formal cooperative agreement. Informal cooperation between BLM and DSL on regulating operators would be expected to continue.

Cow Creek

More restrictions to mining might result from increased surface resource protection, but would be a minor impact because there is little locatable mineral potential.

Impacts to Vegetation

Land Tenure Adjustment

A total of 15,664 acres of public land would be disposed of by sale, exchange and/or the R&PP Act in this alternative.

Public land vegetation would experience minor benefits from landownership adjustment, which allow for improved management. There are currently about 8,000 acres of land within the central portion of the planning area that receive very little management attention. There is little opportunity to improve the vegetation on these lands because it is uneconomical due to unit size. Retention of 34,428 acres of land would provide the BLM with limited opportunities for vegetation enhancement. Vegetation enhancement could be achieved by acquiring private inholdings through exchange within the remaining 500,000 public acres with high value resources.

Vegetation types having the most potential for improvement are the rose/snowberry, cottonwood/willow, non-wooded breaks, and riparian/wetlands. However, only minor improvement would be expected since these areas are also the most utilized.

Lands disposed of through sale or exchange may be partially or completely farmed. Native vegetation may be destroyed where plowing occurs if disposal is by sale. These negative impacts would be minimized under this alternative because it involves the lowest acreage for land tenure adjustment. Impacts to vegetation could be moderate if a considerable amount of native range were plowed.

Off-Road Vehicle Management

This alternative places the greatest restrictions on ORV use to protect vegetation and other resources and would create moderate benefits for vegetation.

ORV management would allow for maximum protection of vegetation. Sedimentary soils and riparian areas would be protected by permitting ORV use only on designated roads-trails when soil is wet (e.g., March 1—June 30).

Closing the Gist Road from the homestead to the river would keep ORVs out of some riparian habitats along the river. This would assist cottonwood-willow community rejuvenation.

Right-of-Way Location

Impacts to vegetation resulting from ROW location would be moderately beneficial under this alternative because ROWs would be excluded in several areas and avoided in a number of others. Vegetation would benefit from limiting impacts such as physical trampling or removal of vegetation and indirect damage by increasing soil erosion and compaction.

Emphasis Areas

Kevin Rim and Sweet Grass Hills

Maximum protection in these areas may impact livestock management to a very small degree. Proposed range improvements (water pipelines, spring developments, and fencing) would require additional stipulations such as exclosing livestock during spring or fall from riparian habitats, winter habitat or near nesting sites of peregrine falcons. Range improvements would not be allowed where unmitigated conflicts with wildlife or cultural resources are involved. An example would be nesting areas of peregrine falcons or important elk habitat in the Sweet Grass Hills.

Cow Creek

This alternative would require revisions of existing AMPs to implement more comprehensive management to improve riparian vegetation. Management objectives would be centered on the most critical riparian and non-wooded breaks types. The long-term actions would include development of at least 25 acres of riparian habitats and about 100 acres additional vegetation, if private land is acquired within the area.

About 16,800 acres of non-wooded breaks could be increased from fair to good range condition in the long term. This would increase the production of preferred species such as western wheatgrass, green needlegrass, and needleandthread grass. Shrubs such as big and silver sagebrush and Nuttall's saltbush would benefit from increased livestock management.

Positive impacts to vegetation in relation to Cow Creek would be locally significant, but minor in relation to the entire planning area.

Upper Missouri National Wild and Scenic River Management

Visitor Services

Recreation use within the river corridor would be limited therefore, ecological condition and trend would not be influenced. Opportunities for noxious plants becoming established would be diminished. Impacts to vegetation would be positive, but minor in relation to the entire planning area.

Impacts to Wildlife and Fisheries

Land Tenure Adjustment

A total of 15,664 acres of public land would be disposed of by sale, exchange and/or the R&PP Act in this alternative.

Wildlife values would decrease on disposed of public lands because of an increase in monoculture habitats and decreased yearlong habitat. This alternative would retain all land adjustment areas, except for selected disposal units. Crucial wildlife habitat could be lost due to land

disposal actions. This would be a moderate negative impact. The steep and broken terrain within these lands would not permit conventional farming so negative impacts to wildlife resources would be minimized.

The 15,664 acres of land identified for disposal contains the following habitat: 345 acres of crucial spring sharp-tail grouse habitat, 80 acres of crucial winter/spring sage grouse habitat, 200 acres of crucial ring-necked pheasant habitat and one 39-acre unit containing wetlands.

Land acquired under this alternative would have the same moderate positive impacts as discussed in Alternative A. A moderate negative impact could occur if these 15,664 acres were sold because the 625 acres of crucial habitat described above would be lost.

Off-Road Vehicle Management

Deer fawning and elk calving areas, antelope winter range, raptor nesting habitat, and grouse breeding-nesting habitat would be seasonally protected from most ORV disturbance (see Table 2.3). Damage to waterfowl, raptor, and non-game bird nesting habitat would be minor. Increased human activity would cause short-term movement of wildlife species from the area. Positive impacts such as seasonal protection of crucial habitats would be moderate because of the low amount of ORV use occurring and expected.

Right-of-Way Location

Most ROWs would cause minor disturbances to habitat and temporary harassment of some wildlife species. Potential impacts to specific habitat types cannot be determined, since it is not known where future ROWs would occur. Impacts to wildlife can only be discussed in general terms.

ROWs would cause short-term harassment of most wildlife species and would cause temporary movement of wildlife from the area. There would be a minor loss of habitat from most ROWs such as transmission, pipe, and telephone lines. ROWs through wetlands could disturb aquatic habitat by destroying fragile wetland vegetation, increasing sedimentation, and affecting annual runoff.

By not permitting ROWs in WSAs, the Cow Creek area, and the Missouri River Corridor about 37,000 acres of crucial elk habitat, 138,050 acres of crucial mule deer habitat, 4,500 acres of crucial white-tailed deer habitat, 59,000 areas of crucial bighorn sheep habitat, and 4,500 acres of crucial ring-necked pheasant habitat would avoid disturbance.

Overall impacts would be minor because of the low number of ROWs anticipated throughout the life of the plan.

Emphasis Areas

Kevin Rim

Restrictions placed on mineral leases and land use authorizations on the Kevin Rim would reduce the amount and intensity of disturbance to raptors. Limiting ROWs to four corridors would limit disturbance in the remaining areas of the rim. These impacts would be a locally significant positive impact, but minor overall.

Sweet Grass Hills

Modifying stipulations for raptor protection would reduce the amount and intensity of disturbance to raptors. Elk in the Sweet Grass Hills would benefit from modifications in grazing management which would maintain elk habitat in good condition. Some elk habitat in pristine condition would be maintained. These impacts would be locally significant. Opening 500 acres of land on East Butte to mineral entry could create a new disturbance to elk, raptors, and deer in this area. A large open pit operation could have long-term significant negative impacts on big game by reducing habitat.

Cow Creek

Riparian habitat would be expected to improve and increase in size because of a strong emphasis on riparian management in allotment management plan (AMP) revisions. If all private land within the area would be acquired, about 100 acres of riparian would be secured. The institution of livestock grazing management, placement of livestock watering sources outside the creek bottom, and excluding livestock from riparian habitats with exclosures would improve riparian condition. About 100 acres of crucial white-tailed deer and pheasant habitat would be secured. Beaver and non-game bird habitat would also improve. The 220 acres of crucial mule deer habitat would improve.

Significant local improvement of wildlife values would occur but overall effects would be minor in relation to the planning area.

Upper Missouri National Wild and Scenic River Management

The impacts of recreation management, including facility and concession management would be the same as those described in Alternative A.

Impacts to Grazing Management

Land Tenure Adjustment

A total of 15,664 acres of public land would be disposed of by sale, exchange and/or the R&PP Act in this alternative.

Exchanging small isolated tracts of public land for private inholdings would be a moderate positive impact. It eliminates management of small acreage allotments which are uneconomical to manage and allows acquisition in other allotments of larger federal acreage which improves management opportunities. Disposal of lands by sale would eliminate the potential of improved grazing management opportunities. Approximately 50,092 acres could be lost as trading stock for high value range resources. This would be a moderate negative impact.

Retaining 34,428 acres of land with limited resource values would limit management opportunities. This would limit opportunities to acquire private inholdings in allotments which may limit the ability to improve public rangelands.

This alternative would eliminate about 1,568 animal unit months (AUMs) in the western part of the planning area. The potential is good for acquiring private land for livestock management in the western portion of the planning area. However, land exchanges for the purpose of acquiring land for livestock management would receive very low priority under this alternative because livestock grazing is a consumptive use and is not a resource protection use. Acquisitions triggered to meet objectives of the Endangered Species Act, special management areas, and wilderness study areas could produce secondary use benefits for livestock grazing.

Full federal control of the river riparian areas in the eastern part of the river corridor could be achieved and grazing management could be implemented to improve the riparian habitat condition if private and state land could be acquired.

Overall impacts would be minor.

Off-Road Vehicle Management

Maximum protection of the public resources would benefit range land by reducing vegetation disturbance, weed invasion, soil compaction, rill and gully erosion and potential harassment of livestock by ORVs. Casual lessee vehicle use might be restricted, resulting in a minor negative impact.

Overall, minor benefits would result.

Right-of-Way Location

There would be no impacts from this alternative. If any type of trenching occurs and trenches are open for 24 hours, livestock bridges must be provided. The grazing permittee must be notified prior to construction activities.

Emphasis Areas

Kevin Rim and Sweet Grass Hills

Designation of these areas as areas of critical environmental concern (ACECs) and the associated resource protection might disrupt livestock grazing to a minor degree. Livestock management facility development would be restricted by protective stipulations. Examples might include exclosing livestock during spring or fall grazing from riparian habitat, winter wildlife habitat, or raptor nesting habitats. Range improvements would not be allowed where unresolved conflicts would occur with cultural and wildlife resources.

Cow Creek

The inclusion of riparian management objectives and the designation of this area as an ACEC would require a comprehensive revision of the five existing AMPs. Additional cross fences, water developments, more intensive livestock management and BLM intensive monitoring might be required. Impacts to grazing would be minor.

Upper Missouri National Wild and Scenic River Management

Visitor Services

Minor impacts would occur from the disruption of livestock grazing patterns for continued recreation and where recreation use occurs, livestock may be forced to vacate or avoid shaded areas used for rest. Since few additional recreation areas would be developed, this impact would be minor.

Impacts to Cultural Resources

Land Tenure Adjustment

This alternative would dispose of 15,664 acres of isolated land, resulting in the loss of about 138 archaeological and historical sites. About 20% of these, or 27 sites, would be significant enough to warrant their retention. A number of other sites would be obtained in any exchange. The overall adverse impact to cultural resources would be less than the above maximum figures.

Land exchanges and acquisitions would have a beneficial effect on cultural resources where more valuable historic and archaeological sites were acquired than disposed of. Lands with significant cultural resources should receive a high priority for acquisition.

Off-Road Vehicle Management

ORV impacts to cultural resources are primarily caused by erosion resulting from concentrated vehicle traffic for an extended time. In areas where travel is restricted to roads-trails, there would be no greater impact to archaeological or historical sites than is now occurring. In open ORV travel areas, a number of sites could be affected for the first time. There is no way to estimate the quantity of these impacts since BLM has not inventoried much of the land in the principal ORV areas (Missouri River Breaks). It is likely that some sites would be impacted and due to the irreplaceable nature of cultural resources, this could result in a moderate long-term local impact.

Right-of-Way Location

This alternative would have the same impacts Alternative A, except in the emphasis management areas, wilderness study areas, and the majority of the Missouri River Corridor where no impacts would occur. Cultural resources in the ROW corridors across the river might receive visual and physical impacts, although many of the areas currently have lineal ROW developments. Some of the impacted areas are Dauphin Rapids and Judith Landing Historic Districts, and the Fort Benton Historic Landmark.

Emphasis Areas

Kevin Rim

Development in a zone (1/4 mile x 8 miles) below the Kevin Rim escarpment would not be authorized if impacts to cultural resources could not be mitigated.

It is estimated that there are 70 sites on public land and the 270 sites on public mineral estate. About 30% of the 70 sites and most of the highly significant sites would receive no impacts. This is a moderately beneficial impact. The impacts would be the same outside the zone as they would be for Alternative A.

Sweet Grass Hills

Restrictions on mining and other activities in the Sweet Grass Hills would protect cultural and religious sites. The mineral withdrawal would prevent any future possibility of mining activity in the area except where valid, existing rights have already been established. With the elimination of this possibility, there would be less degradation of the area because of mining. The ACEC designation would require that BLM exercise a greater degree of oversight on all kinds of activity in the area and would remove the area from the requirements the BLM/Department of State Lands MOU on hard rock mining. Therefore, under this alternative, all impacts to cultural and religious sites would be moderately positive.

Cow Creek

The proposal to designate this area as an ACEC would enhance the preservation of the historic setting of the Nez Perce Trail by limiting future development. Because the area would permanently be subject to more stringent development standards, this would be a long-term, significantly positive benefit.

Upper Missouri National Wild and Scenic River Management

Visitor Services

The development of new campsites might occur in areas with significant cultural resources. The increased visitor traffic might result in cultural resources disturbance, but avoidance is usually possible if the resources are found early. Overall, impacts would be moderately positive. Increased public awareness via the development of interpretive sites would enhance cultural resources along the Missouri River.

Facility Management

Developments proposed in this alternative, depending on where they occur, may affect cultural resources by increasing visitor traffic or constructing facilities. The impacts may be physical disturbance, theft, or the introduction of visual intrusions into a historic scene. Impacts would be minor. If these impacts could not be mitigated facility development would be foregone; a moderate positive impact for cultural resources.

Concession Management

This alternative would be a positive moderate affect because potential impacts would be eliminated.

Health and Safety

Cultural resources may benefit from the presence of the BLM river management staff (rangers) on the river because vandalism and theft of artifacts may be lessened. This would be a minor benefit.

Impacts to Recreation

Land Tenure Adjustment

A total of 15,664 acres of public land would be disposed of by the R&PP Act and/or exchange in this alternative.

The maximum overall loss of public access lands would range from 2-7%. Considerably less public access would probably be lost since exchange is the preferred method of disposal. Hunting is the primary recreation value of those public lands. These impacts would be minor since most public lands do not offer exceptional hunting or dispersed recreational opportunities. Overall loss of access to public land acreage would be minor.

Land adjustments would provide a multitude of significant positive benefits. Access would be provided to a number of important areas so that users can maximize each area's recreational values. These areas generally include the Missouri and Marias Rivers, the WSAs, the Sweet Grass Hills, the Kevin Rim, Congressionally designated trails, important fishing reservoirs and hunting areas, etc. Some of the public lands would be consolidated so the recreational values are better protected or enhanced. In addition, a more definable federal land pattern would reduce confusions for recreational users.

Off-Road Vehicle Management

ORV use is primarily associated with hunting, ranching, BLM administration, and oil-gas exploration-development. These users generally use existing roads and trails. The area is not a high-use area and ORV disturbances are infrequent. There is infrequent motorbike club use of BLM administered land. Restrictions on ORV use in specified areas would enhance non-motorized recreation activities at the expense of motorized activities. Overall impacts would be minor because of low ORV use.

This alternative would preserve the pristine character of the Missouri Breaks, the Marias River Corridor, the Sweet Grass Hills, riparian areas, and important wildlife habitats. Most of those values are high quality VRM areas as well.

Right-of-Way Location

This alternative would be beneficial to the non-motorized recreation VRM and wilderness values. This alternative would be the most protective by avoiding or excluding ROWs from high value recreation areas.

Visual protection of the Sweet Grass Hills and Kevin Rim would ensure the primitiveness of those areas. Protecting the wetlands and riparian areas would help assure wildlife population stability.

Emphasis Areas

Kevin Rim

The impact of protecting this area would primarily be for interpretive values. Providing intensive management for raptors, allows visitors an opportunity to see these wildlife resources. Overall, the impact to recreational resources would be a minor positive one.

Sweet Grass Hills

This alternative would have both negative and positive impacts for recreational and ORV use. ORV use in portions of the area would be restricted. The positive benefit would be that an ORV plan would be prepared, thereby protecting recreational users from dangerous mining operations and sites. The VRM quality would be enhanced and impacts to the natural character of the land would be maintained.

The overall recreation impact would be a minor positive one.

Cow Creek

ACEC designation would combine a multitude of management plans into one activity plan. Long-term goals for the area would be more coherent and one plan would be easier for the public to understand. The activity plan would provide the guidance necessary to develop an interpretive and recreational plan that combines all the area's special management values. It would also enhance and protect the area's visual and natural qualities.

The impact to recreation would be a moderate positive one.

Upper Missouri National Wild and Scenic River Management

Facility Management

Restrictions on future facility development in recreational and scenic sections and prohibiting of such development in wild sections of the UMNWSR would limit management options. This could result in regulating use of the river through user capacity, and would be a minor impact.

Concession Management

Private sector operation of some recreation facilities in recreational sections of the UMNWSR Corridor could provide a wider array of recreation opportunities. This would be a minor impact.

Health and Safety

Initiating BLM law enforcement on the UMNWSR would increase compliance with Bureau regulations and would help maintain the natural environment.

Impacts to Social and Economic Conditions

Land Tenure Adjustment

Please refer to Alternative B for a general discussion of the impacts.

Landownership transactions under this alternative could result in the disposal of 15,664 acres of public lands. If exchanges were used as the only method of disposal, the exchange of 15,664 acres of public lands for private and/or state lands would have a minor net fiscal effect on PILT, State Equalization Payments and annual county property tax revenues. The net fiscal effect would depend on whether the land adjustment is with private landowners or state and local governments. However, if sales were used as a method of disposal, the sale of public lands to private individuals or organizations would increase annual county property tax revenues as a result of increasing the taxable land base. At the same time, federal PILT on public lands would be reduced as a result of transferring lands out of public ownership. Additional analysis of impacts would be necessary when a specific land adjustment and tracts are identified.

Off-Road Vehicle Management

Limiting travel to existing roads and vehicular ways in WSAs could increase management costs by requiring affected ranch operations to substitute horses or foot travel for casual vehicle use. Designating lands in some areas as limited to off-road vehicles could increase costs to public land lessees. In those areas where ORV use now occurs, restrictions could increase costs to ranchers and oil and gas operators, because of the need for a permit on a case by case basis for motorized access or the need for non-motorized access to the area. In areas where ORV use does not occur, the future opportunity to open an area to development activities would be limited. The character of recreational use would change, adversely impacting those who use motor vehicles while benefiting those who prefer non-motorized forms of recreation. Maintaining access in all other areas for recreation, ranching and mineral activities would not curtail the future opportunity to open an area for resource development. These changes would only have a minor impact to the local economy.

Right-of-Way Location

The designation of avoidance areas and windows could cause a utility or transportation corridor to take a longer route, and thus increase the cost of construction for transmission lines. The actual impact cannot be assessed further without specific details of a proposed corridor. With East Butte, an established communication site and exclusion of West and Middle Butte of the Sweet Grass Hills would probably have little or no impact to the development of future communication sites. All other areas open to rights-of-way location would not limit or curtail utility corridor development for transmission lines or the development of communication sites. These changes would only have a minor impact to the local economy.

Emphasis Areas

Kevin Rim

Managing Kevin Rim under emphasis management guidelines would not preclude utilization of the area for grazing, recreation, oil-gas, mineral and other resource development, but would restrict activities in sensitive areas. The buffer zones established around active raptor or peregrine nest sites would restrict resource development and subsequently the associated economic benefits. These changes could have a minor impact to the local economy.

Sweet Grass Hills

Managing the Sweet Grass Hills under special management guidelines would not preclude utilization of the area for grazing, recreation and oil and gas activities but would preclude the potential for some mineral resource development and subsequently the associated economic benefits. Mineral exploration in the area would offer very limited employment and income opportunities for the local economy. The benefits from hardrock mining could be partially offset by curtailing some recreation use and the associated benefits to the local economy. Hunting is prominent in the lifestyle of many area residents and use of the Sweet Grass Hills for hunting is important to these people. Some ranch operations could experience a disruption of current grazing practices with a change in grazing management to emphasize maintenance of elk winter habitat. There would be no significant change in current economic and social trends. These changes would have minor impact to the local economy.

The practice of traditional religion has caused some concern regarding changing the character of the area by mineral exploration and/or development. The area offers the pristine qualities and solitude that are required for these religious practices. This is important to Native Americans in maintaining their traditions and culture. Exploration and mining in the Sweet Grass Hills would be limited to valid, existing claims. Mining operators would be required to file a Plan of Operations for formal approval by BLM on any exploration or development work they want to perform. This would give management more control over disturbance to the environment and a basis for consultation with Native Americans about religious use of the area.

This would minimize the impacts to the solitude and undisturbed environment of the area which are key elements for these religious practices. This management action could cause a moderate change in the solitude and undisturbed environment of this area.

Cow Creek

Managing Cow Creek under special management guidelines would not preclude utilization of the area for grazing, oil and gas, mineral and other resource development. In the long term, some ranch operations could experience a disruption of current grazing practices with a change to emphasize intensive management of riparian vegetation. This would be insignificant to the local economy. There would be no change in current economic and social conditions.

Upper Missouri National Wild and Scenic River Management

Visitor Services

This alternative would provide the opportunity for private sector concession development in the recreation section of the river with limits on the type and intensity.

Currently, seven permitted outfitters offer services along the river, ranging from fully outfitted and guided trips to basic canoe services. In addition, two companies in Fort Benton utilize large pontoon craft. The local economy will benefit from an increase in expenditures for recreation services (motels, service stations, restaurants, etc.) but these changes would only have a minor impact to the local economy.

IMPACTS OF ALTERNATIVE D (THE PREFERRED ALTERNATIVE)

Impacts to Soils

Land Tenure Adjustment

Some disposed of tracts would have native vegetative cover plowed to cultivate agricultural crops, resulting in increased wind and water erosion. Potentially, 15,664 acres could be disposed of through exchange, sale or R&PP Act sale; and an additional 34,428 acres exchanged for other lands. Acquisition of and intensive management of private land in areas of high resource interest could stabilize soils by increasing vegetative cover. Overall impacts would be minor.

Off-Road Vehicle Management

Off-road vehicles lower the natural productivity of soil through compaction and increased wind and water erosion. The soils of the Missouri Breaks (soil subgroups 3, 4, 5, and 16) and sedimentary soils (see Appendix 2.5) along glaciated prairie drainages can be significantly impacted by ORVs due to sandy or clayey textures, high erodibility factors and slopes greater than 25%. The significant impact rating is due to water erosion, especially rill and gully erosion, and wind erosion on sandy areas. These impacts are caused by vehicular travel, both on and off roads and trails. These impacts are compounded by vehicular travel on wet soils. During dry periods increased wind erosion would result in a locally significant impact. Even limited ORV use on fragile soils would generally cause a drastic reduction in soil productivity and values.

There is the potential for locally significant impacts to soils in riparian zones in the form of streambank instability. ORV use would break down banks and increase wind and water erosion of these areas.

This alternative limits vehicular use to existing roads and trails on 317,190 acres which would reduce negative ORV impacts. However, there could be locally significant negative impacts from vehicular use of existing roads and trails.

Locally significant impacts, both on and off existing roads and trails, could occur on 199,034 acres which would be open to ORV use November 1—April 1. Within this acreage is a 640 acre area which may be designated for intensive use by cross-country motorcycles. This use would continue to denude portions of the area of native vegetation; increasing wind and water erosion in the area.

The remainder of the planning area, 198,142 acres, is open to ORV use. Impacts in these areas are expected to be minor and short term.

Right-of-Way Location

Impacts from ROW facilities are usually associated with construction activities. Areas with high erosion susceptibility, shallow soils, steep slopes (greater than 25%), sparse native vegetation, and known slumping or mass wasting areas would have locally significant impacts from any surface disturbing activity.

There are approximately 100,000 acres of sedimentary breaks type soils which have slopes greater than 25% and approximately 4,000 acres of riparian areas that should be avoided. If these sensitive areas are avoided, the acreage having the potential for significant impacts would be reduced. If some of these sensitive areas are disturbed, they would be rehabilitated using the appropriate mitigative measures.

ROW location could cause locally significant impacts in the ROW windows in the UMNWSR and associated sedimentary breaks soil types. However, impacts to soils, from ROW location, in areas other than sedimentary breaks type soils would be minor and short term.

Emphasis Areas

Kevin Rim and Sweet Grass Hills

This alternative would be a minor positive impact to soils because of restrictions that reduce the potential for surface disturbances.

Cow Creek

Intensive management of riparian systems would increase the quantity and quality vegetative cover, thereby increasing streambank stability. This would be a locally significant positive impact.

Upper Missouri National Wild and Scenic River Management

Facility Management

Streambanks might be damaged by facilities, and soils and vegetation around campgrounds could be compacted which would reduce ground cover, reduce water infiltration and increase erosion. This alternative would produce few negative impacts because livestock use of recreation sites would be eliminated during high use periods and developments would be mitigated to protect soils and other natural resources.

Impacts to Water Resources

Land Tenure Adjustment

A total of 15,664 acres of public land would be disposed of through exchange, sale or the R&PP Act and 34,428 acres exchanged under this alternative.

Some disposed of tracts would have native cover plowed to cultivate agricultural crops, resulting in increased erosion and sedimentation of streams and reservoirs below these areas. The longer these lands remain in agricultural production the higher the soil erosion potential due to decreases in organic matter and soil structure. The potential impacts are unknown due to changes in the federal farm programs and the class and amount of land that may be converted to agricultural production. Potentially, 50,092 acres could be exchanged or sold for other lands in special management areas and other areas of high resource values.

Off-Road Vehicle

ORV use impacts occur as vegetation and ground cover are removed. The bare soil in the ruts and trails left by ORVs is exposed to rill, gully and wind erosion resulting in accelerated headcut advancement and deepening ruts. Sediment eroded from these ruts and trails is redeposited in downstream pools and reservoirs, thereby altering stream channels and shortening the life expectancy of water impoundments. Water quality is also lowered with the increase in sediment concentration.

The impacts of ORV use are especially evident on sedimentary breaks type soils (soil subgroups 3, 4, 5, 16) and on other soils with slopes greater than 25% (see Appendix 2.5). The impacts are compounded even further when these soils are wet.

Impacts also occur to riparian zones as streambank stability is reduced. Wind and water erosion would increase and water quality would decrease.

This alternative limits vehicular use to existing roads and trails yearlong on 118,156 acres and seasonally on 199,034 acres (April 1 to November 1). Locally significant impacts could occur on these existing roads and trails, especially during wet periods. Vehicles maneuver around rutted areas and potholes, widening existing roads and exposing more soils to potential erosion.

Approximately 199,034 acres of sedimentary breaks type soils would be open to ORV use from November 1 to April 1. Locally significant impacts, both on and off existing roads and trails would not be expected to occur. Soils would normally be frozen during this period and impacts would be minor.

The remainder of the planning area, 308,908 acres, would be open to ORV use. These areas have more suitable soils and less steep terrains and would experience only minor, short-term impacts.

Damage caused by ORV use could be reclaimed on areas with suitable soils and flatter slopes simply by restricting use until natural revegetation occurs. Other areas, such as extensive use areas, sedimentary breaks type soils and areas with slopes greater than 25% may require mechanical treatment and seeding in addition to restricted ORV use. Some areas may not respond to reclamation in the short term and accelerated wind and water erosion would persist into the long term.

Right-of-Way Location

Water quality impairment from ROW facilities is usually associated with construction, is short term and generally reclaimable. In areas of sedimentary breaks type soils that have slopes greater than 25% (approximately 100,000 acres), ROW facility location has the potential for locally significant impacts to water resources due to runoff, erosion and sedimentation.

This alternative would encourage the location of ROW facilities to avoid these fragile soil areas; reducing the acreage having the potential for significant impacts. If some of these sensitive areas would be disturbed, they must be reclaimed using the appropriate mitigative measures. These impacts would be associated with ROW location through the windows in UMNWSR and associated sedimentary soils areas.

Emphasis Areas

Kevin Rim and Sweet Grass Hills

This alternative would be a minor positive impact to water because of restrictions reducing potential surface disturbances.

Cow Creek

A strong emphasis on intensive management of riparian vegetation would improve streambank stability and water quality along Cow Creek. This impact would be significant locally, but minor overall.

Upper Missouri National Wild and Scenic River Management

Visitor Services

Development of recreation facilities along the Missouri River would slightly decrease water quality and streambank stability on a short-term basis, until disturbed areas could revegetate. Overall impacts within the planning area would be minor.

Facility Management

Pit type toilets would only be placed only where the bottom of the pits would be at least 10 feet above the water table. Potential contamination of groundwaters would be greatly reduced.

Impacts to Mineral Resources

Table 4.4 details the constraints on oil and gas development under this alternative.

Land Tenure Adjustment

A total of 15,664 acres of public land would be disposed of by exchange, sale or the R&PP Act and 34,428 acres exchanged in this alternative.

Land tenure adjustments which reunite federal surface and subsurface would facilitate surface management and increase operator costs to comply with stipulations. Blocking up federal minerals within the UMNWSR Corridor would reduce the risk of drainage of oil-gas reserves by producing wells in private or state ownership. Disposal of federal surface lying over federal minerals would reduce BLM's surface management control. If land adjustments result in a net gain of federal minerals in areas managed under more stringent surface constraints there could be locally moderate impacts to oil and gas developments.

Off-Road Vehicle Management

Impacts to exploration and development of mineral resources would be minor because administrative use may be authorized on a case by case basis. Casual inspection of areas for mineral potential would be subject to ORV designations which may, in a few instances, require access by horseback or foot to areas of interest.

Right-of-Way Location

Excluding ROWs, except for identified areas, may cause additional cost to pipeline companies. Avoiding identified areas could hinder development if exploration of lands with unknown mineral potential results in large discoveries. Costs could increase if a pipeline must be located around an avoidance area. This could be a locally moderate impact.

TABLE 4.4
CONSTRAINTS ON OIL & GAS EXPLORATION & DEVELOPMENT (ALTERNATIVE D)[1]

Management Categories	High Development Potential	Acres	Moderate Development Potential	Acres
1. **Open Subject to Standard Terms and Conditions** These are areas where standard terms and conditions are sufficient to protect other land uses or resource values.	Total subsurface acreage with high development potential minus acreage in categories 2 and 3 below.	397,271	Total subsurface acreage with moderate development potential minus acreage in categories 2 and 3 below.	244,954
2. **Open Subject to Seasonal or Other Minor Constraints** These are areas where moderately restrictive lease stipulations (such as seasonal restrictions) may be required to mitigate impacts to other land uses or resource values.	* Kevin Rim Area Sweet Grass Hills (East & West Buttes) area including the 529 acre BOR revocation * Marias River area above Tiber Reservoir * Cow Creek ACEC * Crucial wildlife areas in the Havre Resource Area	264,321	* Marias River area below Tiber Reservoir * A small portion of Cow Creek ACEC * Crucial wildlife areas in the Havre Resource Area	94,808
3. **Closed to Leasing Discretionary** These are areas where other land uses or resource values cannot be adequately protected even with the most restrictive lease stipulations. Appropriate protection can only be ensured by closing the lands to leasing.	* WSAs * UMNWSR	34,037	* WSAs * UMNWSR	86,076
[1]BLM, 1987	**TOTAL HIGH**	**695,629**	**TOTAL MODERATE**	**425,838**

Planned ROW corridors would provide the necessary connections of mineral development areas separated by designated avoidance areas. Publicizing avoidance and restricted areas would facilitate mineral development. This would reduce the mineral application process and concentrate on the available areas, however this still results in a minor negative impact due to cost increases.

Locatable mineral development authorization for roads, pipelines, powerlines, ditches, etc., would be included in a properly filed notice or an approved plan under the 3809 mining regulations. Approval of these facilities would be non-discretionary if they would not cause unnecessary or undue degradation. Facilities associated with saleable or leasable mineral development would be discretionary. This would be a minor impact.

ROW impacts to mineral resource development would be minor on an overall basis.

Emphasis Areas

Kevin Rim

Maximum protection of resource values while continuing provisions for exploration and development of federal minerals would create a significant negative impact to oil and gas developers by increasing operation costs. This could cause drilling and/or well completion delays due to institution of specific drilling windows or time constraints.

The four existing corridors would provide sufficient ROWs for product export pipelines, if significant volumes of CO_2 would be discovered under the Kevin Rim.

Mineral projects which would not meet necessary mitigative stipulations to protect surface resources would be denied. Mineral projects that historically were permitted could be denied.

The only locatable minerals in the Kevin Rim are found in a sandstone formation containing iron and titanium. An ACEC designation of this area would have only a minor negative impact on development of these mineral resources. This is because the deposits are remotely located, would require large capitol investments to develop and other national sources exist.

Sweet Grass Hills

On all lands within the ACEC designation, the operator would be required to file a Plan of Operations for any exploration or development work including projects disturbing 5 acres or less that previously would have been authorized by the filing of a notice (43 CFR 3809.1-4). The additional workload involved in plan preparation, over that of a notice, and the need to wait for formal appeal would be a minor negative impact to operators and development of the mineral resources.

On lands within an ACEC, the Memorandum of Understanding between BLM and the Montana Department of State Lands would not apply. This would be a minor negative impact to effective regulation of operators. This would be minor because both BLM and DSL would still retain their legal regulatory obligations and while there would be no formal cooperative agreement, informal cooperation between BLM and DSL on regulating operators would be expected to continue.

Opening 529.67 acres in the Bureau of Reclamation withdrawal on East Butte to mineral entry is part of this alternative. This would be a significant positive impact to mineral resources because these lands have a high potential for gold and silver deposits. Opening these lands to mineral entry would allow exploration activities that would more accurately access the development potential of these lands, and would provide for the extraction of any economic deposits discovered.

Cow Creek

Identification of paleontological resources and an activity plan would allow easier minerals development access.

More restrictions to mining might result from increased surface resources protection. Less mining and revenue would result, but this would be minor impact because there is little mining potential. Overall impacts to minerals would be minor.

Impacts to Vegetation

Land Tenure Adjustment

Potentially, 15,664 acres of public land would be disposed of through sale, exchange or the R&PP Act; and 34,428 acres disposed of through exchange for other lands in special management areas and areas of high resource value. A significant percentage of this acreage could be diverted to agricultural crops, as native vegetation is plowed. This situation would be of short duration until acquired lands currently under cultivation are returned to native vegetation. This situation would be permanent on 15,664 acres which could be disposed of, since this acreage might be sold without acquisition, even though exchange would still be the preferred method of disposal. Changes in vegetation types would be proportionately lower if less than full implementation should occur or if a portion of the disposal acreage should be exchanged.

Overall impacts would be moderate, if a considerable amount of native range were plowed.

Off-Road Vehicle Management

Limiting ORV use within the UMNWSR Corridor, special management areas, riparian areas and important wildlife areas and closing a portion of the Gist Road would reduce trampling of vegetation and help stabilize soils on which vegetation depends. Impacts would be minor because of the small amount of ORV occurring.

Right-of-Way Location

Excluding ROW location in the wild sections of the UMNWSR Corridor, and in other areas of high resource values or fragile environments would help maintain vegetation in these areas. Exclusion of West Butte of the Sweet Grass Hills as a communication site would protect vegetation on this site from disturbance related to communication site construction. Overall impacts would be minor.

Emphasis Areas

Kevin Rim

Maximum protection in this area may impact livestock management to a very small degree. Where range improvements (water pipelines, spring developments, and fencing) are proposed, there would be additional stipulations required. Examples include exclosing livestock during spring or fall grazing from riparian habitats, winter habit or near peregrine falcons nesting sites. Range improvements would not be allowed where unmitigated conflicts with wildlife or cultural resources are involved, such as nesting areas of peregrine falcons.

Sweet Grass Hills

Modifying grazing management on the East and West Buttes of the Sweet Grass Hills would improve the quality and quantity of grasses in this location. Opening 500 acres on East Butte to mineral entry may lead to the loss of some vegetation through trampling, or indirectly by soil erosion resulting from soil disturbance. These would be minor impacts if only limited exploration occurs. The impacts would be locally significant if a major mining development were to occur.

Cow Creek

This alternative would require revising existing allotment management plans to implement more comprehensive management and improve riparian vegetation. Management objectives would be centered on the most critical riparian and non-wooded breaks types. The long-term actions would include development of at least 25 acres of riparian habitats and about 100 acres additional vegetation, if private land is acquired within the area.

About 16,800 acres of non-wooded breaks type would be increased from fair to good range condition in the long term. This would increase the production of preferred species such as western wheatgrass, green needlegrass, and needleandthread grass. Shrubs such as big and silver sagebrush and Nuttall's saltbush would benefit from increased livestock management.

Positive impacts to vegetation in relation to Cow Creek would be significant, but would be minor in relation to the entire planning area.

Upper Missouri National Wild and Scenic River Management

Visitor Services

Impacts to vegetation would be minor. Obviously, small areas where new facilities would be developed could be trampled. Noxious plants may invade newly developed sites.

Impacts to Wildlife and Fisheries

Land Tenure Adjustment

Under this alternative 15,644 acres would be available for land adjustment through exchange, sale and/or the R&PP Act. Crucial wildlife habitat on these lands includes: 200 acres of ring-necked pheasant habitat; 345 acres of spring sharp-tailed grouse habitat; and 80 acres of winter/spring sage grouse habitat.

An additional 34,428 acres would be available for land adjustment through exchange. These lands provide the following crucial wildlife habitat: 7,340 acres of mule deer habitat; 405 acres of antelope winter habitat; 865 spring sharp-tailed grouse habitat; 650 winter/spring sage grouse habitat.

Wildlife values on disposed of public lands would decrease due to tillage of native range. A monoculture could become more prevalent; providing less food and cover requirements for wildlife. This would decrease species diversity. Impacts to wildlife habitat would be reduced by the inability to till those tracts in rough, steep terrain.

A moderate negative impact to 625 acres of crucial wildlife habitat could occur if the 15,664 acres were disposed of. A moderate negative impact could occur to an additional 9,260 acres if 34,428 acres are exchanged and land use changes. These impacts could be offset by a moderate positive impact from land acquisitions if lands acquired were of greater value for wildlife. These impacts are described under Alternative A.

Off-Road Vehicle Management

Deer and elk fawning or calving areas, antelope winter range, raptor nesting habitat, and grouse breeding-nesting habitat would be seasonally protected from most ORV disturbances (see Table 2.3). Damage to waterfowl, raptor, and non-game bird nesting habitat would be minor. Increased human activity would cause short-term movement of species from the area.

Moderate positive impacts such as seasonal protection of essential habitats would occur because of the low amount of ORV use occurring and expected.

Right-of-Way Location

Most ROWs would cause minor disturbances to habitat and temporary harassment of some wildlife species. Potential impacts to specific habitat types cannot be determined since it is not known where future ROWs would occur. Impacts to wildlife can only be discussed in general terms.

ROWs would cause short-term harassment of most wildlife species and would cause temporary wildlife movement from the area. There would be a minor loss of habitat from most ROWs such as transmission, pipe, and telephone lines. Submerged ROWs across the Missouri River could impact fisheries. ROWs through wetlands could disturb aquatic habitat by destroying fragile wetland vegetation, increasing sedimentation, and affecting annual runoff.

Wildlife would benefit by not allowing ROWs in wilderness study areas, the Cow Creek area, the Missouri River Corridor, and West Butte of the Sweet Grass Hills. About 37,000 acres of crucial elk habitat; 138,050 acres of crucial mule deer habitat; 4,500 acres of crucial white-tailed deer habitat; 59,000 acres of crucial bighorn sheep habitat; 4,500 acres of crucial ring-necked pheasant habitat; and 1,542 acres of riparian habitat would avoid disturbance. Overall impacts would be minor because of the low number of ROWs anticipated throughout the life of the plan.

Emphasis Areas

Kevin Rim

Restricting mineral leases and land use authorizations on Kevin Rim would reduce the amount and intensity of disturbance to raptors. Limiting ROWs to four corridors would limit disturbance in the remaining areas of the rim. These impacts would be a locally significant positive impact, but minor overall.

Sweet Grass Hills

Modifying stipulations for raptor protection would reduce the amount and intensity of disturbance to raptors. Elk in the Sweet Grass Hills would benefit from modifications in grazing management which would maintain elk habitat in good condition. Some elk habitat in pristine condition would be maintained. These would be locally significant positive impacts. Opening 500 acres of land on East Butte to mineral entry could create a new disturbance to elk, raptors, and deer in this area. A large open pit operation could have long-term significant impacts on big game by reducing habitat.

Cow Creek

Riparian habitat would be expected to improve and increase in size because of a strong emphasis on riparian management in AMP revisions. If all private land within the area would be acquired, about 100 acres of riparian would be secured. Livestock grazing management, placement of livestock watering sources outside the creek bottom, and excluding livestock from riparian habitats with exclosures would improve riparian condition. About 100 acres of crucial white-tailed deer and pheasant habitat could be secured. Beaver and non-game bird habitat would also improve. The 220 acres of crucial mule deer habitat would improve. Significant local improvement of wildlife values would occur, but overall effects would be minor in relation to the planning area.

Upper Missouri National Wild and Scenic River Management

Visitor Services

The impacts of recreation management including facility and concession management would be the same as in Alternative A.

Impacts to Grazing Management

Land Tenure Adjustment

The 15,664 acres could be disposed of through sale, exchange and/or the R&PP Act; and then 34,428 acres could be disposed of only by exchange. Less than full implementation of the land tenure objectives, or disposal other than by exchange, the preferred method, would significantly decrease the opportunities for improved grazing management opportunities.

Disposal of lands by sale would eliminate the potential of improved grazing management opportunities. There are 15,664 acres that could be lost through sale. This would have a moderate negative impact.

Exchange of small isolated tracts of public land for private inholdings would be a moderate positive impact. The 50,092 acres would be the maximum amount that could be disposed of through exchange. An exchange eliminates management of small acreages allotments which are uneconomical to manage and allows acquisition in other allotments of more concentrated larger federal acreage to improve management opportunities.

Consolidation of public lands in special management areas or in areas of high resource values, would improve the ability to implement livestock management options.

Off-Road Vehicle Management

The closure of the Gist Road could limit the ability of the grazing permittee to maintain a fence located around the Gist cabin. This would be a minor impact.

Right-of-Way Location

There would be no impacts from this alternative. If any type of trenching would occur and trenches were open for 24 hours, livestock bridges must be provided. The grazing permittee or lessee must be notified prior to any construction activities.

Emphasis Areas

Kevin Rim and Sweet Grass Hills

Designation of these areas as ACECs might impact livestock grazing to a minor degree. Livestock management facility development would be restricted by protective stipulations. Examples might include protecting riparian habitat, winter wildlife habitat, or raptor nesting habitats from livestock grazing in the spring or fall. Range improvements would not be allowed where unresolved conflicts would occur with cultural and wildlife resources.

Cow Creek

The inclusion of riparian management objectives and the designation of this area as an ACEC would require a comprehensive revision of the five, existing AMPs. Additional cross fences, water developments and more intensive livestock management and BLM monitoring might be required. Impacts to grazing would be minor.

Upper Missouri National Wild and Scenic River Management

Visitor Services

Minor impacts would occur from the disruption of livestock grazing patterns. Where recreation use occurs, livestock may be forced to vacate or avoid shaded areas.

Impacts to Cultural Resources

Land Tenure Adjustment

Exchanging 34,428 acres may affect approximately 305 sites of undetermined value. Of the sites, approximately 61 might be valuable enough to warrant retention. Disposal through sale, exchange or the R&PP Act of an additional 15,664 acres would affect approximately 138 sites. Approximately 27 of these sites would be valuable enough to warrant retention. Fewer cultural sites would be affected if there would be less than full implementation of the land tenure objectives or if a portion of the disposal acreage would be exchanged.

Land exchanges and acquisitions would have a beneficial impact on cultural resources if more valuable historic and archaeological sites were acquired than disposed of. Lands with significant cultural resources should receive a high priority for acquisition.

Off-Road Vehicle Management

Off-road vehicle impacts to cultural resources are primarily caused by erosion resulting from concentrated vehicle traffic for an extended time. In areas where travel is restricted to roads and trails, there would be no greater impact to archaeological or historical sites than is now occurring. In open ORV travel areas, a number of sites could be affected for the first time. There is no way to estimate the quantity of impacts since BLM has not inventoried much of the land in the principal ORV areas (Missouri River Breaks). The impact is not expected to be major because ORV use in the planning area is currently relatively minor.

Right-of-Way Location

Locating rights-of-way to minimize impacts to cultural and other resources, principally along existing ROW routes would decrease the potential of disturbing cultural sites. Excluding the West Butte of the Sweet Grass Hills from location as a communication site would decrease the potential of disturbing traditional Native American religious practices or cultural sites. These impacts would be minor.

Emphasis Areas

Kevin Rim

Development in a zone (1/4-mile x 8 miles) below the Kevin Rim escarpment would not be authorized if impacts to cultural resources could not be mitigated. It is estimated that there are 70 sites on public land and the 270 sites on public mineral estate. About 30% of the 70 sites and most of the highly significant sites would receive no impacts. This would be moderately beneficial impact. The impacts would be the same outside the zone as they would be for Alternative A.

Sweet Grass Hills

This alternative would put the BLM into a more active role in the management of cultural and religious sites in the Sweet Grass Hills, but Native American religious sites could continue to be impacted as in Alternative A. Designation of the area as an ACEC would provide the BLM more control of the resources in the area, because the area would no longer be administered under the MOU with the Department of State Lands. However, significant impacts would continue to occur to both cultural and religious sites because mining, as described in Alternative A, would continue.

Opening 529.67 acres of East Butte, that have been withdrawn, would increase the potential for disturbance to traditional Indian religious practices and cultural sites. This would be a significant negative impact because the lands could then be disturbed by mining.

Cow Creek

The proposal to designate this area as an ACEC might enhance the preservation of the historic setting of the Nez Perce Trail by limiting future development. Because the area would permanently be subject to more stringent development standards this is a long term significantly positive benefit.

Upper Missouri National Wild and Scenic River Management

Overall, impacts would be moderately positive. Increased public awareness via the development of interpretive sites would enhance cultural resources along the river.

Impacts to Recreation

Land Tenure Adjustment

Providing 34,428 acres for exchange and 15,664 acres for disposal through exchange, sale or the R&PP Act would include 6,440 acres of public land which currently have public access. Recreational use of public lands is much higher on parcels with public access, but hunting and other dispersed recreational activities would only be minimally affected.

Most lands identified for disposal or exchange are low quality lands from a visual standpoint. No VRM Class I areas (highest visual quality) are identified for disposal or exchange. A small percentage of VRM Class II and III lands would be affected. Acquisition acreages would generally be of higher visual quality because they would be located in special management areas or areas of high resource values. This would be a minor effect.

Land adjustments would provide a multitude of significant positive benefits. Access would be provided to a number of important areas so that users can maximize each area's recreational values. These areas generally include the Missouri and Marias Rivers, the WSAs, the Sweet Grass Hills, the Kevin Rim, Congressionally designated trails, important fishing reservoirs and hunting areas, etc. Some of the public lands would be consolidated so the recreational values would be better protected or enhanced. In addition, a more definable public land pattern would reduce confusion for recreational users.

Off-Road Vehicle Management

Limitations on ORV use would improve opportunities for non-motorized recreation. Visual quality in these areas would improve slightly because of reduced ORV use. Opportunities for motorized forms of recreation, including big game hunting, would decline slightly because of ORV limitations and closures. Impacts would be minor.

Right-of-Way Location

Rights-of-way exclusion and avoidance areas would benefit non-motorized recreational use and visual quality by retaining the natural quality. This would be a minor benefit.

Emphasis Areas

Kevin Rim

The impact of protecting the rim would be primarily for interpretive values. Providing intensive management for raptors, would allow visitors an opportunity to see these wildlife resources. Overall recreational impacts would be minimal.

Sweet Grass Hills

The preferred alternative would have both negative and positive impacts for recreational and ORV use. Portions of the area would be restricted which limits the area users can travel. The positive benefit would be that an ORV plan would be prepared, thereby protecting recreational users from dangerous mining operations and sites.

The VRM quality would be enhanced and impacts to the pristine character of the land would be minimized. Another positive impact would be that wildlife populations would be protected; benefiting recreation users of wildlife resources. Overall impacts would be minor.

Cow Creek

ACEC designation would combine a multitude of management plans into one activity plan. Long-term goals for the area would be more coherent and one plan would be easier to understand by the public. The activity plan would provide the guidance necessary to develop an interpretive and recreational plan that combines all the area's special management values.

Visual and natural qualities of the land would be enhanced and protected. Projects would be constructed in conformance with the activity plan.

Impacts to recreation would be moderately positive.

Upper Missouri National Wild and Scenic River Management

Visitor Services

The addition of temporary exclosures around high use recreation sites would provide facility users with more pleasant facility sites. This would be a minor impact.

Facility Management

Restricting the future development of facilities in recreational sections and prohibiting future development of facilities in wild sections of the UMNWSR would limit management options on the UMNWSR. This could result in regulating use of the river through user capacity, but overall it would be a minor impact.

Concession Management

Operation of some recreation facilities in high use areas of recreational sections within the UMNWSR Corridor by the private sector could provide a wider array of recreation opportunities. This would be a minor impact.

Health and Safety

Expansion of visitor services within the UMNWSR Corridor would result in minor improvement in the health and safety of recreationists.

Impacts to Social and Economic Conditions

Land Tenure Adjustment

Please refer to Alternative B for a general discussion of the impacts.

Landownership transactions under this Alternative could result in the disposal through exchange, sale or the R&PP Act of 15,664 acres; and the exchange of another 34,428 acres of public lands. If exchanges were used as the only method of disposal, the exchange of 50,092 acres of public lands for private and/or state lands would have a minor net fiscal effect on PILT, State Equalization Payments and annual county property tax revenues. The net fiscal effect would depend on whether the land adjustment is with private landowners or state and local governments. However, the sale of public lands to private individuals or organizations could increase annual county property tax revenues

as a result of increasing the taxable land base. At the same time, federal PILT on public lands would be reduced as a result of transferring lands out of public ownership. Additional analysis of impacts would be necessary when a specific land adjustment and tracts are identified.

Off-Road Vehicle Management

Limiting travel to existing roads and vehicular ways in WSAs could require affected ranch operations to substitute horses or foot travel for casual vehicle use and thereby increase management costs. Designating lands in other areas as limited to off-road vehicles could increase costs to lessees of public lands such as ranchers and oil and gas operators. In those areas where ORV use now occurs, restrictions could increase costs to lessees. Because of the need for a permit on a case by case basis for motorized access or the need for non-motorized access to the area. In areas where ORV use does not occur, the future opportunity to open an area to development activities would be limited. The character of recreational use would change, adversely impacting those who use motor vehicles while benefiting those who prefer non-motorized forms of recreation. Maintaining access in all other areas for recreation, ranching and mineral activities would not curtail the future opportunity to open an area for resource development. These changes would only have a minor impact to the local economy.

Right-of-Way Location

The designation of avoidance areas could cause a utility or transportation corridor to take a longer route, and thus increase the cost of construction for transmission lines. The actual impact cannot be assessed further without specific details of a proposed corridor. With East Butte an established communication site, exclusion of West Butte of the Sweet Grass Hills would probably have little or no impact on development of future communication sites. All other areas open to rights-of-way location would not limit or curtail utility corridor development for transmission lines or the development of communication sites. These changes would only have a minor impact to the local economy.

Emphasis Areas

Kevin Rim

Managing Kevin Rim under special management guidelines would not preclude utilization of the area for grazing, recreation, oil-gas, mineral and other resource development but would restrict activities in sensitive areas. The buffer zones that would be established around active raptor or peregrine nest sites would restrict resource development and subsequently the associated economic benefits. These changes could have a minor impact to the local economy.

Sweet Grass Hills

Managing the Sweet Grass Hills under special management guidelines would not preclude utilization of the area for grazing, recreation, oil-gas, and mineral resource development and subsequently the associated economic benefits. Mineral exploration in the area would offer very limited employment and income opportunities for the local economy. While development would provide long-term employment and income opportunities. Benefits from hardrock mining could be partially offset by curtailing some recreation use and the associated benefits to the local economy. Hunting is prominent in the lifestyle of many area residents and use of the Sweet Grass Hills for hunting is important to these people. Some ranch operations could experience a disruption of current grazing practices with a change in grazing management to emphasize maintenance of elk winter habitat. There would be no significant change in current economic and social trends, but these changes could have a minor impact to the local economy.

The practice of traditional religion by Native Americans has caused some concern regarding changing the character of the area by mineral exploration and/or development. The area offers the pristine qualities and solitude that are required for these religious practices. This is important to Native Americans in maintaining their traditions and culture. Exploration and mining in the Sweet Grass Hills would seriously alter the solitude of the surrounding environment, making a religious experience difficult to obtain.

Mining operators would be required to file a Plan of Operations for formal approval by BLM on any exploration or development work they want to perform. This would give management more control over disturbance to the environment and a basis for consultation with Native Americans about religious use of the area.

This management action could cause a moderate change in the solitude and undisturbed environment of the area for Native Americans who use this area for religious purposes.

Cow Creek

Managing Cow Creek under special management guidelines would not preclude utilization of the area for grazing, oil-gas, mineral and other resource development. In the long term, some ranch operations could experience a disruption of current grazing practices with a change to emphasize intensive management of riparian vegetation. This would be insignificant to the local economy. There would be no change in current economic and social conditions.

Upper Missouri National Wild and Scenic River Management

Visitor Services

This alternative provides for some recreation developments and the expansion of recreation concessions and leases onto public lands in the recreational segment of the river. This would provide the opportunity for development by the private sector. Annual revenue for concessions, leases and local businesses would probably increase in the long term, but this impact would be minor.

Hunting, fishing and other recreation use in the area is expected to increase in the short and long term with existing outfitters and guides receiving additional income over time. Currently, seven permitted outfitters offer services along the river, ranging from fully outfitted and guided trips to basic canoe services. In addition, two companies in Fort Benton utilize large pontoon craft. The local economy would benefit from an increase in expenditures for recreation services (motels, service stations, restaurants, etc.) but these changes would only have a minor impact to the local economy.

SHORT-TERM USE AND LONG-TERM PRODUCTIVITY

Alternative A — No Action

Soils

Sedimentary breaks soils and glaciated prairie drainage soils could be significantly damaged by ORV short-term use due to the development of trail-road erosion, travel on wet soil, wind erosion on sandy soils, and increased water erosion during wet periods. Even limited ORV use on fragile soils would generally cause a drastic reduction in long-term soil productivity and values. Locally significant damage to riparian soils could occur from short-term ORV damage to streambanks and resultant increased wind and water erosion. These impacts could become locally significant in portions of 477,763 acres.

ROW facilities construction/maintenance in high erosion susceptibility areas, shallow soils, slopes greater than 25%, sparse native vegetation, and slumping and mass wasting areas (148,335 acres) could cause locally significant long-term damages.

Water

Locally significant negative impacts could occur from ORV use on portions of 477,763 acres. Sediment yields from affected areas would degrade water quality. ROW facilities constructed in sensitive areas as described above could result in significant damage to water resources primarily from soil erosion and sedimentation (148,335 acres).

Minerals

Continuance of the no lease regulations for oil and gas in the UMNWSR corridor could result in drainage of federal oil and gas minerals by state and private wells.

Acquisition of federal minerals in areas managed under more stringent surface constraints (such as wilderness study areas) could create a locally moderate impact to oil and gas development.

Permitting locatable minerals exploration and development on 530 acres of a currently withdrawn area in the Sweet Grass Hills would be locally significant positive effect due to the high potential for mineral occurrence.

Vegetation

ORV use on fragile vegetation types (such as 2,997 acres of riparian areas) and unrestricted ORV use on 477,763 could create significant damage over short-term and long-term periods. Current ORV use (motorcycles) appears confined to a 640-acre area which has severely damaged 6 acres.

Locally significant impacts could occur if visitor use increases at recreation facilities in the UMNWSR Corridor. An increase in vegetation trampling, noxious plant invasion, soil compaction and erosion could be expected.

Wildlife and Fisheries

There could be a long-term loss of crucial habitat through land disposal actions.

Nesting raptors would be significantly damaged by long-term mineral and oil-gas activities on the Kevin Rim because the 1/4-mile protection zone is ineffective.

Potential large mining operations in the Sweet Grass Hills may create long-term significant damage to elk habitat and populations. Current mining is limited.

Cultural

Some cultural sites could be destroyed by unrestricted ORV use.

Future mineral development in the Kevin Rim area could cause a loss of cultural sites through destruction or excavation.

Future mineral development in the Sweet Grass Hills would create long-term impacts to the solitude and undisturbed environment which makes this area an important source of Native American religious sites.

Recreation

Public land acquisition would provide many significant positive benefits from access development to recreation areas including the Missouri and Marias Rivers, the WSAs, Sweet Grass Hills and others. This could be a long-term benefit.

Social and Economic

Land exchanges could cause a fiscal effect on PILT to affected counties. These changes are dependent on specific land adjustment actions.

Increased mineral exploration and development in the Sweet Grass Hills would cause a change in the solitude and pristine environment which is critical for Native American religious practices.

Alternative B

Soils

Locally significant impacts in sedimentary breaks soils and riparian areas would occur in ORV use areas. Increased soil and water erosion would occur locally over 594,098 acres. Locally significant damage to soil would occur from intensive ORV use on a 640-acre area. Reduced soil productivity would occur from soil compaction and wind-water erosion.

ROW siting could result in locally significant soil erosion and slumping in fragile environments with shale, steep slopes, and sparse vegetation (100,000 acres). These impacts would be long term and significant.

Water

Locally significant decreases in water quality could occur from increased erosion from ORV use on 594,098 acres. ROW facilities would potentially produce significant damage if placed in high sediment areas by decreasing water quality due to runoff, erosion and sedimentation. These could be both short and long-term productivity losses on 285,190 acres.

Minerals

Continuing the no lease policy in the UMNWSR Corridor could result in federal oil and gas drainage by state and private wells. Acquisition of federal minerals in areas managed under more stringent surface constraints could create a locally moderate negative impact to oil and gas development. Permitting locatable minerals exploration and development on 529 acres of currently withdrawn area in the Sweet Grass Hills would be locally significant positive mineral effect due to the high potential for mineral occurrence.

Vegetation

A moderate, long-term change from native vegetation to other forms of vegetation would result from implementation of other land uses following the sale of public lands. Intensive ORV use within a designated intensive use area would completely eliminate vegetation on about 20 acres. Locally significant damage to vegetation would occur at recreation facilities in the Missouri River Corridor from a large increase in visitor use.

Wildlife and Fisheries

All wildlife habitat could be lost on 50,092 acres of disposed of (sale) public land. This would be a significant long-term productivity loss.

Significant damage to nesting raptors would result from surface disturbance on Kevin Rim because the current 1/4 mile protection criteria does not protect them.

Large mining operations in the Sweet Grass Hills may create long-term significant damage to elk habitat and populations. Present mining activity is limited.

Grazing

Disposal of 50,092 acres of public land would reduce grazing management opportunities on the lands sold.

Cultural

Some cultural sites could be destroyed by unrestricted ORV use.

Future mineral development in the Kevin Rim area could cause a loss of cultural sites through destruction or excavation.

Future mineral development in the Sweet Grass Hills would create long-term impacts to the solitude and undisturbed environment which makes this area an important source of Native American religious sites.

Recreation

Public land acquisition would provide many significant positive benefits from access development to recreation areas including the Missouri and Marias Rivers, the WSAs, Sweet Grass Hills and others. This could be a long-term benefit.

Social and Economic

Land exchanges could cause a fiscal effect on PILT to affected counties. These changes are dependent on specific land adjustment actions.

Increased mineral exploration and development in the Sweet Grass Hills would cause a change in the solitude and pristine environment which is critical for Native American religious practices.

Alternative C

Soils

Sedimentary Breaks soils and glaciated prairie drainages soils could be significantly damaged by ORV use due to development of trails resulting in road erosion, travel on wet soil, wind erosion on sandy soils and increased water erosion during wet periods. Even limited ORV use on fragile soils would generally cause a drastic reduction in soil productivity and values. ORV use in riparian areas could significantly decrease streambank stability by breaking down banks. This would result in increased wind and water erosion in these areas. This would be a long-term loss.

ROW siting could result in locally significant soil erosion and slumping in fragile environments with shale, steep slopes, and sparse vegetation. These impacts would be long term and significant.

Intensive riparian management would produce significant positive results and increased streambank stability in the Cow Creek area.

Water

Locally significant decreases in water quantity could result from increased erosion from ORV use on 197,462 acres. ROW facilities potentially would produce significant damage if placed in high sediment areas by decreasing water quality due to runoff, erosion and sedimentation. These could be both short and long-term productivity losses.

Minerals

Land tenure adjustments uniting BLM surface and subsurface acreage would result in pursuance of a protective withdrawal. This would be a long-term, significant impact. Continuance of the no lease policy for oil and gas in the UMNWSR Corridor could result in drainage of federal oil and gas by state and private wells. There would be a significant impact from land adjustment in the Sweet Grass Hills if acquired mineral estate was placed under a protective withdrawal.

A significant negative impact to unleased oil-gas resources would result if a protective withdrawal is pursued in the Sweet Grass Hills due to drainage of federal minerals by adjacent private and state wells.

Precluding locatable mineral exploration on 529.67 acres in the Sweet Grass Hills and possible development on lands without valid, existing rights would be a significant negative impact to mineral resource assessment and development.

Vegetation

A moderate, long-term change from native vegetation to other forms of vegetation would result from implementing of other land uses, following the sale of public lands. Disturbance of vegetation would decrease over a long-term period because of restrictions placed on ORV use and ROW location. Improvement of vegetation in the Cow Creek area would improve because of riparian enhancement measures.

Wildlife and Fisheries

Wildlife values could decrease on 15,664 acres identified for disposal if these lands should leave public ownership. Moderate gains in crucial wildlife habitat acreage could be realized through acquisitions. Segregation from mineral entry in the Sweet Grass Hills ACEC and improved riparian habitat in the Cow Creek ACEC would significantly improve wildlife habitat in these localized areas.

Grazing

The sale of 15,664 acres of public land could reduce grazing management opportunities.

Cultural
About 138 archaeological and historical sites could be lost as a result of disposal of public lands. Approximately 27 of these sites would be significant enough to warrant their retention. Some cultural sites could be damaged or destroyed by ORV use or ROW activity. Restrictions placed on impairing activities within the ACECs would reduce or eliminate impacts. This would be a long-term positive impact.

Recreation
Federal land acquisition would provide many significant positive benefits by access development to recreation areas including the Missouri and Marias Rivers, the WSAs, Sweet Grass hills and others. This could be a long-term benefit.

Social and Economic
Land exchanges could cause a fiscal effect on PILT to affected counties. These changes would be dependent on specific land adjustment actions.

Minerals
Continuing the no lease policy for oil and gas in the UMNWSR Corridor could result in drainage of federal oil and gas by state and private wells. Land adjustment which unites federal surface and subsurface would produce a locally significant positive impact to oil-gas development, particularly in the Missouri River Corridor. Acquisition of federal minerals in areas managed under more stringent surface constraints could be a locally moderate negative impact to oil and gas development.

Federal land adjustments which consolidate public lands in areas containing locatable and saleable minerals would produce a locally significant positive effect.

Alternative D (The Preferred Alternative)
Soils
Sedimentary Breaks soils and glaciated prairie drainages soils could be significantly damaged by ORV use due to development of trails resulting in road erosion, travel on wet soil, wind erosion on sandy soils and increased water erosion during wet periods. Even limited ORV use on fragile soils would generally cause drastic reduction in soil productivity and values. ORV use in riparian areas could significantly decrease streambank stability by breaking down banks. This would result in increased wind and water erosion in those areas. This would be a long-term loss.

ROW siting could result in locally significant soil erosion and slumping in fragile environments with shale, steep slopes, and sparse vegetation. These impacts would be long term and significant.

Intensive riparian management would produce significant positive results with increased streambank stability in the Cow Creek area.

Water
Locally significant decreases in water quality could result from increased erosion from ORV use on 199,142 acres. Potentially ROW facilities would produce significant damage if placed in high sediment areas by decreasing water quality due to runoff, erosion and sedimentation. These could be both short and long-term productivity losses.

Maximum protection of non-oil/gas resources would create a significant negative effect to oil-gas development by increasing costs in the Kevin Rim.

Permitting locatable mineral exploration and development on 529.67 acres of a currently withdrawn area in the Sweet Grass Hills would be a locally significant positive effect due to the high potential for mineral occurrence.

Vegetation
A moderate, long-term change from native vegetation to other forms of vegetation would result from implementation of other land uses, following the sale of public lands.

Large scale mineral development in the Sweet Grass Hills on the 529.67 acres currently withdrawn would create a locally significant negative effect on livestock forage availability.

Vegetation in the Cow Creek area would be significantly improved by improving riparian and non-breaks vegetation types management.

Wildlife and Fisheries
Wildlife values could decrease on 15,664 acres identified for disposal if these lands should leave public ownership. Moderate gains in crucial wildlife habitat acres could be realized through acquisitions.

Application of raptor protection criteria to the Kevin Rim would be a locally positive, significant impact.

Locally significant positive impacts in the Sweet Grass Hills would result from increased raptor protection criteria and livestock grazing changes to enhance elk habitat.

AMP changes to emphasize riparian improvement, private land acquisition, exclusion of livestock from riparian habitat by fencing, and procurement of crucial wildlife habitat would produce significant local improvement in the Cow Creek area.

Grazing
Sale of 15,664 acres of public land could reduce grazing management opportunities on lands.

Cultural
About 305 archaeological and historical sites could be lost as a result of disposal of public lands. Approximately 61 of these sites would be significant enough to warrant their retention. Acquisitions and exchanges could secure valuable cultural sites on a long-term basis. Some cultural sites could be damaged or destroyed by ORV use or ROW activity. Restrictions placed on impairing activities within the ACECs would reduce or eliminate impacts. This would be a long-term, positive impact.

Opening 529.67 acres of withdrawn land to mineral activities activities would create a significant negative impact on Native American religious practices and cultural sites at the East Butte of the Sweet Grass Hills.

Recreation
Significant positive results would accrue from land adjustment that produces better public access, consolidation of public land, and better defined public land units.

Social and Economic
Land exchanges could cause a fiscal effect on PILT to affected counties. These changes are dependent on specific land adjustment actions.

Increased mineral exploration and development in the Sweet Grass Hills would cause a change in the solitude and pristine environment which is critical for Native American religious practices.

IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

All impacts presented below would constitute an irreversible and irretrievable commitment of resources.

Alternative A (No Action)

Soils

Sedimentary breaks soils and glaciated prairie drainage soils could be significantly damaged by ORV use. Even limited ORV use on fragile soils would generally cause drastic reduction in soil productivity and values. Locally significant damage to riparian soils could occur from ORV damage to streambanks and resultant increased wind and water erosion.

Locally significant soils damages would occur from ROW facilities construction-maintenance in high erosion susceptible areas, such as: shallow soils; slopes greater than 25%; sparse native vegetation; and slumping and mass wasting areas.

Water

ROW facilities would potentially produce significant damage if placed in riparian habitats, floodplains, wetlands, and high sediment areas by decreasing water quality and streambank stability.

Minerals

Permitting locatable mineral exploration and development on 529.67 acres of currently withdrawn area in the Sweet Grass Hills would be a commitment of that resource after mining.

Vegetation

ORV use on fragile vegetation types (e.g., 2,997 acres of riparian areas) could create significant damage over time and potential concurrent soil loss.

Alternative B

Soils

Soil productivity loss would occur from ORV compaction and wind-water erosion on an intensively used 640-acre area.

ROW siting could result in significant soil erosion and slumping in fragile environments.

Water

ROW facilities potentially would produce significant damage if placed in riparian habitats, floodplains, wetlands, and high sediment areas by decreasing water quality and streambank stability.

Minerals

Permitting locatable mineral exploration and development on 529 acres of currently withdrawn area in the Sweet Grass Hills would be a commitment of that mineral resource, once mined.

Vegetation

ORV use on fragile vegetation types could create significant damage and concurrent soil loss overtime.

Wildlife and Fisheries

A net loss of crucial wildlife habitat resulting from the sale of public lands would be an irretrievable loss.

Alternative C

Soils

Sedimentary Breaks soils and glaciated prairie drainage soils could be significantly damaged by ORV use. Even limited ORV use on fragile soils would generally cause drastic reduction in soil productivity and values.

Water

ROW facilities potentially would produce significant damage if placed in riparian habitats, floodplains, wetlands, and high sediment areas by decreasing water quality and streambank stability.

Minerals

Loss of unleased oil-gas resources might occur from drainage adjacent by private and state wells if the Sweet Grass Hills were segregated from mineral entry.

Vegetation

ORV use on fragile vegetation types could create significant damage and concurrent soil loss overtime.

Wildlife and Fisheries

A net loss of crucial wildlife habitat resulting from the sale of public lands would be an irretrievable loss.

Alternative D (The Preferred Alternative)

Soils

Sedimentary breaks soils and glaciated prairie drainage soils could suffer locally significant damage by ORV use. Even limited ORV use on fragile soils would generally cause drastic reduction in soils productivity and values.

Water

ROW facilities would potentially produce significant damage if placed in riparian habitats, floodplains, wetlands, and high sediment areas by decreasing water quality and streambank stability.

Minerals

Permitting locatable mineral exploration and development on 529.67 acres of currently withdrawn area in the Sweet Grass Hills would be a commitment of that mineral resource, after mining.

Vegetation

ORV use on fragile vegetation types could create significant damage and concurrent soil loss over time.

Wildlife and Fisheries

A net loss of crucial wildlife habitat resulting from the sale of public lands would be an irretrievable loss.

Consultation and coordination has been an important part of this planning effort since its beginning in 1984. Public meetings, informational mailings and individual contacts with other governmental agencies, Native American tribes, interest groups and the general public were used to gather input for this RMP. This input helped identify the issues, criteria, and alternatives discussed in this document. Coordination and consultation will continue throughout the review of this draft and preparation of the final resource management plan/environmental impact statement (RMP/EIS).

Aspects of public land management that received little comment or were subject to administrative or legal constraints were eliminated as potential planning issues, thus streamlining the process.

The Bureau of Land Management (BLM) coordinated and consulted with federal, state, and local agencies once tentative alternatives were completed to identify conflicting management objectives and potential impacts to adjacent land managing agencies.

Consultation under Section 7 of the Endangered Species Act has been initiated with U.S. Fish and Wildlife Service (USFWS). The final RMP/EIS will contain the biological assessment and USFWS biological opinion on the impacts from the RMP/EIS to threatened and endangered species.

BLM invites the public to comment on the draft RMP/EIS and to participate in formal hearings. A notice of availability for the draft RMP/EIS and dates for the hearings has been published in the Federal Register and in local newspapers.

PUBLIC INVOLVEMENT

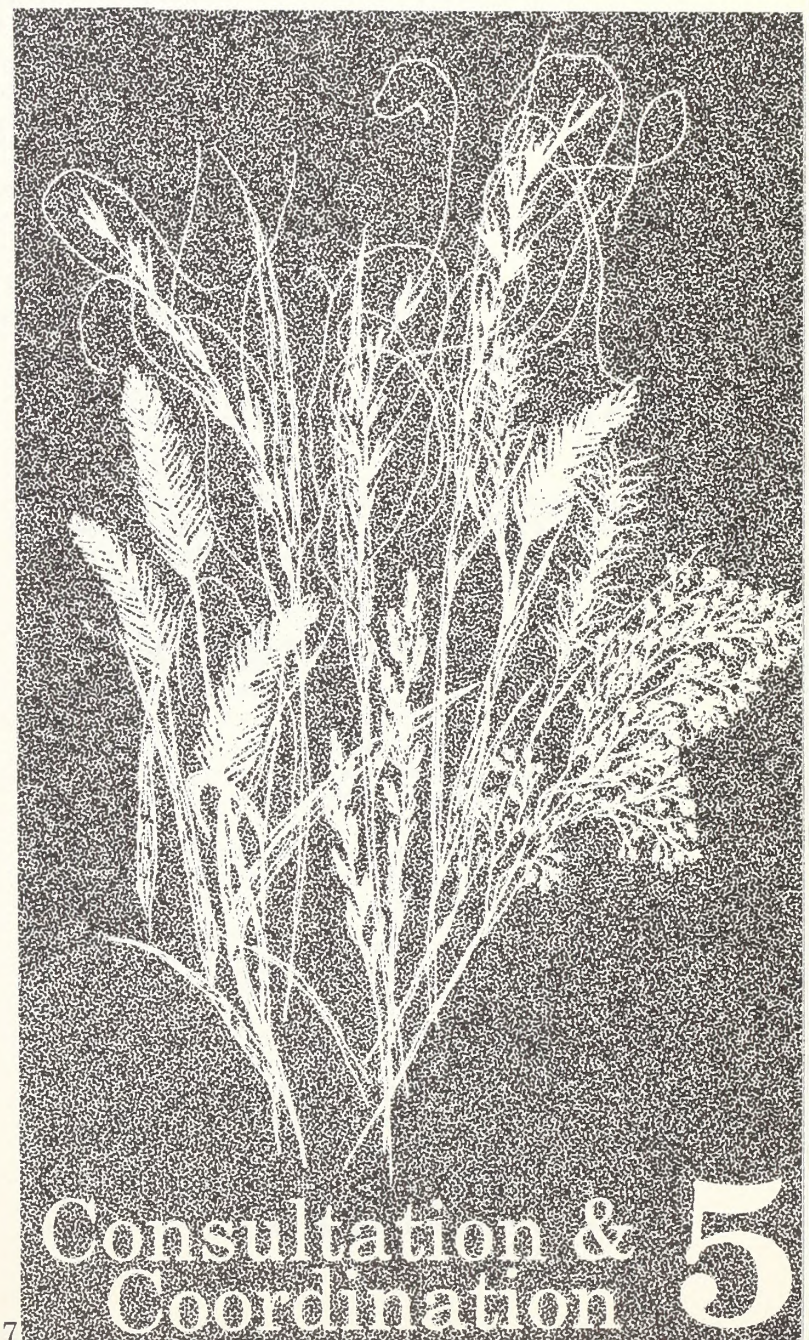
A Notice of Intent, formally announcing the beginning of the planning process, was published in the Federal Register in December 1983. The public has been informed of and involved in the planning process through Federal Register Notices, news releases, direct mailings, and public meetings.

These releases ranged in subject matter from general announcements at the beginning of the planning process to dates and places of specific public meetings and requests for public comments. Public participation activities are listed chronologically in Table 5.1. Complete records of public comments and involvement are on file in the Lewistown District Office.

CONSISTENCY

The BLM's planning regulations require that resource management plans be "consistent with officially approved or adopted resource related plans of other federal agencies, state, and local governments, and Indian tribes, so long as the guidance and resource management plans are also consistent with the purposes, policies, and programs of federal law, and regulations applicable to public lands . . ."

All federal, state, local, and tribal councils have been requested to review this document for inconsistencies with their plans and inform the BLM of any inconsistencies.



Consultation & Coordination 5

TABLE 5.1

PUBLIC INVOLVEMENT

Date	Action
Dec. 83	Notice of Intent to prepare an RMP/EIS for the West HiLine was published in the Federal Register.
June 84	Issue brochure was sent to 596 agencies, organizations and individuals.
July 84	Public meetings to identify issues were held in Havre and Great Falls, Montana.
June 85	Federal Register Notice requesting information on coal or other resource information.
Sep. 86	Federal Register Notice filed, supplementing Notice of Intent to expand planning area (now includes entire UMNWSR Corridor and associated public lands).
	Letters (1,500) sent to those on mailing list requesting input on alternatives and recently added river management issue. Letters also informed public of upcoming public meetings.
Sep./Oct. 86	Public meetings held in nine West HiLine communities to gather input on alternative development.
Oct. 86	Briefings held for Rocky Boys, Fort Belknap and Blackfeet tribes and Governor's Office.

DISTRIBUTION LIST

BLM requested comments from interest groups and individuals; from federal, state, and local agencies and Native American tribes. The following is a partial list of organizations and agencies that received this document.

County Commissioners and Boards of Planning

Blaine County Commissioners
Chouteau County Commissioners
Fergus County Commissioners
Glacier County Commissioners
Hill County Commissioners
Liberty County Commissioners
Phillips County Commissioners
Toole County Commissioners

Montana Chamber of Commerce
Fort Benton Chamber of Commerce
Havre Chamber of Commerce
Malta Chamber of Commerce
Lewistown Chamber of Commerce

Blaine County Conservation District
Chouteau County Conservation District
Glacier County Conservation District
Hill County Conservation District
Liberty County Conservation District
Toole County Conservation District

State

Honorable Ted Schwinden
Department of Health and Environmental Sciences
Dept. of Community Affairs
Dept. of Natural Resources and Conservation
Department of State Lands
Department of Natural Resources
Department of Fish, Wildlife & Parks
State Historic Preservation Office
State Planning Coordination Office

Congressional

Honorable Max Baucus
Honorable Ron Marlenee
Honorable John Melcher
Honorable Morris K. Udall,Committee on Interior and Insular Affairs
Honorable Pat Williams
Honorable James A. McClure,Committee on Commerce & Natural Resources

Federal Agencies

Advisory Council on Historic Preservation
Bonneville Power Administration
Bureau of Indian Affairs
Fort Belknap Tribal Council
Blackfeet Tribal Council
Rocky Boy Tribal Council
Fort Peck Tribal Council
Nez Perce Tribal Council
Salish and Kootenai Tribal Council

Bureau of Mines
Bureau of Reclamation
CMR National Wildlife Refuge
Department of Army Corps of Engineers
Department of Energy (Western Area Power Administration)
Department of Transportation
Environmental Quality Council
Federal Aviation Administration
Federal Highway Administration
Federal Housing Administration
National Park Service
Soil Conservation Service
United States Department of the Interior
Missouri River Basin Commission
Field Solicitors Office
US Environmental Protection Agency
US Army Corps of Engineers
US Dept. of Commerce
US Fish & Wildlife Service
US Forest Service
North Central Forest Experiment Station
US Geologic Service

Special Interest Groups

American Fisheries Society
American Horse Protection Assoc.
American Mining Congress Journal
American Canoe Assoc.
American River Recreation Assoc.
American Rivers Conservation Council
Billings Rod & Gun Club
Blood Indian Tribal Council, Alberta, Canada
Defenders of Wildlife
Fergus County Livestock Association
Fishing & Floating Outfitters Association of Montana
High Country News
Humane Society of the US
Independent Petroleum Assoc. of Mtn. States
Intermountain Forest Industry Association
International Society for the Protection of Mustangs & Burros
Izaak Walton League of America
Lewistown Rod & Gun Club
Laurel Rod & Gun Club
Missouri River Canoe Rental
Missouri Basin Inter. Ag. Comm.
Missouri River Outfitters
Mitchell Grazing Association
Montana Association of State Grazing Districts
Montana Automobile Assoc.
Montana Coal Council
Montana Council of Cooperatives
Montana Farm Bureau
Montana Farmers Union
Montana Geological Society
Montana Historic Society
Montana Petroleum Association
Montana Public Lands Council
Montana River Outfitters
Montana Stockgrowers Association
Montana Wilderness Association
Montana Woolgrowers
Montana Wildlife Federation
National Audubon Society
National Coal Assoc.
National Council of Public Land Users
National Wildlife Federation
Natural Resource Defense Council, Inc.
Nature Conservancy
Nevada Outdoor Rec. Assoc., Inc.
Northern Montana Oil & Gas Assoc.
Northern Plains Resource Council
Northwest Mining Assoc.
Overthrust Foundation
PA Coop Wildlife Research Unit
Public Lands Institute
Reserved Water Rights Compact Comm.
Rocky Mountain Oil & Gas Association
Sierra Club
Signal Butte Grazing Assoc.
Society for Range Management
Square Butte Grazing Assoc.
The Wilderness Society
The Wildlife Society
Trout Unlimited
Western Environmental Trade Assoc.
Western River Guides Assoc.
WIFE
Wilderness Institute
Wild Horse Organized Assoc.
Wild Horse Research Farm
Yellowstone Valley Audubon Society
Yellowstone Snowmobilers Assoc.

Other Businesses and Organizations

ABN Ranch Inc.
AIRO Drilling Corp.
Amax Exploration
American Colloid Co.
American Petrofina Co. of Texas
Anaconda Minerals Co.
Amoco Production Co.
ARCO Coal Co.
Arrowhead Farms
Atlantic Richfield Co.
JR Bacon Drilling Inc.
Bailey Land & Livestock Inc.
Balcron Oil Co.
Beren CIRO
Big View Ranch
Brummer Farm
Exxon USA
Blaine Cty Abstract Co.
Branch Oil & Gas Inc.
Bronco Exploration
Buckhorn Petroleum Co.
Gale Butterfield Inc.
Carson Min. Consult. Inc.
Celsius Energy Corp.
Cenex
Century Oil & Gas
Champlin Petroleum Co.
Chevron USA Inc.
Chevron Resources Co.
Christofferson Land & Cattle
Chippewa-Cree Tribal Business Council
Cities Service Oil & Gas Corp.

City Oil Company
Eastern Montana College
CNG Producing
Coal Creek CSGD
Coastal Oil & Gas Corp.
Comanche Drilling Co.
Conoco Inc.
Fed. Coal Acquisition Group
Croft Petroleum Company
Cronk Ranch Inc.
Crown Central Petroleum Corp.
Czar Resources
D A S Resource Ventures Inc.
Damson Oil Corp.
Davis Oil
Davies Ranch
Energy Development Board of Mercer County
DEPCO Inc.
Doane Western Co.
Energy Mining & Minerals
Eastern American Energy Corp.
Elenberg Exploration Inc.
Elloam Grazing Assoc.
Energetics Inc.
Energy Fuels Corp.
Energy Reserves Group Inc.
Eureka Grazing Assoc.
Exxon
Falcon-Colorado Expl. Inc.
5 H Cattle Company
Flying J Exploration & Production Inc.
Four Corners Supply Inc.
Freeport Exploration Co.
Frontier Exploration Company
Fuel Resources Dev. Co. FUELCO
Fulton Producing Co.
General Agriculture Corp.
GEO Research Inc.
Gordon Cattle Company
Grass & Sons, Inc.
Great Northern Drilling Co. Inc.
Gulf Oil Exploration & Production Co.
H & H Land Co.
Halliburton Co.
Hancock Enterprises
Hardrock Oil Co.
Hasquet Prairie Co.
Hill County Electric Coop Inc.
HKM Associates
Homestake Oil & Gas
Huartson Ranch
Husky Oil
Investestate
IX Ranch Company
Jack Grynberg & Assoc.
J M Resources Inc.
Juniper Oil & Gas
Kalanick Ranch Inc.
Kaun Grain & Livestock Co.
Knottnerus Inc.
Lazy K 6 Ranch Inc.
Lenington Farms Inc.
Lewis & Clark Tours
Lightning Productions Inc.
Lincoln Farms Inc.
Lonesome Prairie Farms Inc.
Lost Ridge Land & Cattle
Louisiana Land & Exploration Co.
Love Oil Co Inc.
Luff Exploration Co.
Lunds Heart Y Ranch
MacDonald Farms Inc.
Maddox Ranch Co.
Marathon Oil
Marquis Petroleum Corp.
Marias River Electric Coop Inc.
McCann & Son Inc.
Lawrence J McCarthy & Assoc.
McCartney Lands & Minerals
McColly Ranch Inc.
Meissner Ranches Inc.
Meridian Land & Mineral Co.
Meridian Oil Inc.
Mariah Oil & Gas Inc.
Minden Oil & Gas Inc.
Minerals Exploration Coalition
Mitchell Ranch
Mobil Oil
Montana Flycast Guide Service
Montana Env. Information Center
Montana Pacific Oil & Gas Co.
Montana Power Co.
Monterray Petroleum
Mountain States Petroleum Corp.
Murphy Oil USA Inc.
N Hanging 5 Ranch
Nace Ranch Co.
North American Coal Corp.
North American Resources
Northern Natural Gas Co.
Northern Pacific Oil & Gas
Northern Telephone Coop. Inc.
P & M Petroleum
Petrie Ranch Partnership
Petro-Lewis Corp.
Petroleum Corp. of America
Phillips Petroleum Co.
Pugsley Ranches Inc.
Quintana Petroleum Corp.
Ray Harrison Drilling
Ranck Oil
Red River Oil & Gas Inc.
Robinson Land Company
S & J Operating Co.
S & W Petroleum Consultants Inc.
S Bar B Ranch Co.
Sand Creek Ranch
Schellin Ranch Co.
Schiff & Jackson Oil
Shell Oil Company
SHADCO
Siebrasse Farms Inc.
Sierra Oil & Gas Co.
Sky Ranch
SOHIO Petroleum Co.
Somont Oil Co. Inc.
Stillwater PGM Resources
Stovall Oil Co.
Stroock Leasing Corp.
Stuker Land Co Inc.
Sunburst Exploration Inc.
Tenneco Oil Exploration & Production
Terra Resources Inc.
Texaco
Texas Gas Expl. Corp.
The Guide & Outfitter

Three River Telephone Coop. Inc.
Triangle Telephone Coop Assoc. Inc.
Tricentral United States
True Oil Co.
Union Oil Company
Union Oil Company of California
United States Energy
Universal Gas Inc.
Ed Vanderpas Oil
Weaver Cattle Co.
Western Energy Co.
Western Natural Gas Co.
Western Reserves Inc.
Westmoreland Resources
Wilcox Family Partners
Williston Basin Interstate Pipe Co.
Wood River Ranch
Worrall & Sons Inc.
Xeno Inc.
Yellowstone Petroleum Inc.

The RMP/EIS is available at county libraries. In addition the draft RMP/EIS has been mailed to an additional 300 individuals.

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ACTIVITY PLANNING. Site-specific planning which precedes actual development. This is the most detailed level of BLM planning.

AIRSHED.

Class I Area. Any area which is designated for the most stringent degree of protection from future degradation of air quality. The Clean Air Act designates as mandatory Class I areas each national park over 6,000 acres and each national wilderness area over 5,000 acres.

Class II Area. Any area cleaner than federal air quality standards which is designated for a moderate degree of protection from future air quality degradation. Moderate increases in new pollution may be permitted in a Class II area.

Class III Area. Any area cleaner than federal air quality standards which is designated for a lesser degree of protection from future air quality degradation. Significant increases in new pollution may be permitted in Class III area.

ALLOTMENT. An area of land where one or more livestock operators graze their livestock. Allotments generally consist of BLM lands but may also include state owned and private lands. An allotment may include one or more separate pastures. Livestock numbers and seasons of use are specified for each allotment.

ALLOTMENT MANAGEMENT PLAN (AMP). A written program of livestock grazing management, including supportive measures if required, designed to attain specific management goals in a grazing allotment.

ANIMAL UNIT MONTH (AUM). A standardized measurement of the amount of forage necessary for the complete sustenance of one animal for one month; also the measurement of the privilege of grazing one animal for one month.

APPROVED TRANSPORTATION PLAN. A plan showing all existing and planned access routes needed to use, protect and administer the public lands.

BROWSE. To browse is to graze a plant; also, browse (noun) is the tender shoots, twigs and leaves of trees and shrubs often used as food by cattle, deer, elk and other animals.

BUFFERZONE/BUFFER STRIP. Area of land adjacent to a body of water which filters sediment from overland runoff and has a stabilizing influence on the bank or shoreline.

COMPACTION. The process of packing firmly and closely together; the state of being so packed, e.g., mechanical compaction of soil by livestock or vehicular activity. Soil compaction results from particles being pressed together so that the volume of the soil is reduced. It is influenced by the physical properties of the soil, moisture content and the type and amount of compactive effort.

CRITICAL HABITAT. Any habitat, which if lost, would appreciably decrease the likelihood of the survival and recovery of a threatened or endangered species, or a distinct segment of its population. Critical habitat may represent any portion of the present habitat of a listed species and may include additional areas for reasonable population expansion. Critical habitat must be officially designated as such by the Fish and Wildlife Service or the National Marine Fisheries Service.

CRUCIAL WILDLIFE HABITAT. Parts of the habitat necessary to sustain a wildlife population at critical periods of its life cycle. This is often a limiting factor on the population, such as breeding habitat, winter habitat, etc.

CULTURAL RESOURCES. A term that includes items of historical, archaeological or architectural significance which are fragile, limited and non-renewable portions of the human environment.

CULTURAL SITE. Any location that includes prehistoric and/or historic evidence of human use.

DISPOSAL AREA. An area where public land generally will be made available for disposal through sales or exchanges or both. Some land may be retained in public ownership based on site-specific application of the land ownership adjustment criteria.

ENDANGERED OR THREATENED SPECIES. Determined for plants and animals by one or a combination of the following factors:

1. The present or threatened destruction, modification or curtailment of a species habitat or range.
2. Over-utilization of a species for commercial, sporting, scientific or educational purposes.
3. Disease or predation of the species.
4. The inadequacy of existing regulatory mechanisms.
5. Other natural or human caused factors affecting a species' continued existence.

ENVIRONMENTAL ASSESSMENT. A concise public document for which a Federal agency is responsible that serves to:

(1) Briefly provide sufficient evidence and analysis for determining whether to prepare an environmental impact statement or a finding of no significant impact.

(2) Aid an agency's compliance with the Act when no environmental impact statement is necessary.

(3) Facilitate preparation of a statement when one is necessary. Shall include brief discussions of the need for the proposal, of alternatives as required by Sec. 102(2)(e), of the environmental impacts of the proposed action and alternatives, and a listing of agencies and persons consulted.

ENVIRONMENTAL IMPACT STATEMENT (EIS). A detailed written statement as required by Sec. 102(2)(C) of the National Environmental Protection Act.

EROSION SUSCEPTIBILITY. The susceptibility of a soil to erosion when no cover is present. The rate of soil displacement depends on the physical properties of the soil, rainfall intensity and slope gradient.

EXCHANGE. A conveyance of lands and interests therein from the United States to a person at the same time there is a conveyance of lands and interests therein from the person to the United States.

EXCLUSION AREAS. Land areas determined to be unavailable for corridor allocation or facility siting for reasons of unsuitability, legislative classification or prior, unalterable allocation to uses incompatible with facility siting.

FEDERAL LAND POLICY AND MANAGEMENT ACT OF 1976 (FLPMA). Public Law 94-579, October 21, 1976, often referred to as the BLM's "Organic Act," which provides the majority of the BLM's legislated authority, direction, policy and basic management guidance.

FEE SIMPLE TITLE. An estate in which the owner is entitled to the entire property with unconditional power of disposition.

GROUNDWATER. Water contained in pore spaces of consolidated and unconsolidated subsurface material.

INTERIM MANAGEMENT POLICY AND GUIDELINES FOR LANDS UNDER WILDERNESS REVIEW (IMP). A BLM document, dated December 12, 1979, which defines the policy for management of Wilderness Study Areas until a final determination on wilderness designation is made by Congress.

ISOLATED TRACT. A tract of one or more contiguous legal subdivisions completely surrounded by lands held in non-Federal ownership or so effectively separated from other federally-owned lands by some permanent withdrawal or reservation as to make its use with such lands impracticable. A tract is considered isolated if the contiguous lands are all patented, even though there are other public lands cornering upon the tract. The term "cornering" refers to lands having a common survey corner but not a common boundary.

LEASABLE MINERALS. Those minerals or materials that can be leased from the federal government. Includes oil and gas, coal, phosphate, sodium, potash, and oil shale.

LINEAL RIGHTS-OF-WAY. Lineal rights-of-way are described in terms of length and width. The length will generally be a fixed statistic. Width, however, is more judgmental. Width multiplied by length equates to the right-of-way "area of use."

LOCATABLE MINERALS. Minerals or materials subject to disposal and development through the Mining Law of 1872 (as amended). Generally includes metallic minerals such as gold and silver and other materials not subject to lease or sale (some bentonites, limestone, talc, some zeolites, etc.).

MANAGEMENT ACTIONS. Any actions proposed to preserve a resource, increase or decrease production and/or use, regulate or minimize depletion of resources, or improve the conditions of a resource through application of professionally recognized methods, techniques, or treatments.

MANAGEMENT CLASSIFICATIONS (UPPER MISSOURI RIVER).

Wild: Those rivers or sections of river that 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.

Scenic: Those rivers or sections of rivers that are free of impoundments, with shorelines or watersheds still largely primitive and shorelines largely undeveloped, but accessible in places by roads.

Recreational: Those rivers or sections of rivers that 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.

MANAGEMENT FRAMEWORK PLAN (MFP). A planning decision document prepared before the effective date of the regulations implementing the land use planning provisions of the FLPMA, which establishes, for a given area of land, land-use allocations, coordination guidelines for multiple-use, and objectives to be achieved for each class of land-use or protection. Until replaced by RMP's, MFP's, including those completed in the transition period, are used as a basis for management action as provided for in 43 CFR 1610.8.

MANAGEMENT SITUATION ANALYSIS (MSA). An unpublished companion document to this RMP that provides the background documentation for the development of alternatives. The MSA consists of the Resource Area Profile, Existing Management Situation, Existing Resource Situation, and Opportunity Analysis.

MECHANICAL TREATMENTS. Treatment by mechanical means of an area of range including contour furrowing, pitting, plowing and seeding, chiseling, scalping, water spreaders, etc. to accomplish desired objectives.

MITIGATION MEASURES. Methods or procedures committed to by BLM for the purpose of reducing or lessening the impacts of an action.

MONITOR. To watch or check. Rangeland resources are monitored for changes that occur as a result of management actions or practices.

MULTIPLE USE. Balanced management of the various surface and subsurface resources, without permanent impairment of the productivity of the land, that will best meet present and future needs.

NONDISCRETIONARY NO MINERAL ENTRY AREA. Those lands closed to mineral entry by formal regulation, legislation or withdrawal. Within these areas the BLM's legal authority to allow mineral entry is suspended.

OFFSITE WATER FACILITIES. The transport of water away from the source (well, spring, reservoir, etc.) via a pipeline to a stock watertank. The source would be exclosed to prevent damage and contamination by livestock and wildlife.

OFF-ROAD VEHICLE (ORV). Any motorized track or wheeled vehicle designed for cross-country travel over any type of natural terrain.

OFF-ROAD VEHICLE DESIGNATIONS.

Open: Designated areas and trails where off-road vehicles may be operated (subject to operating regulations and vehicle standards set forth in BLM Manuals 8341 and 8343).

Limited: Designated areas and trails where the use of off-road vehicles is subject to restrictions such as limiting the number or types or vehicles allowed, dates and times of use (seasonal restrictions), limiting use to existing roads and trails, or limiting use to designated roads and trails. Under the designated roads and trails designation, use would be allowed only on roads and trails that are signed for use.

Combinations of restrictions are possible such as limiting use to certain types of vehicles during certain times of the year.

Closed: Designated areas and trails where the use of off-road vehicles is permanently or temporarily prohibited. Emergency use of vehicles is allowed.

PERMIT (GRAZING). An authorization that permits the grazing of a specified number and kind of livestock on a designated area of BLM lands for a period of time, usually not more than one year.

PLANNING CRITERIA. The factors used to guide development of the resource management plan, or revision, to ensure that it is tailored to the issue previously identified and to ensure that unnecessary data collection and analysis are avoided. Planning criteria are developed to guide the collection and use of inventory data and information, the analysis of the management situation, the design and formulation of alternatives, the estimation of the effects of alternatives, the evaluation of alternatives, and the selection of the preferred alternative.

PRIVATE INITIATIVES. BLM permitted management activities on public land that are funded by private industry such as concessions.

PUBLIC LANDS. Any land and interest in land (outside of Alaska) owned by the United States and administered by the Secretary of the Interior through the Bureau of Land Management.

PUBLIC PARTICIPATION. Part of BLM's planning system that provides the opportunity for citizens as individuals or groups to express local, regional, and national perspectives and concerns in the rule making, decision making, inventory and planning, processes for public lands. This includes public meetings, hearings, or advisory boards or panels that may review resource management proposals and offer suggestions or criticisms for the various alternatives considered.

RANGE CONDITION. The present state of vegetation of a range site in relation to the climax plant community of that site. 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 climax plant community for that site. Range condition is basically an ecological rating of the plant community. Air-dry weight is the unit of measure used in comparing the composition and production of the present plant community with that of the climax community.

RANGE DEVELOPMENT. A structure, excavation, treatment or development to rehabilitate, protect or improve public lands to advance range betterment. "Range Development" is synonymous with "Range Improvement."

RANGE FACILITIES. Any structure or excavation such as water sources, shade sources, oilers, etc. designed to facilitate range management.

RANGE SITE. A distinctive kind of rangeland that differs from other kinds of rangeland in its ability to produce a characteristic natural plant community. A range site is the product of all the environmental factors responsible for its development. It is capable of supporting a native plant community typified by an association of species that differs from that of other range sites in the kind or proportion of species or in total production.

RANGE TREND. The direction of change in range condition and soil.

RECREATION AND PUBLIC PURPOSES ACT (R&PP ACT). This act authorizes the Secretary of the Interior to lease or convey public lands for recreational and public purposes under specified conditions of states or their political subdivisions, and to nonprofit corporations and associations.

RESOURCE MANAGEMENT PLAN. The system that provides a step-by-step process for considering multiple resource values, resolving conflicts, and making resource management decisions.

RESOURCE OBJECTIVES. The desired state or condition that a resource management policy or program is designed to achieve. A goal is usually not quantifiable and may not have a specific date by which it is to be completed. Goals are the basis from which objectives are developed.

RETENTION AREA. An area where public land will generally remain in public ownership and be managed by the BLM. Transfers to other public agencies will be considered where improved management efficiency would result. Minor adjustments involving sales or exchanges or both may be permitted based on site-specific application of the land ownership adjustment criteria.

RIPARIAN AREA. A specialized form of wetland with characteristic vegetation restricted to areas along, adjacent to or contiguous with rivers and streams, also, periodically, flooded lake and reservoir shore areas, as well as lakes with stable water levels.

RUNOFF. The water that flows on the land surface from an area in response to rainfall or snowmelt. As used in this EIS, runoff from an area becomes streamflow when it reaches a channel.

SALEABLE MINERALS. High volume, low value mineral resources including common varieties of rock, clay, decorative stone, sand and gravel.

SEASON OF USE. The time of livestock grazing on a range area based on type of vegetation or stage of vegetative growth.

SEASONAL (SEASON LONG) GRAZING. Grazing use throughout a specific season.

SEDIMENT. Soil, rock particles and organic or other debris carried from one place to another by wind, water or gravity.

SEDIMENTATION. The action or process of deposition of material borne by water, wind or glacier.

SEGREGATION. The removal for a limited period, subject to valid existing rights, of a specified area of the public lands from the operation of the public land laws, including the mining laws, pursuant to the exercise by the Secretary of the Interior of regulatory authority as conferred by law to allow for the orderly administration of the public lands.

SENSITIVE SPECIES. Animals/plants not yet listed as endangered or threatened, but that are undergoing a status review. This may include animals/plants whose populations are consistently and widely dispersed or whose ranges are restricted to a few localities, so that any major habitat change could lead to extinction. A species that is particularly sensitive to some external disturbance factors.

FOSSIL OF SIGNIFICANT SCIENTIFIC INTEREST. A fossil which is unique, rare or particularly well-preserved; is an unusual assemblage of common fossils; is of high scientific interest; or provides important new data.

SOIL. The unconsolidated mineral material on the immediate surface of the earth that serves as a natural medium for the growth of land plants.

SOIL MOISTURE. Water held in the root zone by capillary action. Part of the soil moisture is available to plants, part is held too tightly by capillary or molecular forces to be removed by plants.

SPECIAL STIPULATIONS. These are conditions or requirements attached to a lease or contract that apply in addition to standard sipulations (see below). They frequently provide additional protection of the environment from resource developments, e.g., coal mining, oil and gas development. Special stipulations become effective by their specification on a RMP.

SPECIES OF SPECIAL INTEREST OR CONCERN. Species not yet listed as "endangered or threatened" but whose status is being reviewed because of their widely dispersed populations or their restricted ranges. A species whose population is particularly sensitive to external disturbance.

STABILIZED. To reduce accelerated erosion rates to natural geologic erosion rates.

STANDARD STIPULATIONS. These are conditions or requirements attached to a lease or contract that detail specific actions to be taken or avoided during resource development, e.g., coal mining, oil and gas development. They usually provide basic protection of the environment.

STREAMBANK (and CHANNEL) EROSION. This is the removal and transport of material by concentrated flows.

THREATENED SPECIES. A species that the Secretary of Interior has determined to be likely to become endangered within the foreseeable future throughout all or most of its range. See also "Endangered or Threatened Species."

TOTAL DISSOLVED SOLIDS. The dry weight of dissolved material, organic and inorganic, contained in water.

UNECONOMICAL. Wasting time, resources and capital on the management of outputs and related activities that have very limited benefits accruing within a time period.

UNNECESSARY OR UNDUE DEGRADATION. Surface disturbance greater than what would normally result when an activity is being accomplished by a prudent operator in usual, customary, and proficient operations of similar character and taking into consideration the effects of operations on other resources and land uses, including those resources and uses outside the area of operations.

VALID EXISTING RIGHTS. Legal interests that attach to a land or mineral estate that cannot be divested from the estate until that interest expires or is relinquished.

VEGETATION (GROUND) COVER. The percent of land surface covered by all living vegetation (and remnant vegetation yet to decompose) within 20 feet of the ground.

VISION QUEST SITE. A cradle like structure, usually located on elevated places, that relates to a Native American religious ceremony through which an individual gains a spiritual guide.

VISUAL RESOURCE MANAGEMENT CLASSES. The degree of acceptable visual changes within a characteristic landscape. A class is based upon the physical and sociological characteristics of any given homogeneous area and serves as a management objective.

Class I areas (preservation) provide for natural ecological changes only. This class includes primitive areas, some natural areas, some wild and scenic rivers and other similar sites where landscape modification activities should be restricted.

Class II (retention of the landscape character) includes areas where changes in any of the basic elements (form, line, color or texture) caused by management activity should not be evident in the characteristic landscape.

Class III (particle retention of the landscape character) includes areas where changes in the basic elements (form, line, color or texture) caused by management activity may be evident in the characteristic landscape. However, the changes should remain subordinate to the visual strength of the existing character.

Class IV (modification of the landscape character) includes areas where changes may subordinate the original composition and character; however, they should reflect what could be a natural occurrence within the characteristic landscape.

Class V (rehabilitation or enhancement of the landscape character) includes areas where change is needed. This class applies to areas where the landscape character has been so disturbed that rehabilitation is needed. This class would apply to areas where the quality class has been reduced because of unacceptable intrusions. It should be considered an interim short-term classification until one of the other classes can be reached through rehabilitation or enhancement.

WATER QUALITY. The chemical, physical and biological characteristics of water with respect to its suitability for a particular use.

WATERSHED. All lands which are enclosed by a continuous hydrologic drainage divide and lie upslope from a specified point on a stream.

WETLANDS. Those areas that are inundated by surface or ground water with a frequency sufficient to support and under normal circumstances does or would support a prevalence of vegetative or aquatic life that requires saturated or seasonally saturated soil conditions for growth and reproduction. Wetlands generally include swamps, marshes, bogs, and similar areas such as sloughs, potholes, wet meadows, river overflows, mud flats, and natural ponds.

WILDERNESS STUDY AREA (WSA). An area determined to have wilderness characteristics. Study areas will be subject to interdisciplinary analysis and public comment to determine wilderness suitability. Suitable areas will be recommended to the President and Congress for wilderness designation.

WOODLANDS. Forestland not included in the commercial forestland sustainable harvest level. Includes all non-commercial and non-suitable forestland.

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References

Appendix

APPENDIX 1.1: WASHINGTON OFFICE AND STATE DIRECTOR'S LAND TENURE ADJUSTMENT GUIDANCE

Acquisition Criteria

These are used to evaluate proposals which would result in the acquisition of lands, easements, or minerals by the Bureau of Land Management through exchange or other transactions.

These criteria help to assure that any BLM decision to acquire a tract of land provides significant public benefits. The criteria range from "general" standards to evaluate all proposals, to "specific" guidelines covering the selected or prioritized program areas.

These standards are designed to provide consistent direction, while allowing management flexibility to meet local, state and national needs.

General Criteria for Acquisition (and Retention Decisions)

All proposals will be evaluated to determine if the acquired lands will:

1. Facilitate access to areas retained for long term public use.
2. Enhance Congressionally designated areas, rivers, or trails.
3. Be primarily focused in the "retention" areas. Acquisition outside the retention areas will only be considered if the action leads to and/or facilitates long term needs or program objectives.
4. Facilitate national, state and local BLM priorities or mission statement needs.
5. Place emphasis where BLM land use or activity plans are completed. Proposals must facilitate implementation and/or be consistent with these plans.
6. Stabilize or enhance local economies or values.
7. Meet long term public lands management goals as opposed to short term.
8. Be of sufficient size to improve use of adjoining public lands or, if isolated, large enough to allow the identified potential public land use.
9. Allow more diverse use, more intensive use, or a change in uses to better fulfill the Bureau's mission.
10. Enhance the opportunity for new or emerging public land uses or values.
11. Contribute to a wide spectrum of uses or large number of public land users.
12. Facilitate management practices, uses, scale of operations or degrees of management intensity that are viable under economic program efficiency standards.
13. Secure for the public significant water related land interests. These interests will include lake shore, river front, stream, pond or spring sites.

Program Specific Acquisition Criteria

Any of these program criteria may provide the rationale for acquiring a particular tract of land in land adjustment transaction; however, priority will be determined on the basis of multiple use analysis. That is, the greater the number of programs and public values served, the higher the priority for acquisition.

Minerals

1. Consolidation of mineral estates -- from the minerals program viewpoint this is probably the most important reason for acquisition. The primary purpose for consolidation of estates is improvement of potential for development while improving resource management and economic values.

   This concept can be applied to some deposits of coal, phosphate, potash, oil shale and tar sands. It is difficult to envision that this approach would be useful for oil and gas or locatable minerals.

2. Acquisition in response to a federal project need, as in the case of a dam project. Criteria for this type of acquisition would generally include:

   a. Where development of the federal project would preclude the mineral estate owner from exercising development rights; or

   b. Where the exercise of the mineral estate owners right of development would materially interfere with the federal project.

3. Acquisition mandated by law. The best example of this would be where an alluvial valley floor has precluded coal mining, triggering an exchange.

Livestock Management

Acquire non-federal holdings in key allotments which will enhance manageability and investment opportunity in improvement and maintenance category allotments.

Timber Management

Focus acquisition priority on areas:

1. Which exceed 30 cu. ft./acre in growth of commercial timber unless the areas will enhance the harvest of adjacent lands. In this case, the standard may be lowered to 20 cu. ft./acre in annual growth.
2. Contiguous to, or which facilitate access to public forest land.
3. Containing 80 acres or more of commercial timber. If less than 80 acres, the tract(s) must be logical logging unit(s) or facilitate commercial management of adjacent public forest land.
4. Containing enough harvestable volume for a feasible commercial logging unit after physical, biological or other land use constraints are considered.

Recreation

Acquire lands with the following significant public values:

1. National Values

   a. Congressionally designated areas/rivers/trails

   b. Congressionally designated study areas/rivers/trails

2. State Values

   a. Select lands that enhance state recreation trails and waterways (see State Comprehensive Outdoor Recreation Plan; SCORP Vol. 2, 1978, p. 149) or those with interstate, state, and multi-county use significance.

   b. Other statewide and multi-county values.

3. Local values for extensive use, such as hunting, fishing, ORV and snowmobile use. Higher priority will be given to acquisition of these values where such extensive use will compliment and enhance these uses on public lands.

4. Acquire access through easement to the above significant values as needed to facilitate public use if surface acquisition is undesirable or not possible.

Wilderness

Acquire in-holdings within the boundaries of Congressionally designated wilderness areas under BLM administration. Priorities are:

1. State in-holdings to be acquired through exchange only.

2. Private in-holdings to be acquired by mutual agreement involving exchange, purchase, or gift.

In the acquisition of access to designated wilderness areas highest priority will be:

1. Where no access exists.

2. Where it is needed for proper management as identified in wilderness management plans.

Cultural Resources

Any cultural site to be acquired should meet the following evaluation standards of MSO Manual Supplement 8111.24:

1. High Research Value

2. Moderate Scarcity

3. Possess some other unique values such as association with an important historic person or high aesthetic values, or

4. Contribute significantly to interpretive potential of cultural resources already in public ownership.

Strong consideration should be given to manageability. There are only a limited number of potential uses to which a cultural resource can be put (see IM 78-339). The principal use is probably research. Any site acquired for this purpose should be protectable and accessible. The second most important use may be some form of visitor or recreation use. Acquired sites in this case should be in areas also important to the Recreation Program unless they can stand on their own.

The major deciding factor for site acquisition after applying the basic criteria should be the potential for actively managing the site. Sites should not be acquired on scattered or isolated parcels unless they are of overwhelming cultural importance.

Wildlife Habitat Management

In general, areas with important wildlife which are large enough and suitable for public hunting, fishing and trapping and areas suitable for cooperative management under the Sikes Act.

High priority areas for retention and acquisition will be lands with significant wildlife values as defined below. These areas may be of any size.

1. Threatened and Endangered Species (approved recovery plans will also govern actions on these areas)

   a. Black-footed Ferret. Occupied habitat or areas identified through planning for future ferret populations.

   b. Grizzly Bear. Lands containing grizzly population centers (Management Situation 1 and 2 Lands*).

   c. Whooping Crane. Suitable or potential habitat.

   d. Bald Eagle. Historical nest sitea with remaining potential, present nest sites, or documented rooating or wintering areas.

   e. Grey Wolf. Occupied habitat.

   f. Peregrine Falcon. Verified nest areas and auitable aitea for reestablishment.

2. Fisheriea.** Accesa to or larger areaa adjacent to Claas 1, 2 or 3 streams** and lake and pond fisheries. Stream areas with restoration potential to become Clasa 1, 2 or 3 streama. Sites to develop additional fisheries especially near population centers. Sitea supporting spawning or nursery areas which may be temporal in nature but important to downstream fisheries. Land that would enable us to acquire needed instream flow reservations.

3. Big Game. Important habitat areas auch as crucial winter and associated spring/fall transition areas, kidding/fawning/calving/lambing areaa, crucial wallow complexea, mineral licks, and aecurity areas.

4. Upland Game Birds, Migratory Birds and Waterfowl. Crucial breeding, neating, resting, rooating, feeding and wintering habitat areaa or complexes. These will vary in size, for example, a highly productive one acre wetland or 100 acres of nesting cover fnr pheaaants.

5. Raptora. Exiating and potential nesting areaa for aensitive species or significant nesting complexes for nonaenaitive species.

6. Nongame. Crucial habitat complexes.

* From Guidelines for Management Involving Grizzly Bears in Yellowstone Area, USFS, NPS 1979.

** Class of Streams defined by Montana Department of Fish, Wildlife and Parks, 1980. Stream Evaluation Map State of Montana.

LAND TENURE ADJUSTMENT CRITERIA FOR THE GREAT FALLS RESOURCE AREA

The following criteria were refined from the State Director's guidance which were used to categorize the lands in the Great Falls Resource area. Other criteria may be added as needed throughout life of the plan.

Retention Areas: These land will remain in public ownership and be managed by BLM. Minor adjustments may occur in the future. These adjustments will be primarily limited to surface management agency changes.

1. Areas of national environmental significance: These include but are not limited to:

   a. Wild and Scenic Rivers

   b. National Scenic and Historic Trails and Study Trails

   c. National Register of Historic Places

   d. Wetlands and Riparian Areas under EO 11988 and 11990, defined as:

      those areas that are inundated by surface or ground water with a frequency sufficient to support and under normal circumstances does or would support a prevalence of vegetation or aquatic life that requires saturated or seasonally saturated soil conditions for growth and reproduction. Wetlands generally include swamps, marshes, bogs, and similar areas such as sloughs, potholes, wet meadows, river overflows, mud flats, and natural ponds. (EO 11990 sec. 5c)

   e. Special Management Areas

   f. Threatened and endangered plant and animal habitat.

2. Areas of national economic significance: include but not limited to:

   lands containing strategic minerals needed for national defense.

   lands containing nominated areas of critical mineral potential.

3. Public lands used in support of national defense.

4. Areas where management is cost-effective or lands containing other important characteristics and public values which can best be managed in public ownership by BLM will be retained.

   Including but not limited to:

   a. strategic tracts along rivers, streams, lakes, ponds, springs and trails

   b. wildlife priority areas as defined under acquisition criteria particularly sage grouse leks, sharp-tailed grouse leks, crucial antelope range and major concentration areas of sensitive species (raptors, in particular).

   c. important fishing areas

   d. intensive recreation sites and areas

5. Public lands withdrawn by BLM or another Federal agency for which the purposes remains valid.

6. Retain surface and subsurface estate in areas with known solid or fluid mineral production.

7. Stabilize or enhance local economies or values.

DISPOSAL: Lands in this category appear to meet the FLPMA criteria for disposal through Sale (section 203), Exchanges (section 206) and Recreation and Public Purposes Act (section 212).

1. Widely scattered parcels which are difficult to manage with anything beyond minimal custodial administration and have no significant public values.

2. Lands with low resource values i.e., isolated, no access, custodial allotments, etc. There is no acreage limit in this category.

3. Lands with long term unauthorized use problems, if the lands are not required for public purposes.

4. Lands in which the highest public value will be attained through long term agricultural, commercial or industrial development; Class III and better lands for agricultural use.

ACQUISITION: The following criteria will be used to guide the BLMa acquisition of lands, easements and/or minerals through exchange or other means.

1. Facilitate access to retention areas.

2. Lands which will enhance retention areas.

3. Secure for the public significant water related land interests. These interests will include river front, stream, pond, potholes, riparian or spring sites.

WATERSHED:

1. Acquire watershed areas for fish reservoirs and range projects.

CRAZING MANAGEMENT:

1. Acquire non-federal holdings in key allotments which will enhance manageability and investment opportunity in grazing allotments;

2. and C allotments contiguous to I and M allotments.

WILDLIFE HABITAT MANAGEMENT:

Acquire habitat for:

1. Threatened and endangered plant and animal species including but not limited to:

   bald eagle: historic nesting areas with continuing potential, present sites, documented roosting and wintering areas;

   peregrine falcon: verified nest areas and suitable sites for reestablishment.

2. Fisheries: access to Class 1, 2, and 3 streams, lake and pond fisheries.

3. Important big game habitat.

4. Crucial breeding, nesting areas for upland game birds.

5. Raptors: existing and potential nesting areas for threatened and endangered and sensitive species or significant nesting complexes for non-sensitive species.

RECREATION:

1. Acquire lands with the following significant values:

   Designated rivers and trails;

   Congressionally designated rivers, trails and WSAs.

2. Acquire access for significant use areas, especially to major rivers, streams and the Sweetgrass Hills.

CULTURAL: Acquire important archeological and historic sites along designated rivers and trails and acquire potential national register sites adjacent to BLM lands.

MINERALS:

1. Acquire surface lands in areas of extensive mineral estate, or known production areas thereby reuniting surface and subsurface estate.

2. Acquire lands to enhance minerals management.

LAND ADJUSTMENT CRITERIA HAVRE RESOURCE AREA

The following criteria were refined from the State Director's guidance and will be using to categorize the lands in the Havre Resource Area. They may be of help in further categorizing the lands in the Havre area.

RETENTION AREAS: Lands in this area should be retained in long term public ownership. Lands in this category either require retention by law or the tract had more than one important resource value. Disposal through exchange for the latter tracts are allowed only if the exchange significantly increases public values.

1. Areas of national environmental significance: These include but are not limited to:

   a. WSAs

   b. Wild and Scenic Rivers

   c. National Scenic & Historic Trails and Study Trails

   d. National Register Historic Places

   e. Wetlands and Riparian Areas under EO 11990 and 11988, defined as:

      Those areas that are inundated by surface or ground water with a frequency sufficient to support and under normal circumstances does or would support a prevalence of vegetation or aquatic life that requires saturated or seasonally saturated soil conditions for growth and reproduction. Wetlands generally include swamps, marshes, bogs and similar areas such as sloughs, potholes, wet meadows, river overflows, mud flats, and natural ponds. (EO 11990 sec. 5c).

   f. Special Management Areas.

   g. Threatened and Endangered habitat.

2. Areas where management is cost-effective or lands containing other important characteristics and public values which can best be managed in public ownership by BLM will be retained. Including but not limited to:

   a. strategic tracts along rivers, stresms, lakes, ponds, springs, and trails;

   b. wildlife priority areas as defined under acquisition criteria particularly sage grouse leks, sharp-tailed grouse leks and crucial antelope range;

   c. important fishing areas;

   d. recreation aites and areas.

3. Public lands withdrawn by BLM or another Federal agency for which the purpose remains valid.

4. Retain surface and subsurface estate in known solid or fluid mineral production.

DISPOSAL: Lands which meet the following criteria to appear to meet FLPMA criteria for disposal through any means, including sale.

1. Lands with low resource values i.e., isolated, no access, custodial allotments, etc. There is no acreage limit in this category.

2. Widely scattered parcels which are difficult to manage with anything beyond minimal custodial administration and have no significant public values.

3. Lands with long term unauthorized use problems, if the lands are not required for public purposes.

4. Lands in which the highest public value will be attained through long term agricultural, commercial or industrial development; Class III and better lands for agriculture.

ADJUSTMENT: Lands in the adjustment category do not meet FLPMA criteria for disposal through sale (Sec. 203) or have only one important resource. Lands in this category will be exchanged for lands with higher values.

1. Areas of national economic significance: lands containing nominated areas of critical mineral potential.

2. Areas where future plans will lead to further consolidation and improvement of land patterns and management efficiency i.e., Marias.

3. Consolidation of mineral estates to improve development potential while improving resource management and economic values.

4. Timber resources on scattered tracts or on other blocks not identified for retention will be in the adjustment areas.

5. High value big game habitat.

6. Range improvements.

7. Scattered low value potholes.

ACQUISITION: Lands in this category are the types of tracts the BLM will acquire through the various acquisition programs.

1. Facilitate access to retention areas.

2. Enhance Congressionally designated rivers, trails and study trails.

3. Lands which will enhance retention areas.

4. Secure for the public significant water related land interests. These interests will include river front, stream, potholes, riparian areas, pond or spring sites.

WATERSHED:

1. Acquire watershed areas for fish reservoirs and range projects.

GRAZING MANAGEMENT: Acquire non-Federal holdings in key allotments which will enhance manageability and investment opportunity in grazing allotments.

RECREATION:

1. Acquire lands with the following significant values:

   Designated rivers and trails;

   Congressionally designated study rivers, trails and WSAs.

2. Acquire access for significant use areas, especially to major rivers and streams.

CULTURAL: Acquire important archeological and historic sites along designated rivers and trails and acquire potential national register sites adjacent to BLM lands.

WILDLIFE

Acquire habitat for:

1. Threatened and endangered species;

   bald eagle: historic nesting areas with continuing potential, present sites, documented roosting and wintering areas;

   peregrine falcon: verified nest areas and suitable sites for reestablishment.

2. Fisheries: access to Class 1, 2, and 3 streams, lake and pond fisheries.

3. Important big game habitat.

4. Crucial breeding, nesting areaa for grouse and pheasants.

5. Raptors: existing and potential nesting areas for sensitive species or significant nesting complexes for nonsensitive species.

MINERALS:

1. Acquire surface lands in areas of extensive mineral estate, or known production areas thereby reuniting surface and subsurface estate.

2. Acquire lands to enhance minerals management.

These tracts appear to meet FLPMA disposal criteria (PL94-579 Sec. 203, Sec. 206) for the Havre Resource Area.

Tract No.	Location	Total Tract Acres
1	T. 36 N., R. 22 E., Sec. 14: SE¼NE¼	40.00
2	T. 36 N., R. 22 E., Sec. 31: SE¼NW¼	40.00
3	T. 33 N., R. 20 E., Sec. 25: NE¼NE¼	40.00
4	T. 32 N., R. 19 E., Sec. 3: Lot 3	39.10
5	T. 32 N., R. 22 E., Sec. 6: Lot 4	34.58
6	T. 32 N., R. 18 E., Sec. 1: SW¼SW¼	40.00
7	T. 32 N., R. 21 E., Sec. 8: SE¼NE¼, NW¼SE¼	120.00
	T. 32 N., R. 21 E., Sec. 9: NW¼SW¼	
8	T. 32 N., R. 20 E., Sec. 15: SE¼NW¼	40.00
9	T. 32 N., R. 21 E., Sec. 13: NE¼SW¼, NW¼SE¼	80.00
10	T. 32 N., R. 20 E., Sec. 14: S½SE¼	80.00
11	T. 32 N., R. 19 E., Sec. 22: SE¼NE¼, NE¼SE¼	80.00
12	T. 32 N., R. 20 E., Sec. 19: W½NE¼, NW¼SE¼	120.00
13	T. 32 N., R. 19 E., Sec. 26: W½SW¼	80.00
14	T. 32 N., R. 19 E., Sec. 33: SE¼	160.00
15	T. 31 N., R. 17 E., Sec. 12: E½E½, SW¼SE¼	342.64
	T. 31 N., R. 18 E., Sec. 7: Lots 1, 2, 3, 4	
16	T. 31 N., R. 21 E., Sec. 28: NW¼NE¼	40.00
17	T. 31 N., R. 22 E., Sec. 19: SE¼SE¼	40.00
18	T. 30 N., R. 17 E., Sec. 2: SE¼NE¼	40.00
19	T. 29 N., R. 17 E., Sec. 8: NE¼NE¼	40.00
20	T. 35 N., R. 25 E., Sec. 14: S½SE¼	80.00
21	T. 28 N., R. 22 E., Sec. 29: NE¼SW¼	40.00
22	T. 29 N., R. 20 E., Sec. 1: NW¼SE¼	40.00
23	T. 29 N., R. 20 E., Sec. 25: S½SE¼	597.79
	T. 29 N., R. 21 E., Sec. 30: Lots 3, 4, SE¼NE¼, E½SE¼, SE¼	
	T. 29 N., R. 21 E., Sec. 31: Lot 1, N½NE¼, NE¼NW¼	
24	T. 29 N., R. 21 E., Sec. 6: SE¼SW¼	40.00
25	T. 29 N., R. 21 E., Sec. 8: S½NE¼	80.00
26	T. 29 N., R. 21 E., Sec. 18: Lots 3, 4, E½SW¼, W½SE¼	320.86
	T. 29 N., R. 21 E., Sec. 19: Lots 1, 2	
27	T. 29 N., R. 21 E., Sec. 19: S½NE¼	80.00
28	T. 29 N., R. 21 E., Sec. 20: SE¼SW¼	40.00
29	T. 29 N., R. 21 E., Sec. 24: SE¼SW¼	40.00
30	T. 29 N., R. 21 E., Sec. 24: SE¼SE¼	40.00
31	T. 29 N., R. 21 E., Sec. 34: SW¼NW¼	40.00
32	T. 28 N., R. 19 E., Sec. 13: S½NW¼, NW¼SE¼	120.00
33	T. 28 N., R. 20 E., Sec. 30: SE¼SW¼	188.30
	T. 28 N., R. 20 E., Sec. 31: Lots, 1, 2, E½NW¼	
34	T. 28 N., R. 21 E., Sec. 6: Lots 4, 5	73.68
35	T. 28 N., R. 21 E., Sec. 7: Lot 1, NE¼NW¼	77.06
36	T. 28 N., R. 21 E., Sec. 6: SE¼SE¼	40.00
37	T. 28 N., R. 21 E., Sec. 17: NW¼SE¼	80.00
	T. 28 N., R. 21 E., Sec. 18: NE¼SE¼	
38	T. 28 N., R. 21 E., Sec. 17: S½SE¼	80.00
39	T. 28 N., R. 21 E., Sec. 19: NW¼NE¼	40.00
40	T. 27 N., R. 17 E., Sec. 26: SE¼NW¼	40.00
41	T. 27 N., R. 17 E., Sec. 26: NE¼NW¼	40.00
42	T. 27 N., R. 17 E., Sec. 34: SE¼SE¼	40.00
43	T. 27 N., R. 18 E., Sec. 27: SE¼NE¼	40.00
44	T. 27 N., R. 18 E., Sec. 32: SE¼NW¼	40.00
45	T. 27 N., R. 18 E., Sec. 35: NW¼NE¼	40.00
46	T. 27 N., R. 18 E., Sec. 31: SE¼SW¼, SW¼SE¼	80.00
47	T. 27 N., R. 18 E., Sec. 34: SW¼SW¼	80.00
	T. 26 N., R. 18 E., Sec. 3: NW¼NW¼	
48	T. 28 N., R. 19 E., Sec. 30: SW¼NE¼	40.00
49	T. 27 N., R. 21 E., Sec. 27: NW¼	160.00
50	T. 27 N., R. 22 E., Sec. 33: SE¼SE¼	40.00
51	T. 26 N., R. 17 E., Sec. 12: NW¼NW¼	40.00
52	T. 26 N., R. 17 E., Sec. 14: SE¼NW¼	40.00
53	T. 26 N., R. 17 E., Sec. 13: SE¼SW¼	40.00
54	T. 26 N., R. 18 E., Sec. 9: NE¼SW¼	40.00
55	T. 26 N., R. 18 E., Sec. 18: SE¼SW¼	40.00
56	T. 26 N., R. 18 E., Sec. 22: NW¼NE¼	40.00
57	T. 26 N., R. 18 E., Sec. 20: NW¼NW¼	40.00
58	T. 26 N., R. 18 E., Sec. 19: SE¼NE¼	40.00
59	T. 27 N., R. 19 E., Sec. 1: Lot 1	23.92
60	T. 27 N., R. 21 E., Sec. 2: Lots 1, 2, 3, 4	186.12
	T. 27 N., R. 21 E., Sec. 3: Lots 1, 2, 8	
61	T. 27 N., R. 21 E., Sec. 3: S½NW¼	80.00
62	T. 27 N., R. 21 E., Sec. 1: Lots 1, 2	48.71
63	T. 27 N., R. 21 E., Sec. 4: Lots 1, 2	53.44
64	T. 27 N., R. 22 E., Sec. 4: E½NW¼	80.00
65	T. 27 N., R. 21 E., Sec. 11: SW¼NW¼, NW¼SW¼	80.00
66	T. 27 N., R. 21 E., Sec. 1: SW¼SW¼	240.00
	T. 27 N., R. 21 E., Sec. 12: W½NW¼, SE¼NW¼, E½SW¼	
67	T. 27 N., R. 22 E., Sec. 7: W½NW¼, NW¼SW¼	120.00
68	T. 27 N., R. 22 E., Sec. 7: NE¼NE¼	40.00
69	T. 27 N., R. 22 E., Sec. 8: E½NW¼, NE¼SW¼	120.00
70	T. 27 N., R. 22 E., Sec. 9: SW¼NW¼	40.00
71	T. 27 N., R. 22 E., Sec. 17: NE¼SW¼	40.00
72	T. 27 N., R. 22 E., Sec. 20: SE¼NW¼	40.00
73	T. 27 N., R. 22 E., Sec. 19: NW¼NW¼	320.00
	T. 27 N., R. 21 E., Sec. 24: NE¼, E½NW¼, NE¼SE¼	
74	T. 27 N., R. 21 E., Sec. 23: SE¼NE¼	40.00
75	T. 27 N., R. 21 E., Sec. 24: SW¼SW¼	40.00
76	T. 27 N., R. 21 E., Sec. 25: S½NE¼, SE¼NW¼	120.00
77	T. 27 N., R. 21 E., Sec. 26: NE¼SE¼	40.00
78	T. 37 N., R. 11 E., Sec. 2: Lots 5, 6, 7, 8, SW¼NE¼	114.04
79	T. 37 N., R. 11 E., Sec. 19: Lot 1 (Sold)	80.31
	T. 37 N., R. 10 E., Sec. 24: NE¼NE¼	
80	T. 37 N., R. 15 E., Sec. 6: Lots 9, 10	53.73
81	T. 37 N., R. 15 E., Sec. 29: SE¼NE¼, NW¼SE¼	80.00
82	T. 37 N., R. 17 E., Sec. 7: SE¼SE¼	40.00
83	T. 35 N., R. 12 E., Sec. 18: SW¼NE¼	40.00
84	T. 34 N., R. 13 E., Sec. 31: NW¼NE¼	40.00
85	T. 32 N., R. 11 E., Sec. 5: Lot 1	36.64
86	T. 32 N., R. 14 E., Sec. 26: N½SW¼	80.00
87	T. 31 N., R. 12 E., Sec. 9: W½SE¼	80.00
88	T. 30 N., R. 11 E., Sec. 1: NE¼SE¼	40.00
89	T. 31 N., R. 16 E., Sec. 24: NW¼SE¼	40.00
90	T. 30 N., R. 17 E., Sec. 8: NE¼SE¼	40.00
91	T. 30 N., R. 17 E., Sec. 4: NW¼SE¼	40.00
92	T. 30 N., R. 16 E., Sec. 25: NE¼SW¼	40.00
93	T. 28 N., R. 13 E., Sec. 34: SE¼SW¼	40.00
94	T. 24 N., R. 7 E., Sec. 4: SW¼NE¼, SE¼NW¼	80.00
95	T. 27 N., R. 12 E., Sec. 10: NE¼SE¼	40.00
96	T. 24 N., R. 7 E., Sec. 14: S½NW¼	80.00
97	T. 25 N., R. 7 E., Sec. 34: NE¼NW¼	40.00
98	T. 24 N., R. 7 E., Sec. 4: SE¼SE¼	40.00
99	T. 24 N., R. 7 E., Sec. 3: SE¼NW¼, N½SW¼	120.00
100	T. 24 N., R. 7 E., Sec. 3: SW¼SE¼	40.00
101	T. 24 N., R. 7 E., Sec. 2: SE¼SW¼	40.00
102	T. 24 N., R. 7 E., Sec. 11: NW¼SW¼	40.00
103	T. 24 N., R. 7 E., Sec. 11: SE¼NE¼, NE¼SE¼	553.02
	T. 24 N., R. 7 E., Sec. 12: S½N½, N½SW¼, SW¼SW¼	
	T. 24 N., R. 8 E., Sec. 7: Lots 1, 2, NE¼NW¼, SE¼NW¼	

These lands meet FLPMA disposal criteria under Section 206, they may meet FLPMA disposal criteria under Section 203 but need further study. Under Alternative B it is assumed they will meet criteria in Section 203; Alternative C they do not meet criteria in Section 203 or 206; and Alternative D they meet criteria under Section 206 but probably not Section 203.

HAVRE RESOURCE AREA LAND ADJUSTMENT TRACTS ADJUSTMENT CATEGORY

Tract No.	Location	Total Tract Acres
1	T. 37 N., R. 15 E., Sec. 7: SE¼SE¼	40.00
2	T. 28 N., R. 16 E., Sec. 1: Lots 8, 13, 14	103.84
3	T. 28 N., R. 16 E., Sec. 24: Lot 4	24.71
4	T. 28 N., R. 16 E., Sec. 32: NW¼, N½SW¼	240.00
5	T. 28 N., R. 16 E., Sec. 33: N½NE¼	200.00
	T. 28 N., R. 16 E., Sec. 34: NW¼NE¼, N½NW¼	
6	T. 28 N., R. 17 E., Sec. 5: N½SW¼	80.00
7	T. 28 N., R. 17 E., Sec. 18: SW¼SE¼	80.00
	T. 28 N., R. 17 E., Sec. 19: NW¼NE¼	
8	T. 27 N., R. 16 E., Sec. 11: NW¼SE¼	40.00
9	T. 26 N., R. 16 E., Sec. 2: SE¼SW¼	40.00
10	T. 26 N., R. 16 E., Sec. 3: Lot 1	39.96
11	T. 26 N., R. 16 E., Sec. 3: NE¼SE¼	40.00
12	T. 26 N., R. 16 E., Sec. 9: E½E½	760.00
	T. 26 N., R. 16 E., Sec. 10: N½, SW¼, NW¼SE¼	
	T. 26 N., R. 16 E., Sec. 15: NW¼, N½SW¼	
13	T. 26 N., R. 16 E., Sec. 11: NW¼SW¼	40.00
14	T. 26 N., R. 16 E., Sec. 17: E½NE¼	80.00
15	T. 26 N., R. 16 E., Sec. 18: Lot 1	34.47
16	T. 26 N., R. 16 E., Sec. 30: NE¼SE¼	40.00

Tract No.	Location	Total Tract Acres
17	T. 26 N., R. 16 E., Sec. 32: W½NE¼, NW¼	240.00
18	T. 26 N., R. 16 E., Sec. 33: SE¼SW¼	40.00
19	T. 26 N., R. 16 E., Sec. 34: SE¼NE¼	40.00
20	T. 26 N., R. 17 E., Sec. 4: SE¼SW¼	40.00
21	T. 26 N., R. 17 E., Sec. 32: SW¼NE¼	40.00
22	T. 26 N., R. 17 E., Sec. 32: S½SE¼	80.00
23	T. 24 N., R. 16 E., Sec. 13: SW¼NW¼	40.00
24	T. 24 N., R. 16 E., Sec. 13: NE¼SW¼	40.00
25	T. 24 N., R. 16 E., Sec. 15: NW¼SW¼	40.00
26	T. 24 N., R. 16 E., Sec. 17: NE¼NW¼	40.00
27	T. 24 N., R. 16 E., Sec. 18: Lot 2	28.84
28	T. 24 N., R. 16 E., Sec. 20: NE¼SE¼	40.00
29	T. 24 N., R. 16 E., Sec. 21: SW¼SW¼	40.00
30	T. 24 N., R. 16 E., Sec. 21: W½NE¼	80.00
31	T. 24 N., R. 16 E., Sec. 33: SE¼NW¼	40.00
32	T. 23 N., R. 16 E., Sec. 4: Lot 2	39.83
33	T. 23 N., R. 16 E., Sec. 5: Lot 2, S½N½, NE¼SW¼, NW¼SE¼	279.96
34	T. 23 N., R. 15 E., Sec. 12: SE¼NW¼, NE¼SW¼, W½SE¼	651.45
	T. 23 N., R. 15 E., Sec. 13: NE¼	
	T. 23 N., R. 16 E., Sec. 17: NW¼	
	T. 23 N., R. 16 E., Sec. 18: Lots 1, 2, 3, E½NE¼	
35	T. 23 N., R. 15 E., Sec. 13: NW¼SW¼	40.00
36	T. 23 N., R. 15 E., Sec. 14: NE¼	160.00
37	T. 26 N., R. 13 E., Sec. 5: SW¼SE¼	40.00
38	T. 26 N., R. 13 E., Sec. 8: NE¼SW¼	40.00
39	T. 26 N., R. 13 E., Sec. 17: NE¼NW¼	40.00
40	T. 26 N., R. 13 E., Sec. 17: N½SW¼	80.00
41	T. 26 N., R. 13 E., Sec. 17: NE¼SE¼	40.00
42	T. 26 N., R. 13 E., Sec. 18: W½SE¼	80.00
43	T. 25 N., R. 13 E., Sec. 1: SE¼NW¼	40.00
44	T. 27 N., R. 12 E., Sec. 31: Lot 3	38.04
45	T. 26 N., R. 11 E., Sec. 8: SW¼NE¼, S½NW¼	120.00
46	T. 26 N., R. 11 E., Sec. 17: NE¼SE¼	40.00
47	T. 26 N., R. 11 E., Sec. 18: Lot 1	37.67
48	T. 25 N., R. 10 E., Sec. 5: SW¼NW¼	40.00
49	T. 25 N., R. 10 E., Sec. 19: SE¼SW¼	80.00
	T. 25 N., R. 10 E., Sec. 30: NE¼NW¼	
50	T. 25 N., R. 9 E., Sec. 23: N½NE¼	120.00
	T. 25 N., R. 9 E., Sec. 24: NW¼NW¼	120.00
51	T. 25 N., R. 9 E., Sec. 23: SE¼NW¼	40.00
52	T. 25 N., R. 9 E., Sec. 24: NE¼SW¼	40.00
53	T. 26 N., R. 9 E., Sec. 35: NE¼NE¼	40.00
54	T. 24 N., R. 8 E., Sec. 4: Lots 1, 2, NW¼NE¼	125.78
55*	T. 24 N., R. 8 E., Sec. 32: SW¼SW¼	40.00
56*	T. 24 N., R. 8 E., Sec. 32: Lot 2	26.34
57	T. 26 N., R. 8 E., Sec. 28: N½NW¼	80.00
58	T. 26 N., R. 7 E., Sec. 11: NE¼NE¼	40.00
59	T. 27 N., R. 8 E., Sec. 6: Lots 1, 2, 3, 4, 5, 6, 7, E½W½, E½	1,890.81
	T. 27 N., R. 8 E., Sec. 7: N½NE¼, NE¼NW¼	
	T. 27 N., R. 8 E., Sec. 8: W½	
	T. 28 N., R. 8 E., Sec. 29: SE¼SE¼	
	T. 28 N., R. 8 E., Sec. 31: Lot 4, E½SW¼, SE¼	
	T. 28 N., R. 8 E., Sec. 32: NE¼, S½NW¼, SW¼	
60	T. 37 N., R. 17 E., Sec. 2: SW¼	1,080.00
	T. 37 N., R. 17 E., Sec. 10: E½, E½NW¼	
	T. 37 N., R. 17 E., Sec. 11: N½, SW¼	
61	T. 37 N., R. 17 E., Sec. 12: SW¼SW¼	40.00
62	T. 37 N., R. 17 E., Sec. 26: S½SW¼	640.00
	T. 37 N., R. 17 E., Sec. 34: E½E½, NW¼NE¼, N½NW¼, SW¼NW¼	
	T. 37 N., R. 17 E., Sec. 35: NW¼, N½SW¼	
63	T. 36 N., R. 17 E., Sec. 10: W½SW¼	160.00
	T. 36 N., R. 17 E., Sec. 15: N½NW¼	
64	T. 36 N., R. 17 E., Sec. 11: S½NW¼	80.00

* - Lands are withdrawn for Power Site

65	T. 35 N., R. 17 E., Sec. 1: Lots 1, 2, 3, 4, S½N½	320.48
66	T. 35 N., R. 17 E., Sec. 26: All	1,280.00
	T. 35 N., R. 17 E., Sec. 27: S½	
	T. 35 N., R. 17 E., Sec. 35: N½	
67	T. 37 N., R. 18 E., Sec. 2: Lots 4, 9, 10, 11, 12, S½N½, S½	891.28
	T. 37 N., R. 18 E., Sec. 3: Lots 1, 2, 3, 4, S½N½	
68	T. 37 N., R. 18 E., Sec. 10: S½ SE¼	320.00
	T. 36 N., R. 18 E., Sec. 31: Lots 1, 2, E½NW¼, NE¼	
69	T. 36 N., R. 18 E., Sec. 30: Lots 3, 4, E½SW¼,	646.44
70	T. 35 N., R. 18 E., Sec. 22: NE¼	160.00
71	T. 35 N., R. 18 E., Sec. 26: NE¼	160.00
72	T. 35 N., R. 18 E., Sec. 35: N½N½, S½NE¼, N½SE¼	320.00
73	T. 34 N., R. 18 E., Sec. 4: SW¼NE¼	40.00
74	T. 36 N., R. 19 E., Sec. 25: W½	320.00
75	T. 35 N., R. 19 E., Sec. 27: NE¼SE¼	40.00
76	T. 35 N., R. 19 E., Sec. 34: S½SE¼	720.00
	T. 35 N., R. 19 E., Sec. 35: All	
	T. 34 N., R. 19 E., Sec. 2: Lots 1, 2, 3, 4 S½N½	
77	T. 34 N., R. 19 E., Sec. 17: NE¼NW¼	40.00
78	T. 36 N., R. 20 E., Sec. 18: NE¼	160.00
79	T. 36 N., R. 20 E., Sec. 1: Lots 1, 2, S½NE¼, SE¼	1,280.82
	T. 36 N., R. 20 E., Sec. 12: All	
	T. 36 N., R. 20 E., Sec. 13: W½	
	T. 36 N., R. 21 E., Sec. 6: Lot 5	45.84
80	T. 35 N., R. 20 E., Sec. 3: W½	320.00
81	T. 35 N., R. 20 E., Sec. 15: NW¼	160.00
82	T. 35 N., R. 20 E., Sec. 26: S½	480.00
	T. 35 N., R. 20 E., Sec. 35: NW¼	
83	T. 35 N., R. 20 E., Sec. 34: S½	1,603.28
	T. 34 N., R. 20 E., Sec. 3: Lots 1, 2, 3, 4, S½N½, S½	
	T. 34 N., R. 20 E., Sec. 2: S½	
	T. 34 N., R. 20 E., Sec. 11: E½	
84	T. 34 N., R. 20 E., Sec. 22: N½	320.00
85	T. 33 N., R. 20 E., Sec. 9: SE¼	160.00
	T. 33 N., R. 20 E., Sec. 20: E½SE¼	80.00
86	T. 37 N., R. 21 E., Sec. 10: SE¼	240.00
	T. 37 N., R. 21 E., Sec. 15: N½NE¼	
87	T. 35 N., R. 21 E., Sec. 5: S½NE¼, E½SW¼, SE¼	640.00
	T. 35 N., R. 21 E., Sec. 8: N½	
88	T. 35 N., R. 21 E., Sec. 21: W½	640.00
	T. 35 N., R. 21 E., Sec. 28: W½	
89	T. 35 N., R. 21 E., Sec. 27: W½W½, E½SW¼	320.00
	T. 35 N., R. 21 E., Sec. 34: W½NW¼	
90	T. 35 N., R. 21 E., Sec. 26: SE¼SE¼	160.00
	T. 35 N., R. 21 E., Sec. 35: E½NE¼, NE¼SE¼	
91	T. 33 N., R. 21 E., Sec. 9: W½	320.00
92	T. 33 N., R. 21 E., Sec. 29: N½NE¼, NE¼NW¼	160.00
	T. 33 N., R. 21 E., Sec. 28: NW¼NW¼	
93	T. 33 N., R. 21 E., Sec. 27: NW¼	320.00
	T. 33 N., R. 21 E., Sec. 28: NW¼	
94	T. 35 N., R. 22 E., Sec. 30: Lots 3, 4, SW¼NE¼, E½SW¼, W½SE¼, SE¼SE¼	743.95
	T. 35 N., R. 22 E., Sec. 31: Lots 1, 2, E½NW¼, NE¼	
	T. 35 N., R. 22 E., Sec. 32: W½NW¼, SW¼NW¼	
95	T. 35 N., R. 22 E., Sec. 33: E½E½	480.00
	T. 35 N., R. 22 E., Sec. 34: W½	
96	T. 35 N., R. 22 E., Sec. 35: SW¼SW¼	40.00
	T. 35 N., R. 22 E., Sec. 35: SW¼SE¼	40.00
97	T. 34 N., R. 22 E., Sec. 13: W½W½	160.00
98	T. 34 N., R. 22 E., Sec. 23: N½	320.00
99	T. 34 N., R. 22 E., Sec. 24: E½	669.52
	T. 34 N., R. 23 E., Sec. 18: Lots 3, 4, SE¼NW¼, E½SW¼	
	T. 34 N., R. 23 E., Sec. 19: Lots 1, 2, 3, NE¼NW¼	
100	T. 34 N., R. 22 E., Sec. 26: NW¼, N½SW¼	240.00
101	T. 33 N., R. 23 E., Sec. 6: Lots 3, 4, W½SW¼, SE¼	322.11
102	T. 36 N., R. 24 E., Sec. 14: N½NW¼, SW¼NW¼	120.00
103	T. 35 N., R. 25 E., Sec. 21: E½	400.00
	T. 35 N., R. 25 E., Sec. 22: W½NW¼	
104	T. 33 N., R. 26 E., Sec. 6: Lots 1, 2, S½NE¼, SE¼	320.96
105	T. 33 N., R. 24 E., Sec. 29: S½	320.00
106	T. 32 N., R. 23 E., Sec. 4: SE¼NE¼	40.00
107	T. 32 N., R. 25 E., Sec. 34: E½	640.00
	T. 32 N., R. 25 E., Sec. 35: S½	
108	T. 32 N., R. 25 E., Sec. 32: SW¼NW¼, NW¼SW¼	80.00
109	T. 31 N., R. 25 E., Sec. 5: N½SW¼	80.00
110	T. 31 N., R. 25 E., Sec. 6: SW¼SE¼	40.00
111	T. 31 N., R. 25 E., Sec. 8: NW¼NW¼	40.00
112	T. 31 N., R. 25 E., Sec. 9: E½NE¼	160.00
	T. 31 N., R. 25 E., Sec. 10: W½NW¼	
113	T. 31 N., R. 25 E., Sec. 10: NE¼, NW¼SE¼	200.00
114	T. 31 N., R. 25 E., Sec. 11: SE¼SW¼	40.00
115	T. 30 N., R. 21 E., Sec. 1: Lots 1, 2, 3, 4, S½NE¼, SE¼NW¼, SE¼	2,233.27
	T. 30 N., R. 21 E., Sec. 2: Lot 1	
	T. 30 N., R. 21 E., Sec. 12: N½NE¼, SW¼NE¼, NW¼SE¼	
	T. 30 N., R. 22 E., Sec. 4: Lots 12, 13, 14, 15	

Tract No.	Location	Total Tract Acres
	T. 30 N., R. 22 E., Sec. 5: S½SW¼, SE¼	
	T. 30 N., R. 22 E., Sec. 6: SE¼SW¼, SE¼	
	T. 30 N., R. 22 E., Sec. 7: N½, N½SE¼	
	T. 30 N., R. 22 E., Sec. 8: All	
	T. 30 N., R. 22 E., Sec. 9: Lots 9, 10, 11, 12	
116	T. 27 N., R. 22 E., Sec. 31: E½SE¼	80.00
117**	T. 27 N., R. 21 E., Sec. 33: SE¼NE¼, N½SE¼	560.00
	T. 27 N., R. 21 E., Sec. 34: NE¼, S½NW¼, N½NE¼, N½SE¼, SE¼SE¼	
118	T. 28 N., R. 19 E., Sec. 26: SW¼SW¼	240.00
	T. 28 N., R. 19 E., Sec. 27: SE¼SE¼	
	T. 28 N., R. 19 E., Sec. 35: W½W½	
119	T. 27 N., R. 19 E., Sec. 1: Lot 5, SW¼NW¼	272.22
	T. 27 N., R. 19 E., Sec. 2: Lots 1, 2, 3, 7, 8, SE¼NE¼	
120	T. 27 N., R. 19 E., Sec. 17: SW¼NE¼, SE¼NW¼	80.00
121	T. 27 N., R. 18 E., Sec. 36: SE¼SE¼	40.00
122	T. 27 N., R. 20 E., Sec. 20: S½NE¼	80.00
123	T. 26 N., R. 19 E., Sec. 7: NE¼SE¼	40.00
124	T. 26 N., R. 18 E., Sec. 19: SE¼SW¼	40.00
125	T. 26 N., R. 18 E., Sec. 30: Lots 1, 2	78.70
126	T. 26 N., R. 17 E., Sec. 22: NW¼	160.00
127	T. 26 N., R. 17 E., Sec. 25: NE¼NW¼	40.00
128	T. 26 N., R. 17 E., Sec. 23: SW¼SE¼	680.00
	T. 26 N., R. 17 E., Sec. 26: W½E½, SE¼NE¼, NW¼, N½SW¼, SW¼SW¼	
	T. 26 N., R. 17 E., Sec. 27: SE¼NE¼, N½SE¼, SE¼SE¼	
	T. 26 N., R. 17 E., Sec. 35: NW¼NE¼	
129	T. 26 N., R. 17 E., Sec. 35: S½NW¼	80.00
130	T. 25 N., R. 17 E., Sec. 1: SW¼NE¼	40.00
131	T. 25 N., R. 18 E., Sec. 6: Lots 1, 2, S½NE¼	164.36
132	T. 25 N., R. 18 E., Sec. 3: SW¼SW¼	120.00
	T. 25 N., R. 18 E., Sec. 4: E½SE¼	
133	T. 25 N., R. 18 E., Sec. 15: E½	320.00
134	T. 25 N., R. 18 E., Sec. 20: SE¼NE¼, NE¼SE¼	80.00
135	T. 25 N., R. 18 E., Sec. 27: SW¼NW¼, W½SW¼	760.00
	T. 25 N., R. 18 E., Sec. 28: NW¼NE¼, S½NE¼, NE¼SW¼, S½SW¼, SE¼	
	T. 25 N., R. 18 E., Sec. 33: N½NE¼, NE¼NW¼	
	T. 25 N., R. 18 E., Sec. 34: NW¼NW¼	
136	T. 25 N., R. 18 E., Sec. 32: E½NE¼	80.00
137	T. 24 N., R. 18 E., Sec. 25: SE¼NE¼	40.00
138	T. 36 N., R. 22 E., Sec. 19: Lot 3	33.23
139	T. 36 N., R. 22 E., Sec. 20: NW¼NW¼	40.00
140	T. 36 N., R. 20 E., Sec. 10: NE¼NW¼	40.00
141	T. 36 N., R. 20 E., Sec. 11: W½	320.00
142	T. 36 N., R. 26 E., Sec. 19: W½NW¼, SW¼NW¼	120.00
143	T. 34 N., R. 22 E., Sec. 32: NW¼ N½SE¼	320.00
	T. 34 N., R. 22 E., Sec. 33: W½SW¼	
	Total Land Acreage in Adjustment Category	34,428.16

** - Lands are withdrawn for Coal

These tracts appear to meet FLPMA disposal criteria (PL 94-579 Section 203, Section 206) for the Great Falls Resource Area.

Glacier County		Acres
T. 32 N., R. 5 W., PMM		
Section 3:	NW¼SW¼	40.00
4:	E½SW¼, SW¼SW¼, NE¼SE¼	160.00
8:	SE¼NE¼	40.00
17:	W½NE¼, NE¼NW¼	120.00

Toole County		Acres
T. 30 N., R. 1 W., PMM		
Section 6:	Lot 1	37.41
T. 31 N., R. 1 W., PMM		
*Section 19:	NE¼NE¼	40.00
* 27:	SW¼SW¼	40.00
* 29:	SW¼SE¼	40.00
30:	Lot 1, NW¼NE¼, NE¼NW¼	118.57
31:	NE¼NE¼, S½SE¼	120.00
T. 31 N., R. 2 W., PMM		
Section 1:	SW¼NE¼, E½SE¼	120.00
2:	Lot 1, 2, SE¼NE¼, SE¼SW¼, SW¼SE¼	199.58
11:	NW¼NE¼, NE¼NW¼, SE¼SW¼, NE¼SE¼	160.00
12:	NW¼	160.00
13:	SW¼NE¼, W½, N½SE¼	440.00
14:	S½SW¼, NE¼SW¼	120.00
18:	Lot 4	35.96
22:	NE¼SW¼	40.00
23:	E½SW¼	80.00
24:	E½, E½W½, NW¼NW¼	520.00
26:	NE¼NW¼	40.00
T. 31 N., R. 3 W., PMM		
* Section 5:	Lots 1, 2	80.32
6:	Lot 2, SW¼NE¼, SE¼SW¼, W½SE¼	200.03
7:	Lot 1, E½NE¼, NW¼NE¼, NE¼NW¼	193.05
13:	SE¼SE¼	40.00
T. 31 N., R. 4 W., PMM		
Section 12:	E½NE¼, SW¼NE¼, E½SW¼, NW¼SE¼	240.00
T. 32 N., R. 2 W., PMM		
Section 6:	Lot 1	37.36
7:	S½NE¼, E½SE¼	160.00
17:	NE¼NE¼	40.00
17:	W½NW¼	80.00
T. 32 N., R. 3 W., PMM		
Section 12:	S½S½	160.00
13:	N½NE¼	80.00
22:	SE¼NE¼	40.00
T. 33 N., R. 3 W., PMM		
Section 13:	W½SW¼	80.00
14:	E½SE¼	80.00
21:	SW¼NE¼	40.00
22:	N½SW¼, SW¼SW¼, NW¼SE¼	160.00
23:	NE¼, NE¼NW¼, E½SE¼, NW¼SE¼	320.00
24:	W½NW¼, SE¼SE¼	120.00
25:	SE¼SW¼	40.00
26:	NE¼NE¼	40.00
27:	NE¼NE¼	40.00
T. 34 N., R. 1 E., PMM		
* Section 18:	NE¼NE¼	40.00
T. 34 N., R. 2 W., PMM		
* Section 10:	NW¼NE¼	40.00
T. 34 N., R. 3 W., PMM		
Section 3:	SW¼SE¼	40.00
10:	N½SW¼	80.00
28:	W½SW¼, SE¼SW¼	120.00
33:	NW¼NE¼, N½NW¼	120.00
T. 35 N., R. 1 W., PMM		
Section 19:	NE¼NW¼	40.00
30:	NE¼NW¼	40.00
31:	SE¼NW¼	40.00
T. 35 N., R. 2 W., PMM		
Section 2:	SE¼	160.00
6:	Lot 2	39.80
12:	N½, N½SW¼, SE¼SW¼	440.00
13:	E½NW¼	80.00
25:	S½SW¼	80.00
T. 35 N., R. 3 W., PMM		
Section 27:	E½SW¼	80.00
32:	E½SW¼	80.00
33:	NE¼NE¼, W½SE¼	120.00
34:	NE¼NE¼, NW¼NW¼, SE¼SW¼, SW¼SE¼	160.00
T. 36 N., R. 2 E., PMM		
* Section 15:	NW¼NE¼, SE¼SE¼, SW¼SE¼	120.00
T. 36 N., R. 3 E., PMM		
* Section 9:	NE¼SW¼	40.00
18:	Lots 5, 6, 11, 12, NW¼SE¼	96.58
T. 36 N., R. 2 W., PMM		
* Section 17:	S½NE¼, SE¼NW¼, E½SW¼, SE¼	360.00

* Lands identified for disposal in State Director Guidance.

APPENDIX 2.1: SOLICITOR'S OPINION

United States Department of the Interior

OFFICE OF THE SOLICITOR

77 JAN -7 AM 8:00 P.O. BOX 1538

BILLINGS, MONTANA 59103

MONTANA STATE OFFICE
BILLINGS, MONTANA

January 6, 1977

Memorandum

To: State Director, BLM, Billings

From: Field Solicitor, Billings

Subject: Status of Federal Lands Within the Missouri Component of the National Wild and Scenic Rivers System

The original Wild and Scenic Rivers Act of October 2, 1968, 82 Stat. 906, et seq; 16 U.S.C.A. §§ 1271 - 1287, and the Act of September 2, 1976, _____ Stat. _____, create the following withdrawals from entry under the mining laws and the land laws of the United States.

1. October 2, 1968 -- All public lands within bed and banks and 1/4 mile of banks on either side from Fort Benton to Ryan Island.

2. October 12, 1976 -- All public lands within boundaries on map dated October 1975, entitled "Missouri Breaks Free-Flowing River Proposal."

3. Unknown -- Upon publication in Federal Register of final boundaries, all public lands within those boundaries will be withdrawn.

All entries after October 2, 1968, mineral or other, falling within No. 1 above are void ab initio. All entries after September 2, 1976, falling within No. 2 above are void ab initio. And all entries after publication in the Federal Register of the final boundaries, falling within these boundaries, will be void ab initio.

Leasing under the mineral leasing laws, however, can continue under the 1968 and 1976 Acts and can under such regulations as the Secretary of Interior may specify to effectuate the purposes of both Acts. It is noted that lands within wild segments will not be available for leasing.

We note that the withdrawal under No. 1 above as to any lands not within Nos. 2 and 3 above, will terminate pursuant to 16 U.S.C.A. § 1280(b) under the time periods of 1278(b)(i) and (b)(ii), or October 2, 1978, plus up to 3 years if they are still being considered for inclusion into the system. The withdrawal of lands under No. 2 above not within No. 3 above should also terminate as of the date of No. 3 above.

If you have any questions with respect to this matter, please feel free to call upon this office.

Richard K. Aldrich
For the Field Solicitor

APPENDIX 2.2: STANDARD STIPULATIONS FOR APPROVAL

1. Site Specific Stipulations

   Location: Topsoil is to be removed and stockpiled.

   Rehabilitation: Non-Producer: After the pit contents have been hauled to a reservoir, the location is to be recontoured to the original shape of the terrain. The location is to be drill seeded with pure live seed mixture of 5 pounds per acre western wheatgrass and 3 pounds per acre green needlegrass, a total of 8 pounds per acre. Broadcast seeding requires doubling the above rates. Recommended seeding time is September 15 until soil freeze-up.

   Rehabilitation: Producer: The unused portion of the pad area will be recontoured to the original shape and seeded as described above. Production facilities on the well pad are to be painted a non-reflective earth tone color.

2. Notification Requirements (to be used in combination as field office determines).

   a. Notify this office verbally at least 8 hours before the well is spudded.

   b. Notify this office verbally not more than 48 hours after the well is spudded, or on the next regular work day.

   c. Notify this office at least 8 hours prior to running/cementing surface casing.

   d. For verbal plugging orders on drilling locations, notify this office at least 24 hours prior to plugging.

   BLM Representatives - Office Telephone No. (406) 538-7461

	Name	Home Telephone
Asst. District Mgr., Minerals		
Petroleum Engineer		
Environmental Scientist		

3. A complete copy of the approved Application for Permit to Drill (APD), including conditions, stipulations, and the H_2S contingency plan (if required) must be on the well site and available for reference during the construction and drilling phase.

4. This drilling permit is valid for either 1 year from the approval date or until lease expiration, whichever occurs first.

5. Dikes must be constructed to API standards around storage treatment facilities for liquids. The dike must be of sufficient size to contain the contents of the largest tank plus 1 day's production.

6. Dry Hole Marker

   Upon abandonment, the following marker is required. It must contain the same information as the well sign.

   __X__ A 4" diameter, 4' high pipe, welded to casing or set in cement.

   _____ A steel plate welded to surface casing at ground level.

   _____ A steel plate welded to surface casing 4' below ground level.

7. Additional requirements may be imposed if changes in operational and/or environmental conditions dictate.

   These special stipulations are subject to the Technical and Procedural Review (TPR) and appeals provisions of 43 CFR 3165.3.4.

Informational Notice

The following items are from the Federal Oil and gas regulations (43 CFR Part 3160) and from other public notices (Onshore Order No. 1, Notices to lessees). This is not a complete list, but is an abstract of some major requirements.

1. General Requirements (43 CFR 3162.2(a))

   The lessee shall comply with applicable laws and regulations; with the lease terms, Onshore Oil and Gas Orders; NTL's; and with other orders and instructions of the authorized officer.

2. Any substantial deviation from the terms of this APD require prior approval.

3. Well abandonment (3162.3-4, Onshore Order No. 1 - Sec. V)

   Prior approval for abandonment must be obtained. Initial approval for drilling operations may be verbal; subsequent notifications are to be on Form 3160-5 in triplicate.

4. Reports and Notifications (43 CFR 3162.4-1, 43 CFR 3162.4-3, Operating Form chart beginning of 43 CFR Part 3160).

   a. Form 3160-4, Well Completion or Recompletion Report (in duplicate) and two copies of logs, due 30 days after well completion.

   b. Form 3160-6, Monthly Report of Operations (one copy) due 10th day of second month following production month, beginning with month in which drilling operations are initiated.

   c. Production Startup Notification

      Section 102(b)(3) of the Federal Oil and Gas Royalty Management Act of 1982, as implemented by the applicable provisions of the operating regulations at Title 43 CFR 3162.4-1(c), requires that "not later than the 5th business day after any well begins production on which royalty is due anywhere on a lease site or allocated to a lease site, or resumes production in the case of a well which has been off production for more than 90 days, the operator shall notify the authorized officer by letter or sundry notice, Form 3160-5, or orally to be followed by a letter or sundry notice, of the date on which such Production has begun or resumed."

      The date on which production is commenced or resumed will be construed for oil wells as the date on which liquid hydrocarbons are first sold or shipped from a temporary storage facility, such as a test tank, and for which a run ticket is required to be generated or, the date on which liquid hydrocarbons are first produced into a permanent storage facility, whichever first occurs; and, for gas wells as the date on which associated liquid hydrocarbons are first sold or shipped from a temporary storage facility, such as a test tank, and for which a run ticket is required to be generated or, the date on which gas is first measured through permanent metering facilities, whichever first occurs.

      If you fail to comply with this requirement in the manner and time allowed, you shall be liable for a civil penalty of up to $10,000 per violation for each day such violation continues, not to exceed a maximum or 20 days. See Section 109(c)(3) of the Federal Oil and Gas Royalty Management Act of 1982 and the implementing regulations at Title 43 CFR 3162.4-1(b)(5)(ii).

5. Environmental Obligations (3162.5-1, Notices to Lessees 2B, 3A, 4A)

   a. With BLM approval, water produced from newly completed wells may be temporarily disposed of into unlined pits for up to 90 days. During this initial period, application for the permanent disposal method must be made in accordance with NTL-2B.

   b. Spills, accidents, fires, injuries, blowout and other undesirable events, as described in Notice to Lessee 3A, must be reported to this office within the time frames in NTL-3A.

   c. Gas may be vented or flared during emergencies, well evaluation, or initial production tests for a time period of up to 30 days or the production of 50 MMCF of gas, whichever occurs first. After this period, you must obtain approval from the authorized officer to flare or vent in accordance with NTL-4A.

6. Well Identification (43 CFR 3162.6)

   Each drilling, producing or abandoned well shall be identified with the operator's name, the lease serial number, the well number, and the surveyed description of the well (either footages or the quarter section, the section, township and range). The Indian allottee lessor's name may also be required. All markings must be legible, and in a conspicuous place.

7. Site Security on Federal and Indian oil and gas leases (43 CFR 3162-7-4)

   a. Oil storage facilities must be clearly identified with a sign, and tanks must be individually identified (43 CFR 3162.7-4(b)(6)).

   b. Site security plans must be completed within 30 days of production startup (43 CFR 3162.7-4(c)).

   c. Site facility diagrams must be filed within 30 days after facilities are installed or modified (43 CFR 3162.7-4(d)).

8. Confidentiality (3162.8)

   All submitted information not marked "CONFIDENTIAL INFORMATION" will be available for public inspection upon request. The exception is Indian lease information which is always considered confidential.

Thank you for your cooperation with the Lewistown District Office.

APPENDIX 2.3: ALLOTMENT LISTING

HAVRE RESOURCE AREA ALLOTMENTS

(S)Seasonal (RR)Rest Rotation (D/RR)Deferred/RR (DR)Deferred Rotation

Nmbr	Altmnt Name	Mgt Cat	Pblc Land	Acres Pblc Land	AUMs No of Lvstk	Lvstk Class	Vegt Cond	AMP Status	Crrnt Grzng System
5049	Phillips Co	C	160	27	110	C	Good	Non	S
5097	Liese/VanVoast	M	3215	750	152	C	Good	Prpsd	S
6001	Northwest	M	2617	528	105	C	Good	Non	S
6002	Pebble Crk	C	160	30	3	C	Good	Non	S
6004	Driftwood	C	440	79	30	C	Good	Non	S
6005	Davies Ranch	M	6048	1140	93	Y	Good	Prpsd	S
					340	C			
6006	West Unit	I	11023	2187	725	C	Fair	Exstg	RR
6007	Lyons Creek	I	1743	319	100	C	Gd/Fr	Prpsd	S
6008	Canada Line	M	1921	367	200	C	Good	Prpsd	S
6009	Meridian	M	781	163	90	C	Good	Prpsd	S
6010	1 Ind 2 E Frk	I	2050	633	3	C	Fr/Gd	Exstg	D/RR
6011	Bennett Coulee	M	3820	1034	150	Y	Good	Exstg	D/RR
					234	C			
					4	H			
6012	Border Unit	M	10116	2219	455	C	Gd/Fr	Exstg	RR
6013	Reservr Altmnt	M	1046	223	72	C	Good	Prpsd	S
6014	Silvrbw Unit C	M	1520	322	100	C	Fr/Gd	Prpsd	S
6015	Upper 30 Mile	M	1181	197	125	C	Good	Exstg	DR
6016	Woody Coulee	C	200	40	27	C	Fair	Non	S
6017	Simons	M	798	153	37	C	Fr/Gd	Prpsd	S
6018	Cherry Ridge	M	8284	1668	340	C	Good	Exstg	DR
6020	Petrie Rnch	I	12959	2665	450	C	Fr/Gd	Exstg	DR
					100	Y			
					6	H			
6021	Customs	M	880	157	100	C	Good	Prpsd	S
6022	Uppr Woody Isl	I	2340	541	100	C	Good	Non	S
6023	Rifle Ranch	C	120	25	20	C	Good	Non	S
6025	Kiedrowski	C	40	6	6	C	Good	Non	S
6026	Borderline	C	595	185	50	C	Gd/Fr	Non	S
6027	Anderson Rnch	M	880	142	52	C	Good	Exstng	DR
6028	Elloam	C	1120	205	13	C	Fr/Gd	Non	S
6029	North Field	I	1600	316	68	C	Fair	Prpsd	S
6030	McClaren	M	1126	200	60	C	Good	Prpsd	S
6031	Bahr X 3	M	1191	229	40	C	Good	Prpsd	S
6032	Ola Creek	C	80	17	1	C	Good	Non	S
6033	Corral Creek	C	2380	463	150	C	Gd/Fr	Exstng	DR
					150	Y			
6034	Stevens	C	480	89	16	C	Good	Non	S
6035	U	M	1760	321	296	C	Good	Prpsd	S
6036	Only Forty	C	40	9	45	C	Good	Non	S
6037	Little Cherry	M	672	91	33	C	Good	Prpsd	S
6038	Magda North	C	441	95	50	C	Gd/Fr	Non	S
6039	Haugo	M	1436	301	189	C	Good	Prpsd	DR
6040	Diagonal	M	1242	314	1	C	Good	Prpsd	S
6041	Cherry Ridge	M	941	181	211	C	Good	Prpsd	S
6042	Red Top	C	120	22	2	C	Good	Non	S
6043	Mosquito	M	840	239	56	C	Gd/Fr	Prpsd	S
6044	Buckley Coulee	C	80	13	7	C	Fair	Non	S
6045	Turner	C	107	32	3	C	Good	Non	S
6046	Schellin Bros	I	1600	282	225	C	Fr/Gd	Prpsd	S
6047	Mud Lake	I	2360	672	240	C	Good	Exstg	DR
6048	Lodge Creek	M	1201	242	133	C	Fair	Prpsd	S
6049	Chinook Rsrvr	C	640	86	100	C	Good	Non	S
6050	South Field	I	919	168	58	C	Fair	Prpsd	S
6051	Tee Trail	M	900	154	46	C	Good	Prpsd	S
6052	No Chinook Cmn	M	1600	339	81	C	Fair	Exstng	DR
6053	Marker	M	480	102	43	C	Fair	Prpsd	S
6054	Skoyen	C	320	77	59	C	Fair	Non	S
6055	Lwr Chouteau Cl	I	1053	267	100	C	Fr/Gd	Exstng	DR
6056	Dry Fork	M	1640	333	80	C	Fair	Prpsd	S
6057	Holman	M	3910	997	300	C	Good	Prpsd	S
6058	Chouteau Cl	I	7280	1650	31	C	Good	Exstng	DR
6059	Boot Reservoir	C	480	103	35	C	Good	Non	S
6060	North	M	640	120	132	C	Good	Prpsd	S
6061	15 Mile Coulee	C	640	130	75	C	Gd/Fr	Non	S
6062	Tilleman Unit	I	1851	458	220	C	Gd/Fr	Prpsd	S
6063	Windbreak	M	1280	300	83	C	Good	Exstng	RR
6064	Miller	C	415	68	48	C	Good	Exstng	S
6065	Little Woody	C	400	77	100	C	Good	Non	S
6066	Hammer	I	1787	376	200	C	Fair	Prpsd	S
6067	FH	C	40	7	1	C	Good	Non	S
6068	Killam	C	480	118	30	C	Good	Non	S
6069	Second Bend	M	880	176	124	C	Fair	Prpsd	S
6070	Blaine County	C	859	192	100	C	Good	Non	S
6071	Hanson Flat	I	3360	751	184	C	Good	Exstng	RR
6072	Redrock Coulee	M	1120	252	102	C	Good	Prpsd	S
6074	Williams Bench	M	640	236	67	C	Good	Exstng	DR
6075	Lohman Common	I	3905	1083	256	C	Good	Exstng	DR

HAVRE RESOURCE AREA ALLOTMENTS

(S)Seasonal (RR)Rest Rotation (D/RR)Deferred/RR (DR)Deferred Rotation

Nmbr	Altmnt Name	Mgt Cat	Acres Pblc Land	AUMs Pblc Land	No of Lvstk	Lvstk Class	Vegt Cond	AMP Status	Crrnt Grzng System
6076	Pidgeon Lease	C	320	64	32	C	Good	Non	S
6077	North	C	480	111	80	C	Good	Non	S
6078	Lodge Creek	C	160	35	3	C	Good	Non	S
6079	East	C	197	39	80	C	Good	Non	S
6081	Siemens	C	40	5	80	C	Good	Non	S
6082	Rabbit Hills	C	240	39	7	C	Good	Non	S
6083	Battle Creek	M	1413	193	270	Y	Good	Prpsd	S
6084	Andy Reservoir	C	438	58	13	C	Fair	Non	S
6085	Coal Coulee	C	643	147	27	C	Fair	Non	S
6086	Salmo	M	1914	308	270	Y	Good	Prpsd	S
6087	No Coal Coulee	M	1611	343	100	C	Gd/Fr	Prpsd	S
6088	W Coal Coulee	M	690	151	80	C	Fair	Prpsd	S
6089	Pond Coulee	M	480	97	70	C	Good	Exstng	D
6090	Zurich Park	M	465	81	25	C	Gd/Fr	Prpsd	S
6091	Two Step Altmnt	M	661	136	243	C	Good	Prpsd	S
6092	Road Bend	M	1160	249	87	C	Good	Prpsd	S
6093	Half Loaf	C	320	80	45	C	Good	Non	S
6094	Triangle	M	1450	309	70	C	Fair	Prpsd	S
6095	Pauly Pasture	M	2069	341	295	C	Good	Prpsd	S
6096	West Fork	C	880	177	155	C	Good	Non	S
6097	Wayne Creek	C	2298	486	55	C	Good	Non	S
6098	Buckshot	C	1560	332	236	C	Good	Non	S
6099	Riggin Common	M	5636	1413	293	C	Good	Exstng	DR/S
6101	Modic	I	956	220	119	C	Fair	Prpsd	S
6102	East Nelson	C	440	91	85	C	Gd/Fr	Non	S
6103	North Refugee	M	600	127	154	C	Gd/Fr	Prpsd	S
6104	Stoplight	C	40	9	1	C	Fair	Non	S
6105	Little Jewel	M	320	64	14	C	Good	Prpsd	S
6106	Second	C	160	34	11	C	Good	Non	S
6107	Liese/VanVoast	M	2625	597	205	C	Good	Prpsd	S
6108	County Line	C	20	4	8	C	Good	Non	S
6109	Miles Butte	C	601	115	10	C	Gd/Fr	Non	S
6110	Nonombre	C	640	143	28	C	Fair	Non	S
6111	Zurich Bench	M	3239	674	241	C	Good	Exstng	RR
6113	Zurich Park	C	130	15	4	C	Good	Non	S
6115	Greenland	M	1330	179	130	C	Gd/Fr	Prpsd	S
6116	Rodeo	C	737	108	49	C	Good	Non	S
6117	Siphon	C	145	28	2	C	Fair	Non	S
6118	Colony	C	200	46	13	C	Good	Non	S
6119	Lwr Wayne Crk	M	4695	1144	190	C	Good	Prpsd	DR
6120	Willie	M	1276	250	220	C	Good	Prpsd	S
6121	Exclosure	I	400	81	----	C	Good	Prpsd	S
6122	Black Crk	M	1120	266	200	C	Good	Prpsd	S
6123	Finger Lakes	M	1683	375	30	C	Gd/Fr	Prpsd	S
6124	Harlem	C	512	71	12	C	Good	Non	S
6125	Matador	M	1400	279	81	C	Good	Prpsd	S
6127	Railroad	C	200	95	124	C	Good	Non	S
6129	Llano	M	6082	1126	269	C	Good	Prpsd	S
6130	Savoy Crk	C	440	79	350	C	Good	Non	S
6131	Drake Creek	M	1840	378	90	C	Good	Prpsd	S
					2	H			
6132	Milk Creek	M	2185	462	358	C	Good	Prpsd	S
6133	Kubitza Trnsfr	M	880	199	153	C	Good	Prpsd	S
6134	Coburg	M	1652	276	97	C	Good	Prpsd	S
6136	Junction	M	2587	658	222	C	Good	Prpsd	S
6137	Eureka	M	1441	317	215	C	Gd/Fr	Prpsd	S
6138	Hereford	C	40	12	2	C	Fr/Gd	Non	S
6139	Bowes Field	C	160	28	2	C	Gd/Fr	Non	S
6140	Pipeline	C	160	26	3	C	Fair	Non	S
6141	Miles Creek	C	120	48	8	C	Good	Non	S
6142	South Magda	C	40	10	2	C	Fair	Non	S
6143	Farm Road	C	80	14	140	C	Fr/Gd	Non	S
6144	County Road	C	342	82	82	C	Gd/Fr	Non	S
6146	North Fork	C	40	10	2	C	Good	Non	S
6147	Big Coulee	C	40	8	2	C	Fair	Non	S
6148	Mule Talk	C	50	9	2	C	Fair	Non	S
6150	Alkali Lake	M	1609	245	20	C	Gd/Fr	Prpsd	S
6152	Gap Creek	C	80	21	4	C	Good	Non	S
6153	Gap Creek	C	1345	162	14	C	Good	Non	S
6154	Birdtail Butte	C	561	134	17	C	Fair	Non	S
6155	McCann Butte	C	40	7	2	C	Good	Non	S
6157	Yrlng Pasture	C	381	46	185	C	Gd/Fr	Non	S
6159	Myrtle Butte	C	1257	267	60	C	Gd/Fr	Non	S
6160	North&McGuire	C	944	213	18	C	Fair	Non	S
6161	Halseth Field	C	480	92	88	C	Gd/Fr	Non	S
6163	Sawtooth Mtn	C	200	52	10	C	Fair	Non	S
6164	3-Mile Ridge	M	10321	1461	2	C	Good	Exstng	D
6165	TU Bench	M	2193	371	200	C	Good	Exstng	D
6166	Pioneer	M	600	60	60	C	Good	Non	S
6167	Tin Cup	I	560	64	167	C	Fr/Gd	Prpsd	S
6168	Al's Creek	I	3385	366	129	C	Fr/Gd	Prpsd	S
6169	Chimney Butte	I	7072	716	182	C	Fair	Prpsd	S

HAVRE RESOURCE AREA ALLOTMENTS

(S)Seasonal (RR)Rest Rotation (D/RR)Deferred/RR (DR)Deferred Rotation

Nmbr	Altmnt Name	Mgt Cat	Acres Pblc Land	AUMs Pblc Land	No of Lvstk	Lvstk Class	Vegt Cond	AMP Status	Crrnt Grzng System
666171	Little Suction	1	1383	169	167	C	Fair	Prpsd	S
6172	Timber Ridge	1	2845	1807	263	C	Good	Prpsd	S
6173	Sand Creek	M	4497	701	269	C	Good	Prpsd	S
6173	Sand Crk Sec15	M	1011	201	214	C	Good	Prpsd	S
6174	Benchmark	C	240	39	20	C	Fair	Non	S
6175	Warrick Jnct	C	610	97	42	C	Good	Non	S
6176	Sherard Field	1	2232	412	6	C	Good	Exstng	DR
6177	Black Fork	C	190	39	10	C	Fair	Non	S
6178	Lightning	C	360	32	4	C	Gd/Fr	Non	S
6179	No Sherard Fld	C	160	35	3	C	Good	Non	S
6180	Bullseye	C	40	5	1	C	Fr/Gd	Non	S
6181	Bullwhacker	M	40774	4563	13	C	Good	Exstng	RR
6182	Hay Coulee	1	12959	1414	350	C	Gd/F	Exstng	RR
6183	Birch Creek	C	3023	284	33	C	Fair	Non	S
6184	Greens Bench	M	11224	1099	255	C	Good	Exstng	RR
6185	Scattered Trct	C	611	92	8	C	Good	Non	S
6187	Frk/Black Coulee	C	1013	135	90Y	C	Fair	Non	S
6189	North Ranch	C	420	69	420	C	Fair	Non	S
6190	Oliver	C	241	36	6	C	Fr/Gd	Non	S
6191	North Altmnt	C	40	9	1	C	----	Non	S
6192	N FrkLionCoulee	1	3924	592	590	C	Good	Exstng	HILF
6193	Lion Coulee	I	3050	410	----	C	Good	Exstng	D
6194	Spencer Ridge	I	7250	587	98	C	Gd/Fr	Exstng	D
6195	Corner	C	120	21	2	C	Good	Non	S
6196	Hooper Spring	C	40	6	1	C	Good	Non	S
6197	Laporte Place	I	2115	465	160	C	Gd/Fr	Exstng	DR
6198	Chase Hill Cmmn	1	923	113	100	C	Good	Exstng	DRR
6199	Greens Coulee	I	1487	109	100	C	Good	Exstng	DRR
6200	Chip Creed	C	1600	387	97	C	Good	Non	S
6201	Halley	M	7250	537	45	C	Gd/Fr	Prpsd	S
6202	Cummings Bench	I	2089	198	160	C	Gd/Fr	Prpsd	S
6203	Golf Bench	M	3364	396	200	C	Gd/Fr	Exstng	DR
6204	Blk Coulee Cmmn	M	4642	372	465	C	Fr/Gd	Exstng	D
6205	Moravec Indvl	C	440	14	51	C	Good	Non	S
6206	UpprBlckCoulee	M	1036	104	49	C	Good	Prpsd	S
6207	Ragland Ridge	C	1085	25	2	C	Fr/Gd	Non	S
6208	Lost Ridge	I	6254	382	171	C	Good	Exstng	-
6209	Barnard Ridge	I	4807	432	102	C	Fair	Prpsd	S
					3	H			
6210	Maxwell	C	100	10	1	C	Good	Non	S
6211	Black Butte	I	8345	742	200	C	Fr/Gd	Prpsd	S
6212	Ervin Ridge	1	13918	915	383	C	Fr/Gd	Prpsd	S
6213	Rankin Land	M	97	16	60	C	Gd/Fr	Non	S
6214	Lil Bllwhckr	I	21642	1652	350	C	Gd/Fr	Exstng	RR
6215	Dark Butte	I	4537	362	33	C	Good	Prpsd	S
6216	Pablo Rapids	1*	1653	115	29	C	Fair	Prpsd	S
6217	Sneath Common	C	5686	283	240	C	Fair	Prpsd	S
6218	Sneath Common	1	3095	344	78	C	Fair	Prpsd	S
6219	Hoge	C	560	187	47	C	Good	Non	S
6220	8 Mile Bench	C	1466	367	52	C	Good	Non	S
6221	Deadman Rapids	I	1605	110	37	C	Good	Prpsd	S
6222	Gallatin Rapids	1	6959	287	6	C	Fair	Prpsd	S
6223	Hsr Hm Place	C	55	7	2	C	Fair	Non	S
6224	Upr Dphn Rapid	1	2400	84	54	C	Good	Prpsd	S
6225	Dauphine Rapids	M	210	12	28	C	Good	Prpsd	S
6226	Sharples Place	C	320	60	69	C	Good	Non	S
6227	Chouteau Coulee	I	5120	1013	375	C	Fair	Exstng	DR
6228	Fort	C	120	25	25	C	Good	Prpsd	S
6229	Guide	C	480	130	52	C	Good	Prpsd	S
6230	Hrs Crrl Coulee	M	1915	369	180	C	Good	Exstng	RR
6231	15 Mile	M	1640	325	190	C	Good	Exstng	RR
6232	30 Mile	M	920	176	190	C	Good	Exstng	RR
6233	Airstrip	M	2629	495	185	C	Gd/Fr	Prpsd	S
6234	Quarter	C	199	48	33	C	Good	Non	S
6235	MBEast Pasture	I	1709	321	137	C	Gd/Fr	Prpsd	S
6236	South	M	1584	322	70	C	Good	Prpsd	S
6237	Hldng Pstr CSGD	C	160	35	5	C	Good	Non	S
6238	Highway	C	310	65	45	C	Good	Non	S
6239	Forgey Creek	I	3840	555	9	C	Good	Exstng	DR
6240	Moses Indvl	C	100	24	53	C	Good	Non	S
6241	Pueblo	C	80	9	2	C	Good	Non	S
6242	Waylee	C	80	9	5	S	Fr/Gd	Non	S
6243	Big Bend	M	590	180	180	C	Fair	Exstng	S
6244	Murray Crk	C	320	93	14	C	Fr/Gd	Non	S
6245	Stirrup	C	200	40	80	C	Good	Non	S
6246	Wadish Base	C	40	8	4	C	Good	Non	S
6247	West Wildhorse	C	114	32	8	C	Good	Non	S
6248	Grave	C	43	6	1	C	Good	Non	S
6249	Pwll Nrth Unit	1	1923	295	106	C	Gd/Fr	/Prpsd	S
6250	Milk Rvr	C	167	35	5	C	Fair	Non	S
6251	East Unit	I	5256	1121	415	C	Good	Exstng	RR
					2	H			
6253	Fifty-Fifty	C	80	16	5	C	Good	Non	S
6254	Lost Bird	C	40	6	1	C	Good	Non	S
6255	Graber Unit	M	624	113		C	Gd/Fr	Prpsd	S

HAVRE RESOURCE AREA ALLOTMENTS

(S)Seasonal (RR)Rest Rotation (D/RR)Deferred/RR (DR)Deferred Rotation

Nmbr	Altmnt Name	Mgt Cat	Acres Pblc Land	AUMs Pblc Land	No of Lvstk	Lvstk Class	Vegt Cond	AMP Status	Crrnt Grzng System
6256	Silver Lake	C	80	15	1	C	Good	Non	S
6257	North Zurich	M	1576	340	130	C	Gd/Fr	Prpsd	S
6258	Lateral	C	160	16	2	C	Good	Non	S
6260	Rankin Range	M	776	177	135	C	Gd/Fr	Prpsd	S
6261	Nvevo	C	320	62	131	C	Good	Non	S
6265	Bench	C	40	7	1	C	Good	Non	S
6292	3-Mile	C	62	17	1	C	Good	Non	S
6301	North Snake	C	255	45	11	C	Good	Non	S
6302	Snake Butte	I	862	145	29	C	Good	Prpsd	S
6303	River Run	C	39	9	3	C	Good	Non	S
6304	Snake Btte Est	M	1117	194	39	C	Good	Prpsd	S
6341	Lil Bxeldr Cr	C	8	2	1	C	Fair	Non	S
6350	South Vimy	I	920	95	19	C	Fair	Prpsd	S
6406	Kaun	C	40	14	2	C	Good	Non	S
6407	Bootlegger	C	120	35	5	C	Good	Non	S
6408	Pinto	C	120	37	3	C	Good	Non	S
6410	Warrick	C	40	11	2	C	Good	Non	S
6411	PreferenceLnds	C	320	60	4	C	Good	Non	S
6412	Buckin	M	960	137	85	C	Good	Prpsd	S
6413	Little Birch	C	114	13	1	C	Gd/Fr	Non	S
6414	Triangle PU	M	280	51	220	C	Good	Prpsd	S
6415	Dogtown	I	1171	91	100	C	Fr/Gd	Exstng	RR
6416	Pigtail Coulee	I	1248	132	100	C	Good	Exstng	RR
6417	Trafalger	C	160	23	8	C	Fair	Non	S
6418	Blanchard	C	435	81	20	C	Fair	Non	S
6419	Kelly	C	200	55	10	C	Fair	Non	S
6420	Clinard Coulee	C	280	70	10	C	Fr/Gd	Non	S
6421	Henry	C	120	34	5	C	Good	Non	S
6422	N Hanging 5	C	329	100	7	C	Fair	Non	S
6424	Blazek	C	336	90	15	C	Gd/Fr	Non	S
6425	Piedras	C	1002	54	12	C	Good	Non	S
6426	Grouse	C	186	41	3	C	Fair	Non	S
6428	Osterman Henry	C	200	42	5	C	Good	Non	S
6429	Puma	C	156	53	7	C	Good	Non	S
6430	Braun	C	254	29	4	C	Good	Non	S
6431	Cougar	C	290	107	14	C	Good	Non	S
6432	Arroyo	C	553	139	23	C	Fair	Non	S
6433	Valkyrie	C	80	5	1	H	Fair	Non	S
6434	Cabin	I	1874	429	50	C	Fair	Prpsd	S
6435	Kng Cle St Tr	C	629	66	6	C	Good	Non	S
6436	Lasso	C	40	8	1	C	Good	Non	S
6437	Loma Rance	C	101	20	4	C	Fair	Non	S
6438	Hackamore	C	319	54	7	C	Fair	Non	S
6439	Homestead Coule	I	1527	408	90	C	Fair	Prpsd	S
6440	Latigo	C	400	66	11	C	Fair	Non	S
6441	Stevens	C	347	58	17	C	Good	Non	S
6442	Marias Rvr 1	C	682	182	25	C	Fair	Prpsd	S
6443	Klondike	M	1200	200	40	C	Good	Prpsd	S
6444	Sheep Coulee	M	1771	591	118	C	Good	Prpsd	S
6445	Marias Breaks	C	178	40	6	C	Fair	Non	S
6446	Nome	I	1223	185	40	C	Fair	Prpsd	S
6447	Est Lnsme Lake	C	360	90	22	C	Fair	Prpsd	S
6448	Christofferson*	M	5096	1635	225	C	Good	Prpsd	S
6450	Ihmsen Well*	M	1669	668	100	C	Fair	Prpsd	S
6451	Lnsme Pair Farm	M	1982	368	76	C	Fair	Prpsd	S
6452	Grass Seed**	M	1080	300	100	C	Fair	Prpsd	S
6453	Hardware	M	438	176	43	C	Fair	Prpsd	S
6454	Two Bit	C	40	10	1	C	Good	Non	S
6455	Haystack	1	2643	1057	151	C	Good	Prosd	S
6456	Reservation	C	244	34	3	C	Good	Non	S
6457	Edwards Lease	C	300	43	3	C	Good	Non	S
6458	Bear Paw	C	25	4	1	C	Good	Non	S
6459	Bullhook	C	40	8	1	C	Fair	Non	S
6460	Kremlin	C	80	27	7	C	Fair	Non	S
6461	Fresno	C	120	16	2	C	Good	Non	S
6462	Long Beach	C	78	25	6	C	Fair	Non	S
6464	Creedman Coulee	C	80	16	3	C	Fair	Non	S
6465	Signal	C	174	35	6	C	Fair	Non	S
6466	Haugen	C	40	12	1	C	Fair	Non	S
6467	Hot Iron	C	40	7	2	C	Fair	Non	S
6468	Lobo	C	720	180	45	C	Fair	Non	S
6469	Lost River	C	80	27	18	C	Fair	Non	S
6470	Nagelhus Lease	M	1600	163	23	C	Fair	Prpsd	S
6471	Wildhorse Lake	M	8794	691	173	C	Fair	Prpsd	S
6472	Wildhorse	M	960	108	27	C	Fair	Prpsd	S
6475	Vimy Point	C	160	22	3	C	Fair	Non	S
6476	Chauvet	C	120	22	7	C	Fr/Gd	Non	S
6477	Dietz	c	286	30	3	C	Good	Non	S
6478	Teton	C	560	77	15	C	Fair	Non	S
6479	Shamrock	C	40	14	3	C	Fair	Non	S
6480	Jacobsen	C	40	14	25	C	Good	Non	S
6481	Jurenka	C	130	7	1	C	Good	Non	S

HAVRE RESOURCE AREA ALLOTMENTS

(S)Seasonal (RR)Rest Rotation (D/RR)Deferred/RR (DR)Deferred Rotation

Nmbr	Altmnt Name	Mgt Cat	Acres Pblc Land	AUMs Pblc Land	No of Lvstk	Lvstk Class	Vegt Cond	AMP Status	Crrnt Grzng System
6482	Badger	C	400	46	15	C	Good	Non	S
6483	Tunis	C	40	12	2	C	Good	Non	S
6484	Sunset	C	600	16	13	C	Fair	Non	S
6485	Marias River 2	C	240	38	6	C	Gd/Fr	Non	S
6486	Lazy K6	C	181	40	8	C	Good	Non	S
6487	Melby	C	120	32	8	C	Unsu	Non	S
6488	W Lonesome Lk	C	120	48	32	C	Fair	Non	S
6490	Fork Coulee	I	1096	193	27	C	Fair	Non	S
6491	Pine Tree	C	80	18	3	C	Good	Non	S
6494	Red Wing	C	18	3	1	C	Good	Non	S
6524	Anchor's Isl	C	40	9	1	C	Good	Non	S
6541	Roadside	C	40	6	1	C	Good	Non	S
TOTALS									

525,733-Acres Public Land
85,942-AUMs Public Land
28,225-Cows
853-Yearlings
15-Horses
5-Sheep

*All BR Acres
**40 Acres BLM and 1040 Acres BR

HAVRE RESOURCE AREA - UNALLOCATED ALLOTMENTS

Nmbr	Altmnt Name	Mgt Cat	Acres Pblc Land	AUMs Pblc Land	No. of Lvstk	Lvstk Class	Vegt Cond	AMP Status	Crrnt Grzng System
6331	Unallocated	C	118	-0-	-0-	---	--	Non	S
6332	"	C	37	-0-	-0-	---	--	"	"
6333	"	C	26	-0-	-0-	---	--	"	"
6334	"	C	40	-0-	-0-	---	--	"	"
6335	"	C	40	-0-	-0-	---	--	"	"
6336	"	C	40	-0-	-0-	---	--	"	"
6337	"	C	25	-0-	-0-	---	--	"	"
6338	"	C	35	-0-	-0-	---	--	"	"
6339	"	C	11	-0-	-0-	---	--	"	"
6340	"	C	1	-0-	-0-	---	--	"	"
6341	"	C	4	-0-	-0-	---	--	"	"
6342	"	C	40	-0-	-0-	---	--	"	"
6343	"	C	40	-0-	-0-	---	--	"	"
6344	"	C	40	-0-	-0-	---	--	"	"
6345	"	C	40	-0-	-0-	---	--	"	"
6501	"	C	80	22	-0-	---	-G	"	"
6503	"	C	40	12	-0-	---	-G	"	"
6505	"	C	33	10	-0-	---	-G	"	"
6507	"	C	40	4	-0-	---	-G	"	"
6509	"	C	80	12	-0-	---	-F	"	"
6512	"	C	40	5	-0-	---	-F	"	"
6513	"	C	40	9	-0-	---	-F	"	"
6514	"	C	40	6	-0-	---	-F	"	"
6515	Unallocated	C	29	1	-0-	---	-F	Non	S
6516	"	C	40	7	-0-	---	-G	"	"
6518	"	C	40	12	-0-	---	-G	"	"
6519	"	C	15	9	-0-	---	-G	"	"
6520	"	C	80	7	-0-	---	-F	"	"
6521	"	C	40	7	-0-	---	-F	"	"
6522	"	C	45	19	-0-	---	-G	"	"
6524	"	C	40	9	-0-	---	-F	"	"
6527	"	C	80	18	-0-	---	-G	"	"
6528	"	C	40	6	-0-	---	-F	"	"
6529	"	C	40	8	-0-	---	-F	"	"
6530	"	C	40	7	-0-	---	-G	"	"
6531	"	C	40	8	-0-	---	-F	"	"
6532	"	C	42	11	-0-	---	-G	"	"
6533	"	C	40	6	-0-	---	-F	"	"
6534	"	C	71	6	-0-	---	-F	"	"
6535	"	C	80	7	-0-	---	-F	"	"
6536	"	C	40	10	-0-	---	-G	"	"
6540	"	C	59	15	-0-	---	-G	"	"
6542	"	C	40	11	-0-	---	-F	"	"
6548	"	C	40	6	-0-	---	-F	"	"
6554	"	C	80	19	-0-	---	-F	"	"
6555	"	C	40	12	-0-	---	-F	"	"
6557	Unallocated	C	40	9	-0-	---	-F	Non	S
6558	"	C	40	10	-0-	---	-F	"	"
6559	"	C	40	10	-0-	---	-F	"	"
6564	"	C	40	7	-0-	---	-F	"	"
6567	"	C	40	4	-0-	---	-G	"	"
6568	"	C	40	8	-0-	---	-G	"	"
6577	"	C	10	3	-0-	---	-F	"	"
6581	"	C	80	10	-0-	---	-F	"	"
6568	"	C	40	5	-0-	---	-F	"	"
	TOTAL		2401	357 AUMs					

GREAT FALLS RESOURCE AREA ALLOTMENTS

(S)Seasonal (RR)Rest Rotation (D/RR)Deferred/RR (DR)Deferred Rotation

Nmbr	Altmnt Name	Mgt Cat	Acres Pblc Land	AUMs Pblc Land	No. of Lvstk	Lvstk Class	Vegt Cond	AMP Status	
6340	India	C	607	203	-	-		Fair	
6351	Haivorson	C	40	14	2	C		Good	
6352	Dahlen	C	160	36	4	C		Fair	
6353	Bench	C	309	62	5	C		Fair	
6354	India	C	640	171	14	C		Fair	
6355	Kevin Rim	I	5681	909	75	C			
6356	India	C	400	116	10	C			
6357		C	80	15	3	C		Pr/F	
6358	Wilma	M	2874	358	30	C			
6359	Rimrock	C	404	125	10	C		Good	
6360	India	C	720	150	12	C			
6361	Saltbush	C	320	53	4	C		Fair	
6362	Virden Lake	C	1409	89	30	C			
6363	Open Flat	C	560	187	31	C		Fair	
6364	Shelby	C	905	36	7	C			
6367	Big Damp	C	833	137	19	C		Fair	
6368	India	C	156	28	4	C		Fair	
6369	Roun	C	181	37	11	C		Fair	
6370	Red Deer	C	458	107	6	C		Good	
6371	India	C	247	75	6	C		Good	
6372	Hurley	C	40	13	18	S		Fair	
6373	Oilmont	C	435	145	1	C		Fr/Gd	
6374	Sandon	M	480	120	20	C		Gd/Fr	Propsd
6375	Psalmist	C	80	8	1	C		Fair	
6376	Jimmy	C	120	40	10	C		Good	
6377	Henry	C	40	5	10	S		Fair	
6378	Upper Marias	C	2689	245	30	C			
6379	India	C	320	80	6	H		Fair	
6380	Keil	C	186	62	21	C		Fair	
6381	M and M	C	197	44	6	C		Fair	
6383	Dry Fork	C	32	7	1	C		Fair	
6384	Myron	C	62	10	2	C		Fair	
6385	India	C	240	37	3	C		Fair	
6386	Mack	C	360	25	8	C		Fair	
6387	India	C	203	68	6	C		Fair	
6388	India	M	120	37	6	C		Exclt	
6389	West Butte	M	1870	312	26	C			
6390	Mickey	C	200	37	12	C		Exclt	
6391	Fey Lease	C	40	7	1	C		Exclt	
6392	Antelope	C	322	100	8	C		Fair	
6393	Arrowhead	C	80	15	5	C			
6394	Blackfoot	M	327	32	8	C		Exclt	
6395	Mt. Royal	M	2177	192	42	C			
6396	Marias Bridge	C	1619	324	165	C			
6397	Oswood	M	657	36	5	C		Exclt	
6398	Bald Eagle	M	1131	82	15	C			
6399	Buffalo	M	3763	1255	153	C			
6402	Link	C	237	34	4	C		Fair	
6403	Denson Ranch	C	680	66	17	C		Fair	
6404	India	C	40	10	3	C		Fair	
6405	North Star	C	443	70	30	C		Fair	
6406	West Virden		40	12	1	C		Good	
6463	Liberty		4	1	13	C			
6473	Sunburst	C	440	10	3	C		Fair	
6474	Good	C	80	27	5	C		Fair	
6489	Gold Eagle	M	210	14	3	C		Fair	
6492	India	C	80	18	3	C		Fr/Gd	
6493	Hill		595	120	32	C			
6495	Fowler	C	77	12	2	C			
6496	Cut Bank	C	1069	1	1	C			
6569	Outlook School	C	200	15	3	C			
6570	McPhillips	C	40	8	1	C			

APPENDIX 2.4: RIPARIAN AREAS

1.	Evans Bend	T. 24 N., R. 8 E., Sec. 3, 4, 9, 10, 16 River Mile 6-7	450 acres
2.	Hole in the Wall	T. 24 N., R. 13 E., Sec. 22 River Mile 64	20 acres
3.	Pablo	T. 23 N., R. 14 E., Sec. 12 River Mile 73	20 acres
4.	Sturgeon Island Complex (Gist)	T. 23 N., R. 21 E., Sec. 4-5 River Mile 121.4-123.1	65 acres
5.	Woodhawk Bottom	T. 23 N., R. 22 E., Sec. 17, 18, 19 River Mile 128.7-134.5	200 acres
6.	Hideaway	T. 23 N., R. 22 E., Sec. 25, 26, 36 River Mile 136.5-137.5	60 acres
7.	Black Bluff	T. 25 N., R. 10 E., Sec. 20 River Mile 19.2-19.9	75 acres
8.	Sturgeon Island Complex (1)	T. 23 N., R. 21 E., Sec. 5, 6 River Mile 119-120	b, c, d, total 425 acres
9.	Sturgeon Island Complex (2)	T. 23 N., R. 21 E., Sec. 4, 5 River Mile 120-121.5	
10.	Sturgeon Island Complex (4)	T. 24 N., R. 21 E., Sec. 34 River Mile 122-123	
11.	Cow Island	T. 23 N., R. 22 E., Sec. 7 River Mile 127.2-128.3	105 acres

APPENDIX 2.5: TARGET SOIL VEGETATION COVER BY SOIL SUBGROUP

	Soil Subgroup and Soil Names *	Target Soil Vegetation Cover (%)	Range in Existing Cover (%) **
1.	Loamy glacial till upland plains; series are Bearpaw, Dooley, Hillon, Joplin, Kevin, Phillips, Scobey, Sunburst, Telstad, Vida, Williams, Zahl, Zahill.	80	24-100
2.	Claypan and dense clay glacial till uplands; series are Elloam, Tealette, Theony.	85	30-98
3.	Clayey acid shale uplands; series are Dilts, Julin, Teigen.	55	36-72
4.	Calcareous or bentonitic shale uplands; series are Abor, Bascovy, Dimyaw, Lisam, Norbert, Neldore, Thebo, Weingart, Yawdim.	55	32-95
5.	Loamy sedimentary uplands; series are Cabba, Cabbart, Cambert, Dast Delpoint, Doney, Ernem, Lonna, Marmarth, Reeder, Rentsac, Riedel, Twilight.	80	71-99
6.	Loamy and clayey floodplains; series are Bowdoin, Gesa, Glendive, Hanly, Harlem, Havre, Havrelon, Kiwanis, Korchea, Korent, Lallie, Lardell, Lohler, Nesda, Rivra, Trembles, Typic Fluvequents, Typic Ustifluvents, Aquic Ustifluvents, Fluvaquentic Haploboralls, Ustic Torrifluvents.	90	58-99
7.	Potholes and level basins subject to ponding; series are Dimmick, McKenzie, Nishon.	90	81-100
8.	Moderately coarse and coarse textured soils on terraces, footslopes and fans; series are Assinniboine, Blanchard, Busby, Chinook, Cozberg, Hawksell, Lihen, Parshall, Tally, Yetull.	75	74-99
9.	Medium textured soils on terraces, footslopes and fans; series are Attewan, Benz, Bitton, Brockway, Evanston, Farland, Farnuf, Floweree, Judith, Kremlin, Lambeth, Macar, Martinsdale, Redvale, Shawmut, Straw, Turner, Vanstel, Work, Yamac.	80	63-99
10.	Fine textured soils on terraces, footslopes and fans; series are Acel, Cherry, Ethridge, Grail, Kobar, Lawther, Linnet, Lothair, Marias, Marvan, Pendroy, Richey, Savage, Shaak.	70	61-99
11.	Claypan and dense clay soils on terraces, footslopes and fans; series are Creed, Gerdrum, Tealette.	85	49-93
12.	Subirrigated and saline claypans on terraces and fans; series are Absher, Adger, Nobe.	85	63-88
13.	Very slowly permeable soils of terraces and fans, series are Vanda, Vaeda.	50	48-73
14.	Very gravelly, extremely gravelly and cobbly soils on terraces and fans; series are Beaverell, Beaverton, Tinsley, Wabek, Windham.	85	39-97
15.	Loamy and clayey soils in mountains with forest canopy; series are Arcette, Belain, Cowood, Elve, Gambler, Lolo, Macmeal, Repp, Sicklesteets, Silverchief, Trapper, Warneke, Whitecow, Whitore.	85	75-100
16.	Clay shale uplands with forest canopy cover; series are Bascovy, Dilts, Julin, Neldore.	55	32-72
17.	Loamy and clayey floodplains with more than 10% canopy cover of deciduous trees; soils are the same as subgroup 6.	90	58-99
18.	Loamy and clayey soils on fans and footslopes of mountains and foothills; series are Belain, Hedoes, Lolo.	80	41-97
19.	Loamy and loamy-skeletal soils on bedrock ridges and on footslopes of mountains; series are Castner, Cheadle, Libeg, Perma, Warneke.	85	33-100

* Lists are not all inclusive. Those listed are representatives of soils series in this subgroup.

**These figures were obtained from transects made in a 1978-1979 inventory.

APPENDIX 2.6: MITIGATION MEASURES FOR VEGETATION (A), WILDLIFE (B), AND CULTURAL RESOURCES (C

APPENDIX 2.6A: VEGETATION MITIGATION MEASURES

All rights-of-way, leases, permits or surface disturbing activities will have stipulations for riparian protection and a rehabilitation plan.

Topsoil will be stockpiled when a surface disturbing action begins and will be replaced at the completion of the project.

Tractor logging will be limited to slopes with average gradient of less than 40%.

Clearcuts will be limited to slopes with an average of gradient of less than 30%.

Clearcut blocks will be less than 10 acres.

If available, a minimum of 3 snags/acre, plus replacement snags will be left for wildlife use on all sale and thinning areas.

All road construction will be laid out by BLM personnel in accordance with MSO 5424-4 specifications.

Streamside "green" strips would be left along all perennial streams. Minimum strip width would be the average height of the overstory. The strip width will be determined by an on site evaluation during the activity development phase.

All wildfires of 100 acres or more will be reviewed by the district rehabilitation team to determine rehabilitation needs.

Within the UMNWSR Corridor the following restrictions will apply:

Fire fighting equipment is restricted to existing roads: no red fire retardant will be used in the White Rocks section of the UMNWSR Corridor.

APPENDIX 2.6B: WILDLIFE MITIGATION MEASURES

The following standard stipulations to mitigate impacts to wildlife will be applied to surface disturbing activities in the Kevin Rim, Sweet Grass Hills and in important wildlife winter range areas. These stipulations will be appended to other areas if monitoring and inventories indicates a need. These stipulations will be applied at the activity level phase after an on site evaluation indicates the presence of the specific resource.

No surface occupancy for leasable mineral exploration and other surface disturbing activities will be allowed on mule deer and antelope winter and fawning ranges from December 1 - May 15 and May 1 - June 30.

No surface occupancy for leasable mineral exploration and other surface disturbing activities allowed on important elk habitats (Sweet Grass Hills) during the following seasonal use periods (locatable mineral activity will be mitigated to the extent possible to prevent unnecessary and undue degradation to these resource values:

Winter ranges December 1 - May 15
Calving areas May 1 - June 30

Time restrictions on surface disturbing activities may be applied on nesting areas and strutting grounds of sage and sharp-tailed grouse from March 1 to June 30.

Surface use may be controlled or excluded with a ½ mile zone of identified essential habitat of federal and state listed threatened, endangered and sensitive species; at the present time this stipulation will primarily be applied to raptor species.

Currently there are no known occupied peregrine falcon aeries in the area; however, historical and potential nest sites are known for the Kevin Rim, Marias and Missouri River Corridors and the West Butte of the Sweet Grass Hills. In the event a peregrine falcon is found or introduced the BLM will adhere to the approved recovery plan and guidance from the Montana Peregrine Falcon Working Group.

APPENDIX 2.6C: CULTURAL MITIGATION MEASURES

All surface disturbing actions will require a cultural inventory prior to approval of the action. The guidelines from the Northern Glaciated Plains Statistical Survey will apply.

Impacts to significant cultural resources will be avoided where possible and feasible. Where impacts cannot be avoided, impacts to cultural resources will be mitigated by employing various standard salvage procedures.

National Register of Historic Sites and other significant sites within the UMNWSR Corridor in immediate danger of loss due to natural and/or human disturbance will be monitored, avoided and/or excavated.

Impacts to Native American religious sites will be avoided or mitigated where possible or necessary.

If cultural resources are encountered during surface disturbing activities construction operations will cease until BLM can evaluate the find and salvage if necessary.

All cultural surveys and excavations will be performed by holders of valid archaeological permits.

APPENDIX 2.7: CULTURAL RESOURCE EVALUATION

Decisions about the future of cultural resources in the Lewistown District are made after:

1. analysis of available information on the resources in question;

2. application of professional judgement to identify characteristics which contribute to possible use of recorded cultural resources;

3. recommendation of appropriate use or uses for each resource or group of resources.

After the above steps have been completed the appropriate manager assigns cultural resources to one of the following seven categories:

1. Current scientific use: a category that applies to any cultural property that is the subject of an ongoing scientific or historical study or project, under permit, at the time of evaluation. Sites that might be assigned here include Lost Terrace or the Eagle Creek sites along the Missouri River. Upon completion of that study or project, the cultural property shall be assigned to another use category.

2. Potential scientific use: a category that applies to any cultural property determined to be presently eligible for consideration as the subject of scientific or historical study utilizing research techniques currently available, including study which would result in its physical alteration, and signifies that it need not be conserved in the face of an appropriate research or data recovery (mitigation) proposal. Sites that fit this category includes tipi ring sites that have the potential to yield important information, but do not have to be preserved.

3. Conservation for future use: a category reserved for any unusual cultural resource which, because of scarcity, a research potential that surpasses the current state of the art, singular historic importance or architectural interest, or comparable reasons, is not currently eligible for consideration as the subject of scientific or historical study which would result in its physical alteration. It is considered worthy of segregation from other land or resource uses which would threaten the maintenance of its present condition, and it will remain in this use category until specified provisions are met in the future. Very few sites in study area fit this category. Ones that do might contain very old data or would be associated with early, unrecorded European entry into the study area.

4. Management use: a category that may be applied to any cultural property considered eligible for controlled experimental study which would result in its physical alteration, to be conducted by the BLM or other entities concerned with the management of cultural properties. Expenditure of cultural properties or cultural resource data may be justified for purposes of obtaining specific information leading for a better understanding of kinds and rates of natural or human-caused deterioration, effectiveness of protection measures, and similar lines of inquiry, the results of which would ultimately aid in the management of other cultural properties. Examples of these kinds of resources are tipi ring sites that can be exploited for their information potential, using approaches that are new and innovative.

5. Socio-cultural use: a category that may be applied to any cultural resource that is perceived by a specified social and/or cultural group as having attributes which contribute to maintaining the heritage or existence of that group, and signifies that the cultural resource is to be managed in a way that takes those attributes into account, as applicable. Sites in the Sweet Grass Hills that have cultural significance for the Blackfeet fit this use category.

6. Public use: category that may be applied to any cultural property found to be eligible for consideration as an interpretive exhibit-in-place, a subject of supervised participation in scientific or historical study, or related educational and recreational uses by members of the general public. Resources fitting this category include tipi ring and camp sites along the upper Missouri that have been considered for interpretation for the public.

7. Discharged use: means that a cultural property, previously qualified for assignment to any of the categories defined above, no longer possesses the qualifying characteristics for that use or for assignment to an alternative use, that records pertaining to it represent its only remaining importance, and that its location no longer presents a management constraint for competing land uses. This category is also used for cultural resources that do not qualify for the National Register of Historic Places.

1. STAFFORD WSA (MT-066-250)

Land Description

The 4,800-acre Stafford WSA is just north of the Missouri River between the PN and Stafford Ferries in Chouteau and Blaine Counties. Of this unit, 4,346 acres are in the Upper Missouri Wild and Scenic River Management Corridor: 425 acres in the "Scenic" Section, 113 acres in the "Recreational" and 3,808 acres in the "Wild".

Naturalness

Stafford's rugged terrain has limited human imprints which helps retain the WSAs natural appearance. Developments are few and scattered, lying primarily on the unit's periphery. These are mostly associated with livestock grazing.

Solitude

The Stafford WSA is long and narrow, stretching eight miles in length and ½ to 1½ miles in width. It is found in a rugged portion of the Missouri Breaks with steep and highly dissected coulees that are often sparsely vegetated. Since the unit has very few tall plants, there is very little screening from vegetation but topographic screening is abundant.

The opportunity for solitude is also affected by adjacent homes, vehicle use along surrounding roads, boat travel on the river and by four farm-ranch operations next to the WSA. The Stafford WSA is also part of a National Guard tactical jet fighter training zone with eight aircraft every day scheduled to fly over at 4,000 feet. Periodic disruptions of solitude should be expected throughout the study area.

These offsite impacts are well within both the sight and sound zone of 25% of the Stafford WSA.

Primitive Recreational Value

Typical recreational opportunities in the unit include horseback riding, hunting, hiking, sightseeing, photography and shoreline fishing. Hunting is the major use, usually involving vehicles traveling along the ridge tops of the north boundary.

Although there are some opportunities for primitive recreation, use is limited in various ways. The steep terrain channels use along the river or the finger ridges, while the lack of screening vegetation limits campsites to the few scattered groves of trees along the river. Rattlesnakes, the lack of water and the difficulty of travel during wet weather present hazards to the wilderness user.

Supplemental Values

This WSA, like most of the Missouri River Breaks, contains features of scenic and historical value. Steep coulees and clay cliffs offer stark contrast to the Missouri River. Evidence of the area's use by Indians and homesteaders can be found in the study area and an old wagon road forms its eastern border.

2. ERVIN RIDGE WSA (MT-066-253)

Land Description

This 10,200 acre unit is just north of the Missouri River and ten miles east of the Stafford (McClellan) Ferry crossing. Nearly 50% of the WSA lies within the Upper Missouri River Wild and Scenic Corridor. All the land within its border have Federal surface and subsurface ownership.

Solitude

About ten miles long and ½-2½ miles wide, this unit is irregularly shaped. The rugged topography of steep and highly eroded ridge lines tapers to narrow edges before dropping to the river. The terrain provides solitude but the steep slopes also channel visitors along the Missouri and to the ridge tops. Vegetation growing along drainages and on some ridge tops provides some screening, primarily in the eastern half of the unit.

Solitude in certain parts of this unit is affected by the configuration of the Ervin Ridge Wilderness Study area, outside impacts and by two cherry-stemmed roads. Inside the unit, the wilderness user is never more than a mile from the boundary.

Farming, vehicle traffic on the boundary and cherry-stemmed roads and activities around three homesites near the west side are distracting. This unit is part of a National Guard tactical jet fighter training zone, where up to eight aircraft daily are scheduled to fly at 4,000 feet. Periodic disruptions of solitude throughout the unit should be expected.

Primitive Recreational Values

Hunting and boating on the Upper Missouri Wild and Scenic River are presently the two most common forms of recreational use in the study area. Other forms of primitive recreation that could occur in the unit include horseback riding, hiking, sightseeing, photography and shoreline fishing.

Access to the area is limited. The main access points are through the Ervin Ridge and Barnard Ridge Roads and by boat from the Missouri River. Wet weather and snow often make these dirt roads impassable and can quickly seal off the area, limiting access to May-October during dry weather. The WSAs steep terrain channels use along the river, along coulee bottoms or on finger ridges.

Supplemental Values

The WSA is very scenic and rugged, combining steep slopes of exposed clay with narrow finger ridges. Trees are few. The area is historically significant with prehistoric artifacts being found and a few remnants of the homestead era still exist.

3. COW CREEK (MT-066-265)

Land Description

This 34,050 acre unit lies along the east side of Cow Creek between the borders of Blaine and Phillips Counties. Approximately 17,000 acres of this unit lie within the West HiLine RMP area. Of this unit, 2,018 acres are in the "Wild" Section of the Upper Missouri Wild and Scenic River Management Corridor. The border of the WSA is formed by roads, private land, Montana state land, the Missouri River and topographic contours.

Naturalness

Within the RMP Area, the WSA has one cherry-stemmed road and one developed area along the northwest boundary. Most of the development-reservoirs, vehicle ways and fences are associated with livestock grazing. Five petroleum drilling pads and access ways are also scattered throughout this portion of the WSA. The majority of these developments are found along ridge tops and are screened from view by the rugged topography and vegetation. This allows the WSA to maintain its predominately natural appearance.

Solitude

Most of the terrain is rugged and steep because of the many drainages that feed into Cow Creek and the Missouri. Ponderosa pine, lodgepole pine, Douglas fir and juniper are prevalent throughout the WSA, with the densest stands growing along the northern end. Topography and vegetative screening provide excellent opportunities for solitude.

Solitude is affected by the unit's configuration and a cherrystem road. A farming operation which borders the study area near John Coulee and a ranch (T. 25 N., R. 22 E., Section 8) reduces solitude on about 1,800 acres in the northern end.

In the northwestern end of the unit near Hay Coulee, a user would never be more than a mile from the perimeter of the unit. The cherry-stemmed road along the ridgetop and an adjacent ranch operation would force a visitor to follow the narrow drainages to seek solitude.

Old buildings and vehicle ways near the Cow Island Recreation Area are visible from about 500 acres of the southwest end of the WSA. Occasional motorized boat traffic can be seen from the ridges in this part of the unit.

Another offsite distraction comes from the Landusky Mine in the Little Rocky Mountains, 15 miles away. Bright lights at night from the mine can be seen from a few locations in Cow Creek.

The WSA is in a National Guard jet fighter training zone; flights average eight daily at an altitude of 4,000 feet. Periodic disruptions of solitude should be expected.

Primitive Recreational Values

Primitive forms of recreation in the WSA include hunting, horseback riding, hiking, photography and rock climbing; hunting is the most popular at the present time. Hunting is normally limited to areas around access roads because of the difficulty of retrieving game. The Upper Missouri Wild and Scenic River, adjacent to the unit, has increased public awareness of the WSAs recreational opportunities. People floating the river often stop to hike and explore within the unit.

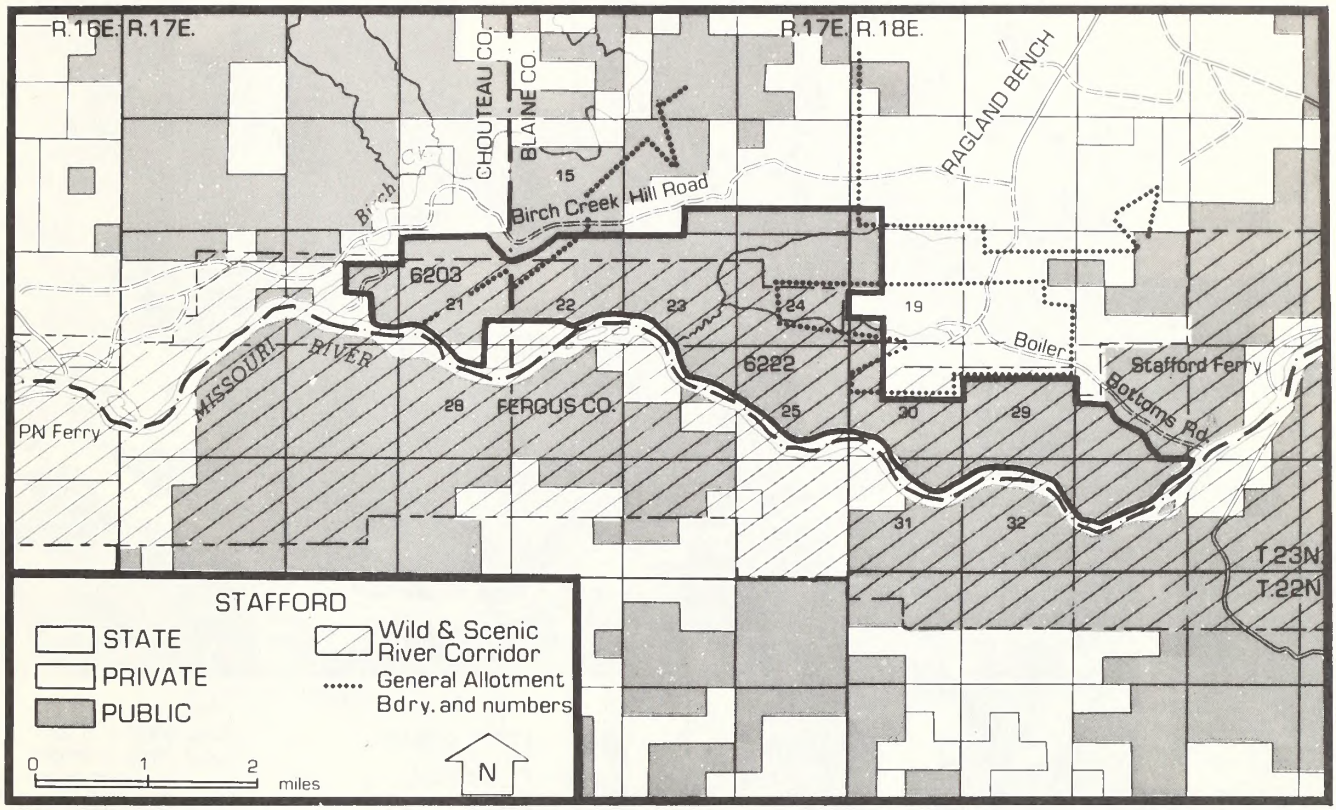
Access into Cow Creek is available along the northwest and southern boundaries and marginal access is also available from the Missouri River through public lands.

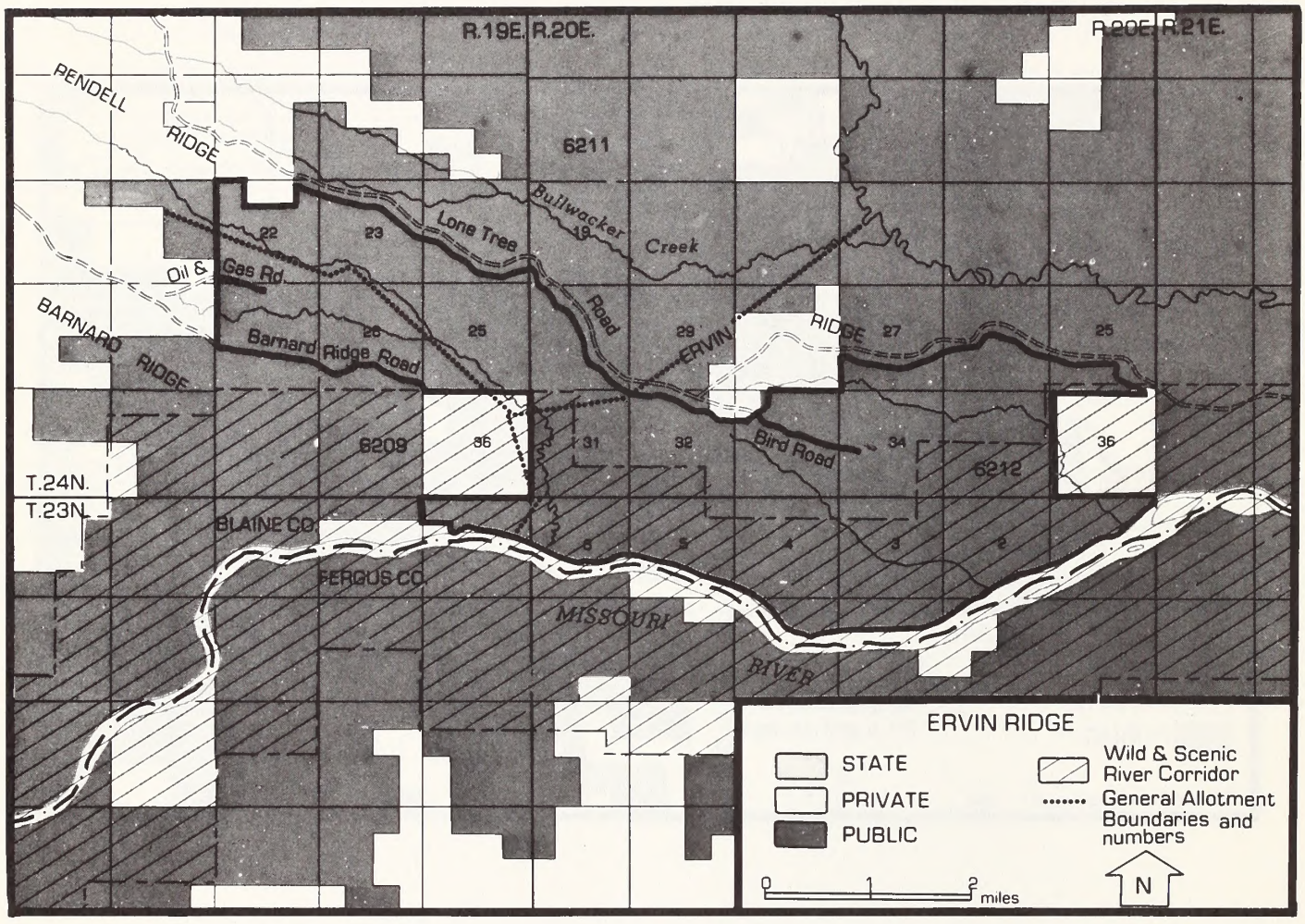
Other accesses are controlled by private landowners. Wet weather and snow normally limit access to May-October or during dry weather.

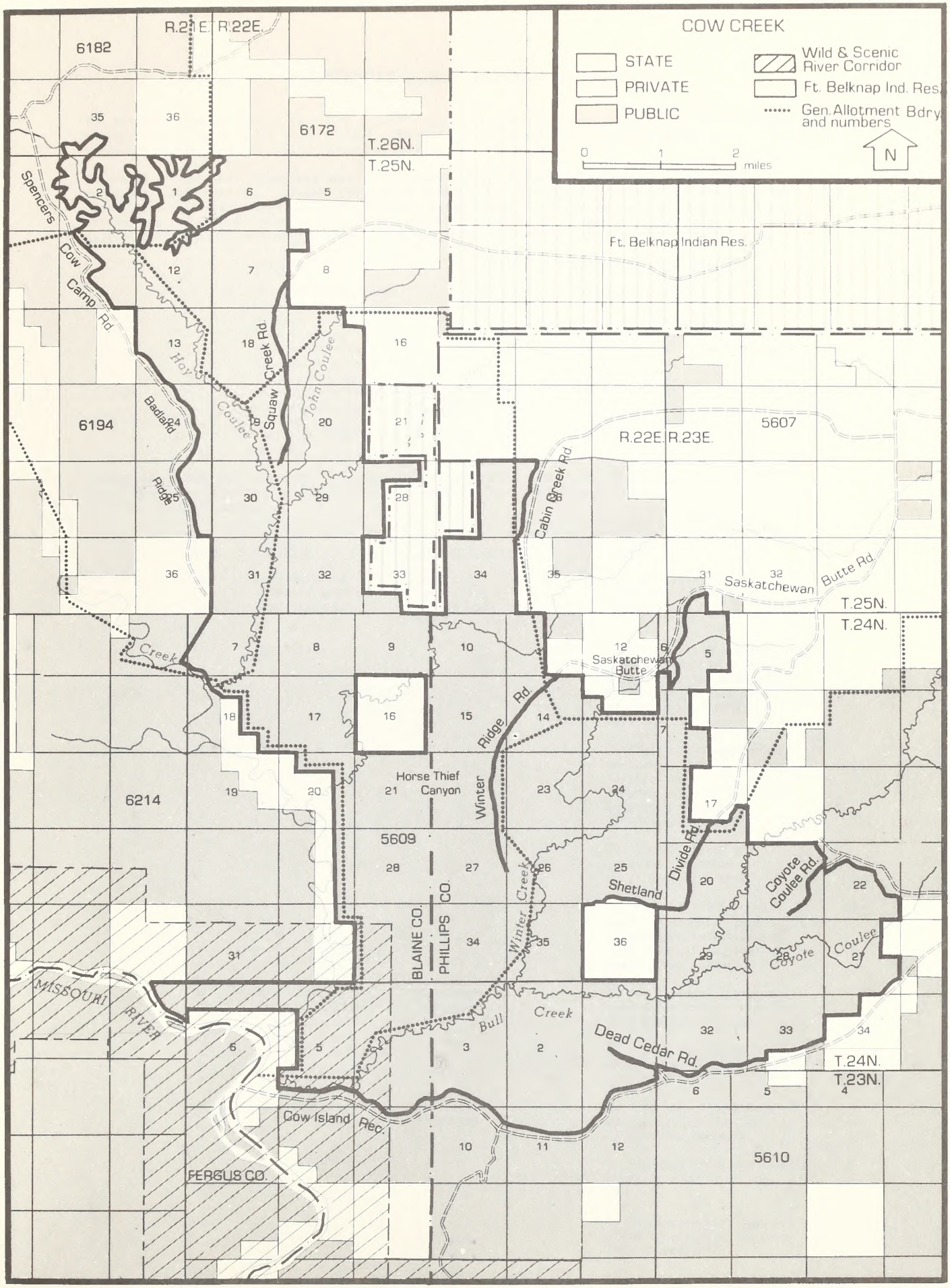
Supplemental Values

Although the area is rough and dry, scenic features are a notable supplementary attribute of the Cow Creek WSA. Wind and water have carved many castle-like formations suitable for climbing along some of the major drainages.

The WSA is also historically rich. Tipi rings, rock cairns and a buffalo jump indicate that the area was used extensively by early people. Along the west boundary, the Nez Perce Indians traveled the well known Cow Island Trail during their escape attempt to Canada in 1877.


R.16E. R.17E.
R.17E. R.18E.
CHOUTEAU CO.
BLAINE CO.
RAGLAND BENCH
Birch Creek Hill Road
15
6203
21
22
23
24
19
6222
MISSOURI RIVER
PN Ferry
28
FERGUS CO.
25
30
29
Boiler
Stafford Ferry
Bottoms Rd.
31
32
T.23N.
T.22N.
STAFFORD
STATE
PRIVATE
PUBLIC
Wild & Scenic River Corridor
General Allotment Bdry. and numbers
0
1
2
miles
N


R.19E.
R.20E.
R.20E.
R.21E.
PENDELL RIDGE
6211
Bullwacker Creek
Lone Tree Road
Oil & Gas Rd
Barnard Ridge Road
BARNARD RIDGE
ERVIN RIDGE
Bird Road
6209
6212
T.24N.
T.23N.
BLAINE CO.
FERGUS CO.
MISSOURI RIVER
ERVIN RIDGE
STATE
PRIVATE
PUBLIC
Wild & Scenic River Corridor
General Allotment Boundaries and numbers
0
1
2
miles
N


COW CREEK
STATE
PRIVATE
PUBLIC
Wild & Scenic River Corridor
Ft. Belknap Ind. Res.
Gen. Allotment Bdry and numbers
0 1 2 miles
N
R.21 E. R.22E.
R.22E. R.23E.
6182
6172
6194
6214
5607
5609
5610
T.26N.
T.25N.
T.24N.
T.23N.
Ft. Belknap Indian Res.
Spencers Cow Camp Rd.
Hay Coulee
Badland Ridge
Squaw Creek Rd.
John Coulee
Cabin Creek Rd.
Saskatchewan Butte Rd.
Saskatchewan Butte
Ridge Rd.
Horse Thief Canyon
Winter Creek
Divide Rd.
Shetland
Coyote Coulee Rd.
Coyote Coulee
Dead Cedar Rd.
Bull Creek
BLAINE CO.
PHILLIPS CO.
MISSOURI RIVER
Cow Island Rec.
FERGUS CO.

APPENDIX 2.9: RAPTOR GUIDELINES

The failure of adult raptors to return to nest, eggs or young after human interference of an unfamiliar nature, is both serious and unpredictable. Because of this unpredictability, precaution should always be taken around any occupied nest or potential nesting territory.

Following are general recommended nest buffer zones related to various human activities. These recommended zones are not inclusive; details in terrain, vegetation, type and duration and familiarity of disturbance, specific temperament of individual birds, phase of nesting cycle, etc., all enter into determining the actual needed buffer zone at a given nest site. Preclusion of human activity at a given nest territory should be tempered with as many variables as possible and on a site specific basis.

Activity	Recommended buffer zones
Off-road vehicle use	1/4 mi - 1/2 mi
Camping	1/4 mi - 1/2 mi
Hiking	1/4 mi - 1/2 mi
Rock climbing	1/2 mi - 3/4 mi
Road construction	1/2 mi - 1 mi
Controlled burning	1 mi - 2 mi
Trail clearing	1/4 mi - 1/2 mi
Building/construction	1/2 mi - 3 mi
Mining/heavy equip or blasting	1 mi - 3 mi
Logging	1/2 mi - 1 mi
Aircraft flights (low altitude)	1/4 mi - 1 mi
Seismic	

Nesting chronology for most raptors can be divided into five phases. The following summarizes each phase, general sensitivity to disturbance and comments. This table should be used with table 1 to temper activity and zone buffers.

Phase	Activity	Sensitivity To Disturbance	Comments
I	Nest building includes courtship behavior	Extremely sensitive, period most likely to desert.	1. Most critical time period from the standpoint of desertion.
II	Egg laying	" "	2. Human disturbance of even limited duration may cause desertion, not only of nest sites, but also of long established territories.
III	Incubation	" "	3. Nest site tenacity is weakest on new territories or when birds first establish their territories. 4. Flushed birds may puncture, crush or eject eggs from nest 5. Flushed birds leave eggs unattended. Eggs susceptible to cooling, loss of moisture, overheating and predation.
IV	Hatching and nesting rearing	Moderately Sensitive	1. As hatching approaches most birds become tenacious with clutches of eggs. 2. Generally uncommon to desert a nest after young have hatched.
V	Post Fledging	Moderately Sensitive	3. 1st half of nestling period, young most susceptible to elements. 4. Flushed birds may trample young or eject them from nest. 5. Unattended nestlings may chill or overheat, susceptible to predation.

(Table 2 Continued)

Phase	Activity	Sensitivity To Disturbance	Comments
			6. Nestlings may miss feedings. May affect overall health of young birds.
			7. Premature Fledging-Threat to young prematurely leaving nest due to disturbance.

Approximate nesting dates for some raptors that occur in the West-Hi-Line Area

Species	Approximate Dates of Nesting Season
*Golden Eagle	Feb 1 - July 30
*Northern Goshawk	April 15 - August 15
*Ferruginous Hawk	April 1 - July 30
*Mevlin	April 15 - August 15
*Prairie Falcon	Feb 15 - July 30
*Northern Saw-whet Owl	March 1 - August 30
*Coopers Hawk	April 15 - August 15
*Burrowing Owl	March 15 - July 15
Sharp-Shinned Hawk	May 1 - August 1
Swainson's Hawk	April 15 - August 1
Northern Harrier	April 1 - July 1
Screech Owl	March 1 - June 1
Great-horned Owl	Jan 1 - August 1
Short-eared Owl	March 1 - August 1

*Species of special interest or concern

PEREGRINE FALCON
CURRENTLY OCCUPIED NESTING HABITAT

No currently occupied peregrine falcon nesting eyries have been located in the West HiLine area, however, a historical nest site is known for the Kevin Rim.

1. Should nesting peregrines be discovered, site specific nest management plans should be developed for each nesting territory. References used to develop these plans should be: the approved Recovery Plan and Guidance from the Montana Peregrine Falcon Working Group.

APPENDIX 2.10: LIMITS OF ACCEPTABLE CHANGE

The Limits of Acceptable Change concept has been developed during the last decade or so as a supplement to carrying capacity determinations. It is based on the premise that recreational use of an area can diminish the quality of both the natural environment and the recreation experience. Concern about overuse causing negative impacts on the ecological and social environments of an area has led managers to try to establish carrying capacities. This approach has focused attention on the amount of use and the search for a specific number of people that can be allowed to use an area without causing unacceptable changes to the natural environment or the recreation experience.

This approach has several problems. First of all, the carrying capacity of an area can vary depending on the objectives for which an area is managed. An acre of city park can accommodate more people than an acre of wilderness. Secondly, much of the adverse impact of recreational use is not the result of too much use, but rather the kind of use, the behavior of visitors, and the timing and distribution of use. The amount of impact caused by a specific number of users can be affected by the activities of the user, the user's level of skill, the pattern of use and other factors. Furthermore, the amount of use is not always directly related to the amount of impact. A little use in a new area may cause a lot of impact, while a lot more use may cause only a little more impact. Because of these problems, it can be very difficult to come up with a specific number that is a river's "carrying capacity." Stankey et al contains a more detailed discussion of some of the problems associated with using carrying capacity as a planning framework.

The traditional carrying capacity approach to managing rivers often leads managers to institute a system of use rationing, which is a fairly heavy-handed management tool. The search for a single carrying capacity number also misdirects the managers' attention to numbers instead of trying to correct specific problems.

The Limits of Acceptable Change (LAC) concept can be used as an alternative to establishing carrying capacities for a river. In applying the LAC concept, managers assume that change to the ecological and social conditions of the area they are managing is going to occur, due to both natural and human factors. The goal of management then is to keep the character and rate of change due to human factors within acceptable levels.

Stankey et al. has outlined a procedure for implementing the LAC concept. According to their scheme managers first develop management objectives for the area they are managing and describe the recreation opportunities that will be provided. They then identify the ecological and social factors that are likely to change and select indicators which can be easily observed and used as a gauge to determine the amount of change that is occurring. For each indicator, managers then set a standard, which is a threshold value which defines the amount of change that is acceptable and unacceptable. The purpose of selecting indicators and standards is to provide managers with reference points so that they can judge whether the recreation opportunity they are trying to manage for is actually being provided over time. The standards serve as trigger devices rather than as management policy. If conditions deteriorate and a standard is approached, mitigating action can be taken to avoid unacceptable change. Managers retain the flexibility to implement any of a wide variety of mitigating actions. In the past. limits on the amount of use were frequently instituted when adverse impacts occurred, but the LAC concept allows the flexibility to implement many other kinds of management actions to control specific problems.

It is important to remember that an LAC standard is a maximum permissible level of impact or a critical threshold limit. It is not an objective that one is attempting to achieve. Managers should try to provide the best conditions possible rather than allowing conditions to deteriorate until the standard is reached. On the other hand, managers should not focus solely on the selected indicators, but should consider the whole river management situation. As management experience is gained and other issues develop in the future, there may be a need to select additional indicators or delete some indicators.

TABLE 1
NINE STEPS OF THE LIMITS OF ACCEPTABLE CHANGE
PLANNING PROCESS

1. Identify area issues and concerns.
2. Define and describe opportunity classes.
3. Select indicators of resource and social conditions.
4. Inventory existing resource and social conditions.
5. Specify standards for resource and social indicators for each opportunity class.
6. Identify alternative opportunity class allocations reflecting area issues and concerns and existing resource and social conditions.
7. Identify management actions for each alternative.
8. Evaluate and select a preferred alternative.
9. Implement actions and monitor conditions.

(1) USDA - Forest Service. 1986. Flathead Wild and Scenic River: Recreation Management Direction. Amendment to Flathead National Forest Plan Management Area 18 Direction, March.

(2) Stankey, G. H., D. N. Cole, R. C. Lucas, M. E. Petersen and S. S. Frissell. 1985. The Limits of Acceptable Change (LAC) System for Wilderness Planning. USDA - For. Serv., Intermountain Forest and Range Exp. Sta., Gen Tech. Report, INT - 176, pp. 37.

(3) Hendee, J. C., G. H. Stankey, and R. C. Lucas. 1978. Wilderness Management. USDA - Forest Service Misc. Publ. 1365, 381 p.

(4) Washburn, Randel F. 1982. Wilderness Recreational Carrying Capacity: Are Numbers Necessary? J. For. 80(11): 726-728.

(5) Cole, David N. 1981. Managing Ecological Impacts at Wilderness Campsites: An Evaluation of Techniques. J. For. 79(2): 86-89.

(6) Stankey, G. H., S. F. McCool. 1984. Carrying Capacity in Recreational Settings: Evolution, Appraisal, and Application. Leisure Sciences 6(4): 453-473.

APPENDIX 3.1: LEGAL DESCRIPTION OF THE KEVIN RIM AREA

T. 35 N., R. 3 W., PMM
Section 3: Lots 3, 4, SW¼NW¼, W½, SW¼
Section 4: Lots 1-4, S½N½, S½
5: 1, 2, S½NE¼, SE¼
6: SE¼
7: Lots 3, 4, E½SW¼, SE¼
8: NW¼NE¼, S½, NE¼, W½, W½SE¼, SE¼SE¼
17: All
18: Lots 3, 4, E½, E½W½
19: Lots 1, 2 NW¼, NE¼, S½NE¼, E/2NW¼
20: NE¼NE¼, NE¼NW¼

T. 36 N., R. 3 W., PMM.
Section 4: Lots 3, 4
17: S½NE¼, SE¼NW¼, E½SW¼, N½SE¼, SW¼, SE¼
20: E½NW¼
22: SW¼SE¼
27: N½NW¼, E½SW¼, SW¼SW¼
28: N½NE¼, SW¼, NW¼, W½SW¼, SE¼SE¼

APPENDIX 3.2: LEGAL DESCRIPTION OF THE SWEET GRASS HILLS

West Butte of the Sweet Grass Hills.
T. 37 N., R 1 E., PMM.
Section 13: Lots 4, 5 SE¼SW¼, SW¼SE¼
14: Lots 1-3, W½NE¼, E½SW¼, SW¼SW¼
15: SE¼SE¼
24: Lots 1-4, W½E½, NE¼NW¼, E½SW¼, SW¼SW¼
25: Lots 1-3, 5,6,8-10, SW¼NE¼, S½NW¼, NE¼SW¼, NW¼SE¼
26: SE¼NE¼

T. 37 N., R 2 E., PMM.
Section 19: Lot 4
20: NW¼NE¼, NE¼NW¼
30: Lot 1-4, S½NE¼, SE¼NW¼,E½SW¼, SE¼
31: Lots 1-3, NE¼, E½NW¼, NE¼SW¼, N½SE¼

East Butte of the Sweet Grass Hills.
T. 36 N., R. 4 E., PMM.
Section 13: NW¼NE¼, W½
24: Lots 1-4, N½NE¼, SW¼NE¼, NE¼NW¼
25: Lots 1, 2, 4, 6, E½NE¼
36: Lots 1-3, 5

T. 36 N., R. 5 E., PMM.
Section 6: SE¼NE¼, E½SE¼
7: E½
8: W½SW¼
17: W½W½
18: N½NE¼
19: Lots 2-9, PATENT 20510, PATENT 20511, SE¼SW¼
20: Lots 1-5, PATENT 20511, W½NE¼, SE¼NE¼, NW¼, NW¼SE¼
29: Lots 1-5, 8-10, SW¼NW¼, N½SW¼, SW¼SW¼
30: Lots 1-4, S½NE¼, E½W½, SE¼
31: Lot 1, E½NE¼, NW¼NE¼, NE¼NW¼
32: Lots 1-3, E½NE¼, SW¼NE¼

APPENDIX 3.3: LEGAL DESCRIPTIONS OF THE COW CREEK AREA

T. 23 N., R. 21 E.		Acres
Section 1:	Lot 1	39.99
	2	32.20
	7	39.68
T. 23 N., R. 22 E.		
Section 4:	Lot 3	23.44
	4	23.41
	5	40.00
	6	40.00
	12	40.00
Section 5:	Lot 1	23.31
	2	23.13
	3	22.95
	4	22.77
	5	40.00
	6	40.00
	7	40.00
	8	40.00
	9	40.00
	10	40.00
	11	40.00
	12	40.00
	13	40.00
	14	40.00
	15	40.00
	16	40.00
	18	40.00
	19	40.00
	20	40.00
Section 6:	Lot 1	22.65
	2	21.61
	3	22.56
	4	22.51
	5	19.69
	6	34.99
	7	40.00
	8	40.00
	9	40.00
	10	40.00
	11	39.08
	12	25.41
	13	15.24
	14	18.98
	15	21.30
	20	18.03
	21	15.60
	29	46.26
	30	40.00
	31	38.02
Section 7:	Lot 1	42.06
T. 24 N., R. 21 E.		
Section 12:	Lot 1	51.08
	2	51.19
	3	51.31
	4	51.42
	S½	320.00
Section 11:	Lot 1	51.53
	2	51.64
	3	51.74
	4	51.85
	N½S½	160.00
	S½SE¼	80.00
Section 13:	All	640.00
Section 14:	E½	320.00
Section 24:	All	640.00
Section 32:	All	640.00
Section 33:	W½	320.00
	W½E½	160.00
T. 25 N., R. 21 E.		
Section 3:	S½S½	160.00
Section 4:	S½N½	160.00
	S½	320.00
Section 5:	S½S½	160.00
	S½	320.00
Section 8:	E½E½	160.00
	NW¼N½	40.00
Section 9:	All	640.00
Section 10:	All	640.00
Section 11:	SW¼SW¼	40.00
Section 14:	W½	320.00
Section 15:	All	640.00
Section 16:	E½	320.00
	N½NW¼	80.00
Section 21:	E½E½	160.00
	W½SE¼	80.00
Section 22:	All	640.00
Section 23:	W½	320.00
Section 25:	SW¼SW¼	40.00
Section 26:	W½	320.00
	S½SE¼	80.00
Section 27:	All	640.00
Section 28:	E½NE¼	80.00
Section 34:	All	640.00
Section 35:	All	640.00
Section 36:	W½	320.00
	W½E½	80.00
T. 24 N., R. 22 E.		
Section 7:	Lot 1	50.68
	2	50.75
	3	50.84
	4	50.91
	5	43.48
	6	34.09
	7	40.00
	8	40.00
	9	40.00
	10	40.00
	11	40.00
	12	40.00
	13	40.00
	14	40.00
	15	34.07
Section 8:	Lot 4	50.68
	W½SW¼	80.00
Section 16:	W½SW¼	80.00
Section 17:	W½NW¼	80.00
	S½	320.00

Section 18:	Lot	1	40.00
		2	40.00
		3	34.09
		4	34.13
		5	40.00
		6	40.00
		7	40.00
		8	40.00
		9	34.19
		10	34.23
		11	40.00
		12	40.00
		E½	320.00
Section 19:	Lot	1	40.00
		2	40.00
		3	34.34
		4	34.48
		5	40.00
		6	40.00
		7	40.00
		8	40.00
		9	34.64
		10	34.78
		11	40.00
		12	40.00
		E½	320.00
Section 20:	All		640.00
Section 21:	W½		320.00
	W½NE¼		80.00
Section 28:	W½		320.00
	W½E½		160.00
Section 29:	All		640.00
Section 30:	Lot	1	40.00
		2	40.00
		3	34.88
		4	34.90
		5	40.00
		6	40.00
		7	40.00
		8	40.00
		9	34.94
		10	34.96
		11	40.00
		12	40.00
		E½	320.00
Section 31:	Lot	7	40.00
		8	40.00
		11	40.00
		12	40.00
		E½	320.00

APPENDIX 4.I: CUMULATIVE IMPACTS OF PREVIOUS PLANNING EFFORTS

This appendix contains a summary discussion of the cumulative impacts identified in the Prairie Potnoles EIS (PPEIS) 1982, the Missouri Breaks Grazing EIS (MBGEIS) 1979, the Missouri Breaks Wilderness Suitability Study EIS (MBWEIS) 1982, the Lewistown Oil and Gas Environmental Assessment of BLM Leasing Program (O & G EA) 1981, and the Forest Product Programmatic EA (FPPEA) 1983. These documents are regional EISs and EAs which analyze proposed actions for grazing, wilderness, oil and gas and forest product management on all or portions of the West HiLine RMP area. The guidance from these documents has been carried forward in the management common to all alternatives portion of this document. The cumulative impacts identified in the above documents will be the same under the implementation of any alternative in the West HiLine RMP/EIS. Further information on impacts from grazing, wilderness, oil and gas and forest product management can be found in the respective document. These documents may be found at the Lewistown District Office and at the Resource Area Offices in Havre, Great Falls, Malta and Lewistown.

Air Quality

No residual adverse impacts to air quality are expected from grazing, recreation and wilderness. (PPEIS, MBGEIS, MBWEIS)

No residual adverse impacts from oil and gas activities on the macroclimate would be expected. Some effects on the microclimate would remain after abandonment and/or restoration of disturbed areas because of soil compaction and changes in water infiltration rates.

The mitigation of impacts on air quality would reduce, but not entirely eliminate, the adverse impacts from oil and gas operations. Some pollution from internal combustion engines, waste gas release and accidental fires or explosions might still occur. (O&GEA)

Soils

Erosion on public lands will decrease in the long term as sediment yields and water yields decrease. Soil losses from range developments will be insignificant. Consumptive water use by livestock due to increased numbers will increase slightly. More vegetation production will result, with 50% of the increase available for non-consumptive uses, improving watershed protection. (PPEIS)

Because grazing management provisions in the proposed action would reduce livestock grazing impacts on soils and watershed in the long term, no residual adverse impacts would be anticipated from these measures.

Erosion losses from land disturbance due to construction of range improvements and water developments total 38,086 tons. Mechanical treatments would reduce existing erosion losses, resulting in a decrease in the net residual adverse watershed impacts.

Lands disturbed for water developments would be permanently removed from forage production. Additional lands surrounding these developments, but not presently quantified, would experience accelerated erosion due to increased livestock grazing and trampling. These latter adverse impacts should be outweighed by the reduction in such watershed damage along present drainage bottoms and adjacent to other present water sources. (MBGEIS)

Overall residual erosion impacts would be moderate during drilling, road construction, pipeline construction and other surface disturbing activities. With the prescribed mitigating measures, the impacts might be reduced to slight within one year after rehabilitation.

Oil spills generally have little effect on soil erosion due to the biodegradability of crude petroleum, but the effects on vegetation is more significant. Spills of salt solutions, on the other hand, might cause longer periods of soil sterility with the potential of causing severe erosion on steep slopes.

There would be a possibility of localized, severe erosion due to oil or saltwater spills, improper construction or abandonment measures and unsupervised development. Such isolated incidences are expected to be rare.

If the landr associated with oil and gas activity are reclaimed they will become reestablished with native vegetation over time. The leogth nf time required for the lands to develop the production capability they had before oil and gas operations is often so great (maoy decades to centuries), however, that this effect is considered a long-term residual impact.

Depending upon the number of developed wells in a given area, unreclaimed lands could cause a substantial loss in land productivity. For example, present regulations allow the development of one oil well for every 40 acres of land and one gas well for every 160 acres of land. Assuming that an average drilling site, including wells, pads, storage tanks, service roads, etc., would disturb an estimated 3 acres of land surface, then, at maximum development, the amount of productive land lost to oil development would likely approximate 48 acres per square mile (7 1/2% of 640 acres), or about 22 acres per square mile (3 1/2% of 640 acres) for lands developed for natural gas production. (O&G EA)

Soil compaction could occur along roads, landings, and skid trails which could result in minor soil erosion. (FPPEA)

Water

Impacts to water from actions analyzed in the PPEIS are described in the first paragraph under soils.

Withdrawal of water from new wells snd development of springs would remove an insignificant amount of water from the aquifers. Wells that would tap artesian aquifers, if controlled, would not lower the artesian pressure surface noticeably, and recharge to water-table aquifers would normally exceed potential withdrawals. Interception of precipitation by rainfall catchment basins would have no measurable effect on ground water. Surface manipulation, by increasing potential infiltration, would increase potential recharge for a short time. After new vegetation became established, however, recharge to the aquifers would be almost the same as it is at present.

Peak discharge could be reduced if the flood events that produce them would occur when receiving reservoirs were empty or only partly full. A possible unavoidable impact of peak discharge would be the washing out of the dam or spillway when reservoirs are full. Localized flooding, whose magnitude would depend on the shape and vegetal cover of the stream valley below the dam, would be a possible coosequence. The valley would be subjected to rapid short-lived erosion, and the acquired sediment would be deposited over an indeterminate distance downstream.

Saline seeps are wet, saline soils in drsinages below reservoirs and on some other slopes and drainages. Water impoundment structures often produce areas of seepsge below them. Water percolates through reservoirs, dams and abutments, dissolving salts from local soils. These salts accumulate at the soil surface by the upward capillary movement of water snd its subsequent evaporation. Some saline seep water from the seeps moves down drainages causing changes in vegetation composition and reducing soil productivity, particularly on riparian soils.

The proposed reservoirs would each accumulate sediment eventually, they become filled to the extent that they no longer are effective water retention facilities. Reservoirs below easily eroded barren shale beds could become useless in 0 to 5 years, reservoirs below thickly grassed stable slopes may contain water for scores of years. (MBGEIS)

Through enforcement of the recommended mitigating measures, sedimentation impacts would be reduced significantly. There is the possibility that revegetation might result in sediment yield rates that are less than before land disturbance in some instances.

Operations requiring stream crossings and activities on floodplains and near water could cause significant impacts during and immediately after surface disturbances. These impacts would be slight after one year of rehabilitation.

Measures to reduce the impacts on groundwater quality of oil and gas well construction and the drilling of seismic shot holes are included in both GS and Montana regulations. Because subsurface drilling, reinjection and plugging are regulated by GS, these impacts cannot be mitigated by BLM.

The Montana State Water Quality Bureau regulates the discharge of pollutants through a permit system (The Montana Pollutant Discharge Elimination System). The system controls significant point-source discharges by inspections to ensure compliance. Discharge of formation or treater waters from oil fields is regulated by this system. Consequently, residual adverse impacts on surface water quality from discharge waters should generally be slight.

The impact presenting the greatest hazard to surface water would be from accidents during oil and natural gas development and production stages. These could include oil spills, leaks, brine pit overflows and blowouts. Safety measures like protective dikes and standby cleanup equipment are required by Montana law and GS regulations. These measures reduce the impact both in terms of the volume and the length of the exposure to pollutants.

Unusual acts of nature might result in the failure of earthworks, mudpit and brine overflows and surface water runoff capable of transporting brine and oil to streams, lakes and wetlands. (O&GEA)

Mineral Resources

Opportunities for exploration or development of oil and/or natural gas reserves could be restricted or foregone in areas recommended for wilderness. Natural gas potential is rated high for entire area recommended for wilderness designation. Approximately 5,593 acres with high potential would be available for exploration and/or development in areas not recommended as suitable. (MBWEIS)

Vegetation

Rangelands in poor and fair ecological range condition will be improved to good and excellent ecological condition in allotments with existing and proposed AMPs. Some poor and fair condition rangelands will not be improved because of low potential soils within these allotments. Other poor and fair condition rangelands will not be improved because of scattered land patterns and/or are a small part of an allotment in overall good or better condition. (PPEIS)

Short-term unavoidable impacts from the loss of forage production on sprayed, contour furrowed, and plowed and seeded lands would occur. Within two to three years, these lands would be producing more forage than before treatment, and in several additional years would have more than compensated for the lost productivity.

Long-term unavoidable impacts would occur. On land that would be permanently removed for the life of range improvement projects such as wells, reservoirs, stock tanks, and other water developments are proposed. (MBGEIS)

The permanent loss of native vegetation caused by the construction of roads and development facilities would occur. Recovery on other disturbed areas such as pipelines, seismograph trails, drill pads and drainage crossings might occur several years after abandonment.

Soil and habitat sterilization caused by acids or salts would partially or entirely remove vegetation in affected areas. Blowouts, fires and spills of caustic solutions could cause the significant loss of vegetation if large areas were affected.

Invader species and noxious forms of vegetation might replace native species on some disturbed sites if exposed to a seed source. The spread of invaders to off-site areas would have a negative effect on the composition of vegetation. The rehabilitation of the area and the seeding of native species suitable to the soils and climate would reduce the time required to replace the present plant composition if overrun by invader annuals and perennials. Despite weed control and rehabilitative seeding, noxious weeds would crop up in most areas in the Lewistown District.

The length of time required for restoration of native species would depend upon the composition of the vegetation disturbed. Grassland vegetation types could be restored rather quickly, so the negative impact would be short-term. Destruction of sagebrush and streamside brush and trees would create a long-term impact. Forest cover species could also be adversely affected by road and pad construction and pipelines. The length of time needed for rehabilitation, in this case, would be dependent upon the condition of the site. (O&GEA)

Wildlife and Fisheries

On present and new AMP allotments, deer and antelope numbers are projected to double from 1979 levels in the long term. Moderate increases in residual vegetation from rest and deferment will improve habitat conditions for upland game birds and nongame wildlife on these allotments. Duck and goose populations will have slight increases, principally due to the construction of reservoirs and nesting islands. High value riparian habitat, reservoir shoreline and saline seep vegetation which receives periodic rest and deferment periods of 4-10 year will improve significantly. Riparian areas not receiving these treatments will either decline or remain static.

Despite improved grazing management, continued siltation will result in the loss of one fisheries reservoir.

The more uniform grazing pressure that would be made possible by the water developments and fencing that are part of the proposed action would cause reductions in sharp-tailed grouse and mule deer populations by removing residual cover and browse species that otherwise would not be grazed by livestock. These reductions cannot be quantified, but would be significant locally.

Successional advancement (i.e., from fair to good range condition class) would cause declines in some species of small mammals and nongame birds which prefer early successional stages. For example, changes that involve increased vegetation cover would reduce deer mouse populations.

The proposed sagebrush spraying and plowing and seeding would have significant local negative impacts on sage grouse, antelope and mule deer. Some negative impacts to antelope from these treatments and contour furrowing are also possible.

Unavoidable adverse impacts to riparian habitats would continue for at least two years until inventory and protection can be initiated.

No negative impacts on endangered species are anticipated. If any endangered species such as peregrine falcons or black-footed ferrets are observed in the ES area, all necessary steps to protect them including consultation with the U.S. Fish and Wildlife Service would be taken. (MBGEIS)

Wilderness could provide some benefits to wildlife by providing a secure area and protecting habitat. On the other hand large blocks of land with limited hunting access could reduce the effectiveness of hunting as a game management tool. (MBWEIS)

Most of the direct mortality to individual animals might still occur. The death of small animals from heavy equipment could be unavoidable. Vehicle-animal collisions and the illegal shooting of game and raptors, as well as indiscriminate shooting of other animals, would remain a possibility. Accidental spills of oil or other toxic substances might still happen, causing significant animal losses from polluted water sources.

The destruction of habitat that included important food and cover areas would affect various wildlife populations until adequate restoration occurred. If a game species were reduced, this would be reflected in a lower harvest to sportsmen. Big game and some other animals dependent on shrubs and trees for food or cover could suffer long-term losses, as these vegetation types do not recover quickly.

Habitat loss from permanent structures such as buildings and roads, would reduce available living space, either permanently or for a long period of time. No surface occupancy stipulations could significantly lower this loss. Allowing the industry to operate in any given area would often result in an adverse impact on one species while protecting another. Thus, some wild-life loss would undoubtedly occur, requiring a ranking of the importance of each species.

Oil and natural gas development and human activities would significantly affect species that are intolerant to such things. Ensuring that these activities are allowed only in the less important habitats or during non-critical periods of time would lessen this impact. (O&GEA)

Grazing

In the long term, forage production will increase by about 15% overall. Within AMP allotments the expected increase is about 27%. Riparian vegetation along streams and below reservoirs will significantly increase. Annual red meat production will increase by 3,344,670 pounds. (PPEIS)

No change in current grazing practices is projected on allotments with no AMPs, they will continue to be grazed as they are now. This in most cases involves season-long or continuous spring use which would adversely affect plant vigor, reproduction, seedling establishment, litter accumulation, and soil stability.

Vegetation would be destroyed by construction equipment working on the range improvements. This short-term loss would be on equipment storage sites, temporary access roads, and the immediate area around the construction sites.

There would be no change in stocking levels on lands recommended for wilderness. There could be minor additional costs to operators due to restrictions of motorized vehicle use. (MBWEIS)

Cultural

The application of mitigating measures in the form of thorough inventory and avoidance of sites which would be affected by range improvement projects would eliminate many impacts to prehistoric or historic sites.

Where avoidance of sites is not possible, some residual adverse impacts would occur. The advance planning and careful excavation of sites that would otherwise be destroyed would contribute information to the archaeological or historical record. However, archaeological methods are constantly being improved, and those excavated sites would represent an irretrievable resource commitment in that the opportunity would be lost to study the sites with any newly developed archaeological techniques.

All allotments are not likely to be inventoried for prehistoric and historic sites within the next five or ten years. The impacts from livestock trampling therefore could not be mitigated until those sites were actually located. This could cause loss of valuable cultural information.

Any buried cultural material found in the course of construction work would probably be adversely impacted. The nature of archaeological excavation is such that slow, painstaking work is required to recover all possible information. Emergency excavation in a short timeframe, necessary to minimize construction delays, would probably mean that all information would not be recovered. Also, these sites could not be restudied with improved methods. It is not known, however, if any prehistoric or historic sites would be affected in this way. (MBGEIS)

Oil and gas operations may also cause residual adverse impacts to sites eligible for the National Register which cannot be avoided. The impacts might consist of unwanted visual intrusions and destruction of sites not mitigated or identified before the operations occurred. However, such instances would be quite rare. (O&GEA)

Recreation

On allotments with improved rangeland conditions, hunting opportunities will improve significantly. A moderate increase in fishing quality will occur from the elimination of livestock grazing on some of the fisheries reservoirs. Access and ORV travel will decrease slightly because of fences and surface disturbances caused by mechanical treatments. Opportunities for prairie dog shooting may be reduced. Effects on wilderness and visual resources will be insignificant. (PPEIS)

In riparian areas and along shoreline areas where livestock grazing is allowed, impacts to hunting and fishing opportunities associated with adverse impacts to fish and wildlife habitat would continue.

Conflicts between sport shooting enthusiasts and livestock would continue on the public lands within grazing allotments, presenting shooting hazards to livestock.

Any fencing done along the Upper Missouri Wild and Scenic River to reduce recreationist/livestock conflicts would present visual intrusions adversely impacting the visual resource, reducing scenic values.

Vegetation manipulation practices would have residual adverse impacts on scenic values by creating unnatural contrasts on the landscape.

Any range improvements placed on the public lands where they can be viewed by recreationists would produce visual intrusions adversely impacting the visual resource, reducing scenic values.

In areas along the Upper Missouri Wild and Scenic River where livestock grazing is allowed, potential livestock/recreationist conflicts would exist or continue.

Fence construction would create residual adverse impacts to cross-country travel by off-road vehicles and snowmobiles by producing hazards and barriers to movement. (MBGEIS)

Primitive non-motorized recreational opportunities would be preserved or enhanced on areas which would be closed to motorized vehicles. Recreational use is not expected to increase in designated wilderness areas over present low levels. (MBWEIS)

Impacts that diminish or eliminate hunting, fishing or the general enjoyment of the outdoors on public lands would be considered adverse to recreational vslues. These impacts are listed under the "Water," "Animals," "Aesthetics," and "Wilderness" sections of this document. (O&GEIS)

Visual

Regardless of how successful the mitigating measures for range developments are, there would still be some modifications to the basic elements resulting in unavoidable visual impacts to the ES area as a result of implementing the proposed action. These adverse impacts are a direct result of constructing additional range improvements and implementing multiple pasture grazing systems. (MBGEIS)

With proper reclamation, the long-term residual impacts could be minimal. The short-term impacts could also be minimized through the proper enforcement of stipulations, e.g. requiring painting or camouflaging structures. As mentioned above, this is most effectively done at the time of the prestake or predrill application since requiring such stipulations after a field is in production would involve additional coordination. It is more efficient for the operstor to make all changes during the initial construction. (O&GEA)

Any cutting of timber is aesthetically unacceptable to some people, even when all reasonable mitigating measures are applied. Road cuts could have a long-lasting, adverse, aesthetic effect. (FPPEA)

Wilderness

Residual adverse impacts to wilderness values would result from the implementation of any proposed range improvement project found acceptable for placement in a wilderness study area. The magnitude and significance of these impacts is unknown. If a project is removed after a wilderness study area is designated "wilderness," the residual adverse impact becomes zero. Projects acceptable within a designated "wilderness" would continue to display those residual impacts. Range improvement projects not allowed in a wilderness study area would also have a residual adverse impact of zero.

Intensities of the residual impacts in a specific wilderness study area would depend on the characteristics of the site. Determinations must be done on s case-by-case basis to avoid problems with over-generalizations. (MBGEIS)

One area containing 21,590 acres would become part of the NWPS. These areas all include outstanding opportunities for solitude, diverse recreational opportunities and excellent scenery. This area is in the grama/needlegrass/wheatgrass ecotype subgroup and its inclusion would add to the quality and diversity of the system.

In the areas not recommended suitable, there is some potential for long-term loss of wilderness quality, primarily from oil and natural gas development. In almost sll cases, change should come slowly. Four WSAs not recommended for wilderness contain portions of the Upper Missouri National Wild and Scenic River Corridor. Lands in this corridor will be managed to preserve their wild character. (MBWEIS)

On pre-1976 leases, with the wilderness stipulations, BLM has no control over oil and gas operations beyond dictating access and preventing undue or unnecessary degradation of the area. Therefore, any of a host of possible impacts could occur.

Temporary impacts would mar the area visually until rehabilitation hid the scars of two-track trsils, blast holes, litter and possibly even some drill pads. Traces would not be significant and would be easily removable.

Continued use of abandoned vehicle trsils made during oil and gas operations pose the greatest hazard to wilderness as far as residual impscts are concerned. Use, especially in wet conditions, could result in roads being developed from barely discernable vehicle compaction tracks.

If the procedures outlined in Section 2.3 "Wilderness" are followed, no long-term impacts from oil and gas operations would affect wilderness vslues on leases carrying the wilderness stipulation. The process allows for the separation and protection of wilderness study areas from other public lands as a whole without disqualifying impairments. (O&GEA)

Economic and Socisl

In the short term some ranch operations would experience a disruption of grazing as mechanical treatments are applied and/or grazing systems implemented. Licensed livestock grazing levels would be reduced slightly following implementation of the proposed action. While these changes could represent a significant impact to a few individual operators in the short term, when land was out of production, they would be insignificant to the regional economy. The full implementation of AMPs would increase licensed use to above present levels. In the long term some operations would show an increase in livestock sales but most would experience no change. An economic gain will be realized by ranch operations with an increase in grazing permit values and ranch employment. These changes will improve the social well-being of ranch families (PPEIS & MBGEIS). If some areas became wilderness the value of ranches with BLM grazing permits for long term loan purposes would be reduced in the affected area (MBWEIS). Recreation opportunities would be enhanced with improved wildlife habitat, and maintaining and establishing new recreation visitor services. In the short term there would be little or no impact on recreation related earnings and employment. In the long term recreation expenditures would increase but this change would be insignificant to the regional economy. Attitudes show that impositioo of federal government regulations is met with some resentment. Although government ioterference would be somewhat mitigated by the proposed action's effects not being outside the prevailing area, some resentment of the government's imposed management regulation would probably be present. However, general attitudes of residents toward BLM would be positive because this management offers a low level of development with improved range condition for livestock, wildlife and watershed (PPEIS). The potential loss of benefits from mineral reserves foregone cannot be calculated from information presently available (O&G EIS).

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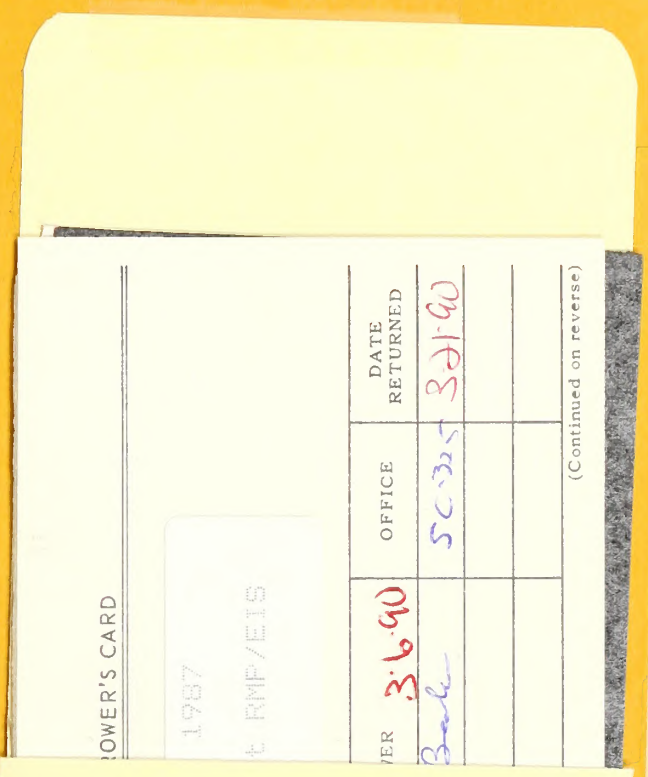

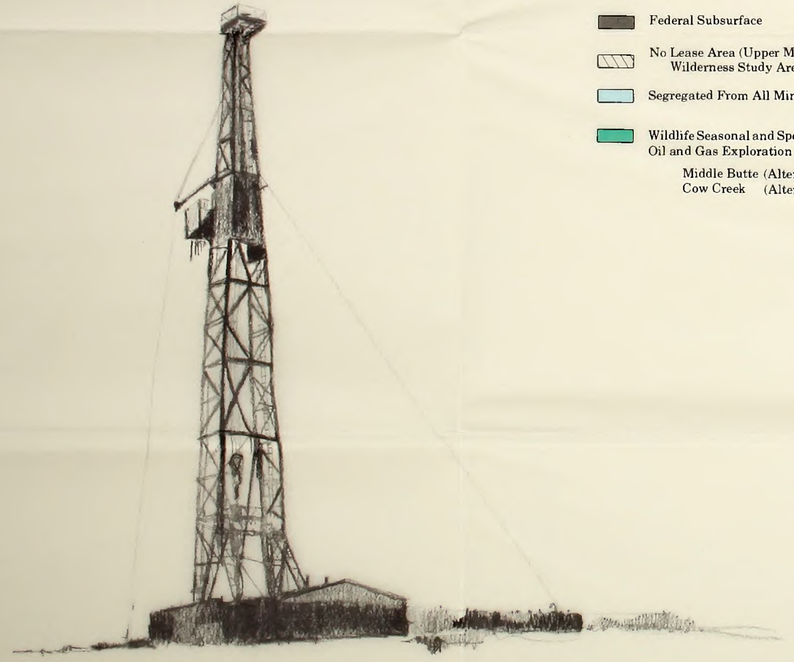

- Federal Subsurface
- No Lease Area (Upper Missouri River Corridor and Wilderness Study Areas)
- Segregated From All Mineral Entry
- Wildlife Seasonal and Special Stipulation Areas for Oil and Gas Exploration & Development
  - Middle Butte (Alternative C only)
  - Cow Creek (Alternatives C&D only)

Minerals Overlay

- Public Lands Managed by BLM
- Acquired Lands Bankhead-Jones Act Managed by BLM
- State Lands
- Private Lands
- Indian Lands
- National Forest Lands
- National Park Lands
- National Wildlife Refuge
- Bureau of Reclamation Lands
- Wilderness Study Areas
- State Recreation or Wildlife Area
- Upper Missouri National Wild & Scenic River Corridor

Scale
1:500,000

10 5 0 10 20 30 40 Miles

10 5 0 10 20 30 40 50 Kilometers

1 inch equals approximately 8 miles

Location Map

MAP 1
LAND STATUS
West HiLine
Resource Management Plan
Environmental Impact Statement
1987

State Director's Guidance — Retention Zones — Alternative A only

LAND TENURE
Alternative A
(No Action)

BLM would attain a land pattern conducive to ease of management. Land adjustment would be by land exchange or purchase under the State Director's Guidance on Land Pattern Review and Land Adjustment. 44,143 acres would be available for land adjustment by exchange or R&PP. Acquisitions would be concentrated in retention areas.

IMPLEMENTATION

Land adjustment would be by exchange. Acquisitions will be concentrated in UMNWSR Corridor, North Blaine County, and the Sweet Grass Hills.

Exchange Only	44,143 acres

Scale
1:500,000

10 5 0 10 20 30 40 Miles

10 5 0 10 20 30 40 50 Kilometers

1 inch equals approximately 8 miles

Location Map

MAP 2

LAND TENURE ADJUSTMENT
(Alternative A only)

West HiLine
Resource Management Plan
Environmental Impact Statement
1987

Meets Disposal Criteria
(Alternative B, C, & D)

Adjustment Lands
(Alternative B — Available for Disposal)
(Alternative C — Would be Retained)
(Alternative D — Available for exchange)

Emphasis Area Boundaries

Areas in which preferred acquisition would be of interest

Upper Missouri National Wild & Scenic River Corridor

LAND TENURE

B	C	D (Preferred)
A more manageable land pattern would be attained through disposal by exchange, R&PP sale, or sale. 50,092 acres appear to meet FLPMA criteria for land adjustment through exchange, sale and R&PP sale. Acquisitions would be concentrated in areas with large federal holdings.	BLM would retain the majority of the public lands. 15,664 acres would be available for land adjustment through exchange, R&PP sale or sale. Acquisitions would be concentrated in special management and high value resource areas.	BLM land adjustment actions would consolidate high value resource lands. 15,664 acres appear to meet FLPMA criteria for land adjustment through exchange, R&PP sale or sale; 34,428 acres meet criteria for land adjustment by exchange for lands with higher resource values. Acquisition would be concentrated in special management and high value resource areas.
IMPLEMENTATION		
Land adjustment would be achieved primarily by exchange for lands of equal or better values. Acquisition would be concentrated in the Sweet Grass Hills, Kevin Rim, Marias River, UMNWSR Corridor and Cow Creek.	Exchange would be the preferred method to achieve land adjustment for lands of equal or greater resource values. Acquisitions would be concentrated in UMNWSR, Kevin Rim, Sweet Grass Hills, Cow Creek, Marias River, North Blaine County and important wildlife habitat areas.	Exchange would be the preferred method of achieving land adjustment. Acquisitions would be concentrated in UMNWSR, Kevin Rim, Sweet Grass Hills, Cow Creek, Marias River, North Blaine County, important wildlife habitat and other areas within or outside the planning area.
LAND ADJUSTMENT (Exchange Preferred)		
50,092 acres	15,664 acres	15,664 acres
EXCHANGE ONLY		
		34,428 acres

Scale
1:500,000

10 5 0 10 20 30 40 Miles

10 5 0 10 20 30 40 50 Kilometers

1 inch equals approximately 8 miles

Location Map

MAP 3
LAND TENURE ADJUSTMENT
(Alternative B,C,D)

West HiLine
Resource Management Plan
Environmental Impact Statement
1987

OFF-ROAD VEHICLE MANAGEMENT

	A (No Action)	B	C	D (Preferred)
	Wilderness Study Areas and sedimentary Breaks soils with greater than 30% slopes would be designated "limited" for ORV use.	The BLM would maximize ORV use. WSAs would be designated "closed" to all use.	Limited yearlong restrictions would apply to WSAs, ACECs, UMNWSR, sedimentary breaks soil areas and riparian areas; seasonal restrictions would apply in important wildlife areas. The Gist Road would be designated "closed" from the cabins to the river.	Limited yearlong restrictions would apply to WSAs, ACECs, and UMNWSR. Seasonal restrictions would apply in sedimentary breaks soil areas, riparian areas, and important wildlife areas. The Gist Road would be designated "closed" from the cabins to the river.
IMPLEMENTATION				
	Publish ORV map and sign ures.	Publish ORV map and sign WSAs. Designate and reunage an intensive ORV use area of about 640 acres using criteria in the document.	Inventory road trails in above areas; publish map of road restrictions for each area. Sign areas.	Inventory road trails in above areas; publish map of road restrictions for each area. Sign areas. An intensive ORV use area of about 640 acres may be designated based on public demand.
ACREAGE DESIGNATED				
Open	477,763	594,098	197,462	198,142
Limited				
Yearlong	148,335	32,000	329,636	129,912
Seasonal	0	0	99,000	298,039
Closed	0	0	5	5

RIGHT OF WAY LOCATION

	A (No Action)	B	C	D (Preferred)
	The planning ures would remain open to lineal ROW and communication site location.	The BLM would permit lineal RDWs outside the Upper Missouri National Wild and Scenic River Corridor. Windows would be provided through the UMNWSR corridor.	The BLM would protect important natural and cultural resources by designating WSAs, ACECs, riparian areas and areas of sedimentary soils as avoidance areas. The UMNWSR and the Kevin Rim would be exclusion areas. Windows would be provided through these areas. Communication sites would be excluded from West and Middle Butte of the Sweet Grass Hills.	The BLM would permit ROWs if impacts could be mitigated. Corridors would be established along existing major facilities. The following areas would be avoidance areas for ROWs: scenic and recreational segments UMNWSR; ACECs; WSAs; riparian areas and sedimentary breaks areas. The wild sections of UMNWSR would be exclusion areas. No communication sites would be located on West Butte.
	BLM would perform environmental review and stipulate necessary mitigating measures prior to authorization.	BLM would perform environmental review of ROW location projects. Projects must be able to be mitigated prior to permit.	BLM would attempt to route ROWs along existing corridors; if a location is in an avoidance area the environmental analysis must show the disturbance can be fully mitigated.	BLM would attempt to route ROWs along existing corridors. If a ROW must be located in an avoidance area the environmental analysis must show the disturbance can be mitigated.
ACREAGE DESIGNATED				
Open	626,098	537,945	420,501	421,181
Avoidance	0	88,153	112,629	141,560
Exclusion	0	0	92,968	63,357

- Transmission Lines
- Communication Sites
- Wilderness Study Areas
- ACEC's
- Upper Missouri Wild & Scenic River Corridor
- Use Limited to slopes of 30% or less (Alternative A only)
- Sedimentary Breaks Soils Limited Seasonally (Yearlong in Alternative C) (Seasonal in Alternative D)
- Wildlife areas not otherwise covered — limited seasonally
- Rights of Way in the Upper Missouri River Corridor

Scale 1:500,000

10 5 0 10 20 30 40 Miles

10 5 0 10 20 30 40 50 Kilometers

1 inch equals approximately 8 miles

Location Map

MAP 4

- OFF-ROAD VEHICLE -
- RIGHTS-OF-WAY-

West HiLine

Resource Management Plan

Environmental Impact Statement

1987


U.S. DEPARTMENT OF THE INTERIOR
March 3
U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT