

# Pompeys Pillar National Monument Approved Resource Management Plan

## Attachment 10

**From the Record of Decision and Approved Resource Management Plan Amendments for the Rocky Mountain Region including the Greater Sage-Grouse Sub-Regions of: Lewistown, North Dakota, Northwest Colorado, and Wyoming and the Approved Resource Management Plans for: Billings, Buffalo, Cody, HiLine, Miles City, Pompeys Pillar National Monument, South Dakota, and Worland**

Prepared by  
US Department of the Interior  
Bureau of Land Management  
Billings Field Office, Montana

September 2015



## **MISSION STATEMENT**

The BLM manages more than 245 million acres of public land, the most of any Federal agency. This land, known as the National System of Public Lands, is primarily located in 12 Western states, including Alaska.

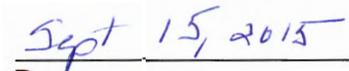
The BLM also administers 700 million acres of sub-surface mineral estate throughout the nation. The BLM's mission is to manage and conserve the public lands for the use and enjoyment of present and future generations under our mandate of multiple-use and sustained yield. In Fiscal Year 2014, the BLM generated \$5.2 billion in receipts from public lands.

**BLM/MT/PL-15/016+1610**

## State Director Recommendation for Approval

I hereby recommend for approval the Pompeys Pillar National Monument Resource Management Plan.

  
\_\_\_\_\_  
Jamie E. Connell, Montana/Dakotas State Director

  
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Date

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I	Land Health Standards
J	Visual Resource Management Program
K	Biological Opinion
L	Cultural Resources
M	Recreational Setting Characteristics

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## ACRONYMS AND ABBREVIATIONS

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Full Phrase

ACEC	area of critical environmental concern
ADC	animal damage control
ANS	aquatic nuisance species
APLIC	avian protection plan
APHIS	Animal and Plant Health Inspection Service
AQRV	air quality-related values
ARMP	Approved Resource Management Plan
AUM	animal unit month
B&PPNM	Billings and Pompey National Monument
BA	biological assessment
BGEPA	Bald and Golden Eagle Protection Act
BiFO	Billings Field Office
BLM	US Department of the Interior Bureau of Land Management
BMPs	best management practices
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CSU	controlled surface use
DFC	desired future condition
DOI	Department of the Interior
EA	environmental assessment
EIS	environmental impact statement
EO	executive order
ERMA	extensive recreation management area
ESA	Endangered Species Act of 1973
ESR	emergency stabilization and rehabilitation
FLERA	Federal Land Recreation Enhancement Act
FLPMA	Federal Land Policy and Management Act
FRCC	fire regime condition class
GHG	greenhouse gas
GHMA	general habitat management area(s)
IM	instruction memorandum
IPM	integrated pest management
ISRP	individual special recreation permits
LCNHT	Lewis and Clark National Historic Trail
LN	lease notice
LWCF	Land and Water Conservation Fund
MDEQ	Montana Department of Environmental Quality
MTFWP	Montana Fish, Wildlife, and Parks
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act of 1969
NHL	National Historic Landmark
NHPA	National Historic Preservation Act
NHT	National Historic Trail

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**ACRONYMS AND ABBREVIATIONS** *(continued)*

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Full Phrase

NLCS	National Landscape Conservation System
NM	national monument
NPNHT	Nez Perce National Historic Trail
NPS	National Park Service
NRHP	National Register of Historic Places
NSO	no surface occupancy
OHV	off-highway vehicle
ORP	outdoor recreation planner
OSV	over-snow vehicle
PFC	proper functioning condition
PFYC	potential fossil yield classification
PHMA	priority habitat management area(s)
PMWHR	Pryor Mountain Wild Horse Range
PPNM	Pompeys Pillar National Monument
R&PP	Recreation and Public Purposes Act
RMP	resource management plan
ROD	record of decision
ROW	right-of-way
RS	revised statute
SIP	state implementation plan
SHPO	State Historic Preservation Office
SRMA	special recreation management area
SRP	special recreation permit
SSS	special status species
SWPP	source water protection programs
T&E	threatened and endangered
TCP	traditional cultural property
THPO	Tribal Historic Preservation Officer
TMA	travel management area
TMDL	total maximum daily load
USC	United States Code
USFS	US Department of Agriculture, Forest Service
USFWS	US Department of the Interior, Fish and Wildlife Service
VRI	visual resource inventory
VRM	visual resource management
WAAQS	Wyoming Ambient Air Quality Standards
WMA	weed management area
WSA	wilderness study area
WSR	Wild and Scenic River
WUI	wildland urban interface

# CHAPTER I

## INTRODUCTION

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The purpose of this Approved Resource Management Plan (ARMP) is to approve the US Department of the Interior (DOI), Bureau of Land Management (BLM) management decisions on approximately 51 acres of BLM-administered surface and 51 acres of BLM-administered minerals in Pompeys Pillar National Monument (PPNM). The regulations for making and modifying land use plan decisions, which comprise a resource management plan (RMP), are found in 43 Code of Federal Regulations (CFR), Part 1600. Land use plan decisions consist of desired outcomes (goals and objectives) and allowable uses and management actions.

The Billings Field Office (BiFO) of the BLM prepared the Draft RMP/Draft Environmental Impact Statement (EIS) (published on March 29, 2013) and Proposed RMP/FEIS (published on May 29, 2015) for the BiFO and Pompeys PPNM planning areas together. For ease of implementation, one ARMP for the BiFO and one for PPNM have been prepared. This document reflects the management direction only for the PPNM.

### I.1 DESCRIPTION OF THE PLANNING AREA

The record of decision (ROD) approving the resource management plan provides a framework for future management direction and appropriate use at PPNM. It is on BLM-administered land in Yellowstone County, south-central Montana, within the BLM BiFO Planning Area (**Table I-1**).

**Table I-1**  
**Lands in the Planning Area**

<b>County</b>	<b>Total County Acres</b>	<b>PPNM BLM-Administered Surface (and Percentage of Total County Acres)</b>	<b>PPNM BLM-Administered Federal Mineral Estate Acres* (and Percentage of Total County Acres)</b>
Yellowstone	1,695,363	51 (0.003%)	51 (0.003%)*
<b>Total</b>	<b>1,695,363</b>	<b>51 (0.003%)</b>	<b>51 (0.003%)*</b>

\*To the extent administered by the BLM

## **I.2 PURPOSE AND NEED**

The purpose of the RMP is to provide a single, comprehensive land use plan to guide management of BLM-administered lands on the 51 acres of Pompeys Pillar National Monument. This plan provides goals, objectives, land use allocations, and management direction for the BLM-administered surface and mineral estate, based on multiple use and sustained yield, unless otherwise specified by law (Federal Land Policy and Management Act [FLPMA] Section 102[c], 43 United States Code [USC], Section 1701 et seq.).

This comprehensive plan is needed to address competing resource uses and values in the same area. In addition, conditions have changed since approval of the 1984 Billings Resource Area RMP, as amended. These changed conditions provide land use plan direction for the PPNM by integrating the component's planning process into the planning process for the Billings and Pompeys Pillar National Monument RMP/EIS revised land use plan. This plan developed and implemented an RMP that is consistent with the relevant designating legislation or proclamation and national and state office policies and guidance using an interdisciplinary and integrated approach.

## **I.3 PLANNING CRITERIA**

BLM planning regulations (43 CFR, Part 1610) require the preparation of planning criteria before all RMPs are developed. Planning criteria are the standards, rules, and guidelines that help to guide the planning process. These criteria influence all aspects of the planning process, including collecting and inventorying data, developing issues to address, formulating alternatives, estimating impacts, and selecting the Preferred Alternative. In conjunction with the planning issues, planning criteria ensure that the planning process is focused and incorporates appropriate analyses. Planning criteria are developed from appropriate laws, regulations, and policies and from public participation and coordination with cooperating agencies, other federal agencies, state and local governments, and American Indian tribes.

Planning criteria used in the development of this RMP are as follows:

- The RMP will recognize the existence of valid existing rights
- The RMP will comply with applicable laws, regulations, executive orders (EOs), and BLM supplemental program guidance
- Planning decisions will cover BLM-administered public lands, including split-estate lands where the federal government has retained the subsurface mineral estate
- Planning decisions will use and observe the principles of multiple use and sustained yield set forth in FLPMA and other applicable law (43 USC, Section 1701 [c][1])
- The BLM will use a systematic interdisciplinary approach to achieve integrated consideration of physical, biological, economic, and other sciences (43 USC, Section 1701 [c][2])
- An area potentially suitable for designation as an area of critical environmental concern (ACEC) or other special designations will be identified and, where appropriate, brought forward for analysis in the EIS (43 USC, Section 1701 [c][3])
- The BLM will rely, to the extent it is available, on the inventory of public lands, their resources, and other values (43 USC, Section 1701 [c][4])
- The BLM will consider present and potential uses of the public lands (43 USC, Section 1701 [c][5])

- The BLM will consider Presidential Proclamation 7396: Establishment of the Pompeys Pillar National Monument
- The BLM will consider the relative scarcity of the values involved and the availability of alternative means (including recycling) and sites for the realization of those values (43 USC, Section 1701 [c][6])
- The BLM will consider the relationship between short-term uses of the human environment and the maintenance and enhancement of long-term productivity
- Decisions in the RMP will comply with applicable pollution control laws, including state and Federal air, water, noise, or other pollution standards or implementation plans (43 USC, Section 1701 [c][8])
- To the extent consistent with the laws governing the administration of the public lands (FLPMA 202 b[9]), the BLM will be consistent with existing officially approved or adopted resource plans, policies, or programs of other federal agencies, state agencies, American Indian tribes, and local governments that may be affected (43 CFR, Part 1610.3-1[c][9])

#### **I.4 ISSUES ADDRESSED**

Those planning issues determined to be within the scope of the EIS were used to develop one or more of the alternatives or were addressed in other parts of the EIS. For example, as planning issues were refined, the BLM collaborated with cooperating agencies to develop a reasonable range of alternatives designed to address and resolve key planning issues, such as what areas, if any, contain unique or sensitive resources requiring special management.

A reasonable range of alternatives provides various scenarios for how the BLM and cooperating agencies can address this and other key planning issues, including the management of resources and resource uses in the decision area. In other words, key planning issues serve as the rationale for alternative development.

The key planning issues identified for developing alternatives in the EIS are listed below.

##### ***Issue 1: How can public lands be managed to maintain or improve wildlife and fisheries habitats and control invasive species?***

Where public land ownership patterns are highly fragmented protection and/or improvement of fish and wildlife habitats is more challenging. The key to maintaining fish and wildlife habitats is diverse, healthy vegetation and plant communities and good water quality, stream channel, and riparian conditions. The RMP will identify the range (current and potential) of wildlife habitat as well as habitat conditions in the decision area.

##### ***Issue 2: How should recreation activities be managed in response to public demand while protecting natural and cultural resource values and provide for visitor safety?***

Recreation use in the decision area continues to increase. With this popularity has come a demand for a greater variety and availability of recreation opportunities such as motorized and non-motorized trails (including equestrian trails), climbing, mountain biking, hiking, and camping. With the number of visitors growing, resource and user conflicts are becoming more common. Recreational use needs to be

managed, including identifying special recreation management areas (SRMAs) where management attention is needed to highlight important recreational opportunities or deal with problems such as conflicts between users or impacts on other resources. The RMP should assist the BLM in providing access to the public lands and to ensure quality environmentally responsible outdoor recreational opportunities, experiences, and benefits for the growing number of public land users.

***Issue 3: What areas should be designated for special management (e.g., ACECs and Wild and Scenic Rivers) and how should these areas be managed?***

FLPMA and BLM policy require the BLM to give priority to designation and protection of ACECs during the land use planning process. The Wild and Scenic River (WSR) Act directs federal agencies to consider the potential for including watercourses into the National Wild and Scenic Rivers System during the land use planning process. The alternatives analyzed in this RMP/EIS include a range of management prescriptions for managing the existing and potential ACECs, as well as for managing the eligible rivers as suitable WSRs.

As part of the Billings and Pompeys Pillar National Monument RMP/EIS development, evaluations were conducted to address whether certain places in the decision area qualified/remained qualified for special designation to protect unique or significant values. Subject to valid existing rights, the RMP will avoid approval of proposed actions that could degrade the values of potential special designations.

***Issue 4: How will the cultural and historic values at Pompeys Pillar National Monument be protected?***

The cultural and historic values and associated viewshed at Pompeys Pillar National Monument (if it is within the decision area) will be preserved through management actions developed in this RMP for Pompeys Pillar National Monument. Pompeys Pillar National Monument (51 acres) was designated a national monument for the purpose of protecting ethnographic, historic, and archaeological values associated with Pompeys Pillar.

***Issue 5: How will recreation and visitor services at Pompeys Pillar National Monument be managed?***

Pompeys Pillar National Monument and ACEC will be managed to provide for interpretation, use, and enjoyment while protecting the significant resource values, providing for user safety, and maximizing socio-economic benefits.

#### **I.4.1 Issues Considered But Not Analyzed Further**

During scoping, several concerns were raised that are beyond the scope of this planning effort or that referred to the BLM planning process and implementation. Additionally, several issues were raised that are of concern to the public but governed by existing laws and regulations (e.g., water quality). Where law or regulation already dictates certain management, alternatives were not developed.

Policy or administrative actions include those actions that are implemented by the BLM because they are standard operating procedure, because federal law requires them, or because they are BLM policy. Administrative actions do not require a planning decision to implement. They are, therefore, issues that are eliminated from detailed analysis in this planning effort.

The *Billings and Pompeys Pillar National Monument Proposed Resource Management Plan and Final Environmental Impact Statement* provides a comprehensive list of issues outside the scope of the RMP or issues addressed through administrative or policy action (USDOI BLM 2015). The PRMP/FEIS is available at [http://www.blm.gov/mt/st/en/fo/billings\\_field\\_office/rmp/prmp\\_feis.html](http://www.blm.gov/mt/st/en/fo/billings_field_office/rmp/prmp_feis.html). Some major issues were considered but not analyzed because they were inconsistent with existing laws or higher-level management direction or because they were beyond the scope of the purpose and goals of this RMP. These issues include those described below.

#### **1.4.1.1 Issues Beyond the Scope of the Purpose and Goals of this RMP**

- Settlement of Revised Statute (RS) 2477 claims. The State of Montana and the Counties of Big Horn, Carbon, Golden Valley, Musselshell, Stillwater, Sweet Grass, Wheatland, and Yellowstone and the State of Wyoming and Big Horn County may hold valid existing highway rights-of-way across public lands in the planning area pursuant to RS 2477, Act of July 26, 1866, chapter 262, § 8, 14 Stat. 251, 253, codified at 43 USC § 932. This RMP does not adjudicate, analyze, or otherwise determine the validity of claimed RS 2477 rights-of-way. Nothing in this RMP extinguishes any valid right-of-way (ROW), or alters in any way the legal rights the State of Montana and the Counties of Big Horn, Carbon, Golden Valley, Musselshell, Stillwater, Sweet Grass, Wheatland, and Yellowstone and the State of Wyoming and Big Horn County have to assert and protect RS 2477 rights, and to challenge in federal court or other appropriate venue any use restrictions imposed by the RMP that they believe are inconsistent with their rights. If a claimed ROW is recognized by the BLM through an administrative determination, or a ROW is determined to be valid by a court of law, any use restriction imposed by this RMP shall no longer apply to it.
- New proposals for wilderness study areas (WSA) or wilderness. Any individual, organization, or agency can submit potential wilderness designation lands to Congress for designation. Only Congress can designate (WSA), established under Section 603 of FLPMA, as wilderness or release WSAs for other uses.
- Expansion of the Pryor Mountain Wild Horse Range (PMWHR) beyond the Herd Area. Wild horses can only be managed on areas of public lands where they were known to exist in 1971, at the time of the passage of the Wild Free-Roaming Horses and Burros Act (herd areas and territories). Under section 1339 “Limitation of Authority” the Wild Free-Roaming Horses and Burros Act of 1971 states “*Nothing in this Act shall be construed to authorize the Secretary to relocate wild free-roaming horses or burros to areas of the public lands where they do not presently exist*”. Until a change in the law allows for expansion of the PMWHR onto additional National Forest System lands and BLM lands that are outside of the Herd Area and Territory, the agencies have a legal obligation to follow the law to the greatest extent possible. Horses were in the Pryor Mountains historically, but by 1968 they were largely limited to the 1968 designated range due to the US Department of Agriculture, Forest Service (USFS)/BLM boundary fence. Though there is much supposition as to the extent of wild horses in 1971, comprehensive agency inventories, assessments, and public involvement (BLM/USFS/NPS 1972; BLM/USFS 1974) provided the basis for Herd Area and Territory boundaries per the 1971 Act. Subsequent land use planning efforts in 1984 (BLM) and 1987 (USFS) validated the same areas as being wild horse herd management area and territory, respectively.

- Activities and uses beyond the jurisdiction of the BLM.
- Changing existing laws, policies, and regulations.
- Availability of funding and personnel for managing programs.

#### ***1.4.1.2 Nonenergy Leasable Minerals***

Non-energy leasable minerals, such as phosphate, sodium, potassium , sulphur, trona, or Gilsonite, are not present in the decision area. Because of this, no allocations are made nor are they discussed or analyzed further in this document.

# CHAPTER 2

## POMPEYS PILLAR

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Pompeys Pillar is an ACEC, a national monument created by presidential proclamation in 2001, as well as a National Historic Landmark (NHL). It is also an identified Lewis and Clark National Historic Trail (LCNHT) high potential historic site and a high potential route segment (see **Figure 2-1** and **Figure 2-2**).

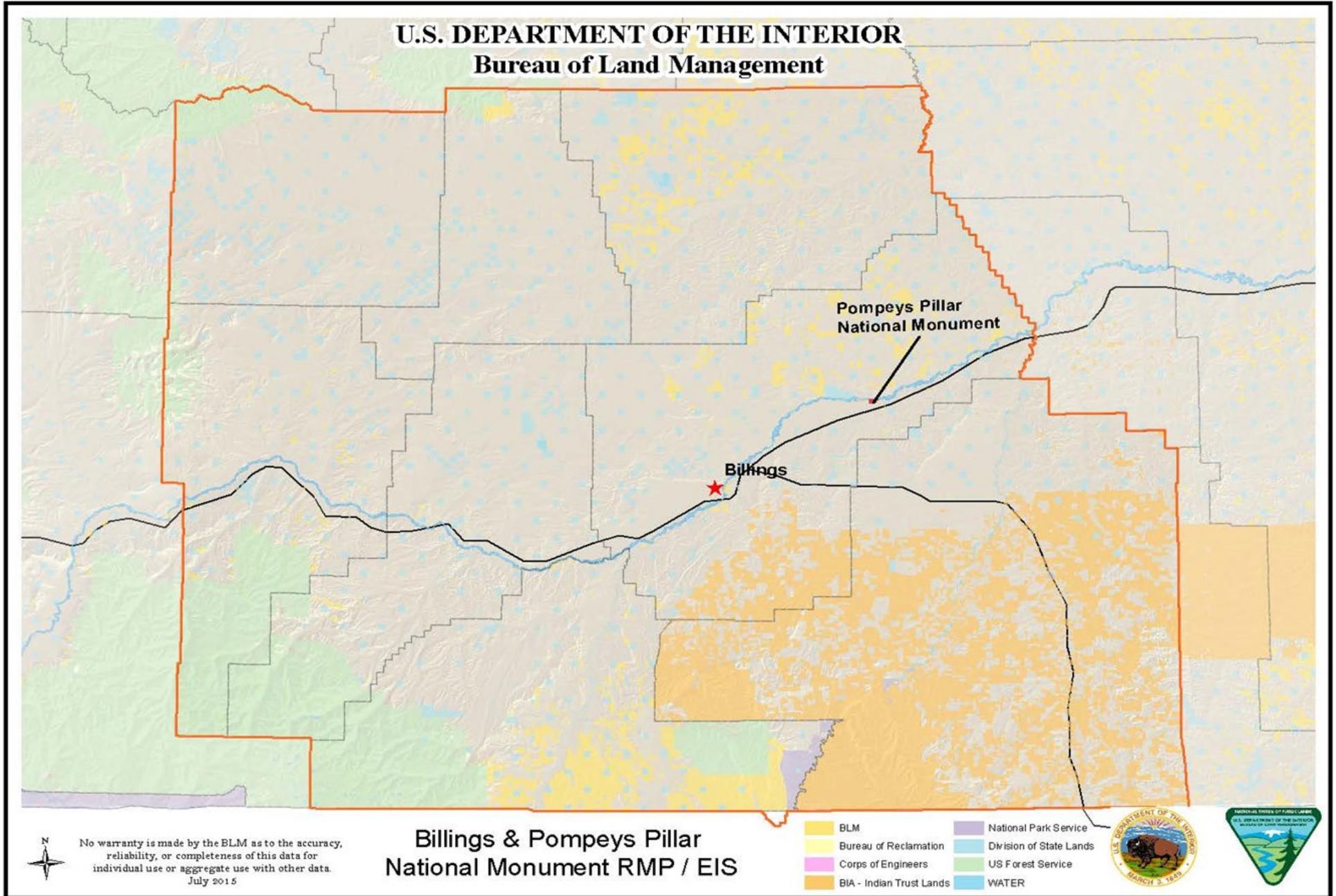
### 2.1 GENERAL OVERVIEW

Pompeys Pillar is a massive sandstone outcrop that rises approximately 127 feet on the banks of the Yellowstone River, approximately 30 miles east of Billings. Its premier location at a natural ford in the Yellowstone River, and its geologic distinction as the only major sandstone formation in the area, have made Pompeys Pillar a celebrated landmark and outstanding observation point for more than 11,000 years of human occupation. Hundreds of markings, petroglyphs, and inscriptions left by visitors have transformed this geologic phenomenon into a living journal of the American West.

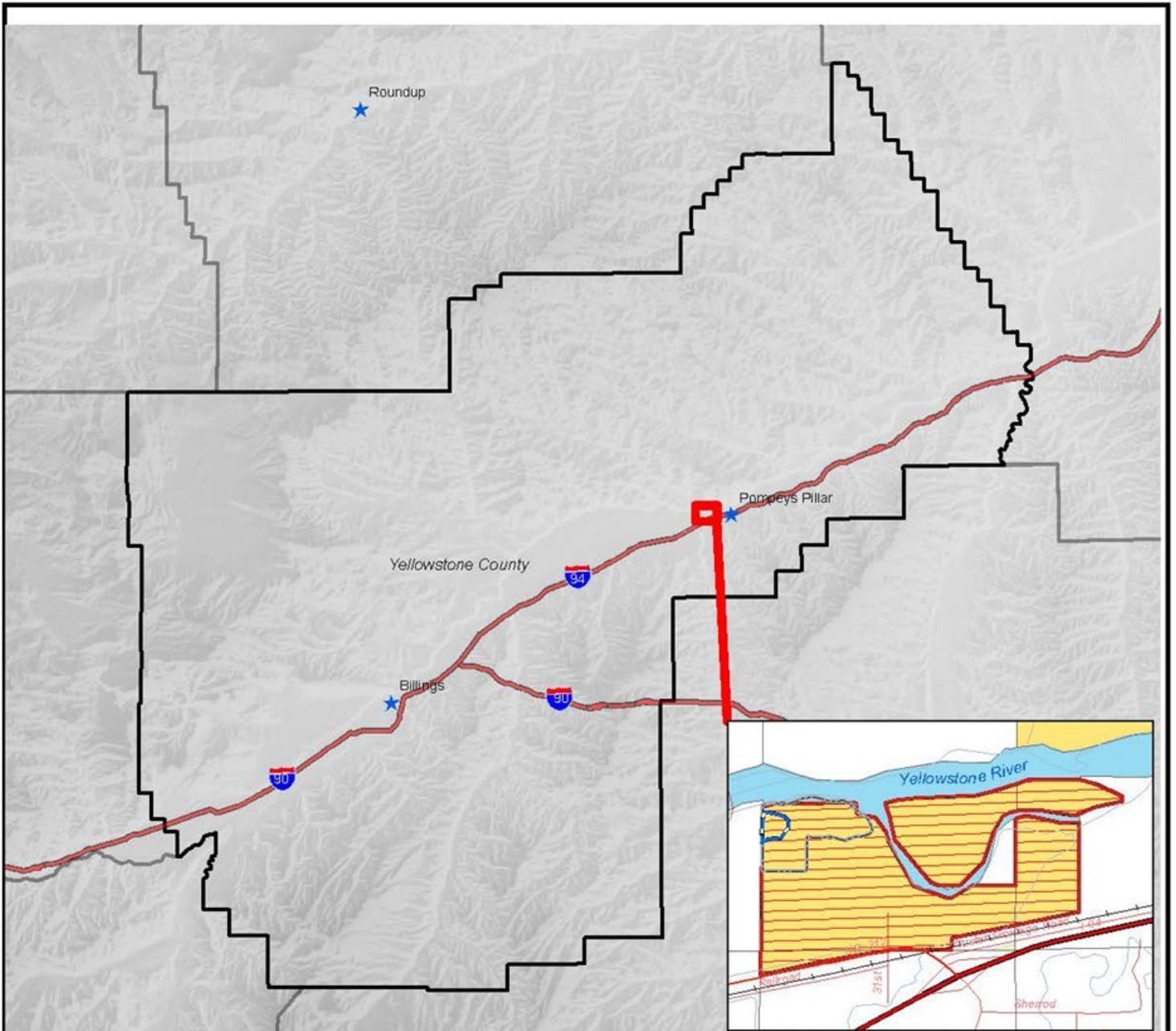
On January 17, 2001, Pompeys Pillar was designated a national monument under the authority of Section 2 of the Antiquities Act. Fifty-one acres of federally owned land were set apart and reserved as Pompeys Pillar National Monument for the purpose of protecting the ethnographic, historic, and archaeological values associated with the massive sandstone outcrop.

In 1965, before being designated a National Monument, Pompeys Pillar was officially designated a NHL. In 1991, the BLM acquired the NHL and adjacent land, totaling 366 acres. The total area currently being managed as Pompeys Pillar is 474 acres, the additional 107 acres being an adjacent island in the Yellowstone River that is also under BLM administration.

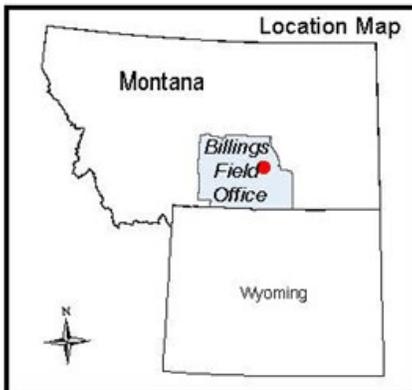
Ownership of the mineral estate has not been established due to the complexities arising from the multiple ownerships previous to BLM acquisition. To the extent that the federal government owns the minerals at PPNM, they are withdrawn through the Presidential Proclamation signed January 17, 2001.



Map 1



U.S. DEPARTMENT OF THE INTERIOR  
 Bureau of Land Management  
 Billings & Pompeys Pillar  
 National Monument RMP / EIS



**Pompeys Pillar National Monument**

Map generated by the Billings Field Office in July 2011

Albers Equal Area, NAD83 Projection

This map is intended for display purposes. No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of the data for individual or aggregate use with other data, or for purposes not intended by BLM. This map may not meet National Map Accuracy Standards. This product was developed through digital means and information may be updated without notification.

Legend	
	Area of Critical Environmental Concern
	National Monument
	National Historic Landmark
	Public Lands Survey System
	Railroads
	Limited Access Highway
	Pipelines & Powerlines
	Streams
	BLM - Public Domain
	Bureau of Reclamation
	Private
	WATER

Map 2

### 2.1.1 National Monument

Approximately 51 acres at Pompeys Pillar was designated a National Monument by executive proclamation of the President (**Appendix G**) in January 2001. The intent was to protect the historic and cultural objects described below (Presidential Proclamation 7396). This was accomplished through Section 2 of the Antiquities Act of June 8, 1906 (34 Stat. 225, 16 USC, Section 431). Section 2 states,

*“The President of the United States is authorized, in his discretion, to declare by public proclamation historic landmarks, historic and prehistoric structures, and other objects of historic or scientific interest that are situated upon the lands owned or controlled by the Government of the United States to be national monuments, and may reserve as a part thereof parcels of land, the limits of which in all cases shall be confined to the smallest area compatible with proper care and management of the objects to be protected. When such objects are situated upon a tract covered by a bona fide unperfected claim or held in private ownership, the tract, or so much thereof as may be necessary for the proper care and management of the object, may be relinquished to the Government, and the Secretary of the Interior is hereby authorized to accept the relinquishment of such tracts in [sic] behalf of the Government of the United States.”*

Ethnographic and archaeological evidence indicates that Pompeys Pillar was a place of ritual and religious activity. Hundreds of petroglyphs on the face of the rock, noted by William Clark in his journal, reflect the importance of the site to early peoples. The Crow people, dominant residents of the region when Clark passed through, refer to Pompeys Pillar in their language as the “Mountain Lions Lodge,” and it figures prominently in Crow oral history. Pompeys Pillar also includes the markings and signature of a host of characters from the pioneer past, including fur trappers, Yellowstone River steamboat men, frontier army troops, railroad workers, missionaries, and early settlers. In 1873, Lieutenant Colonel George Armstrong Custer and his men camped at its base, where they came under attack by Sioux warriors.

### 2.1.2 National Historic Landmark

National Historic Landmarks are nationally significant historic places designated by the Secretary of the Interior because they possess exceptional value or quality in illustrating or interpreting the heritage of the United States. In 1965, Pompeys Pillar was officially designated an NHL, primarily because of the significance of William Clark’s signature panel. The boundary includes approximately 6 acres above the 2,890-foot contour level. In 1983, the same site was listed on the National Register of Historic Places (NRHP) as a significant cultural property (**Appendix G**). A significant cultural property is a property or a place that is eligible for inclusion on the NRHP because of its association with cultural practices and beliefs that are rooted in the history of a community and are important to maintaining the continuity of that community’s traditional beliefs and practices. Pompeys Pillar fulfills both of these descriptions for multiple Native American populations. The Pompeys Pillar NHL is entirely within the PPNM boundary.

### 2.1.3 Area of Critical Environmental Concern

The BLM designated Pompeys Pillar an ACEC in 1996 to protect its cultural and historic resource values. Pompeys Pillar served as an important landmark and traveler register during the exploration and fur trade period and is an important physical reminder of the nineteenth century’s westward movement of Euro-American culture. In addition, the Pompeys Pillar property is a rich habitat for fish and wildlife resources. The wildlife species are typical of the riverine environment of the middle Yellowstone Valley in the early nineteenth century. Pompeys Pillar ACEC (432 acres) includes PPNM (51 acres), designated in 2001, and

Pompeys Pillar NHL (six acres) designated in 1965. **Table 2-1** provides a summary of special designations at Pompeys Pillar. The rationale for designation for all three is their cultural and historic values.

**Table 2-1  
Pompeys Pillar Designations**

<b>Designation</b>	<b>Acreage</b>
National Monument	51
National Historic Landmark in the National Monument	6 +/-
ACEC (includes the NM and NHL)	432

#### **2.1.4 Current Land Use at Pompeys Pillar National Historic Landmark, National Monument, and ACEC**

Current uses at Pompeys Pillar mainly focus on the historic and cultural recreational experiences for visitors. Pompeys Pillar is used extensively for education by regional schools. Because it is next to an interstate highway use by motorists traveling through the region may continue and possibly increase. The interpretive trail system, outdoor amphitheater, and scenic views offer outstanding opportunities for both locals and visitors.

Pompeys Pillar ACEC also offers exceptional recreation, including hunting, in the general management zone. Wildlife viewing, photography, and dispersed recreation, such as hunting, are among the most frequent visitor uses. There are few public land opportunities along the Yellowstone River with good physical and legal access. The recent acquisition of the Yellowstone Wildlife Management Area and Yellowstone River State Park by Montana Fish, Wildlife, and Parks (MTFWP), across the river, also provides outstanding recreation opportunities. Lands surrounding or next to the Pompeys Pillar planning area are important to preserving the historic and cultural viewshed.

#### **2.1.5 National Historic Trails**

As National Historic Trail (NHT) is congressionally designated and is an extended long-distance trail, not necessarily managed as continuous. It follows as closely as possible and practicable the original trails or routes of travel of national historic significance. The purpose of an NHT is to identify and protect the historic route and the historic remnants and artifacts for public use and enjoyment. An NHT is managed to protect the nationally significant resources, qualities, values, and associated settings of the areas that such a trail may pass through, including the primary use or uses of the trail.

NHTs, especially high potential sites and segments, are managed and protected in accordance with the National Trails System Act of 1968, Section 106 of the National Historic Preservation Act (NHPA), the National Landscape Conservation System (NLCS) Act, EO 13195, and BLM Instruction Memorandum (IM)-2009-215.

To qualify for designation as a NHT, a trail must meet the following criteria:

- Have been established by a historic use and have historical significance as a result of that use
- Have historic use of the trail that has had a far-reaching effect on broad patterns of American culture
- Has significant potential for public recreation or historical interest

The LCNHT Comprehensive Management Plan was completed in 1982. In 2012, the LCNHT completed a Foundation Document, which is a formal statement of the 'NHT's core mission that provides basic guidance for all planning and management decisions

The BLM guidance further provides that NHTs should be managed to promote their preservation, public access, travel opportunities, enjoyment, and appreciation for present and future generations as a component of the NLCS or the National Trails System.

The BiFO manages approximately seven miles of the LCNHT, which primarily follow the Yellowstone River through the planning area. Most public lands along the river trail are inaccessible, except for 2.2 miles near the PPNM (Map 166 of the B&PPNM PRMP/FEIS).

# CHAPTER 3

## APPROVED RESOURCE MANAGEMENT PLAN

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### 3.1 APPROVED RESOURCE MANAGEMENT PLAN INSTRUCTIONS

The ARMP is now the baseline plan for managing the PPNM in south-central Montana.

Once an RMP is approved, it may be changed through amendment. This process begins by the need to consider monitoring and evaluation findings, new data, new or revised policy, or a change in circumstances. It may also begin by a proposed action that would change the scope of resource uses or the terms, conditions, and decisions of the approved plan. If the BLM were to propose a plan amendment, the process would follow the same procedure required for preparing and approving the plan, but the focus would be limited to that portion of the plan being amended (43 CFR, Part 1610.5-5).

The BLM decisions proposed in this document apply only to BLM-administered surface and mineral estate acres. This includes the BLM-administered mineral estate that is under privately owned land, which is commonly referred to as split-estate. This document does not include planning or management decisions for lands or minerals privately owned, those owned by the State of Montana, those owned by local governments, or those administered by other federal agencies.

Any BLM decisions in this ARMP do not change any existing rights or authorizations, for example, the terms and conditions of existing oil and gas leases or rights-of-ways (ROWs). However, post-lease actions or authorizations, such as applications for permit to drill, road ROWs, and pipeline ROWs, could be subject to mitigation measures. This would be consistent with the decisions required through project-specific National Environmental Policy Act (NEPA) analysis or other environmental review. The stipulations or conditions of approval are in accordance with applicable laws, regulations, and any lease terms.

All future resource authorizations and actions will conform to or be consistent with the decisions contained in this ARMP. All operations and activities authorized under permits, contracts, cooperative agreements, or other authorizations will be modified, as necessary, to conform to this plan within a reasonable time frame. However, this ARMP does not repeal any valid existing right on public land. This is a claim or authorization that takes precedence over the decisions developed in this plan. If such

authorizations come up for review and can be modified, they will also be brought into conformance with this plan.

While the Final Billings and Pompeys Pillar National Monument Plan constitutes compliance with NEPA for the broad-scale decisions made in this ARMP, the BLM will continue to prepare environmental assessments (EAs) and EISs where appropriate as part of implementation level planning and decision-making.

### **3.2 GOALS, OBJECTIVES, AND MANAGEMENT DECISIONS**

This section presents the goals, objectives, land use allocations, and management actions established for protecting and preserving resources on public lands managed by the BLM at Pompeys Pillar National Monument.

#### **3.2.1 Pompeys Pillar National Monument (51 acres) (PPNM)**

**Goal PPNM 1:** *Comply with the designating Presidential Proclamation (**Appendix G**) by conserving, protecting, and restoring the nationally significant landscape, objects, and values for which PPNM was designated for the benefit of present and future generations.*

**Goal PPNM 2:** *Effectively manage valid existing rights and compatible uses within the PPNM.*

**Goal PPNM 3:** *Manage discretionary uses within PPNM to ensure the protection of the objects and values for which the PPNM was designated.*

**Goal PPNM 4:** *Utilize science, local knowledge, partnerships, and volunteers to effectively manage the PPNM in order to enhance the public's understanding and enjoyment of the PPNM consistent with the designating legislation or proclamation, with an emphasis on youth and veterans.*

**Goal PPNM 5:** *PPNM will be managed as a high potential historic site and a high potential route segment along the LCNHT. The Lewis and Clark high potential route segment will be managed consistent with the trail-wide goals for the LCNHT.*

**Goal PPNM 6:** *PPNM is included within the LCNHT Management corridor. Where multiple NLCS designations overlap, as in this case with the PPNM and the LCNHT, the BLM must comply with all applicable statutes. In order to do so, the more protective management requirements will likely apply. However, this will be evaluated on a case-by-case basis.*

#### *Management Decisions (MD)*

*The Pompeys Pillar ACEC (432 acres) includes the 51 acre National Monument. The following management is for Pompeys Pillar National Monument (51 acres only) (see Billings ARMP for Pompeys Pillar ACEC Goals and Management Direction).*

**MD PPNM-1:** Manage Pompeys Pillar NM (51) acres to protect the historical and cultural objects for which it was designated a National Monument.

**MD PPNM-2:** Develop and maintain relationships with other Federal agencies, tribal governments, state and local governments, national-level partnership organizations and non-profit groups, and the

general public in order to effectively manage the PPNM in accordance with designating legislation and proclamations, other applicable laws, and BLM policy.

**MD PPNM-3:** Land Use Authorizations: Exclusion area, except for those necessary to serve the site facilities.

**MD PPNM-4:** Land Tenure: land disposals not allowed

**MD PPMN-5:** Visual Resource Management (VRM): Class II for the NHL (6 acres) for protection of the significant historical resource and VRM Class III for the remainder of the PPNM for consideration of potential facility development and public management concerns.

**MD PPNM-6:** BLM Road Maintenance: Limited to the designated roadway and only that work necessary to ensure public safety and serviceability of the road to meet government standards.

**MD PPNM-7:** Fluid Mineral Leasing, Locatable Minerals, Solid Leasable Minerals, Mineral Materials Sales and Permits: All Federal lands and interest in lands within the boundaries of PPNM are appropriated and withdrawn from all forms of entry, location, selection, sale, or leasing or other disposition under the public land laws, including, but not limited to withdrawal from location, entry, and patent under the mining laws, and from disposition under all laws relating to mineral and geothermal leasing, subject to valid existing rights. Consider acquiring minerals from willing sellers.

**MD PPNM-8:** Geophysical Exploration: closed to geophysical exploration

**MD PPMN-9:** Fuel wood cutting/Wood Product Sales: not allowed

**MD PPMN-10:** Hunting: Closed to hunting for public safety and resource concerns

**MD PPNM-11:** Target Shooting: Not allowed for public safety and resource concerns

**MD PPNM-12:** Road Maintenance: Limited to the designated roadway and only that work necessary to ensure public safety and serviceability of the road and to meet government standards

**MD PPNM-13:** Site Facilities: When new administrative offices, visitor centers, contact stations, and similar facilities are needed for the Monument, the BLM will generally develop, or encourage the development of, these facilities within nearby communities to enhance local economic vitality and quality of life and to minimize disturbance within the Monument.

**MD PPNM-14:** Management Zones: Front Country Zone – includes all of the National Monument lands (51 acres) and 34 acres outside of and immediately adjacent to the National Monument (Map 4). In this zone the BLM will:

- I. Inventory existing facilities and determine whether to remove, maintain, restore, enhance, or allow natural disintegration of each facility. Subject to applicable law and valid existing rights, the BLM will consider removal of facilities that do not have administrative, public safety, recreational, cultural, or historic value.

2. Use this zone area to develop new facilities, including structures and roads, where they are necessary for public health and safety, are required under law, are necessary for the exercise of valid existing rights or other non-discretionary uses, prevent impacts on fragile resources, or further the purposes for which the NM was designated.
3. Facilities within the Monument, including utility, water, and electrical supply lines, will be designed and sited in a manner that minimizes impacts on the objects and values and the area's scenic characteristics; emphasizes energy efficiency and, where possible, the use of small-scale renewable energy installations; and conforms to best management practices (BMP) for visual resources management and the BLM Guidelines for a Quality Built Environment.
4. Facilities will be designed to enhance visitor experiences

**MD PPMN-15:** Off-Highway Vehicles (OHV) and Bicycles: Limited to designated roads and trails (2). Administrative use or other authorized use allowed on a case-by-case basis.

**MD PPNM-16:** Plant Collecting: Not allowed

**MD PPNM-17:** Renewable Energy: Closed (6) to commercial renewable energy facilities and development.

**MD PPNM-18:** Fire Suppression: Water use only within monument (51 acres).

**MD PPMN-19:** Livestock Grazing: Livestock grazing may be allowed on a temporary basis, for the treatment of noxious weeds, or as a prescription to meet site specific vegetation or other resource management goals.(6)

**MD PPMN-20:** Fuels Management: Fuels management and prescribed fire (7) may be allowed in the entire PPNM

**MD PPNM-21:** Range Improvements: Conditionally Allowed (4)

**MD PPNM-22:** Noxious/Invasive Weed Treatments : Allowed (4) (9)

**MD PPNM-23:** Animal Trapping/Trap lines: Allowed for administrative purposes in the entire PPNM.

**MD PPNM-24:** Non-Commercial Collection of Common Invertebrate and Plant Fossils: Not allowed

**MD PPMN-25:** Cremains Scattering: Not allowed

**MD PPNM-26:** Special Recreation Permits (SRP) and Letters of Authorization: Allowed (4)

SRPs will initially be limited to existing SRPs. Additional (new) SRPs will be permitted only when determined not to result in impacts on the values for which the ACEC was designated.

**MD PPNM-27:** Other Permitted Activities: Allowed (4)

**MD PPNM-28:** Geocaching: Generally not allowed (10)

**MD PPMN-29:** Other Management Activities: Other management activities and/or uses will be considered in subsequent site-specific analysis, and will consider the values for which the PPNM is designated (4).

**MD PPMN-30:** See notes:

Notes:

1. Avoidance area; granting Rights-of-Way (surface, subsurface, aerial) within the area should be avoided, but rights-of-way may be granted if there is minimal or no conflict with identified resource values and impacts on ACEC resource values can be fully mitigated.
2. OHV and bicycle, use will be limited to designated routes only.
3. Commercial collection of plant materials, including common species, authorized by permit only. Casual use allowed.
4. The activity is allowed in the area on a case-by-case basis and only if there is minimal or no conflict with identified resources values and impacts on PPNM resource values can be fully mitigated. Additional NEPA analysis required. Cultural inventories will be required for surface disturbing activities. Native American coordination/consultation required on activities within PPNM (especially if cultural resources are one of the values for PPNM designation)..
5. This includes all commercial renewable energy facilities, including those for testing, monitoring, and development.
6. Livestock grazing will be controlled through terms and conditions on the grazing permit.
7. Evaluate fire potential and remove fuels where needed to protect resource values. Types of treatments permitted include: mechanical treatments, treatment or application of chemicals, and other treatments that will not negatively impact the values of the PPNM.
8. Open to mineral material activities on a case-by-case basis and subject to controlled surface use (CSU), seasonal timing restrictions, restricted or no uses in avoidance areas (e.g. riparian areas, areas with special wildlife or plant features, areas of high cultural significance, and sensitive viewsheds), and additional NEPA analysis required.
9. Treatments may include any combination of herbicide application, mechanical treatments, burning, grazing, and the use of insects or pathogens.
10. If geocache location/activity does not conflict with the resource values of the PPNM this activity could be considered. BLM resource specialists (archaeologist and wildlife biologist), BLM outdoor recreation planner (ORP), and PPNM manager must agree activity does not impact PPNM values.

### 3.2.2 Physical, Biological, and Cultural/Heritage Resources

The following goals, objectives, and management decisions, while they do not specifically mention PPNM, they are applicable to PPNM. For a complete numerical listing of goals, objectives, and management decisions for each Resource and Resource Use, please see the Billings Field Office Approved Resource Management Plan.

### **Air Resources (AIR)**

**Goal AIR 1:** *Ensure authorizations and management activities comply with local, state, and federal air quality regulations and requirements.*

**Goal AIR 2:** *Manage BLM authorized activities to maintain compliance with the national ambient air quality standards (NAAQS), Montana ambient air quality standards (MAAQS), and the Montana State Implementation Plan (SIP).*

**Goal AIR 3:** *Reduce air quality and air quality related value (AQRV) impacts, including visibility and acid deposition, by including technically and economically feasible management actions to reduce emissions of criteria and hazardous air pollutants.*

#### *Management Decisions (MD)*

**MD AIR-1:** The BLM authorized activities will stipulate requirements to reduce fugitive dust emissions from construction activities and sites with surface disturbance.

**MD AIR-2:** The BLM authorized activities will stipulate requirements to reduce fugitive dust emissions from travel on high-traffic unpaved roads.

**MD AIR-3:** The BLM authorized activities will stipulate engine and stationary source emission control requirements needed to ensure compliance with NAAQS, MAAQS, Wyoming Ambient Air Quality Standards (WAAQS), and the Montana State SIP.

**MD AIR-4:** If unacceptable air quality or AQRV degradation trends are identified and are determined to be caused by BLM authorized activities, additional emission control will be included in the BLM authorized activities.

**MD AIR-5:** The BLM will coordinate smoke management with the Montana-Idaho Airshed Management Group, the Montana Department of Environmental Quality (MDEQ), and the Yellowstone County Air Quality Unit in Yellowstone County.

**MD AIR-6:** Management of the non-attainment area(s) within the planning area will continue to be the responsibility of the State of Montana (Map 4 of the B&PPNM PRMP/FEIS).

### **Climate Change (CC)**

**Goal CC-1:** *Evaluate the observed and anticipated long-term dynamic of climate change and reduce greenhouse gas (GHG) emissions from projects when feasible.*

**Goal CC-2:** *Provide for diverse, healthy ecosystems that are resilient to stressors, such as climate change.*

**Goal CC-3:** *Provide for flexible, adaptable management that allows for timely responses to changing climatic conditions.*

**Goal CC-4:** *Maintain or improve the ability of the BLM lands to reduce (sequester) atmosphere GHGs.*

*Management Decisions (MD)*

**MD CC-1:** Promote vegetative capture and storage of carbon, with consideration for resource objectives, by using Rangeland Standards and Montana Forestry/Rangeland BMP guidelines at the project planning and implementation level.

**MD CC-2:** The BLM authorized activities will consider the use of BMPs to reduce emissions of GHGs.

**MD CC-3:** Priority will be placed on actions such as: enhanced energy efficiency, use of lower GHG-emitting technologies and/or renewable energy, planning for carbon capture and sequestration, and the capture or beneficial use of fugitive methane emissions.

**MD CC-4:** Adjust the timing of BLM-authorized activities as needed to accommodate long-term changes in seasonal weather patterns, while considering the impacts on other resources and resource uses.

**Soil Resources (SOIL)**

**Goal SOIL 1:** *Maintain or improve soil health and productivity (e.g., chemical, physical, and biotic properties) by implementing Standards for Rangeland Health and other soil protection measures.*

**Goal SOIL 2:** *Minimize accelerated soil erosion and compaction and maintain surface soil water infiltration based on site specific conditions.*

**Goal SOIL 3:** *Manage BLM-authorized activities to minimize soil mass movement (primarily from accelerated water/wind erosion) resulting from fire, above-ground disturbances, and accelerated stream bank erosion.*

**Goal SOIL 4:** *Manage soil resources to:*

- *Prevent or minimize accelerated soil erosion*
- *Prevent or minimize flood and sediment damage, as needed*
- *Establish desirable plant communities, maintain existing desirable vegetative ground cover composition consistent with the ecological site characteristics, and sustain other ground cover including biotic crusts and litter to increase or maintain surface soil stability and nutrient cycling.*
- *Manage BLM-authorized activities to minimize sediment delivery to creeks, streams, and standing bodies of water (lakes, ponds, reservoirs, etc.).*

*Management Decisions (MD)*

**MD SOIL-1:** BLM-authorized surface-disturbing activities will include plans for reclamation. Site-specific reclamation actions should reflect the complexity of the project, environmental concerns, and the reclamation potential of the site, giving consideration to soils susceptible to erosion and compaction when assessing projects.

**MD SOIL-2:** The Standards for Rangeland Health (**Appendix I**) will be used to assess compaction and erosion issues.

**MD SOIL-3:** Respond in a timely manner to assess soil and mitigate potential soil damage after wildland or prescribed fire, in accordance with BLM Emergency Stabilization and Rehabilitation (ESR) standards.

**MD SOIL-4:** Identify opportunities to construct water flow, sediment control and watershed stabilization projects in partnership with local, state, and federal programs.

**MD SOIL-5:** Ground-disturbing authorizations will be allowed in areas where erosion will be effectively controlled or mitigated with a BLM-approved design plan.

**MD SOIL-6:** Use Rangeland Health Standards (**Appendix I**) and BMPs (**Appendix B**) to assess and mitigate disturbance of soils (e.g., erosion, re-vegetation, fiber mats and other restoration measures, etc.).

### **Water Resources (WATER)**

**Goal WATER 1:** *Maintain and/or improve surface water and groundwater resources, maintain compliance with applicable federal and state water quality standards, and improve water quality where practical within the scope of the BLM's authority.*

**Goal WATER 2:** *Restore and/or maintain the chemical, physical, and biological integrity of water resources to protect designated beneficial uses and achieve water quality standards.*

**Goal WATER 3:** *Minimize erosion and subsequent sedimentation for improved stream and watershed health.*

**Goal WATER 4:** *Maintain or improve morphological conditions to a stable state that can fully support beneficial uses.*

**Goal WATER 5:** *Protect water quality for municipal, industrial, agricultural, recreation, and residential purposes by adopting protective measures to meet federal, tribal, state, and local water quality requirements.*

**Goal WATER 6:** *Floodplains are properly functioning allowing for aquifer recharge, wildlife habitat, and flood water retention. (Map 8 of the B&PPNM PRMP/FEIS )*

**Goal WATER 7:** *Stream channel conditions are representative of the site capacity and dimension and moderate flows to allow floodplain aquifer recharge and safeguard floodplains.*

**Goal WATER 8:** *Secure and protect water rights for beneficial uses on the BLM administered lands to ensure water availability to the BLM authorized uses and programs.*

### *Management Decisions (MD)*

**MD WATER-1:** BLM will participate in the development, implementation, and monitoring of water quality restoration plans/total maximum daily load (TMDL) plans.

**MD WATER-2:** Use Rangeland Health guidelines and other management strategies to meet the Standards for Rangeland Health (Standards 2, 9 & 12) (**Appendix I**).

**MD WATER-3:** Use BMPs (**Appendix B**) and other practical management strategies to meet water quality standards set forth in rules/laws of federal, tribal, state, and local agencies.

**MD WATER-4:** Acquire in-stream water rights where appropriate, to ensure water availability for multiple-use management and proper functioning riparian and upland areas.

**MD WATER-5:** Cooperate with MDEQ and local communities to implement Source Water Protection Programs (SWPPs) and preserve source water.

**MD WATER-6:** Mitigation of surface-disturbing activities will be applied where needed to minimize impacts of human activities on riparian, water and floodplain resources, consistent with the stipulations identified for oil and gas development in this section. Mitigation measures will be applied during activity level planning if an on-site evaluation of the project area indicates the presence of these resources. Exceptions may be granted by the Authorized Officer, if an environmental review demonstrates that effects could be mitigated to an acceptable level or portions of the area can be occupied without affecting a particular habitat. Exceptions may also be granted where the short-term effects are mitigated by the long-term benefits (e.g., prescribed fire, wildlife monitoring, forest health treatments, and habitat restoration).

As defined in the Glossary, surface-disturbing and disruptive activities will not prohibit all activities or authorized uses. For example, emergency activities (e.g., fire suppression, search and rescue), rangeland monitoring, routine maintenance associated with an approved authorization, dispersed recreational activities (e.g., hunting, hiking), and livestock grazing are not considered surface-disturbing or disruptive activities.

**MD WATER-7:** Oil and gas surface occupancy and use is prohibited within State-designated Source Water Protection Areas (no surface occupancy [NSO])

**MD WATER-8:** Restrict or limit BLM-authorized activities that contribute to deteriorating watershed conditions and/or excessive erosion.

**MD WATER-9:** Use Rangeland Health Standards and Guidelines (**Appendix I**) and BMPs (**Appendix B**) to mitigate impacts from activities that are contributing to excessive erosion.

**MD WATER-10:** Monitor route conditions and temporarily/permanently close roads and/or apply mitigation measures where runoff contributes to accelerated decline in water quality and/or habitat, and/or reclaim.

**MD WATER-11:** Avoid the discharge of oil and gas- produced water from point sources to public lands, including stream channels and uplands, as a means of disposal. Any allowed discharge will be in compliance with MDEQ requirements.

**MD WATER-12:** Surface occupancy and use for oil and gas exploration and development (including geophysical operations) will be prohibited within riparian areas and wetlands, water bodies, perennial and intermittent streams, and floodplains of perennial streams. (NSO) (Same as MD Veg/R&W-6)

**MD WATER-13:** Surface occupancy and use will be controlled within 300 feet of riparian and/or wetland areas. Surface-disturbing activities will require a plan with design features that demonstrate how all actions will maintain and/or improve the functionality of riparian and wetland areas, The plan will address: (a) potential impacts on riparian and wetland resources, (b) mitigation to reduce impacts to

acceptable levels (including timing restrictions), (c) post project restoration, and (d) monitoring (the operator must conduct monitoring capable of detecting early signs of change in riparian and/or wetland conditions. (CSU) (Same as MD FH & SSS-7 and MD VEG/R&W-7)

**Vegetation: Forests and Woodlands (VEGIF&W)**

**Goal VEGIF&W 1:** *Restore and/or maintain the health and productivity of public forests and woodlands to provide a balance of forest and woodland resource benefits to current and future generations.*

**Goal VEGIF&W 2:** *Manage forests and woodlands, considering factors such as species, density, canopy cover, age class, and stand health and understory components, to restore vitality, health, and diversity.*

**Goal VEGIF&W 3:** *Promote forest vegetation recovery on forested lands after wildfire events.*

**Goal VEGIF&W 4:** *Use fire and fuels treatments as an integrated approach to meet forest health objectives.*

**Goal VEGIF&W 5:** *Return forests toward a more natural forest condition class and fire regime by implementing treatments that move forest conditions toward Fire Regime Condition Class I (FRCCI).*

**Goal VEGIF&W 6:** *Natural disturbance regimes will be maintained or mimicked so that plant communities are resilient to climate change and periodic outbreaks of insects, disease, and wildfire.*

**Goal VEGIF&W 7:** *Manage quaking aspen stands to promote vigor and resilience and to promote expansion of its current range.*

**Goal VEGIF&W 8:** *Manage coniferous and deciduous forests to promote vigor and resilience.*

**Goal VEGIF&W 9:** *Manage forests and woodlands to meet or exceed the standards identified in BLM's Standards for Rangeland Health (Standards 1 and 5).*

*Management Decisions (MD)*

**MD VEGIF&W-1:** An inventory and health assessment of forested stands within the planning area will be completed during the life of the plan, as budget and other priorities allow.

**MD VEGIF&W-2:** Monitor forest health indicators, including populations of insects, and apply forest management methods which promote the appropriate level of stocking and function based on the forest type.

**MD VEGIF&W-3:** Manage vegetation structure, density, species composition, patch size, pattern, and distribution in a manner which reduces the occurrence of unnaturally large and severe wildfires and forest insect/disease outbreaks. The amount of vegetation to be treated may vary and will be based on inventory and monitoring to meet desired objectives.

**MD VEGIF&W-4:** Treat stands at risk of catastrophic wildfire and epidemic levels of forest insects and/or disease as a high priority.

**MD VEG/F&W-5:** Conduct forest and woodland health management activities using a prescription based on the best available science. At a minimum, prescriptions will require a description of current stand conditions and desired future conditions (DFC).

**MD VEG/F&W-6:** Forest management will emphasize forest structures with large trees appropriate to the forest type, snag recruitment, and large diameter trees for cavity nesters where appropriate.

**MD VEG/F&W-7:** Use adaptive management strategies that address climate change in order to maintain or enhance forest and woodland ecosystems

**MD VEG/F&W-8:** Will allow operations on approx. 60% of forested acres not restricted by WSAs or ACECs.

**MD VEG/F&W-9:** Mechanical harvest (e.g. soil disturbing activities) limited on slopes > 25% without an approved mitigation and reclamation plan in place, but line or helicopter operations allowed.

**MD VEG/F&W-10:** Emphasis will be placed on retention and acquisition of forested lands. Disposal, retention, or acquisition of forested lands will consider the values of the forest type, habitat diversity, and potential for carbon sequestration.

**MD VEG/F&W-11:** Cutting for density management, forest health, and fuels management will be allowed unless otherwise restricted (e.g., WSAs, ACECs, etc.). Large trees will be retained in numbers and species as appropriate for the forest type and successional stage, consistent with wildlife requirements and other resource values.

**Vegetation: Rangelands and Shrublands (Veg/R&S)**

**Goal VEG/R&S 1:** *Manage vegetative resources to maintain a diversity of ecological conditions on rangelands while providing for a variety of multiple uses that are economically feasible, and based on sound biological principles and the best available science.*

**Goal VEG/R&S 2:** *Manage vegetative communities to restore, maintain or enhance vegetation community health, habitat, composition and diversity to provide a mix of successional stages that incorporate diverse structure and composition in the desired vegetation types.*

**Goal VEG/R&S 3:** *Maintain, improve, enhance, or restore habitat to facilitate the conservation, recovery, and maintenance of populations of native and desirable nonnative plant and animal species.*

*Management Decisions (MD)*

**MD VEG/R&S-1:** Manage rangelands to meet health standards consistent with the Standards for Rangeland Health (Standards 1 and 5) and Guidelines for Livestock Grazing Management and apply appropriate guidelines where not meeting the standards (**Appendix I**).

**MD VEG/R&S-2:** Identify and maintain areas containing high quality native vegetation for use as seed collection sites.

**MD VEG/R&S-3:** To manage cheatgrass and annual bromes, use the best available vegetation treatments, including but not limited to early spring grazing, prescribed fire, interim farming practices, and herbicide use.

**MD VEG/R&S-4:** Native seed will be used for all restoration and rehabilitation efforts unless site specific objectives dictate otherwise.

**Vegetation: Riparian and Wetlands (VEG/R&W)**

**Goal VEG/R&W 1:** Riparian and wetland areas will be managed to promote healthy wetland ecosystems, supporting physical processes and natural combinations of vegetation that work together to create stable stream banks, functional floodplains, complex fish and wildlife habitat and high water quality within site potential (Map 5).

**Goal VEG/R&W 2:** Riparian vegetation will be managed to achieve or sustain DFCs. The DFCs will be developed by an interdisciplinary team, giving consideration to restoring and/or promoting natural communities and complex riparian conditions valuable to water quality and wildlife habitat.

**Goal VEG/R&W 3:** Invasive species management will focus on restoring native and desired non-native communities to riparian areas to attain DFCs.

*Management Decisions (MD)*

**MD VEG/R&W-1:** Forest treatments will comply with the Montana Streamside Management Zone law to protect riparian resources.

**MD VEG/R&W-2:** Manage riparian communities to meet Standards for Rangeland Health (Standard 2) to ensure riparian areas and wetlands are in Proper Functioning Condition (PFC) (Appendices I and E).

**MD VEG/R&W-3:** Mitigation of surface-disturbing activities will be applied where needed to minimize impacts of human activities on riparian, water and floodplain resources, consistent with the stipulations identified for oil and gas development in this section. Mitigation measures will be applied during activity level planning if an on-site evaluation of the project area indicates the presence of these resources. Exceptions may be granted by the Authorized Officer, if an environmental review demonstrates that effects could be mitigated to an acceptable level or portions of the area can be occupied without affecting a particular habitat. Exceptions may also be granted where the short-term effects are mitigated by the long-term benefits (e.g., prescribed fire, wildlife monitoring, forest health treatments, and habitat restoration).

As defined in the Glossary, surface-disturbing and disruptive activities will not prohibit all activities or authorized uses. For example, emergency activities (e.g., fire suppression, search and rescue), rangeland monitoring, routine maintenance associated with an approved authorization, dispersed recreational activities (e.g., hunting, hiking), and livestock grazing are not considered surface-disturbing or disruptive activities.

**MD VEG/R&W-4:** Riparian areas will be monitored on a prioritized basis. High priority areas will include:

- Riparian areas adjacent to fish bearing waters.
- Riparian areas with existing cottonwood galleries or potential cottonwood gallery habitat

**MD VEG/R&W-5:** High priority riparian areas will be managed towards DFCs. Other riparian areas will be managed to meet rangeland health standards (properly functioning condition), unless other DFCs are appropriate.

**MD VEG/R&W-6:** Surface occupancy and use for oil and gas exploration and development (including geophysical operations) will be prohibited within riparian areas and wetlands, water bodies, perennial and intermittent streams, and floodplains of perennial streams. (NSO) (Same as MD WATER-12)

**MD VEG/R&W-7:** Surface occupancy and use will be controlled within 300 feet of riparian and/or wetland areas. Surface-disturbing activities will require a plan with design features that demonstrate how all actions will maintain and/or improve the functionality of riparian and wetland areas. The plan will address: (a) potential impacts on riparian and wetland resources, (b) mitigation to reduce impacts to acceptable levels (including timing restrictions), (c) post project restoration, and (d) monitoring (the operator must conduct monitoring capable of detecting early signs of change in riparian and/or wetland conditions. (CSU) (same as MD FH & SSS-7 and MD WATER-13)

**MD VEG/R&W-8:** Priority riparian habitats will include riparian areas associated with perennial streams and cottonwood galleries.

#### **Vegetation: Invasive Species and Noxious Weeds (VEG/IS&NW)**

**Goal VEG/IS&NW 1:** *Manage for healthy native plant communities and desirable nonnative plant communities by reducing, preventing expansion of, or eliminating the occurrence of undesirable invasive species, undesirable nonnative, or noxious weeds (predatory plant pests or disease) by implementing management actions consistent with national guidance, state and local weed management plans.*

**Goal VEG/IS&NW 2:** *Use Integrated Pest Management (IPM) to make progress towards a healthy plant community, while meeting multiple land use objectives and meeting Standards for Rangeland Health (Standards 1, 2, and 5) (Appendix I).*

**Goal VEG/IS&NW 3:** *Maintain baseline data to evaluate effectiveness of management actions and assess progress toward meeting invasive species management goals/objectives.*

**Goal VEG/IS&NW 4:** *Create buffer zones to protect and/or restore fish and wildlife habitat and neighboring agricultural fields.*

**Goal VEG/IS&NW 5:** *Control invasive and non-native weed species and prevent the introduction of new invasive species, including aquatic nuisance species (ANS), by implementing a comprehensive weed program including: coordination with key partners, prevention and early detection, education, inventory and monitoring, and using principles of IPM and creating weed management areas (WMAs).*

#### *Management Decisions (MD)*

**MD VEG/IS&NW-1:** Reclamation/stabilization and maintenance materials used will be from weed free seed source.

**MD VEG/IS&NW-2:** Invasive species, including aquatic invasives, will be managed in cooperation with other agencies, organizations, and landowners in accordance with EO 13112 (1999).

**MD VEG/IS&NW-3:** Biological control will be applied where appropriate and approved by Animal and Plant Health Inspection Service (APHIS). The BLM will consider adapting new or updated biological control techniques, as supported by research.

**MD VEG/IS&NW-4:** Domestic sheep and goats used for weed control will only be authorized where mechanisms are in place to achieve effective separation from wild sheep.

**MD VEG/IS&NW-5:** Weed control using domestic sheep and/or goats in potential grizzly bear and wolf habitat will only be authorized after consultation with U.S. Fish Wildlife Services.

**MD VEG/IS&NW-6:** Visitor protection during herbicide treatments at developed recreation areas will include posting signs to prevent public entry. To the extent practical, herbicide treatments will occur only during low recreation use.

**MD VEG/IS&NW-7:** Require the use of certified weed free seed forage and feeds to prevent establishment of new weed species. Forage subject to this rule will include hay, grains, cubes, pelletized feeds, straw and mulch.

**MD VEG/IS&NW-8:** Require the use of weed free seed and mulch for BLM-authorized activities and projects.

**MD VEG/IS&NW-9:** Noxious/Invasive species treatments will be approved by the appropriate BLM specialist prior to treatment occurring

**MD VEG/IS&NW-10:** Stipulations will be attached to all surface disturbing projects for noxious/invasive species prevention, identification, and treatments, as well as monitoring during and after project.

**MD VEG/IS&NW-11:** When possible, hand spray herbicides in areas of special status species (plants and animals)

**MD VEG/IS&NW-12:** Noxious and invasive weed control will not occur within ½ mile of nesting and brood rearing areas for special status species during the nesting and brood rearing season

**MD VEG/IS&NW-13:** Treatment priorities will be established consistent with State of Montana Noxious Weed guidance.

High Treatment Priority: eradication of new species; new infestations, areas of special concerns, riparian corridors or special status plant populations where there is a high threat to species of concern (such as Russian olive and salt cedar treatments); areas where partnership/cooperative agreements are in place; treatment and prevention in special designations and WMAs.

Moderate/Low Treatment Priority: areas that contain existing large infestations with a focus on boundaries of infestations, travel routes, trails, trailheads, and access points leading to areas of concern,

control existing large infestations and suppression of existing large infestations when eradication/control or containment is likely not to be successful.

**MD VEG/IS&NW-14:** Remove invasive species from cottonwood galleries and take actions to maintain the appropriate stand composition, structure and understory diversity to promote the expansion of galleries.

**MD VEG/IS&NW-15:** Aerial application of non-aquatic label herbicides will not be allowed within 500 feet of wetlands, riparian areas, and aquatic habitats.

Specific buffer strip widths indicated on pesticide labels or by state regulations must be followed. This also applies to cropland and ornamentals. Exceptions will be applied when managing riparian noxious/invasive species and following aquatic approved herbicide labels.

**MD VEG/IS&NW-16:** Land base application methods will not be allowed within 25 feet (by vehicle) or 10 feet (by hand) of fish-bearing water bodies during periods when fish are in life stages most sensitive to the herbicide(s) used. Exceptions will be applied when managing riparian noxious/invasive species and following aquatic approved herbicide labels.

**MD VEG/IS&NW-17:** Vehicle and hand application of herbicides will not be allowed within 25 feet (by vehicle) or 10 feet (by hand) of wetlands, riparian areas, aquatic habitats, dwellings and cropland. Exceptions will be applied when managing riparian noxious/invasive species and following aquatic approved herbicide labels.

**MD VEG/IS&NW-18:** Mix herbicides with non-aquatic label at a minimum of 500 feet away from riparian areas, water sources, floodplains, and known special status plant species populations.

**MD VEG/IS&NW-19:** Aerial application of herbicides will not be allowed within ½ mile of special status plant species.

Vehicle and hand application of herbicides near special status plant species will be allowed only when the treatment will benefit special status plant species (to be determined during site-specific analysis).

**MD VEG/IS&NW-20:** Native plant species common to the site's natural plant community will be used to restore disturbed ground.

Desirable non-native species will be considered based on site-specific analysis where difficult site stabilization or wildlife concerns prevail.

**MD VEG/IS&NW-21:** A target range of a minimum of 400 acres and at least a maximum of 2,000 acres of invasive and noxious weeds will be treated annually by BLM and cooperators through a variation of methods (herbicide, manual, mechanical, sheep/goats, biological and fire).

### ***Wildlife Habitat and Special Status Species (WLH & SSS)***

**Goal WLH & SSS 1:** *Manage terrestrial habitat to provide native species diversity and viability, and to sustain ecological, economic, and social values while providing for multiple uses of public lands (Appendix D).*

**Goal WLH & SSS 2:** *Manage for no net loss and connectivity of priority habitats on BLM-administered lands. The necessary habitat will be present to maintain, enhance, or restore threatened and endangered (T & E), special status, and priority native species populations. Sagebrush, native grasslands, seasonal or crucial wildlife ranges, special status species habitat, fisheries, cottonwood galleries, and riparian/wetlands will be priorities.*

**Goal WLH & SSS 3:** *Manage all BLM actions or authorized activities to sustain wildlife populations and their habitats and to avoid contributing to the listing of or jeopardizing the continued existence or recovery of special status species and their habitats.*

**Goal WLH & SSS 4:** *Manage or restore habitat on BLM-administered lands within the planning area to facilitate the conservation, recovery, and maintenance of populations of native, desirable non-native, and special status species consistent with appropriate local, state, and federal management plans.*

**Goal WLH & SSS 5:** *Manage habitats to support MTFWP in the attainment of objectives and well-distributed, healthy populations of wildlife species consistent with the MTFWP's Strategic Habitat Plan, Montana's Comprehensive Fish and Wildlife Conservation Strategy, and strategic population plans, and to achieve the stated purpose of designated State of Montana Wildlife Management Areas.*

**Goal WLH & SSS 6:** *Minimize fragmentation of large intact blocks of wildlife habitat to maintain connectivity, population migrations and functional blocks of security habitat for big game species.*

**Goal WLH & SSS 7:** *Manage environmental risks and associated impacts in a manner compatible with sustaining plant, fish, wildlife, and special status species populations. Environmental risks include, but are not limited to, parasites, diseases, insect outbreaks, catastrophic fires, contamination, pesticides, rodenticides, herbicides, climate, and other hazards.*

**Goal WLH & SSS 8:** *Coordinate with other agencies to prevent or control diseases, pests and species that threaten the health of humans, wildlife, livestock, and vegetation.*

#### *Management Decisions (MD)*

**MD WLH & SSS-1:** Implement conservation actions identified in EO 13186 – “Responsibilities of Federal Agencies To Protect Migratory Birds.”

**MD WLH & SSS-2:** Implement the North American Bird Conservation initiative to restore, enhance, and maintain habitats for migratory birds. Include US Department of the Interior Fish and Wildlife Service (USFWS) Birds of Conservation Concern for Bird Conservation Regions 10 and/or 17 where appropriate through project level NEPA analysis. Emphasize maintenance and restoration of habitats that sustain special status species with minimum disturbance during the breeding season.

**MD WLH & SSS-3:** Enhance or restore habitat composition and structure beyond PFC in riparian habitats, where and when appropriate, for migratory bird habitat.

**MD WLH & SSS-4:** Retaining important blocks of hiding, security, and thermal cover for big game will be considered during project planning. The BLM will emphasize habitat improvements in areas where there is limited or fragmented security habitat through vegetation treatments and route limitations (including seasonal closures).

**MD WLH & SSS-5:** Assist in the restoration, reintroduction, augmentation, or re-establishment of T & E, special status, and priority species and other populations and (or) habitats in coordination with other agencies (**Appendix K**).

**MD WLH & SSS-6:** Fences identified as barriers to wildlife movement on BLM-administered lands will be modified or removed to accommodate wildlife passage, unless the fences were built specifically to keep native ungulates out of an area. Fences will also be placed and marked, or modified, to reduce wildlife collisions or entanglements.

**MD WLH & SSS-7:** Utilize appropriate offsite compensatory mitigation to reduce impacts on wildlife habitat. This will be necessary if (1) all onsite mitigation has been accomplished and adverse effects have not been mitigated; or (2) if onsite mitigation is not feasible. Off –site mitigation will be applied as close to the affected area as possible and for the same or similar impacted species or habitats.

**MD WLH & SSS-8:** The BLM will apply appropriate mitigation measures and conservation actions to BLM authorized activities to avoid, minimize, rectify, reduce, or compensate for impacts if an evaluation of the project area indicates the presence of important wildlife species, seasonal wildlife habitat, or other resource concern.

**MD WLH & SSS-9:** Manage siting of facilities to minimize impacts on wildlife habitat function and quality, to minimize impacts on vegetation resources for all uses, and to minimize wildlife mortality during the life of the facility.

**MD WLH & SSS-10:** Where wildlife conflicts exist, overhead power lines and tall structures will follow the recommendations in the Avian Protection Plan (APLIC) guidelines. When possible, perch, collision, and electrocution preventions will be used.

**MD WLH & SSS-11:** Management techniques, including but not limited to prescribed and managed wildfire, prescriptive livestock grazing, planting, exclusion to intense disturbance, timber harvest and other mechanical methods will be used to restore, maintain or improve the desired ecological conditions of vegetation communities for the purpose of improving forage, nesting, breeding, and security habitat, hiding cover and travel corridors for a wide diversity of terrestrial and aquatic species.

**MD WLH & SSS-12:** Management actions will emphasize providing habitat of sufficient quantity and quality, including connectivity and wildlife movement corridors, habitat complexity, forest openings, edges, and ecotones, to enhance biological diversity and provide quality, sustainable habitat for native wildlife species.

**MD WLH & SSS-13:** Predator control will be permitted subject to the stipulations outlined in the annual Animal Damage Control (ADC) Memorandum of Understanding between BLM and USDA-APHIS. Predator control in non-USDA ADC areas will be subject to the same stipulations as applied to those counties where predators are managed by USDA-APHIS.

**MD WLH & SSS-14:** The BLM could seasonally limit/close rock climbing activities in areas with active raptor nests and will educate the public about the importance of avoiding such locations.

**MD WLH & SSS-15:** Unoccupied raptor nests will be protected from removal or destruction for 7 years.

**MD WLH & SSS-16:** Surface disturbing and disruptive activities that impact special status species, particularly during critical life cycles, will be avoided or minimized.

**MD WLH & SSS-17:** When wildlife or their habitat could be affected, the BLM will require, as appropriate, a current year wildlife survey of the project area from the project proponent.

Power lines

**MD WLH & SSS-18:** Where resource conflicts exist, BLM will not authorize above-ground power lines (<69kV), unless burying the power line is unfeasible. If burying power lines is unfeasible, then power lines will be authorized in a manner that ensures habitat is maintained (e.g.

Special Status Species

**MD WLH & SSS-19:** Special Status Species: All federally listed and BLM sensitive species and their habitats will be considered priority species and habitats.

**MD WLH & SSS-20:** Special Status Species: Identify distribution, key habitat areas, and special management needs for development of management plans and conservation measures, consistent with restoration, conservation and recovery plans for threatened, endangered, and other special status species. Priority habitats are riparian/ wetland areas, native grasslands, sagebrush steppe, conifer forests, and seasonal ranges supporting life cycle requirements for wildlife (i.e., winter, breeding, parturition, etc.).

**MD WLH & SSS-21:** Special Status Species: Timing restrictions will be used in special status species habitat. Surface disturbing and disruptive activities that impact special status species habitats during their seasons of use, particularly during critical life cycles will be avoided or minimized.

**MD WLH & SSS-22:** Special Status Species: Assist in the restoration, reintroduction, augmentation, or re-establishment of threatened, endangered, and other priority or special status species populations and (or) habitats in coordination with MTFWP and USFWS.

Special Status Species: Bald Eagle and Golden Eagle Nests and Habitat

**MD WLH & SSS-23:** Special Status Species: Bald Eagle and Golden Eagle Nests and Habitat - BGEPA (Bald and Golden Eagle Protection Act): BLM will coordinate with USFWS on activities that may affect bald or golden eagles for compliance with BGEPA. The BLM will not issue a notice to proceed for any project that is likely to result in take of bald eagles and/or golden eagles until the applicant completes its obligation under applicable requirements of BGEPA, including completion of any required procedure for coordination with the FWS or any required permit. The applicant may be required to conduct further analysis and mitigation following assessment of operational impacts.

**MD WLH & SSS-24:** Special Status Species: Bald Eagle and Golden Eagle Nests and Habitat - Bald eagle and golden eagle nesting habitats will be actively protected from loss due to fire, insect, or disease by reducing vegetation competition and encroachment in these habitats, unless visual barriers are compromised.

Special Status Species: Bald Eagle Nests

**MD WLH & SSS-25:** Special Status Species: Bald Eagle Nests - Activities and habitat alterations including surface disturbing or disruptive activities that disturb bald eagles will be restricted within suitable habitats or avoided within ½ mile of bald eagle nest sites active within the preceding 5 breeding seasons. Activities in bald eagle habitat will be conducted according to Montana Bald Eagle Management guidelines (Montana Bald Eagle Working Group, 2010, Montana Bald Eagle Management Guidelines: An Addendum to Montana Bald Eagle Management Plan, 1994).

**Fisheries Habitat and Special Status Species (FISHERIES) (FH & SSS)**

**Goal FH & SSS 1:** *Manage aquatic habitat to provide native and desirable non-native species diversity and viability, and sustain ecological, economic, and social values while providing for multiple uses of public lands.*

**Goal FH & SSS 2:** *Manage aquatic ecosystems to provide sustainable recreational and educational benefits to the public.*

**Goal FH & SSS 3:** *Manage fisheries habitat to support MTFWP's Strategic Habitat Plan and the Montana Comprehensive Fish and Wildlife Conservation Strategy.*

**Goal FH & SSS 4:** *Management activities will emphasize restoration and/or maintenance of riparian structure, composition, and processes, including physical integrity of riparian ecosystems, amount and distribution of woody debris to sustain physical and biological complexity, adequate summer and winter thermal regulation, water quality and hydrologic processes, distribution and diversity of riparian vegetative communities and source habitats for riparian dependent species.*

**Goal FH & SSS 5:** *Use cooperative efforts to minimize negative impacts on, or enhance aquatic ecosystems on adjacent private lands.*

**Goal FH & SSS 6:** *Coordinate with other agencies to prevent or control diseases, pests and species that threaten the health of humans, wildlife, livestock, and vegetation.*

**Goal FH & SSS 7:** *Manage or restore habitat on BLM-administered lands within the planning area to facilitate the conservation, recovery and maintenance of populations of native and special status species (BLM special status species, Candidate species, USFWS listed, proposed, or petitioned species) consistent with appropriate local, state, and federal management plans.*

*Management Decisions (MD)*

**MD FH & SSS-1:** Manage riparian areas and wetlands supporting fisheries toward PFC, as required through Standards and Guidelines (Appendices I and E).

**MD FH & SSS-2:** Roads will be located, designed and maintained, to the extent practical, to reduce sedimentation, identify and remove unnatural barriers, eliminate fish passage barriers (when desired), and restore or maintain riparian vegetation.

**MD FH & SSS-3:** Manage siting of facilities to minimize impacts on fish habitat function and quality, to minimize impacts on vegetation resources for all uses, and to minimize fish mortality during the life of the facility.

**MD FH & SSS-4:** Habitat-improvement techniques will be used where appropriate to provide missing habitat components or improve existing habitats.

**MD FH & SSS-5:** The BLM will continue to partner with MTFWP in the establishment of fishing access sites.

**MD FH & SSS-6:** Develop and maintain a prairie fish and fish habitat inventory and identify potential or suitable habitat.

**MD FH & SSS-7:** Surface occupancy and use will be controlled within 300 feet of riparian and/or wetland areas. Surface-disturbing activities will require a plan with design features that demonstrate how all actions will maintain and/or improve the functionality of riparian and wetland areas, The plan will address: (a) potential impacts on riparian and wetland resources, (b) mitigation to reduce impacts to acceptable levels (including timing restrictions), (c) post project restoration, and (d) monitoring (the operator must conduct monitoring capable of detecting early signs of change in riparian and/or wetland conditions. (CSU) (same as MD WATER-13 and MD VEG/R&W-7)

**MD FH & SSS-8:** Habitat conditions will be monitored on fish-bearing streams (approx. 7 miles) with existing or potential threats, where grazing or human-caused impacts are likely.

#### **Cultural and Heritage Resources (C&HR)**

**Goal C&HR 1:** *Identify, preserve, and protect significant cultural resources and ensure that they are available for appropriate uses by present and future generations (FLPMA, Section 103 (c), 201(a) and (c); NHPA, Section 110(a); Archaeological Resources Protection Act, Section 14(a)).*

**Goal C&HR 2:** *Seek to reduce imminent threats and resolve potential conflicts from natural or human-caused deterioration, or potential conflict with other resource uses (FLPMA Section 203(c), NHPA 106, 110(a) (2)) by ensuring that all authorizations for land use and resource use will comply with the NHPA Section 106.*

**Goal C&HR 3:** *Cultural resources on BLM-administered land will be protected and maintained in stable condition. Appropriate management actions will be determined after evaluation and allocation of cultural resource use categories through cultural resource project plans.*

**Goal C&HR 4:** *Maintain viewsheds of important cultural resources whose settings contribute significantly to their scientific, public, traditional, or conservation values.*

**Goal C&HR 5:** *Provide and promote research opportunities that will contribute to our understanding of the ways humans have used and influenced the landscape.*

**Goal C&HR 6:** *Manage historic trails to realize their educational, recreational, and scientific values.*

**Goal C&HR 7:** *Enhance public understanding of, and appreciation for, cultural resources through educational outreach and heritage tourism opportunities.*

*Management Decisions (MD)*

**MD C&HR-1:** Evaluate cultural resources according to National Register criteria (36 CFR Part 60.4) and assign cultural resources to appropriate use categories as the basis for management decisions (see **Appendix L**).

**MD C&HR-2:** All sites determined eligible to the NRHP will be allocated and managed for Scientific, Public, Traditional, Experimental, and/or Conservation for Future Use. However, if another use becomes evident or proposed after use allocation has occurred, the use allocation may be changed without a plan amendment (**Appendix L**).

**MD C&HR-3:** All sites determined not eligible to the NRHP and not containing antiquities or archaeological resources will be allocated and managed as Discharged from Management Use

**MD C&HR-4:** Cremains scattering will not be permitted on prehistoric or historic archaeological sites, buildings, or structures, Native American burials, sacred sites, or traditional cultural use areas.

**MD C&HR-5:** Design and maintain facilities to preserve the visual integrity of cultural resources, settings, and cultural landscapes consistent with VRM objectives established in the RMP

**MD C&HR-6:** Where feasible, acquire properties adjacent to public lands through donation, exchange, or purchase that contain significant cultural resources including, but not limited to, those properties eligible for inclusion on the NRHP

**MD C&HR-7:** Parameter – Cultural Resource Use Allocation – Rock Art Sites: Allocate and manage all National Register eligible sites for Conservation, Scientific, Traditional, and /or Public Use.

Interpretative sites will be developed as appropriate.

**MD C&HR-8** Parameter – Cultural Resource Use Allocation – Aboriginal Occupation Sites and Structures (prehistoric and protohistoric): Allocate and manage all National Register eligible sites to Scientific, Public, Traditional, and/or Conservation Use.

Interpretative sites will be developed as appropriate.

**MD C&HR-9:** Parameter – Cultural Resource Use Allocation – Lithic Scatters/Workshops: Allocate and manage all National Register eligible sites to Conservation and or Scientific Use.

**MD C&HR-10:** Parameter – Cultural Resource Use Allocation – Vision Quest Sites/Sacred Sites/Traditional Cultural Properties (TCPs)/Ethnohistoric Sites: Allocate and manage all National Register eligible sites to Conservation and/or Traditional Use

**MD C&HR-11:** Parameter – Cultural Resource Use Allocation – Historic Features: Allocate and manage all National Register eligible sites to Conservation and/or Scientific Use

**MD C&HR-12:** Parameter – Cultural Resource Use Allocation – Historic Roads/Trails: Allocate and manage all National Register eligible resources for Scientific, Conservation, and/or Public Use.

Interpretative sites will be developed as appropriate.

**MD C&HR-13:** Parameter – Cultural Resource Use Allocation – Historic Structures and/or Homesteads: Allocate and manage all National Register eligible sites to Scientific, Conservation, and/or Public Use.

Interpretative sites will be developed as appropriate.

**MD C&HR-14:** Parameter – Cultural Resource Use Allocation – “Other” Sites: All National Register eligible sites will be allocated and managed for Scientific and/or Conservation Use with public use being monitored.

***Paleontological Resources (PALEO)***

**Goal PALEO 1:** *Identify, manage, and monitor at-risk paleontological resources (scientific values); preserve and protect vertebrate fossils through best science methods; and promote public and scientific use of invertebrate and paleo-botanical fossils.*

**Goal PALEO 2:** *Manage fossil locales with high scientific value in a stable condition, while allowing appropriate scientific and public use.*

**Goal PALEO 3:** *Locate, evaluate, and manage paleontological resources and protect them where appropriate*

**Goal PALEO 4:** *Facilitate suitable scientific, educational, and recreational uses of fossils*

**Goal PALEO 5:** *Ensure that significant fossils are not inadvertently damaged, destroyed, or removed from public ownership as a result of surface disturbance or land tenure adjustments*

*Management Decisions (MD)*

**MD PALEO-1:** The Potential Fossil Yield Classification (PFYC) system will be used to assess possible resource impacts and mitigation needs for Federal actions involving surface disturbance, land tenure adjustments, and land-use planning

**MD PALEO-2:** Vertebrate fossils can be collected only under a permit issued to qualified individuals. Vertebrate fossils include bones, teeth, eggs, and other body parts of animals with backbones, such as dinosaurs, fish, turtles, and mammals. Vertebrate fossils also include trace fossils such as footprints, burrows, gastroliths, and coprolites.

**MD PALEO-3:** Fossils collected under a permit remain the property of the federal government and must be placed in a suitable repository which will be identified at the time of permit issuance

**MD PALEO-4:** Where feasible, acquire properties adjacent to public lands through donation, exchange, or purchase that contain significant paleontological resources

**MD PALEO-5:** For all surface disturbing activities occurring within PFYC Class 3 or higher units, a stipulation or condition of approval will be included on the permitting document. Assessment, inventory, and/or mitigation will be required based on PFYC class (Map 35 of the B&PPNM PRMP/FEIS ). (LN)

**MD PALEO-6:** Written and web-based information will be developed, maintained, and provided about fossils and to promote visitor education

**MD PALEO-7:** Paleontological Resource Use permits will be issued for scientific study.

BLM will support investigations in lesser known areas and in areas where surface disturbance is occurring or anticipated.

### **Visual Resources (VISUAL)**

**Goal VISUAL 1:** *Manage public lands for their scenic values while providing for the overall multiple-use and quality of experience to visitors of public lands.*

**Goal VISUAL 2:** *Establish visual management objectives to minimize adverse impacts on the visual resources on the landscape.*

**Goal VISUAL 3:** *Maintain the overall integrity of VRM classes, while allowing for modifications to landscapes in those classes, consistent with the established management objectives.*

### *Management Decisions (MD)*

**MD VISUAL-1:** Manage visual resources according to established guidelines for VRM classes (**Appendix J**).

**MD VISUAL-2:** Use the visual resource contrast rating system during project level planning to determine whether or not proposed activities will meet VRM objectives. Identify appropriate mitigation measures to reduce visual contrasts.

**MD VISUAL-3:** Prepare rehabilitation plans to address landscape modifications on a case-by-case basis.

**MD VISUAL-4:** Manage BLM public lands according to the following VRM class designations (Map 6):

- VRM Class I 29,714 acres
- VRM Class II 55,883 acres
- VRM Class III 349,441 acres
- VRM Class IV 0 acres

### **Fire Ecology and Management (FIRE)**

**Goal FIRE 1:** *Manage wildfire and fuels for the protection of public health, safety, property, and resource values. The protection of human life is the single, overriding priority. Setting priorities among protecting human communities and community infrastructure, other property and improvements, and natural and cultural resources will be done based on the values to be protected, human health and safety, and the costs of protection.*

**Goal FIRE 2:** *Manage hazardous fuels in areas of urban and industrial interface to reduce potential loss due to fire.*

**Goal FIRE 3:** *Maintain desired mix of seral stages within vegetation communities, including desert shrublands, forest and woodlands, grasslands, mountain shrublands, sagebrush (all sub-species), riparian/wetlands and aspen.*

**Goal FIRE 4:** *Manage vegetation communities through cooperative efforts by restoring natural fire regimes and frequency to the landscape, where appropriate.*

**Goal FIRE 5:** *Maintain partnerships with the public and interagency cooperators to strengthen coordination of all fire management activities and encourage the creation of fire-safe communities.*

**Goal FIRE 6:** *Utilize an integrated management technique unless otherwise restricted (defined as prescribed fire, mechanical, chemical, or biological, followed by desired reseeding) to reduce fuels to protect high priority areas or resource values.*

*Management Decisions (MD)*

**MD FIRE-1:** In the course of fire suppression, a resource advisor will be consulted or assigned to wildfires that involve or threaten public lands.

**MD FIRE-2:** The use of fire suppression chemicals will be limited around areas with rock art and standing structures and other areas with significant cultural resources (including ACECs).

**MD FIRE-3:** Use of wildfire suppression chemicals within 300 feet of waterways will be prohibited.

**MD FIRE-4:** Fuels treatments will be designed to protect or improve resource values.

**MD FIRE-5:** ESR of burned areas will be conducted according to current policy to protect and sustain ecosystems, public health and safety.

**MD FIRE-6:** Prevent the movement of wildfires from the wildlands into the Wildland Urban Interface (WUI) area (Interagency Strategy for the Implementation of Federal Wildland Fire Management, pg. 28)

**MD FIRE-7:** Response to wildfires will be based on ecological, social, economic and legal consequences of the wildfire.

Fire management strategies and tactics will be determined by (but not limited to) the following:

- Firefighter and public safety
- Resource values at risk
  - In priority habitat management areas (PHMA) suppression will be prioritized to conserve habitat
  - In general habitat management areas (GHMA), suppression will be prioritized where wildfires threaten PHMA
- Proximity to private land
- Firefighting resource availability

**MD FIRE-8:** Heavy equipment will not be used to construct fire lines in crucial winter range, habitat of candidate or special status species, riparian/wetlands or in areas of cultural resource sensitivity or other designated areas (e.g., ACECs, WSAs). Exceptions will be permitted for protection of human life, property and/or to protect resource values from further loss due to unwanted/unplanned natural or human caused wildland fires.

Cultural Resource Specialists, Wildlife Biologists, or Resource Advisors will be consulted for locations of identified areas before use of or anticipated use of heavy equipment.

If heavy equipment is used, rehabilitation work on lines will begin immediately after containment.

Heavy equipment could be used in a WSA only if the exceptions in the non-impairment standards are met.

**MD FIRE-9:** Wildfires (natural ignitions) that occur within or adjacent to an area identified for vegetation or fuels treatment could be managed to meet the desired management objectives.

**MD FIRE-10:** Prescribed fire will be allowed on up to 5 percent of the percent of BLM administered acres within the planning area to achieve measurable landscape level objectives from (1) other resources, including, but not limited to, forestry, wildlife, range, vegetation, and watershed; and (2) the reduction of hazardous fuels;

Treatment methods, including prescribed burning and mechanical treatments will be used to eliminate conifer encroachment and stimulate vegetative re-growth in grassland/shrub land habitats; and to reduce fuels, thin under-stories, recycle nutrients, and create small openings in forested vegetation types.

### **3.2.3 Resource Uses and Support**

#### ***Energy & Mineral Resources: Solid Leasables (including coal), Fluid Mineral Resources, Locatable Minerals, and Mineral Materials***

##### *Management Decisions (MD)*

**MD Minerals 1:** All Federal lands and interest in lands within the boundaries of PPNM are appropriated and withdrawn from all forms of entry, location, selection, sale, or leasing or other disposition under the public land laws, including, but not limited to withdrawal from location, entry, and patent under the mining laws, and from disposition under all laws relating to mineral and geothermal leasing, subject to valid existing rights. Consider acquiring minerals from willing sellers.

##### ***Forestry and Woodland Products (FWP)***

**Goal FWP 1:** *Manage forest resources to provide a sustained flow of local economic benefits and protect non-market economic values, consistent with other resource objectives.*

**Goal FWP 2:** *Manage forests and woodlands to meet or exceed the standards identified in BLM's Standards for Rangeland Health (Standards 1 and 5)*

##### *Management Decisions (MD)*

**MD FWP-1:** Biomass and small diameter materials associated with forest/fuels treatments will be made available for use.

**MD FWP-2:** New road construction will follow Montana's Water Quality BMPs for Montana forests. New roads may be left open to the public if travel plan objectives for the area are met.

**MD FWP-3:** Temporary road construction will follow Montana's Water Quality BMPs for Montana forests and be decommissioned, with reclamation initiated within 1 year of project completion.

**MD FWP-4:** When salvage is proposed in dead and dying forests, contiguous acres of undisturbed standing and down woody material will be retained on a site specific basis, consistent with wildlife species, forest health restoration, and other resource requirements (e.g., soils, riparian, visual resources, etc.).

**Realty, Cadastral Survey, and Lands: Land Tenure Adjustment and Access (R/LT)**

**Goal R/LT 1:** Manage the acquisition, disposal, withdrawal, and use of public lands to meet the access needs of internal and external customers and to preserve important resource values.

**Goal R/LT 2:** Acquire or retain access to public lands to improve management efficiency, to facilitate multiple uses and public enjoyment of BLM public lands in coordination with private landownership, local, state or federal entities. (Map 7)

**Goal R/LT 3:** Maintain and/or acquire access across state/private lands to public lands for recreational opportunities and management of public land resources.

**Goal R/LT 4:** Public access will be maintained or improved through all land ownership adjustment transactions.

*Management Decisions (MD)*

**MD R/LT-1:** Newly acquired lands will be managed for the highest potential purpose and greatest public benefit for which they are acquired and will be managed similar to adjacent and/or surrounding lands.

**MD R/LT-2:** Lands or interest in lands will be acquired by purchase, exchange, revocation of another agency's withdrawals, administrative transfer from another agency, cooperative agreement, donation, or other authority, and evaluated against the criteria in **Appendix H**. All land or mineral ownership adjustments will be based on a willing buyer, willing seller basis and will be managed as similar lands are under the approved RMP. Administration of other federal lands could occur through revocation of withdrawals, jurisdictional or administrative transfer, or agreement.

**MD R/LT-3:** Evaluate the proposed disposal tracts (Category III) using the land tenure criteria identified in **Appendix H**.

**MD R/LT-4:** Parcels of land administered by BLM and discovered through land status updates and corrections will be managed as similar lands are under the approved RMP.

**MD R/LT-5:** Lands acquired within or adjoining Congressionally designated areas (NM, NHT, etc.) or within administratively designated special management areas, such as ACECs and SRMAs, which have unique or fragile resources, will be managed the same as the special management area.

**MD R/LT-7:** Use all methods available to acquire access: easements from land or land exchange with willing parties will be the preferred methods of access acquisition.

**MD R/LT-8:** Retain existing access to BLM-administered lands, or other public lands, in conveyance documents.

**MD R/LT-9:** Participate and adopt National Historic Trails Land Acquisition Plans

**MD R/LT-10:** The specifically authorized acreage for land use should be avoided by oil and gas exploration and development activities. All authorized surface land uses are valid claims to prior existing rights unless the authorization states otherwise. (lease notice [LN])

**MD R/LT-12:** Special Designations (including ACECs and WSAs), archeological sites/historic districts, and lands acquired through Land Water Conservation Funds will be managed as Category I – Retention.

**MD R/LT-16:** Land ownership adjustments will be considered through site-specific analysis, based on retention, acquisition and disposal criteria (**Appendix H**).

Establish three (3) adjustment categories based on BLM land tenure adjustment classes:

- Category I – Retention: Lands managed in Category I – Retention will include all lands with Special Designations (including ACECs, WSAs, NHTs, National Monuments, etc.), lands with wilderness characteristics, National Register listed archeological/historic sites/districts, and lands acquired through Land and Water Conservation Fund (LWCF). Category I lands will not be transferred from BLM management by any method for the life of the plan.
- Category II- Retention/Limited Land Ownership Adjustment: Public lands within Category II will be considered for limited land ownership adjustments; however lands in Category II will not be available for sale under section 203 of FLPMA. Some public lands in Category II may contain resource values protected by law or policy. If actions cannot be taken to adequately mitigate impacts from disposal of those lands, those parcels will be retained.
- Category III – Disposal (land ownership adjustments, including sales): These lands generally have low or unknown resource values or are isolated or fragmented from other public land ownerships making them difficult to manage. Public land parcels in this category are relatively smaller in size (typically 160 acres or less). A listing of the legal descriptions of these disposal parcels can be found by alternative in **Appendix H**. These parcels have been found to potentially meet the sale criteria of section 203(a)(1) of FLPMA and could be made available for sale, however, exchange could have priority over disposal by FLPMA sale.

**MD R/LT-17:** Manage 83,507 acres in Category I – Retention (Map 7)

**MD R/LT-18:** Manage 353,829 acres in Category II - Retention/Limited Land Ownership Adjustment (no land disposals through direct sale). Land exchanges will be considered. (Map 7)

**MD R/LT-19:** Manage 264.4 acres in Category III – Disposal (land ownership adjustments, including direct sale or land exchanges). (Map 7)

**MD R/LT-20:** Consider applications for R&PP leases/patents and airport grants only in Category II and Category III.

**MD R/LT-21:** BLM public lands will be available for state indemnity grants, as legally required in Categories II and III lands.

There are no lands in the BiFO that are suitable for agricultural entry or Indian allotments. This is based on a combination of poor soil types, a lack of water, available water rights, and rugged topography.

***Realty, Cadastral Survey, and Lands: Rights-of-Way, Leases, and Permits (R/RLP)***

**Goal R/RLP 1:** *Manage public lands to meet transportation and rights-of-way (ROW) needs while protecting resources.*

**Goal R/RLP 2:** *Address the needs of industry, utilities, the public, or government entities for land use authorizations while minimizing impacts on other resource values.*

**Goal R/RLP 3:** *Maintain availability of public lands to meet the habitation, cultivation, trade, mineral development, recreation, and manufacturing needs of external customers and the general public.*

*Management Decisions (MD)*

**MD R/RLP-1:** ROW exclusion or avoidance areas will be subject to valid existing rights. (Map 8)

**MD R/RLP-2:** Issues in connection with RS2477 roads will be subject to the current guidance

***Realty, Cadastral Survey, and Lands: Withdrawals (R/WD)***

**Goal R/WD 1:** *Protect significant resources or significant government investments.*

**Goal R/WD 2:** *Use withdrawal actions with the least restrictive measures and minimum size necessary to accomplish the required purposes of the withdrawal.*

*Management Decisions (MD)*

**MD R/WD-1:** Review withdrawals two (2) years prior to termination either to extend, modify, or revoke. If withdrawals are no longer needed, in whole or in part, for the intended purpose for which they were created, the withdrawal will be revoked or modified.

**MD R/WD-2:** Consider other agency requests for new withdrawals, relinquishments, extensions or modifications on a case-by-case basis with consideration given to determining if the lands will be suitable for return to BLM public domain.

**MD R/WD-3:** All Classification and Multiple Use classifications in the planning area have been terminated.

**MD R/WD-4:** Withdrawal proposals will be evaluated at the project level and will not be approved unless the land management is consistent with maintaining and protecting BLM resource values (see BMP (**Appendix B**) as appropriate).

**MD R/WD-5:** The following area is currently closed and will continue to be recommended for withdrawal from mineral entry (51 acres): (Map 8)

- Pompeys Pillar NM

### **Livestock Grazing (LG)**

**Goal LG 1:** Provide opportunities for livestock grazing as a part of multiple-use in a manner that meets and/or exceeds rangeland health standards.

**Goal LG 2:** Maintain existing desirable (allotment categorization) rangeland conditions or improve rangeland health utilizing best grazing management practices.

**Goal LG 3:** Monitor and evaluate rangeland health to determine appropriate management actions.

**Goal LG 4:** Integrate livestock use and associated management practices with other multiple-use needs and objectives to maintain, protect, and improve rangeland health.

### *Management Decisions (MD)*

**MD LG-1:** Use livestock grazing to enhance ecosystem health, wildlife habitat, or mitigate resource issues (e.g., noxious/invasive weed control and hazardous fuel reduction) where supported by site-specific environmental analysis.

**MD LG-2:** Site-specific management actions that protect riparian areas will be addressed at the project level.

**MD LG-3:** Grazing treatments and systems will be adaptive to new research, science and methodologies.

### Areas Open to Grazing, Animal Unit Month (AUM) Allocation, and Monitoring

**MD LG-4:** Total acres available for prescriptive use of livestock grazing: 432 acres (Map 9)

The following areas could be open to livestock grazing on a temporary basis for the treatment of noxious weeds or as a prescriptive treatment (targeted grazing) to meet site specific vegetation or other resource management goals:

- Pompeys Pillar ACEC: 432 acres

### **Recreation and Visitor Services (REC)**

**Goal REC 1:** Public lands managed by the BiFO provide a diverse array of benefits to the public, including economic, environmental, personal, and social ones.

**Goal REC 2:** The BLM policy is to develop and maintain cooperative relationships with national, state, and local recreation providers, tourism entities, and local recreational groups.

**Goal REC 3:** BLM's goal is to develop and maintain appropriate recreational facilities, balancing public demand, protection of public land resources, and fiscal responsibility.

**Goal REC 4:** The management direction is to emphasize and support collaborative public outreach, awareness events, and programs that promote public service and stewardship, and to encourage sustainable travel and tourism development with local communities and provide community-based conservation support for visitor service. The emphasis is placed on providing interpretive and informational signs and materials for public lands

visitors, maintaining facilities to a high standard consistent with the recreational setting, and limiting development of additional facilities to those areas where public recreational use of surrounding public lands requires them.

*Management Decisions (MD)*

**MD REC-1:** Conduct periodic accessibility, safety, and condition assessments in accordance with Bureau policy at developed recreation sites. Prioritize available funds to resolve deferred and corrective maintenance needs.

**MD REC-2:** Monitoring. Monitoring of recreation resources and human use including the following: visitor use and use patterns; recreation caused resource effects or impacts; visitor satisfaction; and effectiveness or attainment of outcomes-focused management objectives, recreation setting characteristics, and standards and indicators will be developed and implemented as a Implementation-Plan level Decision component.

**MD REC-3:** Allow non-commercial dispersed camping subject to length of stay limitations, without a permit on BLM-administered lands in the planning area, except where prohibited. Evaluate the need for future developed camping locations in SRMA plans, based on select criteria such as habitat, resources, cultural, and socio-economic needs.

**MD REC-4:** Mineral exploration activities will be coordinated for timing to minimize conflicts during peak use periods (e.g., weekends, holidays, summer use season, etc.).

**MD REC-5:** Cooperate with MTFWP, private landowners, and other partners to improve hunter access and the availability of public lands for hunting in accordance with EO 13443. Lands closed to hunting are 51 acres at the Pompeys Pillar National Monument and 784 acres at Four Dances Natural Area SRMA/ACEC.

**MD REC-6:** Use off-site interpretation, education, and outreach as a means to protect public resources.

**MD REC-7:** Allow target shooting in appropriate areas and prohibit target shooting in areas with resource conflicts (refer to management actions by alternative below for areas available/prohibited to target shooting). The BiFO will not designate specific target shooting sites but will pursue or facilitate the transfer of fee title ownership of suitable areas commonly used for shooting areas, to interested local governments or organizations. The BiFO can also employ the patent provisions of the Recreation and Public Purposes (R&PP) Act, 43 U.S.C. § 1721, to convey ownership of lands for shooting ranges to non-profit organizations or local governments with the stipulation of non-revision of fee title and with no monitoring requirements by BLM (refer to the Land Tenure and Access section).

**MD REC-8:** The BLM will not issue permits or other land use authorizations for commercial services providing for the disposal of cremated remains on public lands. Individual, non-commercial scattering of cremated remains is subject to applicable state law and is considered casual use under 43 CFR, Part 2920.0-5(k). Inquiries from individuals and families to scatter cremated remains should be handled on a case-by-case basis.

If the level of use associated with individual, non-commercial scattering of cremated remains exceeds casual use criteria and causes resource concerns, the BiFO may establish notification requirements to

determine the extent of use and whether an authorization process for this activity needs to be implemented, and may provide guidelines to users about appropriate scattering procedures and locations. If warranted, the BiFO may establish a process for issuing letters of authorization through the Lands, Realty, and Cadastral Survey Division, after the appropriate level of public scoping, NEPA analysis, and consultation have been completed.

**MD REC-9:** Monitoring of recreation resources will continue to occur, with emphasis placed on developed recreation sites and SRMAs. Monitoring will include regular patrols to check on signing, visitor use, recreation related impacts, and user conflicts. Monitoring will also emphasize identification of areas with compliance problems. Actual visitor numbers and/or vehicle counts will be documented at developed sites for trend analysis. Monitoring of SRPs will be conducted for compliance with the terms, conditions, and stipulations of the SRP as well as annual monitoring and evaluation of compliance with administrative requirements. Periodic assessments will be made to ensure that uses in SRMAs and extensive recreation management areas (ERMA) are consistent with their management objectives.

**MD REC-10:** Cultivation for wildlife habitat improvements at the Sundance Lodge Recreation Area and at Pompeys Pillar ACEC will continue. Changes in cultivation patterns, seasons of use, and type of activity, including termination of use, could occur during project level review.

**MD REC-11:** All signs will conform to the sign policies, guidelines, directives, and plans (**Appendix C**).

**MD REC-12:** As emerging technologies cause new types of recreational activities to be developed or proposed for use on lands managed by the BiFO, these new recreational activities will be evaluated on a case-by-case basis, taking into account the resource values present, the types of activities proposed and their potential impacts. The emphasis on permitting these activities will be to allow them only if they avoid any impacts on high value resource locations (WSAs, ACECs, PMVHR, visual resources, areas of high soil erosion, critical wildlife habitats, cultural and paleontological sites, etc.).

#### Special Recreation Permits

**MD REC-13:** The BLM will issue special recreation use permits as appropriate for commercial, competitive, and special events subject to guidelines in BLM Handbook 2930, resource capabilities, social conflict concerns, professional qualifications, public safety, and public needs. SRPs will only be allowed in priority habitat if they are consistent with the goals and objectives for that habitat or species.

**MD REC-14:** Issuance of SRPs and special stipulations attached per permit for both commercial and non-commercial permits will be determined by set monitoring indicators, BLM policies, and identified through site specific analysis.

**MD REC-15:** Issue SRPs, as appropriate, in an equitable manner for specific recreational uses of public lands and related waters as a means to minimize user conflicts, control visitor use, protect recreation resources, and provide for private and commercial recreation use. "Activity level planning will be developed through an environmental review process with public involvement. This management approach will identify the necessary indicators to monitor all permit conditions of approval that include the standards and stipulations necessary to change operations in the future." Individual Special Recreation Permits (ISRP) will continue to be issued at Shepherd Ah-Nei per regulation of the Federal Land Recreation Enhancement Act (FLREA) and follow the business plan for Shepherd Ah-Nei.

Target Shooting Areas Open/Closed (Map 10)

**MD REC-16:** Pompeys Pillar National Monument and ACEC

- 432 acres closed for resource (cultural, historical) and public safety concerns (major destination site: visitor center, parking lots, trails, other facilities, adjacent private lands).
- 0 acres open. Management emphasis is on historical significance

**Trails and Travel Management (TTM)**

**Goal TTM 1:** *Manage access to balance public use and protect public land resources,*

**Goal TTM 2:** *Promote safety for all public land users, and*

**Goal TTM 3:** *Minimize conflicts among OHV users and other uses of public lands.*

**Goal TTM 4:** *Goals and objectives will accomplish this by using partnerships with other land managing agencies, local governments, communities, and interest groups through a balanced approach, so as to protect public lands by minimizing impacts and resources while providing opportunities for the safe use and enjoyment of OHVs*

**Goal TTM 5:** *The BiFO will use a systematic process that considers the unique resource issues and social environments within each individual Travel Management Area (TMA) and integrate concepts of habitat connectivity into OHV planning to minimize habitat fragmentation.*

**Goal TTM 6:** *Establish a long-term, sustainable, multi-modal transportation system of areas, roads, trails, and primitive roads which addresses public and administrative access needs to and across BLM-managed lands and related waters.*

**Goal TTM 7:** *Manage travel and transportation on public lands and related waters in accordance with law, EO, proclamation, regulation, and policy.*

*Management Decisions (MD)*

**MD TTM-1:** Motorized travel on BLM-administered land (outside of established TMAs) will be limited to existing roads and trails. Measureable limits of change that will occur to the resource as a result of these travel modes will include indicators based on Land Health Standards, accelerated soil erosion and/or other resource concerns and potential for natural rehabilitation. Site specific travel planning will be initiated. Site specific travel planning will be initiated when those limits are exceeded within a five (5) year period after the BiFO ROD is signed.

**MD TTM-2:** To protect resource values 28,631 acres will be managed as closed to motorized vehicle use and 405,523 acres will be managed as limited to motorized vehicle use (refer to the specific TMA sections below).

**MD TTM-3:** Modifications to a transportation network (routes, re-routes or closures) in the planning area where travel is limited to existing roads and trails may be made through activity-level planning.

**MD TTM-4:** Cooperatively develop public outreach programs to promote trail etiquette, environmental ethics and a responsible-use stewardship ethic (e.g., Tread Lightly, Leave No Trace, etc.).

**MD TTM-5:** BLM will continue to coordinate with MTFWP in the Block Management program, or other access agreements with other landowners, as appropriate. Designated motorized routes will conform with seasonal travel limitations, based on annual block management agreements, as determined by the Authorized Officer on a case-by-case basis.

**MD TTM-6:** Administrative access will limit motorized use to BLM-authorized use only. BLM employees, permittees, contractors, personnel from other agencies and other motorized access needs authorized by the Authorized Officer, will be allowed for resource management, maintenance, inventory, monitoring, or compliance purposes. Public use on administrative access routes will be limited to non-motorized access.

**MD TTM-7:** Motorized wheeled cross-country travel to conduct BLM-authorized activities will require prior authorization

**MD TTM-8:** Upon completion of site-specific projects, roads used for commercial or administrative access on BLM-administered lands will be reclaimed, unless the route provides specific benefits for public access, minimizes impacts on the resource and will be considered on a case-by-case basis.

**MD TTM-9:** The BLM may close or restore unauthorized, user created roads and trails to prevent resource damage.

**MD TTM-10:** Motorized off-road travel will be allowed for any military, fire, search and rescue, or law enforcement vehicle for emergency operations.

**MD TTM-11:** SRPs for motorized events, competitive events, or organized group activities will be considered and addressed through site-specific analysis.

**MD TTM-12:** Non-motorized recreational trails will be considered during the development of SRMA management plans and travel management plans (refer to Recreation/Visitor Services section).

**MD TTM-13:** Motorized off-road big game retrieval will be authorized by the Field Manager on a case-by-case basis for individuals with a disabled hunter access permit (issued by MTFWP). Stipulations or limitations will be included in the authorization.

**MD TTM-16:** Efforts will be made to acquire easements across private lands to provide for public access.

**MD TTM-18:** Motorized travel for all activities will be allowed on designated or existing routes only. Livestock permittees building or maintaining fences as part of the implementation of a grazing permit or lease will be exempted.

**MD TTM-19:** All motorized routes designated as “Open”, “Closed” or “Administrative Use Only” will be available for use for non-motorized activities.

**MD TTM-20:** The Nez Perce National Historic Trail (NPNHT) and Lewis & Clark NHT are non-motorized trails by Congressional designation except for auto tour routes and crossings, and approve motorized use dating prior to the enacting legislation.

**MD TTM-22:** Snowmobile use in the decision area will be allowed, except where restricted, and will be subject to the following restrictions: avoid locations where wind or topographic conditions may have reduced snow depth and create situations where damage to vegetation or soils will occur, or where vegetation is taller than the protective snow cover. Ecologically sensitive areas will be closed to snowmobiling if resource damage caused or exacerbated by snowmobile activity is found to be occurring in these areas.

**MD TTM-23:** Where OHVs are causing or will cause considerable adverse effects upon soil, vegetation, wildlife, wildlife habitat, cultural resources, historical resources, threatened or endangered species, wilderness suitability or other authorized uses, or other resources, the affected areas will be immediately closed to the type(s) of vehicle causing the adverse effect until the adverse effects are eliminated and measures implemented to prevent recurrence.

#### Dispersed Camping

**MD TTM-26:** Excluding WSAs and ACECs, OHV use off designated routes for the purposes of camping will be allowed, for a distance up to 150 feet from the centerline of the route.

Site selection must be completed by non-motorized means only and accessed by the most direct route.

Ecologically sensitive areas or other areas restricted to motorized use will be closed to dispersed camping if resource damage is found to be occurring in these areas.

#### Game Retrieval

**MD TTM-27:** OHV use off-road big game retrieval will not be allowed for the general public.

#### Snowmobiles (any vehicle capable of over snow travel)

**MD TTM-28:** Unrestricted Snowmobile (OSV) use will be allowed within the Field Office lands except the following areas:

- Restricted to the following designated routes within the PMWHR: Sykes Ridge Road – PM 1002, PM 1001, PM 1006 and Burnt Timber Road -PM 1011, (except between April 15 and June 15, when Burnt Timber Road is closed to all vehicle use for resource protection).
- Not allowed at any time within WSAs in accordance with Manual 6300.
- Motorized over-the-snow travel may be limited by vehicle type, season, snow-depth, or other conditions as necessary.
- Over the snow vehicles will be prohibited in big game winter range.

#### Landing of Aircraft

**MD TTM-29:** Landing of aircraft (helicopters, wheel and float planes, ultra-lights, gliders, etc.) is permissible on roads and primitive roads designated as “open” within TMAs and routes outside of TMAs.

## **Renewable Energy (RE)**

### *Management Decisions (MD)*

**MD RE-1:** Closed to commercial renewable energy facilities and development (Map 11)

## **Transportation and Facilities (T&F)**

**Goal T&F 1:** *Manage roads, primitive roads and trails for public access or administrative needs, while maintaining or protecting resource values, in coordination with other federal agencies, state and local governments and private landowners. This action will be done in coordination with the development and implementation of the TMAs.*

**Goal T&F 2:** *Ensure BLM facilities are maintained to meet public health and safety requirements.*

### *Management Decisions (MD)*

**MD T&F-1:** BLM-administered roads included in the transportation system will be assigned maintenance intensities, as needed. These roads will be managed in accordance with objectives identified in the TMAs, assigned maintenance intensities and in consideration of resources issues and available funding.

**MD T&F-2:** Roads and trails will be inspected on an established schedule in accordance with the Bureau's Condition Assessment guidance. The results of the condition assessments will be reviewed to determine the need for reconstruction, maintenance, or disposal.

**MD T&F-3:** BLM authorized recreation sites, administrative sites, buildings, bridges, roads, and trails will be maintained within Bureau standards to reduce deferred maintenance costs; meet public health and safety requirements; provide universal accessibility as appropriate and to enhance visitor experiences. These activities will be coordinated with other federal, state and local government agencies, private landowners and the general public as needed.

**MD T&F-4:** Bridges and major culverts will be inspected on an established schedule in accordance with the Bureau's Condition Assessment guidance. The results of the condition assessments will be reviewed to determine the need for reconstruction, maintenance or disposal.

Condition assessments and Emergency Action Planning for hazard class dams will be performed as required by the latest version of the 9177 (Dam Safety) manual section and associated handbooks. The results of the condition assessments will be reviewed to determine the need for reconstruction, maintenance, or disposal.

**MD T&F-5:** New roads and trails determined to be necessary for permanent or long-term use as part of BLM's transportation system will be constructed subject to NEPA and approved engineering standards. Consideration will be given to use demands, location, safety and resource constraints when determining the level of road necessary, in accordance with BLM Manuals 9113 and 9114.

**MD T&F-6:** Lands available or suitable for transportation facilities within the planning area will be identified. Road repair, road rehabilitation, road construction, and maintenance standards appropriate to specific areas will be identified as well as any limitations.

**MD T&F-7:** If an existing road, primitive road or trail is substantially contributing to resource impacts, the road will be considered for re-design, re-routing, closure, or decommissioning to minimize the adverse impacts.

**MD T&F-8:** Provide adequate administrative and other facilities to accommodate management needs, based on management analysis, to maintain, replace, construct, lease; including asset disposal.

***National Historic Trails (NHT)***

**Goal NHT 1:** *The BLM's intent is to protect NHTs for long-term heritage and educational values and to enhance the public experiences of these unique trails through interpretation and support of heritage tourism while maintaining compatible recreational use with historic trail values. (Map 12)*

**Goal NHT 2:** *The BLM's intent is to: 1) safeguard the nature and purposes; and conserve, protect, and restore the National Trail resources, qualities, values, and associated settings and the primary use or uses; 2) Reduce the potential for uses that substantially interfere with the nature and purposes of the National Trails; and 3) Avoid activities that are incompatible with the purposes for which the National Trail was established.*

*Management Decisions (MD)*

**MD NHT-1:** Implement the Interagency National Historic Trail Plans for the Lewis and Clark and Nez Perce NHTs. Participate in the Interagency planning update efforts as needed.

**MD NHT-2:** Identify and acquire from willing sellers easements and lands within the NHT corridors. See Realty, Cadastral Survey, and Lands Section for additional references

**MD NHT-3:** Retain public land within federal ownership

**MD NHT-4:** The LCNHT will be withdrawn from mineral actions.

**MD NHT-5:** Minimize changes that will result in degradation of resource values or opportunities for sharing the experience of the original users of the NHTs.

**MD NHT-6:** The LCNHT management corridor is identical to the Yellowstone River corridor.

**MD NHT-7:** Support partnerships and cooperative agreements with other agencies, local and state authorities, and NGOs to implement stewardship and educational goals for the NHTs. Support the Montana site stewardship program for monitoring and evaluation of significant trail resources.

**MD NHT-8:** Manage the auto tours routes associated with the NHTs to include signage and appropriate facilities as set out in the NHT's Comprehensive Management Plan.

**MD NHT-9:** Implement the Interagency National Historic Trail Plans and all revisions including sub plans such as interpretive plans.

**MD NHT-10:** Participate and follow the NHT's Land Acquisition Management Plans.

**MD NHT-11:** The setting for the Lewis and Clark and Nez Perce NHT segments will be maintained where setting is an aspect of integrity by utilizing viewshed management tools.

**MD NHT-12:** The management corridor for the Lewis and Clark and Nez Perce NHT segments is ½ mile either side of centerline

**MD NHT-13:** Management actions will apply to the NHT management corridor

**MD NHT-14:** An inventory and evaluation will be maintained for the trail segments and include this data in a trails management plan.

**MD NHT-15:** Manage NHTs as ROW avoidance areas.

**MD NHT-16:** The NHTs will be managed as exclusion areas for Renewable Energy (wind and solar) ROW actions.

**MD NHT-17:** Surface disturbing activities will be subject to mitigation guidelines.

**MD NHT-18:** NSO for oil and gas development and exploration within ½ mile of the L&C and NP NHTs management corridor (NSO).

**MD NHT-19:** Manage NHTs as Visual Resource Inventory (VRI) Class III.

Manage NHT trails as VRM Class II once specific trail course has been identified

***Social and Economic Conditions and Environmental Justice (SECIEJ)***

***Goal SECIEJ 1:*** Provide opportunities for economic sustainability at the national, regional, and local level.

***Goal SECIEJ 2:*** Provide for a diverse array of opportunities that result in social benefits for local residents, businesses, recreationists, visitors, interested citizens and future generations, while minimizing the negative social effects.

***Goal SECIEJ 3:*** Identify and remediate, to the extent possible, disproportionate negative impacts on minority or low income populations per EO 12898.

***Goal SECIEJ 4:*** BLM will continue to notify and consult with appropriate American Indian Tribes and BLM authorized actions. Consultation and coordination will be conducted on a government-to-government basis with federally recognized tribes with cultural affinity to the decision area. Management of public lands will accommodate the exercise of rights provided by treaties or law that are applicable to the planning area. BLM will coordinate with appropriate entities within tribal government on issues under its jurisdiction to determine appropriate protocols that provide for treaty uses of public lands.

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# CHAPTER 4

## CONSULTATION, COORDINATION, AND PUBLIC INVOLVEMENT

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An interdisciplinary team of specialists from the BLM's BiFO and its Montana State Office prepared the Billings Field Office and Pompeys Pillar National Monument RMP. Fifteen agencies, including tribal, federal, state, and county governments, participated in development of the document as cooperating agencies. BLM field and state office staffs provided technical review and support.

In consideration of public comments and input from tribes and Cooperating Agencies, the BLM prepared the Proposed RMP/Final EIS. A notice of availability announcing its release was published in the *Federal Register* on May 29, 2015, initiating a 30-day public protest period, which ended on June 29, 2015. The BiFO received ten protests during this period, all of which it resolved.

### 4.1 CONSULTATION AND COORDINATION

#### 4.1.1 Cooperating Agencies

As part of the initiation process for the RMP, the BLM sent letters to Native American tribes and more than 50 federal, state, county, and local agencies, inviting them to participate in the planning process.<sup>1</sup> The BLM held meetings with government agencies and tribes and initiated working relationships among team members and agency personnel.

#### 4.1.2 Native American Indian Tribes

In accordance with the NHPA and in recognition of the government-to-government relationship between tribes and the federal government, the BLM wrote to 14 tribal governments to inform them of

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<sup>1</sup>The following agencies and tribes are cooperating agencies who helped BLM prepare the RMP: Big Horn County, Wyoming; Bureau of Indian Affairs; Bureau of Reclamation; Carbon County, Montana; Department of Natural Resources and Conservation Northeastern Land Office; Department of Natural Resources and Conservation Southern Land Office; Golden Valley County, Montana; Montana Association of Conservation Districts; MTFWP's; Montana State Historic Preservation Office (SHPO); Musselshell County, Montana; Musselshell Planning Project; Northern Cheyenne Tribe; Wheatland County, Montana; and Yellowstone County, Montana. Other state and federal agencies participated as part of the RMP process but were not formal cooperating agencies: the Wyoming Fish and Game Department, the Wyoming SHPO, National Park Service (NPS) Bighorn Canyon National Recreation Area, and USFS Custer National Forest.

the RMP revision initiative. The BLM attempted to conduct government-to-government consultation with the following tribes:

- Arapahoe
- Assiniboine and Gros Ventre (Fort Belknap)
- Assiniboine and Sioux (Fort Peck)
- Blackfeet
- Chippewa Cree (Rocky Boy)
- Crow
- Lower Brule
- Northern Cheyenne
- Oglala Sioux
- Rosebud Sioux
- Standing Rock Sioux
- Three Affiliated Tribes (Mandan, Hidatsa, and Arikara Nations)
- Turtle Mountain Band of Chippewa

The BLM Montana/Dakotas invited the Montana State Historic Preservation Officers and Tribes to participate in the preparation of the RMP's land use planning decisions included in the PPNM planning area. The BLM sought information about the identification of historic properties in consideration of land use planning decisions included in this ARMP, in accordance with the National Programmatic Agreement between the BLM, the Advisory Council on Historic Preservation, and the National Conference of State Historic Preservation Officers and the State Protocol Agreement between the BLM and SHPO, or where applicable the Section 106 regulations. The BLM incorporated the information it received from the SHPOs and tribes into the Proposed ARMP and considered such information in making the land use plan decisions.

The BLM has met its obligations under Section 106 of the NHPA, 54 USC, Section 306108, as outlined in the National Programmatic Agreement and the State Protocols or, where applicable, the Section 106 regulations. The BLM will satisfy the requirements of NHPA Section 106 for future implementation-level decisions, such as project proposals, including adequate consultation with SHPOs, Tribal Historic Preservation Officers (THPOs), Native American Tribes, and other interested parties, consistent with the alternatives procedures set forth in the National Programmatic Agreement and relevant state protocol or, where applicable, the Section 106 regulations.

The Montana SHPO was a formal cooperating agency for planning.

#### **4.1.3 United States Fish And Wildlife Service**

As required by Section 7 of the Endangered Species Act of 1973 (ESA), the BLM consulted with the USFWS. The BLM prepared a biological assessment based on the RMP's proposed plan (Alternative E)

for USFWS consideration. The BLM's assessment and the response from the USFWS are found in **Appendix K**, Biological Opinion.

## **4.2 PUBLIC INVOLVEMENT**

During the scoping for and preparation of the RMP, the BLM encouraged formal and informal public input. The 30-day scoping period began when the Notice of Intent was published in the *Federal Register* on May 15, 2008. The formal scoping period ended August 22, 2008, although comments received after that date were also considered.

The BLM hosted seven public scoping meetings during August 2008 to explain the planning process and gather input. News releases to local and regional media sources advertised the times and locations of the scoping meetings. The total registered attendance for all seven meetings was 90 people.

A notice of availability announcing the release of the Draft RMP/EIS was published in the *Federal Register* on March 29, 2013, initiating a 90-day public comment period, which ended on June 29, 2013. During this period, the public had the opportunity to review and comment on the Draft RMP/EIS.

The BLM held six public meetings on the Draft RMP/EIS in towns and cities throughout the planning area and received comment letters by mail, e-mail, and fax and delivered by hand. The 463 unique comment submissions covered a wide spectrum of thoughts, ideas, opinions, and concerns.

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# CHAPTER 5

## PLAN IMPLEMENTATION

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### 5.1 IMPLEMENTING THE PLAN

Implementation, after a BLM RMP is approved, is a continuous and active process. Management decisions can be characterized as immediate or one-time future decisions.

**Immediate decisions**—These are the land use planning decisions that go into effect when the ROD is signed. They include goals, objectives, allowable uses, and management direction, such as the allocation of lands as open or closed for salable mineral sales, lands open with stipulations for oil and gas leasing, and areas designated for OHV use. These decisions require no additional analysis and guide future land management actions and subsequent site-specific implementation decisions in the planning area. Proposals for future actions, such as oil and gas leasing, land adjustments, and other allocation-based actions will be reviewed against these plan decisions to determine if the proposal conforms with the plan.

**One-time future decisions**—These types of decisions are those that are not implemented until additional decision-making and site-specific analysis is completed. Examples are implementation of the recommendations to withdraw lands from locatable mineral entry or development of travel management plans. Future one-time decisions require additional analysis and decision-making and are prioritized as part of the BLM budget process. Priorities for implementing one-time RMP decisions will be based on the following criteria:

- National BLM management direction
- Available resources

**General implementation schedule of one-time decisions**—Future decisions discussed in this ARMP will be implemented over a period of years, depending on budget and staff availability. After issuing the ROD, the BLM will prepare implementation plans that establish tentative time frames for completing one-time decisions identified in the ARMP. These actions require additional site-specific decision-making and analysis.

This schedule will assist BLM managers and staff in preparing budget requests and in scheduling work. However, the proposed schedule must be considered tentative and will be affected by future funding, nondiscretionary workloads, and by partner and external public cooperation. Yearly review of the plan will provide consistent tracking of accomplishments and information that can be used to develop annual budget requests to continue implementation.

## **5.2 MAINTAINING THE PLAN**

The ARMP can be maintained as necessary to reflect minor changes in data. Plan maintenance is limited to further refining or documenting a previously approved decision incorporated in the plan or clarifying previously approved decisions.

The BLM expects that new information gathered from field inventories and assessments, research, other agency studies, and other sources will update baseline data or will support new management techniques, BMPs, and scientific principles. Where monitoring shows that land use plan actions or BMPs are not effective, the plan may be maintained or amended, as appropriate.

Plan maintenance will be documented in supporting records; it does not require formal public involvement, interagency coordination, or the NEPA analysis required for making new land use plan decisions.

## **5.3 CHANGING THE PLAN**

The ARMP may be changed, should conditions warrant, through a plan amendment or revision process. A plan amendment may become necessary if major changes are needed or to consider a proposal or action that is not in conformance with the plan. Monitoring, evaluating new data, making policy changes, or changing public needs might also provide a need to amend the plan. If several areas of the plan become outdated or otherwise obsolete, it also might require a plan revision. Plans are amended and revised with public input and the appropriate level of environmental analysis conducted according to the Council on Environmental Quality (CEQ) procedures for implementation of NEPA.

New information may lead to changes in resource inventories. New use areas and resource locations may be identified or use areas and resource locations that are no longer valid may be identified. These resources usually cover small areas requiring the same protection or mitigation as identified in this plan. Identifying new areas or removing old areas that no longer have those resource values would not require a plan amendment or revision.

## **5.4 PLAN EVALUATION, ADAPTIVE MANAGEMENT, AND MONITORING**

Evaluation is a process by which the plan and monitoring data are reviewed to see if management goals and objectives are being met and if management direction is sound. Land use plan evaluations determine if decisions are being implemented, if mitigation measures are satisfactory, if there are significant changes in the related plans of other entities, if there is new data of significance to the plan, and if decisions should be changed through amendment or revision. Monitoring data gathered over time is examined and used to draw conclusions on whether management actions are meeting stated objectives, and if not, why not. Conclusions are then used to make recommendations on whether to continue current management or to identify what changes need to be made in management practices to meet objectives.

The BLM will use land use plan evaluations to determine if the decisions in the ARMP, supported by the accompanying NEPA analysis, are still valid in light of new information and monitoring data. Evaluations will follow the protocols established by the BLM Land Use Planning Handbook (H-1601-1) or other appropriate guidance in effect at the time the evaluation is initiated. The monitoring framework for this ARMP can be found in **Appendix F**.

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# CHAPTER 6

## GLOSSARY

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**Acquisition.** The BLM acquires land, easements, and other real property rights when it is in the public interest and consistent with approved land use plans. The BLM's land acquisition program is designed to accomplish the following:

- Improve management of natural resources through consolidation of federal, state, and private lands
- Increase recreation opportunities, preserve open space, and ensure accessibility of public land
- Secure key property necessary to protect endangered species and promote biological diversity
- Preserve archaeological and historical resources
- Implement specific acquisitions authorized by acts of Congress

**Activity plan.** A type of implementation plan (see *Implementation plan*); an activity plan usually describes multiple projects and applies best management practices to meet land use plan objectives. Examples of activity plans are interdisciplinary, habitat, recreation area, and allotment management plans (H-1601, BLM Land Use Planning Handbook).

**Actual use.** An annual livestock grazing report describing where, how many, what kind or class of livestock and how long livestock graze on an allotment or on a portion or pasture of an allotment (43 CFR, Part 4100.0-5).

**Administrative purposes.** Administrative use functions involving regular maintenance or operation of facilities or programs.

**Administrative use.** Official use related to management and resources of the public lands by federal, state, or local governments or non-official use sanctioned by an appropriate authorization instrument, such as a ROW, permit, lease, or maintenance agreement.

**Affected environment.** The natural, physical, and human-related environment that is sensitive to changes from the alternatives.

**Air quality.** Depends on the quantity and type of pollutants in the atmosphere and the dispersion potential of an area to dilute those pollutants.

**Air quality related value (AQRV).** A resource identified by the Federal Land Management Agency for one or more federal areas that may be adversely affected by a change in air quality. The resource may include visibility or a specific scenic, cultural, physical, biological, ecological, or recreational resource identified by the FLMA for a particular area. AQRV impacts may also include sulfur, nitrogen, acid deposition, and lake acidification.

**All-terrain vehicle.** A wheeled vehicle (other than a over snow vehicle) that is defined as having a wheelbase and chassis width of 50 inches or less, is steered using handlebars, generally has a dry weight of 800 pounds or less, travels on three or more low-pressure tires, and has a seat designed to be straddled by the operator.

**Alternative.** A mix of management prescriptions applied to specific land areas to achieve a set of goals and objectives. Each alternative represents a different way of achieving a set of similar management objectives.

**Amendment.** The process for considering or making changes in the terms, conditions, and decisions of approved RMPs or management framework plans. Usually only one or two issues are considered that involve only a portion of the planning area (H-1601, BLM Land Use Planning Handbook).

**Appeal.** Application for review of an implementation decision at a higher administrative level.

**Appropriate fire management response (AMR).** Any specific action suitable to meet fire management objectives. Typically, the AMR ranges across a spectrum of tactical options (from monitoring to intensive management actions). The response action is based on an evaluation of risks to firefighter and public safety, the circumstances under which the fire occurs, including weather and fuel conditions, natural and cultural resource management objectives, protection priorities, and values to be protected. The evaluation must also include an analysis of the context of the specific fire within the overall local, geographic area, or national wildland fire situation.

**Area of critical environmental concern.** An area on public land where special management attention is required, when such areas are developed or used or where no development is required. An ACEC is designated to protect and prevent irreparable damage to important historic, cultural, or scenic values, fish and wildlife resources, or other natural systems or processes or to protect life and safety from natural hazards (FLPMA Section 103 [a]).

**Assessment.** The act of evaluating and interpreting data and information for a defined purpose (H-1601-I, BLM Land Use Planning Handbook).

**Assets.** Roads, primitive roads, and trails that comprise the transportation system. Also the general term used to describe all BLM-constructed assets in the Facility Asset Management System.

**Attainment area.** A geographic area in which criteria air pollutant levels meet the health-based primary standard (national ambient air quality standard) for the pollutant. An area may have an acceptable level for one criteria air pollutant but may have unacceptable levels for others. Thus, an area could be in attainment and nonattainment simultaneously. Attainment areas are defined using federal pollutant limits set by the EPA.

**Authorized officer.** The BLM employee who has the delegated authority to make a specific decision.

**Avoidance area.** Areas determined to be less suitable for a ROW because of important or valued resources or resources assigned to a special status or a substantive conflict with use. These areas exhibit constraints to siting facilities and are less desirable for a ROW but could be mitigated to reduce potential effects that the ROW might have on the environment.

**Avoidance mitigation.** Avoiding the impact altogether by not taking a certain action or parts of an action (40 CFR, Part 1508.20[a]); for example, it may also include avoiding the impact by moving the proposed action to a different time or location.

**Baseline.** The condition of a defined area or resource that can be quantified by an appropriate metric. During environmental reviews, the baseline is considered the affected environment that exists at the time the review begins and is used to compare predictions of the effects of the proposed action or a reasonable range of alternatives.

**Beneficial outcomes.** Improved conditions, maintenance of desired conditions, prevention of worse conditions, and the realization of desired experiences. Also referenced as recreation benefits.

**Best management practices.** A suite of techniques that guide or may be applied to management actions to aid in achieving desired outcomes. Best management practices are often developed in conjunction with land use plans, but they are not considered a land use plan decision unless the land use plan specifies that they are mandatory. They may be updated or modified without a plan amendment if they are not mandatory (H-1601, BLM Land Use Planning Handbook).

**Biological assessment.** The document prepared by or under the direction of BLM concerning listed and proposed species and designated and proposed critical habitat in the action area. It contains the BLM's determination of potential effects of the action on such species and habitat. A biological assessment is required for formal consultations and conferences on major construction projects. It is recommended for all formal consultations and formal conferences and many informal consultations where a written evaluation of the effects of an action on listed or proposed species and on designated or proposed critical habitat is needed (M-6840, Special Status Species Manual).

**Biological opinion (BO).** The document that includes the opinion of the USFWS as to whether a federal action would be likely to jeopardize the continued existence of listed species or would destroy or adversely modify designated critical habitat. A BO is a summary of the information on which the opinion is based and a detailed discussion of the effects of the action on listed species or designated critical habitat. Depending on the determination of jeopardy, the BO may contain reasonable and prudent alternatives, a statement of anticipated take of listed animals, and conservation recommendations for listed plants (M-6840, Special Status Species Manual).

**Candidate species.** A species for which the US Fish and Wildlife Service has sufficient information on status and threats to propose it for listing as endangered or threatened under the Endangered Species Act, but for which issuance of a proposed rule is currently precluded by higher priority listing actions. Separate lists for plants, vertebrate animals, and invertebrate animals are published periodically in the *Federal Register* (M-6840, Special Status Species Manual).

**Casual use.** Activities that involve practices that do not ordinarily disturb or damage the public lands, resources, or improvements and, therefore, do not require a ROW grant or temporary use permit (43 CFR, Part 2800). Also, any short-term noncommercial activity that does not damage or disturb the public lands, their resources, or improvements and that is not prohibited by closing the lands to such activities (43 CFR, Part 2920). Casual use generally includes collecting geochemical, rock, soil, or mineral specimens using hand tools, hand panning, and nonmotorized sluicing. It also generally includes use of metal detectors, “gold spears,” and other battery-operated devices for sensing the presence of minerals and hand battery-operated dry washers. Casual use does not include use of mechanized earth-moving equipment, truck-mounted drilling equipment, suction dredges, motorized vehicles in areas or on routes designated as closed to off-road vehicles, chemicals, or explosives. It also does not include occupancy or operations where the cumulative effects of the activities result in more than negligible disturbance.

**Closed.** Generally denotes that an area is not available for a particular use or uses. For example, 43 CFR, Part 8340.0-5, sets forth the specific meaning of closed as it relates to off-highway vehicle use, and 43 CFR, Part 8364, defines it as it relates to closure and restriction orders (H-1601-1, BLM Land Use Planning Handbook).

**Code of federal regulations.** The official legal tabulation or regulations directing federal government activities (BLM National Management Strategy for OHV Use on Public Lands).

**Collaboration.** A cooperative process in which interested parties, often with widely varied interests, work together to seek solutions with broad support for managing public and other lands (H-1601, BLM Land Use Planning Handbook).

**Comprehensive travel management.** Proactive interdisciplinary planning; on-the-ground management and administration of travel networks (both motorized and nonmotorized) to ensure that public access, natural resources, and regulatory needs are considered. It consists of inventory, planning, designation, implementation, education, enforcement, monitoring, easement acquisition, mapping and signing, and other measures necessary to provide access to public lands for a variety of uses, including those for recreational, traditional, casual, agricultural, commercial, educational, and other purposes.

**Condition class (fire regimes).** Fire regime condition classes are a measure describing the degree of departure from historical fire regimes, possibly resulting in alterations of key ecosystem components, such as species composition, structural stage, stand age, canopy closure, and fuel loadings. One or more of the following activities may have caused this departure: fire suppression, timber harvesting, livestock grazing, introduction and establishment of exotic plant species, or introduced insects or disease.

**Condition Class I.** Fire regimes are within a historical range, and the risk of losing key ecosystem components from fire is low. Vegetation attributes (species composition and structure) are intact and functioning within a historical range.

**Condition Class 2.** Fire regimes have been moderately altered from their historical range. The risk of losing key ecosystem components from fire is moderate. Fire frequencies have departed from historical frequencies by one or more return intervals (increased or decreased). This results in moderate changes to one or more of the following: fire size, frequency, intensity, severity, and landscape patterns. Vegetation attributes have been moderately altered from their historical range.

**Condition Class 3.** Fire regimes have been altered significantly from their historical ranges. The risk of losing key ecosystem components from fire is high. Fire frequencies have departed from historical frequencies by multiple return intervals. This action results in dramatic changes to one or more of the following: fire size, frequency, intensity, severity, and landscape patterns. Vegetation attributes have been altered significantly from their historical range.

**Conformance.** A proposed action must be specifically provided for in the land use plan, or if not specifically mentioned, must be clearly consistent with the goals, objectives, or standards of the approved land use plan (H-1601, BLM Land Use Planning Handbook).

**Conservation agreement.** A formal signed agreement between the US Fish and Wildlife Service and other parties that implement specific actions, activities, or programs designed to eliminate or reduce threats to a species or otherwise improve its status. Conservation agreements can be developed at a state, regional, or national level and generally include multiple agencies at both the state and federal level and tribes. Depending on the types of commitments the BLM makes in a conservation agreement and the level of signatory authority, plan revisions or amendments may be required before the conservation agreement is signed or subsequently in order to implement the conservation agreement (M-6840, Special Status Species Manual).

**Conservation strategy.** A strategy outlining current activities or threats that are contributing to the decline of a species, along with the actions or strategies needed to reverse or eliminate such a decline or threat. Conservation strategies are generally developed for species of plants and animals that are designated as BLM sensitive species or that the USFWS has determined to be federal candidates under the ESA.

**Cooperating agency.** The Council on Environmental Quality regulations implementing National Environmental Policy Act define a cooperating agency as any agency that has jurisdiction by law or special expertise for proposals covered by NEPA (40 CFR, Part 1501.6). Any federal, state, or local government with such qualifications may become a cooperating agency by agreement with the lead agency (H-1601, BLM Land Use Planning Handbook).

**Council on Environmental Quality.** An advisory council to the President, established by the National Environmental Policy Act of 1969. It reviews federal programs to analyze and interpret environmental trends and information.

**Cremaains.** Cremated human remains. Cremaains are not considered a hazardous substance (WO IM-2011-159).

**Cultural resource or cultural property.** A definite location of human activity, occupation, or use identifiable through field survey, historical documentation, or oral evidence. The term includes archaeological, historic, or architectural sites, structures, or places with important public and scientific

uses and may include definite sites or places of traditional cultural or religious importance to specified social or cultural groups. (Cf. *traditional lifeway value*; see *definite location*.) Cultural resources are places and things that are located, classified, ranked, and managed through the system of identifying, protecting, and using them for public benefit (M-8100-I, BLM Cultural Resources Management).

**Cultural resource inventory classes.** There are three cultural resource inventory classes identified in M-8100-I, BLM Cultural Resources Management, as follows:

1. **Class I**—existing data inventory. A study of published and unpublished documents, records, files, registers, and other sources, resulting in analysis and synthesis of all reasonably available data. Encompass prehistoric, historic, and ethnological/sociological elements and are in large part chronicles of past land uses. They may have major relevance to current land use decisions.
2. **Class II**—sampling field inventory. A statistically based sample survey designed to help characterize the probable density, diversity, and distribution of archaeological properties in a large area by interpreting the results of surveying limited and discontinuous portions of the target area.
3. **Class III**—intensive field inventory. A continuous, intensive survey of an entire target area, aimed at locating and recording all archaeological properties that have surface indications, by walking close-interval parallel transects until the area has been thoroughly examined. Class III methods vary geographically, conforming to the prevailing standards for the region involved (M-8100-I, BLM Cultural Resources Management).

**Cumulative effect.** The impact on the environment from one action added to other past, present, and reasonably foreseeable future actions, regardless of what agency (federal or nonfederal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over time (H-1790-I, BLM NEPA Handbook).

**Designated roads, primitive roads, and trails.** Specific roads, primitive roads, and trails identified by the BLM (or other agency) where some type of motorized vehicle use is appropriate and allowed, either seasonally or yearlong (from MS-1626).

**Design value.** A statistic that describes the air quality status of a given location relative to the level of the National Ambient Air Quality Standards (NAAQS). Design values are defined to be consistent with the NAAQS in terms of their averaging times and their statistical formats.

**Desirable nonnative.** Any species not naturally occurring in a given area that independently or in conjunction with other species contributes beneficially to a site's ecological function or recovery or the desired future condition of a site.

**Desired condition.** Description of those factors that should exist within ecosystems to maintain their survival and to meet social and economic needs.

**Desired outcomes.** A type of land use plan decision expressed as a goal or objective.

**Dispersed recreation.** Unstructured recreation that is not confined to specific locations or dependent on recreation sites. Examples are hunting, fishing, off-road vehicle use, hiking, and sightseeing.

**Disposal.** Transfer of public land out of federal ownership to another party through sale, exchange, Recreation and Public Purposes Act of 1926, Desert Land Entry, or other land law statutes.

**Disruptive activities.** Those public land resource uses and activities that are likely to alter the behavior, displace, or cause excessive stress to animal or human populations at a specific location or time. In this context, a disruptive activity refers to those actions that alter behavior or displace individuals of a species such that reproductive success is negatively affected, or an their physiological ability to cope with environmental stress is compromised. This term does not apply to the physical disturbance of the land surface, vegetation, or features. When administered as a land use restriction (e.g., no disruptive activities), this term may prohibit or limit the physical presence of sound above ambient levels, light beyond background levels, or the nearness of people and their activities. The term is commonly used in conjunction with protecting wildlife during crucial life stages (e.g., breeding, nesting, and birthing), although it could apply to any resource value on the public lands. The use of this land use restriction is not intended to prohibit all activity or authorized uses.

These definitions are not intended to prohibit all activities or authorized uses. For example, emergency activities, such as fire suppression and search and rescue, or rangeland monitoring, dispersed recreational activities, such as hunting and hiking, and livestock grazing are not considered surface-disturbing or disruptive activities.

**Durability (protective and ecological).** Maintaining the effectiveness of a mitigation site and project for the duration of the associated impacts; includes resource, administrative/legal, and financial considerations (adopted and modified from BLM Manual Section 1794).

**Easement.** An interest in land entitling the owner or holder, as a matter or right, to enter land owned by another party for a particular purpose.

**Ecological site.** A kind of land with a specific potential natural community and physical site characteristics, differing from other kinds of land in its ability to produce distinctive kinds and amounts of vegetation and to respond to management. Ecological sites are defined and described with information about soil, species composition, and annual production.

**Ecological site description.** Description of the soils, uses, and potential of a kind of land with specific physical characteristics to produce distinctive kinds and amounts of vegetation (Interpreting Indicators of Rangeland Health).

**Ecosystem.** Organisms together with their abiotic environment, forming an interacting system, inhabiting an identifiable space (Society for Range Management).

**Eligible river.** A river or river segment found eligible for inclusion into the National Wild and Scenic Rivers System through the determination that it is free flowing and, with its adjacent land area, possesses one or more river-related outstandingly remarkable values (Wild and Scenic Rivers Act).

**Emergency stabilization and rehabilitation.** Prompt actions following a wildfire that are necessary to stabilize and prevent unacceptable degradation of natural and cultural resources, to minimize threats to life and property, to repair lands unlikely to recover, and to repair or replace minor facilities damaged by fire.

**Endangered species.** Any species that is in danger of extinction throughout all or a significant portion of its range (BLM Manual 6840, Special Status Species Manual).

**Environmental assessment.** A concise public document for which a federal agency is responsible that serves the following:

- Briefly provide sufficient evidence and analysis for determining whether to prepare an environmental impact statement or a finding of no significant impact
- Aid an agency's compliance with the NEPA when no environmental impact statement is necessary
- Facilitate preparation of an environmental impact statement when one is necessary (40 CFR, Part 1508.9)

**Environmental impact statement.** A detailed written statement as required by Section 102 (2) of NEPA, which states that all agencies of the federal government must include in every major federal action that would significantly affect the quality of the environment, a detailed statement prepared by the responsible official on the following:

- The environmental impacts of the proposed action
- Any adverse environmental effects that cannot be avoided should the proposal be implemented
- Alternatives to the proposed action
- The relationship between local short-term uses of the human environment and the maintenance and enhancement of long-term productivity
- Any irreversible and irretrievable commitments of resources that will be involved in the proposed action, should it be implemented (40 CFR, Part 1508.11, and NEPA)

**Ephemeral stream.** A stream that flows only in direct response to precipitation and whose channel is at all times above the water table. Generally, ephemeral streams do not flow continuously for more than 30 days and have more robust upland vegetation than found outside the ephemeral riparian wetland area.

**Existing way.** A way existing at the time that a Wilderness Study Area survey was completed.

**Evaluation (plan evaluation).** The process of reviewing the land use plan and the periodic plan monitoring reports to determine whether the land use plan decisions and NEPA analysis are still valid and whether the plan is being implemented.

**Exceedance.** With respect to a national ambient air quality standard means one occurrence of a measured or modeled concentration greater than the specified concentration level of such standard for the averaging period (1-hour, 3-hours, 8-hours, 24-hours, or annual) specified by the standard.

**Exceptional event.** An event that affects air quality, is not reasonably controllable or preventable, is caused by human activity that is unlikely to recur at a particular location or a natural event, and is determined by the EPA Administrator in accordance with 40 CFR, Part 50.14, to be an exceptional event. It does not include stagnation of air masses or meteorological inversions, a meteorological event involving high temperatures or lack of precipitation, or air pollution relating to source noncompliance.

**Exclusion area.** An area determined to be unsuitable for a ROW because of the following:

- Unique, highly valued, complex, or legally protected resources
- Potentially significant environmental impact resulting from conflict with current land uses
- Posing substantial hazard to construction or operation of a linear facility (e.g., electric transmission line, pipeline, telephone line, or fiber optic line)

In these areas, ROWs will be granted only in cases where there is a legal requirement to provide such access.

**Facility, energy or mining.** A place, building, or equipment used for a particular purpose or activity, such as oil and gas well pads and associated infrastructure and active mining development areas with operating equipment or significant human activity

**Federal lands.** As used in this document, lands owned by the United States, without reference to how the lands were acquired or what federal agency administers the lands. The term includes mineral estates and coal estates underlying private surface but excludes lands held by the United States in trust for Indians, Aleuts, or Eskimos.

**Federal Land Policy and Management Act of 1976 (Public law 94-579).** Establishes public land policy guidelines for administration and to provide for the management, protection, development, and enhancement of public lands.

**Federal register.** A daily publication that reports presidential and federal agency documents (BLM National Management Strategy for OHV Use on Public Lands).

**Fire management plan.** Strategic implementation-level plans that define a program to manage wildland fires, fuel reduction, and fire rehabilitation based on an area's approved RMP. Fire management plans must address a full range of fire management activities that support ecosystem sustainability, values to be protected, firefighter and public safety protection, and public health and environmental issues and must be consistent with resource management objectives and activities of the area.

**Fire preparedness.** Activities that lead to a safe, efficient, and cost-effective fire management program in support of land and resource management objectives through appropriate planning and coordination.

**Fire regime/condition class (FRCC).** An interagency standardized tool for determining the degree of departure from reference condition vegetation, fuels, and disturbance regimes. Assessing FRCC can help guide management objectives and set priorities for treatments

**Fire suppression.** All work activities connected with fire extinguishing operations, beginning with discovery of a fire and continuing until the fire is completely out.

**Fluid minerals.** Oil, gas, coal bed natural gas, and geothermal resources.

**Fluvial.** Pertaining to streams or produced by stream action.

**Forage.** Vegetation of all forms available and of a type consumed by animals.

**Forest.** An ecosystem characterized by a more or less dense and extensive tree cover, often consisting of stands varying in characteristics, such as species composition, structure, age class, and associated processes and commonly including meadows, streams, fish, and wildlife.

**Fossil.** Remains, traces, or imprints of organisms, preserved in or on the Earth's crust and include fossilized bones, impressions of parts of organisms, or tracks.

**Fragmentation.** The splitting or isolating of patches of similar habitat by natural events or development activities.

**Free-flowing river.** As applied to any river or section of a river, this means existing or flowing in a natural condition without impoundment, diversion, straightening, riprapping, or other modifications of the waterway (Wild and Scenic Rivers Act).

**Fuel management.** Manipulation or reduction of fuels to meet forest protection and management objectives while preserving and enhancing environmental quality.

**Fuel treatment.** The rearrangement or disposal of fuels to reduce the fire hazard.

**Fuel type.** An identifiable association of fuel elements of a distinctive plant species, form, size, arrangement, or other characteristics that will cause a predictable rate of fire spread or difficulty of control under specified weather conditions.

**Functional habitat.** The combination of requirements (food, water, cover, and space), juxtaposed in a manner necessary to provide sustainable populations of fish and wildlife species. In addition, human activities within this habitat must be such that fish or wildlife can subsist without their sustainability being reduced. Habitat functionality will vary by wildlife species and by location.

**Functioning at risk.** (1) A condition in which vegetation and soil are susceptible to losing their ability to sustain naturally functioning biotic communities. Human activities, past or present, may increase the risks. (Rangeland Reform Final Environmental Impact Statement at 26.) (2) Uplands or riparian-wetland areas that are properly functioning, but a soil, water, or vegetation attribute makes them susceptible to degradation and lessens their ability to sustain natural biotic communities.

Uplands are particularly at risk if their soils are susceptible to degradation. Human activities, past or present, may increase the risks (Rangeland Reform Draft Environmental Impact Statement Glossary). See also *Properly Functioning Condition* and *Nonfunctioning Condition* (H-4180-1, BLM Rangeland Health Standards Manual).

**Geocaching.** An outdoor adventure game for global position system (GPS) users. Participating in a cache hunt is designed to take advantage of the features and capability of a GPS unit and to enjoy the freedom of access to public land. GPS users find caches through their location coordinates. Once found, a cache may provide the visitor with a variety of awards. The visitor is asked to sign a logbook and to leave or replace items they find in the cache.

**Geographic information system (GIS).** A system of computer hardware, software, data, and applications that capture, store, edit, analyze, and display a wide array of geospatial information (H-1601, BLM Land Use Planning Handbook).

**Goal.** A broad statement of a desired outcome; usually not quantifiable and may not have established time frames for achievement (H-1601, BLM Land Use Planning Handbook).

**Grazing lease.** A document authorizing use of the public lands outside an established grazing district. Grazing leases specify all authorized uses, including livestock grazing, suspended use, and conservation use. Leases specify the total number of AUMs apportioned, the area authorized for grazing use, or both (43 CFR, Part 4100.0-5).

**Grazing permit.** A document authorizing the use of the public lands within an established grazing district. Grazing permits specify all authorized use, including livestock grazing, suspended use, and conservation use. Permits specify the total number of AUMs apportioned, the area authorized for grazing use, or both (43 CFR, Part 4100.0-5).

**Guidelines.** A practice, method, or technique determined to be appropriate to ensure that standards can be met or that significant progress can be made toward meeting the standard. Guidelines are tools such as grazing systems, vegetative treatments, or improvement projects that help managers and permittees achieve standards. Guidelines may be adapted or modified when monitoring or other information indicate they are not effective or a better means of achieving the applicable standard becomes appropriate (H-4180-1, BLM Rangeland health Standards Manual).

**Habitat.** An environment that meets a specific set of physical, biological, temporal, or spatial characteristics that satisfy the requirements of a plant or animal species or group of species for part or all of their life cycle (M6840, Special Status Species Manual).

**Habitat type.** An aggregation of units of land capable of producing similar plant communities at climax.

**Habitat management plan.** A written and approved activity plan for a geographical area of public lands that identifies wildlife habitat management actions to be implemented in achieving specific objectives related to RMP planning document decisions (BLM Manual 6780, 1981).

**Historic range of variability (HRV).** Characterizes fluctuations in ecosystem conditions or processes over time, thereby providing a reference against which to evaluate recent and potential future

ecosystem change. Landres et al. (1999) defined natural variability as “the ecological conditions and their variability over space and time relatively unaffected by people.” The theory behind HRV is that the broad historical envelope of possible ecosystem conditions, such as a burned area, vegetation cover type area, or patch size distribution, provides a representative series of reference conditions to guide land management (Aplet and Keeton 1999). For the RMP, the term historical is used to reference the period before Euro-American settlement.

**Historic resources or historic property.** Any prehistoric or historic district, site, building, structure, or object included on, or eligible for inclusion on, the National Register of Historic Places. The term includes, for purposes of these regulations, artifacts, records, and remains that are related to and located within such properties. The term “eligible for inclusion on the National Register” includes both properties formally determined as such by the Secretary of the Interior and all other properties that meet National Register listing criteria (quoted from 36 CFR, Part 800.2[e]; compare National Historic Preservation Act, Section 301, Appendix 5; see also *cultural resource-cultural property*. Cultural property is an analogous BLM term not limited by National Register status; M-8100-1, BLM Cultural Resources Management). The term can also refer to cultural properties that have a period of use between Euro-American settlement to present.

**Hydrologic condition.** The current state of the processes controlling the yield, timing, and quality of water in the watershed. Each physical and biological process that regulates or influences stream flow and groundwater character has a range of variability associated with the rate or magnitude of energy and mass exchange. At any point in time, each of these processes can be defined by their current rate or magnitude relative to the range of variability associated with each process. Integration of all processes at one time represents hydrologic condition.

**Impacts (or effects).** Environmental consequences (the scientific and analytical basis for comparison of alternatives) as a result of a proposed action. Effects may be either direct, which are caused by the action and occur at the same time and place, or indirect, which are caused by the action and are later in time or farther removed in distance but are still reasonably foreseeable, or cumulative (BLM National Management Strategy for OHV Use on Public Lands).

**Implementation decisions.** Implement land use plan decisions; generally appealable to the Interior Board of Land Appeals under 43 CFR, Part 4.410 (H-1601-1, BLM Land Use Planning Handbook).

**Implementation plan.** An area or site-specific plan written to implement decisions made in a land use plan. Implementation plans include both activity plans and project plans (H-1601-1, BLM Land Use Planning Handbook).

**Important value.** As related to ACECs, a relevant value, resource, system, process, or hazard that has substantial significance and values. This generally requires qualities of more than local significance and special worth, consequence, meaning, distinctiveness, or cause for concern. A natural hazard can be important if it is a significant threat to human life or property (43 CFR, Part 1610.7-2[a][2]).

**Inholding.** A nonfederal parcel of land that is completely surrounded by federal land.

**Integrated pest management (IPM).** A long-standing, science-based, decision-making process that identifies and reduces risks from pests and pest management-related strategies. It coordinates the use of

pest biology, environmental information, and available technology to prevent unacceptable levels of pest damage by the most economical means, while posing the least possible risk to people, property, resources, and the environment. IPM provides an effective strategy for managing pests in all arenas, from developed agricultural, residential, and public areas to wild lands. IPM serves as an umbrella to provide an effective, all encompassing, low-risk approach to protect resources and people from pests. BLM Departmental Manual 517 (Pesticides) defines integrated pest management as “a sustainable approach to managing pest by combining biological, cultural, physical, and chemical tools in a way that minimizes economic, health, and environmental risks.”

**Integrated weed management.** A decision support system involving deliberate selections, integration, and implementation of effective weed management tactics. It uses cost/benefit analysis and takes into consideration public interests and social, economical, and ecological impacts in the decision-making process.

**Interdisciplinary team.** Staff specialists representing identified skill and knowledge needs working together to resolve issues and provide recommendations to a BLM Authorized Officer (H-4180-1, BLM Rangeland Health Standards Manual).

**Interior Board of Land Appeals (IBLA).** The DOI Office of Hearings and Appeals Board acts for the Secretary of the Interior in responding to appeals of decisions on the use and disposition of public lands and resources. Because the IBLA acts for and on behalf of the Secretary of the Interior, its decisions usually represent the DOI’s final decision but is subject to the courts.

**Intermittent stream.** A stream that flows only at certain times of the year when it receives water from springs or from some surface sources, such as melting snow in mountainous areas. During the dry season and throughout minor drought periods, these streams will not flow. Geomorphological characteristics are not well defined and are often inconspicuous. In the absence of external limiting factors, such as pollution and thermal modifications, species are scarce and adapted to the wet and dry conditions of the fluctuating water level.

**Invasive nonnative species.** See *Invasive plants and species*.

**Invasive plants and species.** Plants and organisms that have been introduced into an environment where they did not evolve. Executive Order 13112 focuses on organisms whose presence is likely to cause harm the economy, the environment, or human health.

**Invasive weeds—noxious weeds.** Nonnative invasive plants that are fast spreading and often expensive or difficult to control. Noxious weeds may proliferate, forming monocultures, which can crowd out other plants that provide biodiversity.

**Jurisdiction.** The legal right to control or regulate use of a transportation facility. Jurisdiction requires authority but not necessary ownership.

**K factor.** A soil erodibility factor used in the universal soil loss equation that is a measure of the susceptibility of soil particles to detachment and transport by rainfall and runoff. Estimation of the factor takes several soil parameters into account, including soil texture, percent of sand greater than 0.10 millimeter, soil organic matter content, soil structure, soil permeability, clay mineralogy, and coarse

fragments. K factor values range from .02 to .64, the greater values indicating the highest susceptibilities to erosion.

**Land classification.** A process for determining the suitability of public lands for certain types of disposal or lease under the public land laws or for retention under multiple use management.

**Land tenure adjustments.** Ownership or jurisdictional changes. To improve the manageability of BLM-administered lands and their usefulness to the public, the BLM has numerous authorities for repositioning lands into a more consolidated pattern, disposing of lands, and entering into cooperative management agreements. These land pattern improvements are completed primarily through the use of land exchanges but also through exchange, sale, purchase, donation, or other authority and through the use of cooperative management agreements and leases.

**Land tenure adjustment category.** The designation of an analyzed tract of land for retention or manner of disposal, based on resource values or public access.

**Category I.** Lands managed in Category I—Retention will include all ACECs, WSAs, lands with wilderness characteristics, archaeological sites/historic districts, and lands acquired through LWCF, NHTs, National Monuments or other congressionally designated areas. Lands in Category I will not be transferred from BLM management by any method for the life of the plan.

**Category II.** Retention/limited landownership adjustment (no land disposals through sale)—Public lands in Category II will not be available for sale under Section 203 of FLPMA. However, lands in this category could be exchanged for lands or interest in lands. Some public lands in Category II may contain resource values protected by law or policy. If actions could not be taken to adequately mitigate impacts from disposal of those lands, those parcels would be retained.

**Category III.** (Disposal – landownership adjustments, including sale)—These lands generally have low or unknown resource values or are isolated or fragmented from other public landownerships making them difficult to manage. Public land parcels in this category are relatively smaller (typically 160 or fewer acres). A listing of the legal descriptions of these disposal parcels can be found in **Appendix H** under Legal Descriptions of Disposal Tracts by Alternative. These parcels have been found to potentially meet the sale criteria of Section 203(a)(1) of FLPMA and could be made available for sale; however, exchange could have priority over disposal by FLPMA sale.

**Land use allocation.** The identification in a land use plan of the activities and foreseeable development that are allowed, restricted, or excluded for all or part of the planning area, based on desired future conditions (from H-1601-1, BLM Land Use Planning Handbook).

**Land use plan.** Decisions that establish management direction for land in an administrative area, as prescribed under the planning provisions of FLPMA; an assimilation of land use plan-level decisions developed through the planning process and outlined in 43 CFR, Part 1600, regardless of the scale at which the decisions were developed. The term includes both RMPs and management framework plans (H-1601-1, BLM Land Use Planning Handbook).

**Land use plan boundary.** The geographic extent of a resource management plan.

**Land use plan decision.** Establishes desired outcomes and actions needed to achieve them. Decisions are reached using the planning process in 43 CFR, Part 1600. When they are presented to the public as proposed decisions, they can be protested to the BLM Director. They are not appealable to Interior Board of Land Appeals.

**Leasable minerals.** Those minerals or materials designated as leasable under the Mineral Leasing Act of 1920. They include coal, phosphate, asphalt, sulphur, potassium and sodium minerals and oil, gas, and geothermal resources.

**Lease.** Section 302 of FLPMA provides the BLM's authority to issue leases for the use, occupancy, and development of public lands. Leases are authorizations to possess and use public lands for fixed periods. Land uses that may be authorized by lease are those involving substantial construction, development, or land improvement and the investment of large amounts of capital that is to be amortized over time. A lease conveys a possessory interest and is revocable only in accordance with its terms and the provisions of 43 CFR, Part 2920.1-1(a). There are no limitations on the amount of land that may be included in a lease, but the area should be limited to the size justified. Also see *Permits*.

**Limited areas.** Designated areas where the use is subject to restrictions, such as limiting the number or types of vehicles allowed, dates and times of use (seasonal restrictions), limiting use to existing roads and trails, limiting use to designated roads and trails where use will be allowed only on roads and trails that are signed for use, or limited to administrative use. Combinations of restrictions are possible, such as limiting use to certain types of vehicles during certain times of the year (BLM National Management Strategy for OHV Use on Public Lands).

**Mechanized travel.** Moving by means of mechanical devices, such as a bicycle; not powered by a motor.

**Mine.** An opening or excavation in the Earth for extracting minerals.

**Mineral.** Any naturally formed inorganic material, solid, or fluid inorganic substance that can be extracted from the Earth; any of various naturally occurring homogeneous substances (as stone, coal, salt, sulfur, sand, petroleum, water, or natural gas) obtained usually from the ground. Under federal laws, considered as locatable (subject to the general mining laws), leasable (subject to the Mineral Leasing Act of 1920), and salable (subject to the Materials Act of 1947).

**Leasable Minerals.** Those minerals or materials designated as leasable under the Mineral Leasing Act of 1920, as amended. Leasable minerals include such solid leasables as coal, phosphate, asphalt, sulphur, potassium, and sodium minerals and such fluid leasables as oil and gas.

**Nonenergy Leasable Minerals.** These solid minerals include phosphate, sodium, potassium, sulphur, potash, and Gilsonite. Most are used for fertilizer, feed stock (mineral supplement for livestock), or other industrial processes. See 43 CFR, Part 3500, for more information on nonenergy leasable minerals.

**Locatable Minerals.** Minerals subject to exploration, development, and disposal by staking mining claims as authorized by the Mining Law of 1872, as amended. This includes deposits of gold, silver, and other uncommon minerals not subject to lease or sale.

**Saleable Minerals or Mineral Materials.** Common materials, such as sand and gravel, and common varieties of stone, pumice, pumicite, and clay that are not obtainable under the mining or leasing laws but that can be acquired under the Materials Act of 1947, as amended, through sales or special permits.

**Mineral entry.** The filing of a claim on public land to obtain the right to any locatable minerals it may contain.

**Mineral estate.** The ownership of minerals, including rights necessary for access, exploration, development, mining, ore dressing, and transportation.

**Minimization mitigation.** Minimizing impacts by limiting the degree or magnitude of the action and its implementation (40 CFR, Part 1508.20[b]).

**Minimize.** To reduce the adverse impact of an operation to the lowest practical level.

**Mining claim.** A parcel of land that a miner takes and holds for mining purposes, having acquired the right of possession by complying with the Mining Law of 1872 and local laws and rules. A mining claim may contain as many adjoining locations as the locator may make or buy. There are four categories of mining claims: lode, placer, mill site, and tunnel site.

**Mitigation.** A measure that will change the proposed action and will actually reduce or eliminate impacts. CEQ NEPA regulations identify five types of measures to deal with significant environmental effects, as follows:

- Avoiding the impact altogether by not taking a certain action or parts of an action
- Minimizing an impact by limiting the degree or magnitude of the action and its implementation
- Rectifying the impact by repairing, rehabilitating, or restoring the affected environment
- Reducing or eliminating the impact over time by preservation and maintenance
- Compensating for the impact by replacing or providing substitute resources or environments

**Monitoring.** Observations, data collection, and studies that evaluate compliance of on-the ground management with the RMP direction, or the effectiveness of RMP-prescribed management direction, in meeting broader goals objectives. Monitoring evaluates if actions comply with NEPA decisions that have been implemented, achieve the desired objectives (e.g., effectiveness), and are based on accurate assumptions (e.g., validation).

**Motorized.** Any machine activated by a nonliving power source. Small battery-powered, hand-carried devices such as flashlights, shavers, and Geiger counters are not classed as motorized equipment, such as ATVs/OHVs, motorcycles, cars, and trucks.

**Multiple use.** The management of the public lands and their various resource values so that they are used in the combination that will best meet the present and future needs of the American people; making the most judicious use of the land for some or all of these resources or related services over areas large enough to provide sufficient latitude for periodic adjustments in use to changing needs and conditions; the use of some land for less than all of the resources; a combination of balanced and diverse resource uses that takes into account the long-term needs of future generations for renewable and nonrenewable resources, including recreation, range, timber, minerals, watershed, wildlife and fish, and natural scenic, scientific and historical values; and harmonious and coordinated management of the various resources without permanent impairment of the productivity of the land and the quality of the environment, with consideration being given to the relative values of the resources and not necessarily to the combination of uses that will give the greatest economic return or the greatest unit output (FLPMA and BLM Manual 6840, Special Status Species Manual).

**National Environmental Policy Act of 1969.** Encourages productive and enjoyable harmony between humans and the environment; promotes prevention or elimination of damage to the environment and biosphere and stimulates the health and welfare of humans; enriches the understanding of the ecological systems and natural resources important to the nation; and establishes a CEQ (BLM National Management Strategy for OHV Use on Public Lands).

**National register.** The National Register of Historic Places, expanded and maintained by the Secretary of Interior, as authorized by Section 2(b) of the Historic Sites Act and Section 101(a)(1)(A) of the National Historic Preservation Act. The National Register lists cultural properties found to qualify for inclusion because of their local, state, or national significance. Eligibility criteria and nomination procedures are found in 36 CFR, Part 60. The Secretary's administrative responsibility for the National Register is delegated to the National Park Service (M-8100-1, BLM Cultural Resource Management).

**National wild and scenic rivers system.** A system of nationally designated rivers and their immediate environments that have outstanding scenic, recreational, geological, fish and wildlife, historical, cultural, and other similar values and are preserved in a free-flowing condition. The system consists of three types of streams, as follows:

- Recreational—Rivers or sections of rivers that are readily accessible by road or railroad and that may have some development along their shorelines and may have undergone some impoundments or diversion in the past
- Scenic—Rivers or sections of rivers free of impoundments, with shorelines or watersheds still largely undeveloped but accessible in places by roads
- Wild—Rivers or sections of rivers free of impoundments and generally inaccessible except by trails, with watersheds or shorelines essentially primitive and waters unpolluted

**Native american tribe.** Any Native American group in the coterminous United States that the Secretary of the Interior recognizes as possessing tribal status (listed periodically in the *Federal Register*; H-1601, BLM Land Use Planning Handbook).

**Naturalness.** Lands and resources affected primarily by the forces of nature, where the imprint of human activity is substantially unnoticeable in an area of 5,000 acres or greater. The BLM has the authority to inventory, assess, and monitor the attributes of the lands and resources on public lands,

which, taken together, are an indication of an area's naturalness. These attributes may include roads and trails, fences and other improvements, the nature and extent of landscape modifications, the presence of native vegetation communities, and the connectivity of habitats (from IM-20030275, change 1, Considerations of Wilderness Characteristics in LUP, Attachment 1).

**Neotropical migratory birds.** Birds that winter in Central America, South America, the Caribbean, and Mexico and then return to the United States and Canada during spring to breed. Includes almost half of the bird species that breed in the United States and Canada.

**Nonfunctioning condition.** A condition in which vegetation and ground cover are not maintaining soil conditions that can sustain natural biotic communities. It also refers to riparian-wetland areas that do not provide adequate vegetation, landform, or large woody debris to dissipate stream energy associated with high flows and thus are not reducing erosion, improving water quality, or possess other normal characteristics of riparian areas. The absence of a floodplain may be an indicator of nonfunctioning condition (H-4180-1, BLM Rangeland Health Standards Manual).

**Noxious weed.** A nonnative plant species designated by federal or state law and county weed boards that generally possess one or more of the following characteristics: aggressive and difficult to manage; parasitic; a carrier or host of serious insects or disease; or nonnative, new, or not common to the United States.

**Objective.** A description of a desired outcome for a resource. Objectives can be quantified and measured and, where possible, have established time frames for achievement.

**Off-highway or off-road vehicle.** Any motorized vehicle designed for or capable of cross-country travel on or immediately over land, water, sand, snow, ice, marsh, swampland, or other natural terrain. It excludes any registered motorboat, any fire, emergency, or law enforcement vehicle when used for emergency operations, and any combat or combat support vehicle when used for national defense purposes, and any vehicle whose use is expressly authorized by the respective agency head under a permit, lease, license, or contract (EO 11644).

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, or an area where all types of vehicle use are permitted at all times, subject to the standards in BLM Manuals 8341 and 8343.
- **Limited**—Designated areas and trails where use of off-road vehicles is subject to restrictions, such as limiting the number or types of vehicles allowed, dates and times of use (seasonal restrictions), limiting use to existing roads and trails, or limiting use to designated roads and trails, where use will be allowed only where they 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. Off-road vehicles in closed areas may be allowed for certain

reasons; however, such use would be made only with the approval of the BLM Authorized Officer.

**Official use.** Use by an employee, agent, or designated representative of the federal government or one of its contractors, in the course of his or her employment, agency, or representation (BLM National Management Strategy for OHV Use on Public Lands).

**Open area.** An area where all types of vehicle use is permitted at all times, anywhere in the area, subject to the operating regulations and vehicle standards set forth in 43 CFR, Parts 8341 and 8342.

**Operator.** One who has authorization from the BLM to conduct activity on public land.

**Outstandingly remarkable values.** Values among those listed in Section 1(b) of the WSR Act of 1968: “scenic, recreational, geological, fish and wildlife, historical, cultural, or other similar values...” Other similar values that may be considered are ecological, biological, or botanical.

**Over-snow vehicle.** A motor vehicle that is designed for use over snow that runs on a track or tracks or skis, while in use. Does not include machinery used strictly for grooming on nonmotorized trails.

**Overstocked.** The situation in which trees are so closely spaced that they compete for resources and do not reach full growth potential.

**Paleontological resources.** Any fossilized remains, traces, or imprints of organisms, preserved in or on the Earth’s crust, that are of paleontological interest and that provide information about the history of life on Earth; does not include any materials associated with an archaeological resource (as defined in Section 3[1] of the Archaeological Resources Protection Act of 1979 [16 USC, Section 470bb(1)]) or any cultural item (as defined in Section 2 of the Native American Graves Protection and Repatriation Act [24 USC, Section 3001 et seq.]).

**Perennial stream.** One that flows continuously. Perennial streams are generally associated with a water table in the localities through which they flow.

**Permit.** A short-term (up to three years) revocable authorization to use public lands for specific purposes. Section 302 of FLPMA provides the BLM’s authority to issue permits for the use, occupancy, and development of public lands. Permit land uses involve either little or no land improvement or construction or investment that can be amortized within the terms of the permit. A permit conveys no possessory interest. The BLM Authorized Officer may renew it at his or her discretion or revoke it in accordance with its terms or the provisions of 43 CFR, Part 2920.1-1(b). Also see *Leases*.

**Permittee.** Holder of a valid permit that authorizes grazing use of the public lands within the grazing district. Also a holder of a special recreation permit for commercial, competitive, organized, or vending activities for recreation on public lands. Also a holder of a commercial filming permit issued by the BLM for filming on public lands.

**Permitted use.** The forage allocated by, or under the guidance of, an applicable land use plan for livestock grazing in an allotment under a permit or lease and expressed in AUMs (43 CFR, Part 4100.0-5; from H-4180-1, BLM Rangeland Health Standards Manual).

**Petroglyph.** A figure, design, or indentation carved, abraded, or pecked on natural rock surfaces.

**Pictograph.** A figure or design, colored with charcoal or natural mineral pigments, painted on a rock.

**Planning area.** A geographical area for which land use and resource management plans are developed and maintained.

**Planning criteria.** The standards, rules, and other factors developed by managers and interdisciplinary teams for their use in forming judgment about decision-making, analysis, and data collection during planning. Planning criteria streamline and simplify the resource management planning actions (H-1601, BLM Land Use Planning Handbook).

**Population.** Within a species, a distinct group of individuals that tend to mate only with members of the group. Because of generations of inbreeding, members of a population tend to have similar genetic characteristics.

**Potential fossil yield classification.** A system of general classification based on the lithology of surface rocks that estimates the likelihood of a given rock unit to yield vertebrate or other scientifically important fossil materials.

**Potential to emit.** The maximum capacity of a facility or emitting unit, within physical and operational design, to emit a pollutant. Any physical or operational limitation on the capacity of the facility or emitting unit to emit a pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored, or processed, is treated as part of its design only if the limitation or the effect it will have on emissions is enforceable at the federal level.

**Prehistoric.** The period when Native American cultural activities took place that were not yet influenced by contact with historic nonnative cultures. The end of this period varies by region.

**Prescribed fire.** Any fire ignited by management action to meet specific objectives. A written approved fire plan must exist and NEPA requirements must be met before the fire is started (H-9214-1, BLM Prescribed Fire Management Handbook).

**Prevention of significant deterioration (PSD).** A regulatory program under the Clean Air Act (Public Law 84-159, as amended) to limit air quality and AQRV degradation in areas currently achieving the National Ambient Air Quality Standards. The PSD program established air quality classes in which differing amounts of additional air pollution are allowed above a legally defined baseline level. Small additional air pollution may be considered significant in PSD Class I areas (certain large national parks and wilderness areas in existence on August 7, 1977, and specific tribal lands redesignated since then). PSD Class II areas allow deterioration associated with moderate well-controlled growth (most of the country). Area classes are described below.

- Class I—An area that allows only minimal degradation above the baseline. The Clean Air Act designated existing national parks over 6,000 acres and national wilderness areas over 5,000 acres in existence on August 7, 1977, as mandatory federal Class I areas. These areas also have special visibility protection. In addition, four tribal governments have redesignated their lands as Class I Areas.

- Class II—An area that allows moderate degradation above the baseline. Most of the United States (outside nonattainment areas) is Class II.
- Class III—Any area that allows the maximum amount of degradation above the baseline. Although Congress allows air quality regulatory agencies to redesignate Class II lands to Class III, none have been designated.

**Prevention of significant deterioration increment and increment analysis.** The allowable PSD increment is the change in pollutant concentration allowed in a Class I, II, or III area. PSD increment values are provided in EPA regulations. As performed by the BLM for NEPA analysis, PSD increment analysis is a method of comparing predicted (modeled) pollutant concentrations to the EPA's allowable PSD increment values for the purpose of public disclosure only. The BLM increment analysis is not a regulatory analysis. State air quality agencies and the EPA perform regulatory PSD increment analyses.

**Primitive and unconfined recreation (in regard to designated Wilderness Areas).** Means nonmotorized types of outdoor recreation that do not require developed facilities or mechanical transport. Mechanical transport means any vehicle, device, or contrivance for moving people or material in or over land, water, snow, or air that has moving parts. This includes sailboats, sailboards, hang gliders, parachutes, bicycles, game carriers, carts, and wagons. The term does not include wheelchairs nor horses or other pack stock, skis, snowshoes, nonmotorized river craft, including drift boats, rafts, and canoes, or sleds, travois, or similar devices without moving parts (43 CFR, Part 6301.5, Definitions). There are no designated Wilderness Areas in the Billings Field Office planning area. For lands under Wilderness Review (Wilderness Study Areas), "No mechanical transport, which includes all motorized vehicles plus trail or mountain bikes, will be allowed on such trails" (H-8550-I, Chapter III, Section H1).

**Primitive recreation.** As defined in the Recreation Opportunity Spectrum, primitive recreation is managed to be essentially free from evidence of humans and on-site controls. Motor vehicle use is not permitted. Means of access include hiking, cross-country skiing, snowshoeing, nonmotorized boating, and horseback riding.

**Primitive road.** A linear route managed for use by four-wheel drive or high clearance vehicles. Primitive roads do not normally meet any BLM road design standards.

**Primitive route.** Any transportation linear feature in areas that have been identified as having wilderness characteristics and not meeting the wilderness inventory road definition.

**Properly functioning condition (PFC).**

- An element of the Fundamental of Rangeland Health for watersheds and therefore a required element of state or regional standards and guidelines under 43 CFR, Part 4180.2(b).
- Condition in which vegetation and ground cover maintain soil conditions that can sustain natural biotic communities. For riparian areas, the process of determining that function is described in BLM Technical Reference (TR) 1737-9, Final Environmental Impact Statement at 26, 72.
- Riparian-wetland areas are functioning properly when adequate vegetation, landform, or large woody debris are present to dissipate stream energy associated with high-water flows,

thereby reducing erosion and improving water quality; filter sediment, capture bed load, and aid floodplain development; improve floodwater retention and groundwater recharge; develop root masses that stabilize streambanks against cutting action; develop diverse ponding and channel characteristics to provide the habitat and the water depth, duration, and temperature necessary for fish production, waterfowl breeding, and other uses; and support greater biodiversity. The functioning condition of riparian-wetland areas is influenced by geomorphic features, soil, water, and vegetation.

- Uplands function properly when the existing vegetation and ground cover maintain soil conditions capable of sustaining natural biotic communities. The functioning condition of uplands is influenced by geomorphic features, soil, water, and vegetation. See also *Nonfunctioning Condition and Functioning at Risk* (H-4180-1, BLM Rangeland Health Standards Manual).

**Proper functioning condition for lentic areas.** Riparian-wetland areas are functioning properly when adequate vegetation, landform, or debris is present to dissipate energies associated with wind action, wave action, and overland flow from adjacent sites, thereby reducing erosion and improving water quality; filter sediment and aid floodplain development; improve flood-water retention and groundwater recharge; develop root masses that stabilize islands and shoreline features against cutting action; restrict water percolation; develop diverse ponding characteristics to provide the habitat and the water depth, duration, and temperature necessary for fish production, water bird breeding, and other uses; and support greater biodiversity.

**Proper functioning condition for lotic areas.** A riparian-wetland area is considered to be in proper functioning condition when adequate vegetation, landform, or large woody debris is present to accomplish the following:

- Dissipate stream energy associated with high water flow, thereby reducing erosion and improving water quality
- Filter sediment, capture bedload, and aid floodplain development
- Improve flood-water retention and ground-water recharge
- Develop root masses that stabilize streambanks against cutting action
- Develop diverse ponding and channel characteristics to provide the habitat and the water depth, duration, and temperature necessary for fish production, waterfowl breeding, and other uses
- Support greater biodiversity

**Proposed species.** Species that the Secretary of the Interior has officially proposed for listing as threatened or endangered and a proposed rule has been published in the *Federal Register* (M-6840, Special Status Species Manual).

**Public land.** Any land and interest in land owned by the United States and administered by the Secretary of the Interior through the Bureau of Land Management, without regard to how the United States acquired ownership, except lands located on the Outer Continental Shelf and land held for the

benefit of Indians, Aleuts, and Eskimos (from H-1601-I, BLM Land Use Planning Handbook and BLM Public Land Statistics).

**Range improvement.** An authorized physical modification or treatment designed to improve production of forage, change vegetation composition, control patterns of use, provide water, stabilize soil and water conditions restore, protect and improve the condition of rangeland ecosystems to benefit livestock, wild horses and burros, and fish and wildlife. The term includes structures, treatment projects, and use of mechanical devices or modifications achieved through mechanical means (43 CFR, Part 4100.0-5; H-4180-I, BLM Rangeland Health Standards Manual).

**Rangeland.** A kind of land on which the native vegetation, climax, or natural potential consists predominantly of grasses, grass-like plants, forbs, or shrubs. Rangeland includes lands revegetated naturally or artificially to provide a non-crop plant cover that is managed like native vegetation. Rangeland may consist of natural grasslands, savannahs, shrublands, most deserts, tundra, alpine communities, coastal marshes, and wet meadows (H-4180-I, BLM Rangeland Health Standards Manual).

**Raptor.** A group of predatory avian species (e.g., hawks, eagles, falcons, and owls) also referred to as birds of prey, which share various physical characteristics, such as sharp talons and a strongly curved bill.

**Reclamation.** Actions taken to restore damaged lands to proper functioning condition including removing structures, replacing or regrading topsoil, tilling compacted soils to allow infiltration of air and water, installing erosion control structures, seeding or planting native vegetation, and implementing integrated pest management to control invasive species.

**Record of decision.** A document signed by a responsible official recording a decision that was preceded by preparing an EIS.

**Recreation and Public Purposes (R&PP) Act of 1926.** The objective of the R&PP Act is to meet the needs of state and local government agencies and nonprofit organizations by leasing or conveying public land required for recreation and public purpose uses.

**Recreation experience.** Psychological outcomes realized either by recreation-tourism participants as a direct result of their on-site leisure and activity participation or by nonparticipating community residents as a result of their interaction with visitors and guests in their community or interaction with the BLM and other public and private recreation-tourism providers and their actions.

**Recreation management zones.** The recreation management zones are delineated for specific recreation opportunities, predominantly recreation and visitor services focus, and recreation setting characteristics for long-term management.

**Recreation opportunities.** Favorable circumstances enabling visitors' engagement in a leisure activity to realize immediate psychological experiences and attain more lasting, value-added beneficial outcomes.

**Recreation opportunity spectrum (ROS).** A framework for inventorying, planning, and managing recreation opportunities. ROS is divided into six classes: primitive, semiprimitive nonmotorized, semiprimitive motorized, roaded natural, rural, and urban. This system has been replaced by the Recreation Setting Characteristics Matrix.

**Recreation setting character.** The distinguishing recreational qualities of any landscape, objectively defined along a continuum, ranging from primitive to urban landscapes, expressed in terms of the nature of the component parts of its physical, social, and administrative attributes. These recreational qualities can be both classified and mapped. This classification and mapping process should be based on variation that either exists (for example, setting descriptions) or is desired (for example, setting prescriptions) among component parts of the various physical, social, and administrative attributes of any landscape. The recreation opportunity spectrum is one of the tools for doing this. Below is a text version of the recreation setting character matrix:

- Primitive Classification:
  - Physical:
    - More than ½ mile from either mechanized or motorized routes.
    - Undisturbed natural landscape.
    - No structures. Foot/horse and water trails only.
  - Social:
    - Fewer than three encounters/day at camp sites and fewer than 6 encounters/day on travel routes.
    - Fewer than or equal to three people per group.
    - No alteration of the natural terrain. Footprints only observed. Sounds of people rare.
  - Operational:
    - Foot, horse, and non-motorized float boat travel.
    - No maps or brochures available on-site. Staff is rarely present to provide on-site assistance.
    - No on-site posting/signing of visitor regulations, interpretive information or ethics. Few use restrictions
- Back Country Classification:
  - Physical:
    - Within ½ mile of four-wheel drive vehicle, ATV and motorcycles routes.
    - Character of the natural landscape retained. A few modifications contrast with character of the landscape (e.g. fences, primitive roads).
    - Maintained and marked trails, simple trailhead developments and basic toilets.
  - Social:
    - 3-6 encounters/day off travel routes (e.g., campsites) and 7-15 encounters/day on travel routes
    - 4-6 people per group.
    - Areas of alteration uncommon. Little surface vegetation wear observed. Sounds of people infrequent.
  - Operational:
    - Mountain bikes and perhaps other mechanized use, but all is non-motorized.
    - Basic maps, staff infrequently present (e.g. seasonally, high use periods) to provide on-site assistance.
    - Basic user regulations at key access points. Minimum use restrictions.

- Middle Country Classification:
  - Physical:
    - Within ½ mile of four-wheel drive vehicle, ATV and motorcycles routes.
    - Character of the natural landscape retained. A few modifications contrast with character of the landscape (e.g. fences, primitive roads).
    - Maintained and marked trails, simple trailhead developments and basic toilets.
  - Social:
    - 7-14 encounters/day off travel routes (e.g., staging areas) and 15-29 encounters/ day on travel routes
    - 7-12 people per group.
    - Small areas of alteration. Surface vegetation showing wear with some bare soils. Sounds of people occasionally heard.
  - Operational
    - Four-wheel drives, all-terrain vehicles, dirt bikes, or snowmobiles in addition to non-motorized, mechanized use.
    - Area brochures and maps, staff is occasionally (e.g. most weekends) present to provide on-site assistance.
    - Some regulatory and ethics signing. Moderate use restrictions. (e.g. camping, human waste).
- Front Country Classification
  - Physical:
    - Within ½ mile of low-clearance or passenger vehicle routes (includes unpaved County roads and private land routes).
    - Character of the natural landscape partially modified but none overpower natural landscape (e.g. roads, structures, utilities).
    - Rustic facilities such as campsites, restrooms, trailheads, and interpretive displays.
  - Social:
    - 15-29 encounters/day off travel routes (e.g., campgrounds) and 30 or more encounters/day on travel routes.
    - 13-25 people per group.
    - Small areas of alteration prevalent. Surface vegetation gone with compacted soils observed. Sounds of people regularly heard
  - Operational:
    - Two-wheel drive vehicles predominant, but also four wheel drives and non-motorized, mechanized use.
    - Information materials describe recreation areas & activities, staff periodically present (e.g. weekdays & weekends).
    - Rules, regulations, and ethics clearly posted. Use restrictions, limitations, and/or closures.
- Rural Classification
  - Physical:
    - Within ½ mile of paved/primary roads and highways.

- Character of the natural landscape considerably modified (agriculture, residential or industrial).
    - Modern facilities such as campgrounds, group shelters, boat launches, and occasional exhibits.
  - Social:
    - People seem to be generally everywhere.
    - 26-50 people per group.
    - A few large areas of alteration. Surface vegetation absent with hardened soils. Sounds of people frequently heard.
  - Operational:
    - Ordinary highway auto and truck traffic is characteristic.
    - Information described to the left, plus experience and benefit descriptions, staff regularly present (e.g. almost daily).
    - Regulations strict and ethics prominent. Use may be limited by permit, reservation, etc.
- Urban Classification
  - Physical:
    - Within ½ mile of streets and roads within municipalities and along highways.
    - Urbanized developments dominate landscape.
    - Elaborate full-service facilities such as laundry, restaurants, and groceries.
  - Social:
    - Busy place with other people constantly in view.
    - Greater than 50 people per group.
    - Large areas of alteration prevalent. Some erosion. Constantly hear people.
  - Operational:
    - Wide variety of street vehicles and highway traffic is ever-present.
    - Information described to the left, plus regularly scheduled on-site outdoor demonstrations and clinics.
    - Enforcement in addition to rules to reduce conflicts, hazards, and resource damage.

**Recreation setting characteristics matrix.** More than ½ mile from either mechanized or motorized routes; undisturbed natural landscape; no structures, foot/horse and water trails only; fewer than three encounters a day at campsites and fewer than six encounters a day on travel routes; fewer than or equal to three people per group; no alteration of the natural terrain; footprints only observed; and sounds of people rare.

**Recreation settings.** The collective distinguishing attributes of landscapes that influence and sometimes actually determine what kinds of recreation opportunities are produced.

**Recreational river.** 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.

**Regeneration.** The act of renewing tree cover by establishing young trees naturally or artificially.

**Relevant value.** As related to ACECs, a significant historic, cultural, or scenic value; a fish or wildlife resource or other natural system or process or natural hazard (43 CFR, Part 1610.7-2[a][1]).

**Residual impacts.** Impacts that remain after applying avoidance and minimization mitigation; also referred to as unavoidable impacts.

**Resilience.** The capacity of a plant community or ecosystem to maintain or regain normal function and development following disturbance.

**Resource management plan (RMP).** A land use plan as described by the Federal Land Policy and Management Act. The RMP generally establishes the following in a written document:

- Land uses for limited, restricted, or exclusive use; designations, including ACEC designation; and transfer from BLM administration
- Allowable resource uses (either singly or in a combination) and related levels of production or use to be maintained
- Resource condition goals and objectives to be attained
- Program constraints and general management practices needed to achieve the above items
- Need for an area to be covered by more detailed and specific plans
- Support action, including such measures as resource protection, access, development, realty action, or cadastral survey, as necessary to meet the above
- General implementation sequences in which carrying out a planned action
- Intervals and standards for monitoring and evaluating the plan to determine the effectiveness of the plan and the need for amendment or revision (43 CFR, Part 1601.0-5[k]).

**Revision.** The process of completely rewriting the land use plan due to changes in the planning area affecting major portions of the plan or the entire plan.

**Right-of-way (ROW).** Public lands authorized to be used or occupied for specific purposes, in accordance with a ROW grant, which are in the public interest and require ROWs over, on, under, or through such lands. A 44LD513 ROW is a ROW that BLM issues to itself.

- Major ROWs—High-voltage transmission lines (100 kilovolts and over) and major pipelines (24 inches and over in width)
- Minor ROWs and Land Use Authorizations/Permits—Communication sites and towers

**Right-of-way corridor.** A parcel of land that has been identified by law, Secretarial order, through a land use plan or by other management decision as being the preferred location for existing and future ROW grants and suitable to accommodate one type of ROW or one or more ROWs that are similar, identical, or compatible. The purpose of establishing ROW corridors is to encourage the concentration of utilities in a defined area to reduce the proliferation of multiple single-user ROWs and to reduce the extent of environmental impact analysis for each separate ROW proposal.

**Riparian area.** A form of wetland transition between permanently saturated wetlands and upland areas. Riparian areas exhibit vegetation or physical characteristics that reflect the influence of permanent surface or subsurface water. Typical riparian areas are lands along perennially and intermittently flowing rivers and streams, glacial potholes, and the shores of lakes and reservoirs with stable water levels. Excluded are ephemeral streams or washes that lack vegetation and depend on free water in the soil.

**River.** As defined in the Wild and Scenic Rivers Act, a flowing body of water or estuary or section, portion, or tributary thereof, including rivers, streams, creeks, runs, kills, rills, and small lakes.

**Road.** A linear route declared a road by the owner, managed for use by low clearance vehicles having four or more wheels, and maintained for regular and continuous use. (Closed, Limited, Open, Permanent Road)

**Rock art.** A generic term used to describe both petroglyphs (carvings) and pictographs (paintings).

**Routes.** Multiple roads, trails, and primitive roads; a group or set of roads, trails, and primitive roads that represent less than 100 percent of the BLM transportation system. Generically, components of the transportation system are described as routes.

**Rural.** As defined in the Recreation Opportunity Spectrum, rural recreation is managed to provide a setting that is substantially modified with moderate to high evidence of civilization. Motor vehicle use is permitted and visitor conveniences may be provided. Activities are facility/vehicle dependent and include sightseeing, horseback riding, road biking, golf, swimming, picnicking, and outdoor games.

**Scenic quality ratings.** The relative scenic quality (A, B, or C) assigned a landscape by applying the scenic quality evaluation key factors; scenic quality A being the highest rating, B a moderate rating, and C the lowest rating. The evaluation factors are landform, vegetation, water, color, adjacent scenery, scarcity, and cultural modifications (M-8400, Visual Resource Management).

**Scenic river.** A river or section of a river that is free of impoundments and whose shorelines are largely undeveloped but accessible in places by roads.

**Scoping.** An early and open process for determining the scope of issues to be addressed and for identifying the significant issues related to a proposed action. This effort involves the participation of affected federal, state, and local agencies and any affected Native American tribe, the proponent of the action, and other interested persons, unless there is a limited expectation under 40 CFR, Part 1507.31.

**Section 7 Consultation.** A part or section of the Endangered Species Act called Interagency Cooperation; the mechanism by which federal agencies ensure the actions they take, including those they fund or authorize, and do not jeopardize the existence of any listed species.

**Section 106 Compliance.** The requirement of Section 106 of the National Historic Preservation Act that any project that the federal government funds, licenses, permits, or assists be reviewed for impacts on significant historic properties and that the State Historic Preservation Officer and the Advisory Council on Historic Preservation be allowed to comment on a project.

**Semiprimitive motorized.** As defined in the Recreation Opportunity Spectrum, managed to provide a natural-appearing environment with evidence of humans and management controls present, but subtle. Means of access include motorized vehicles and mountain bicycles.

**Semiprimitive nonmotorized.** As defined in the Recreation Opportunity Spectrum, managed to be largely free from evidence of humans and on-site controls. Motor vehicle use is not permitted (except as authorized). Facilities for the administration of livestock and for visitor use are allowed but limited. Means of access include hiking, cross-country skiing, snowshoeing, nonmotorized boating, and horseback riding.

**Sensitive Class II Area.** A Class II area under the Prevention of Significant Deterioration (PSD) Program for which a federal land management agency, state agency, or tribal authority requests AQRV analysis comparable to that performed for PSD Class I areas. Agencies with jurisdiction over sensitive Class II areas sometimes request that the lead agency implement mitigation measures to protect AQRVs at sensitive Class II areas. Sensitive Class II areas are not addressed by the Clean Air Act.

**Sensitive species.** Species that require special management consideration to avoid potential future listing under the ESA and that have been identified in accordance with procedures set forth in the BLM's 6840 Manual. Those species designated by a BLM State Director, usually in cooperation with the state agency responsible for managing the species and state natural heritage programs, as sensitive. They are species that have the following characteristics:

- Could become endangered in or extirpated from a state or within a significant portion of its distribution
- Are under status review by the USFWS or NMFS
- Are undergoing significant current or predicted downward trends in habitat capability that will reduce its existing distribution
- Are undergoing significant current or predicted downward trends in population or density such that federal listed, proposed, or candidate or state-listed status may become necessary
- Typically have small and widely dispersed populations
- Inhabit ecological refugia or other specialized or unique habitats
- Are state listed but may be better conserved through application of BLM-sensitive species status (M6840, Special Status Species Manual)

**Significant.** An effect that is analyzed in the context of the proposed action to determine the degree or magnitude of importance of the effect, whether beneficial or adverse. The degree of significance can be related to other actions with individually insignificant but cumulatively significant impacts.

**Significant Paleontological Resource (Significant Fossil Resource).** Any paleontological resource that is considered to be of scientific interest, including most vertebrate fossil remains and certain rare or unusual invertebrate and plant fossils. A significant paleontological resource may be considered scientifically important because it is a rare or previously unknown species, it is of high quality and is well preserved, it preserves a previously unknown anatomical or other characteristic, or provides new information about the history of life on Earth. Paleontological resources that may be considered to

not have paleontological significance are those that lack provenance or context, lack physical integrity because of decay or natural erosion, or that are overly redundant or are otherwise not useful for research.

**Site.** The combination of biotic, climatic, topographic, and soil conditions of an area.

**Site preparation.** Hand or mechanized manipulation of a site, designed to enhance the success of regeneration.

**Socioeconomic study area.** The geographic area used for estimation and analysis of economic and social impacts.

**Special recreation permit (SRP).** An authorization that allows specified and often time-restricted recreation on public lands and related waters. Permits are administered under the BLM Handbook H - 2930 and policy is specifically provided for in the Federal Lands Recreation Enhancement Act, PL 108-47. It is used as a means to manage visitor use, to protect natural and cultural resources, and to achieve the goals and objectives of the BLM field office recreation program, as outlined in a land use plan, and as a mechanism to authorize the types of described as follows:

- Commercial use
- Competitive
- Vending
- Special area use
- Organized Use
- Commercial filming permits in conjunction with an SRP

**Special status species.** Collectively, federally listed or proposed and BLM sensitive species (BLM State Director-designated sensitive species), which include both federal candidate species and delisted species within five years of delisting (BLM Manual 6840, Special Status Species Management). (H-1601-1, BLM Land Use Planning Handbook).

**Split-estate.** Surface land and mineral estate of a given area under different ownerships. Frequently, the surface will be privately owned and the minerals federally owned.

**Spot treatment.** An application of an herbicide to a small selected area as opposed to broadcast application.

**Standard.** A description of the physical and biological conditions or degree of function required for healthy, sustainable lands (e.g., Land Health Standards). To be expressed as a desired outcome (goal; H-1601-1, BLM Land Use Planning Handbook).

**Standards for rangeland health.** Descriptions of the desired condition of the biological and physical components and characteristics of rangeland. The four standards deal with upland soils, riparian and wetland areas, desired species, and water quality.

**State implementation plan.** A detailed description of the programs a state will use to carry out its responsibilities under the Clean Air Act.

**State-listed species.** Species listed by a state in a category implying potential endangerment or extinction. Listing is either by legislation or regulation (M-6840, Special Status Species Manual).

**Stipulations.** Requirements that are part of the terms of various types of leases. Some stipulations are standard on all federal leases; others may be applied to the lease at the discretion of the surface management agency to protect valuable surface resources and uses.

**Suitable river.** A river segment found, through administrative study by an appropriate agency, to meet the criteria for designation as a component of the National Wild and Scenic Rivers system, specified in Section 4(a) of the Wild and Scenic Rivers Act.

**Surface-disturbing activities or surface disturbance.** The physical disturbance or removal of land surface and vegetation. Some examples of surface-disturbing activities are construction of roads, well pads, pipelines, power lines, reservoirs, facilities, recreation sites, and mining. Vegetation renovation treatments that involve soil penetration or substantial mechanical damage to plants (plowing, chiseling, and chopping) are also surface-disturbing activities.

**Surface occupancy.** Placement or construction of the land surface (temporary or permanent) for more than 14 days, requiring continual service or maintenance. Casual use is excluded.

**Sustainability.** Long-term management of ecosystems to meet the needs of present human populations without interruption, weakening, or loss of the resource base for future generations (EPA).

**Sustained yield.** Achieving and maintaining in perpetuity a high-level annual or regular periodic output of the various renewable resources of the public lands consistent with multiple use.

**Take.** For the purposes of the endangered species act, to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect or to attempt to engage in any such conduct (Endangered Species Act of 1973).

**Technically/economically feasible.** Actions that are practical or feasible from the technical and economic standpoint and using common sense, rather than simply desirable from the standpoint of the applicant. It is the BLM's sole responsibility to determine what actions are technically and economically feasible. The BLM will consider whether implementation of a proposed action is likely, given past and current practice and technology; this consideration does not necessarily require a cost/benefit analysis or speculation about an applicant's costs and profit (modified from the CEQ's 40 Most Asked Questions and BLM NEPA Handbook, Section 6.6.3).

**Temporary disruptive activities.** Activities that involve human presence or activities to be in crucial habitats for less than one hour during a 24-hour period in a specific area (MT-IM-2010-017, 11-30-09, "Guidance of Greater Sage Grouse Management and Conservation in RMP's in Management Zones 1 & 2 within Montana/Dakotas BLM," Attachment 3, Definitions).

**Thinning.** A cultural treatment made to reduce stand density of trees, primarily to improve growth, enhance forest health, or recover potential mortality.

**Threatened species.** Any species that is likely to become endangered within the foreseeable future throughout all or a significant portion of its range (BLM Manual 6840, Special Status Species Management).

**Timeliness.** The lack of time lag between impacts and the achievement of compensatory mitigation goals and objectives (BLM Manual Section 1794).

**Timing limitation (seasonal restriction).** A restriction on permitted activities that allows certain activities during specific periods to avoid the disturbance of plant or animal species during critical periods of the life cycle: mating, parturition, or periods of environmental stress caused by limited food supplies or extreme temperatures.

**Total maximum daily load.** An estimate of the total quantity of pollutants from all sources: point, nonpoint, and natural that may be allowed into waters without exceeding applicable water quality criteria.

**Traditional cultural property.** A property that derives significance from traditional values associated with it by a social or cultural group, such as an Indian tribe or local community. A traditional cultural property may qualify for listing on the National Register of Historic Places if it meets the criteria and criteria exceptions at 36 CFR, Part 60.4. See *National Register Bulletin 38*.

**Trail.** A linear route managed for human-powered, stock, or some off-highway forms of transportation or for historical or heritage values. Trails are not generally managed for use by four-wheel-drive or high clearance vehicles.

**Transportation linear features.** The broadest category of physical disturbance (planned and unplanned) on BLM-administered land. Transportation-related linear features include engineered roads and trails, as well as user-defined, non-engineered roads and trails created as a result of the public use of BLM-administered land. Linear features may include roads and trails identified for closure or removal, as well as those that make up the BLM's defined transportation system.

**Transportation system.** The sum of the BLM's recognized inventory of linear features (roads, primitive roads, and trails) formally recognized, designated, and approved as part of the BLM's transportation system.

**Travel Management Areas.** Polygons or delineated areas where a rational approach has been taken to classify areas open, closed or limited, and have identified and/or designated a network of roads, trails, ways, and other routes that provide for public access and travel across the planning area. All designated travel routes within travel management areas should have a clearly identified need and purpose as well as clearly defined activity types, modes of travel, and seasons or time frames for allowable access or other limitations (MS-1626).

Definitions of terminology used on Travel Management Area maps and in Chapter 2 Travel Management Area Alternatives comparison:

- Open to all Vehicles (O)—Route is open to all uses without any stipulations or restrictions

- Open with Additional Management (MO)—Route is open to all uses with some forms of additional management, such as adaptive management monitoring or specific mitigations, monitoring, or maintenance.
- Open with Restrictions – Seasonal (ML or L) – Pryors—Route is open to all uses with seasonal restrictions. There may be some forms of additional management such as adaptive management monitoring or specific mitigation, monitoring, or maintenance.
- Open with Restrictions – Conditional (ML or L) – Shepherd—Route is open to all uses except during periods of high soil moisture/high erosion potential, during which time route will be closed to all motorized uses. There may be some forms of additional management such as adaptive management monitoring or specific mitigation, monitoring, or maintenance.
- Open to Technical 4WD by Permit Only (Alt C) – (Open with Restrictions – Vehicle Type (ML or L)) – Horsethief—Open to modified 4wd vehicles with special event permit only. There may be some forms of additional management such as adaptive management monitoring or specific mitigation, monitoring, or maintenance.
- Open to Motorcycles Only (Open with Restrictions – Vehicle Type (ML or L))—Route is open to Motorcycles. There may be some forms of additional management such as adaptive management monitoring or specific mitigation, monitoring, or maintenance.
- Open to Vehicles 50” or Less (Open with Restriction – Vehicle Type (ML or L))—Route is open to vehicles 50" wide or less. There may be some forms of additional management such as adaptive management monitoring or specific mitigation, monitoring, or maintenance.
- Administrative Use Only (L or ML)—Route limited to administrative or authorized use only. There may be some forms of additional management such as adaptive management monitoring or specific mitigation, monitoring, or maintenance.
- Closed to All Vehicles (C)—Route is closed to all uses, including non-motorized uses, in that a trail or route will not be officially recognized or maintained.
- Non-motorized Use Only—Route is limited to non-motorized use only (closed to all motorized uses). There may be some forms of additional management such as adaptive management monitoring or specific mitigation, monitoring, or maintenance.

**Unallotted lands.** Public lands available for grazing that currently have no livestock grazing authorized.

**Undertaking.** A project, activity, or program funded in whole or in part under the direct or indirect jurisdiction of a federal agency, including those carried out by or on behalf of a federal agency, those carried out with federal financial assistance, those requiring a federal permit, license, or approval, and those subject to state or local regulation administered in accordance with a delegation or approval by a federal agency.

**Unsuitability criteria.** Criteria of the federal coal management program by which lands may be assessed as unsuitable for all or certain stipulated methods of coal mining (43 CFR, Part 4300).

**Urban.** As defined in the Recreation Opportunity Spectrum, urban recreation is managed to provide a setting that is largely modified. Large numbers of users can be expected, and vegetation cover is often

exotic and manicured. Facilities for highly intensified motor vehicle use and parking are available, with mass transit often included to carry people throughout the site.

**User day.** Any calendar day, or portion thereof, for each individual accompanied or serviced by an operator or permittee on the public lands or related waters; synonymous with passenger day or participant day.

**Utility.** A service that a public utility provides (e.g., electricity, telephone, or water).

**Utility corridor.** A linear or areal parcel of land that has been identified by law, Secretarial order, the land-use planning process, or by other management decisions as being a preferred location for existing and future ROW grants and suitable to accommodate more than one type of ROW or one or more ROWs that are similar, identical, or compatible.

**Valid existing rights.** Documented legal rights or interests in the land that allow a person or entity to use said land for a specific purpose and that are still in effect. Such rights include fee title ownership, mineral rights, rights-of-way, easements, permits, and licenses. Such rights may have been reserved, acquired, leased, granted, permitted, or otherwise authorized over time.

**Vegetation type.** A plant community with distinguishable characteristics described by the dominant vegetation present.

**Visibility (air quality).** A measure of the ability to see and identify objects at different distances.

**Visitor use.** Visitor use of a resource for inspiration, stimulation, solitude, relaxation, education, pleasure, or satisfaction.

**Visual resource management.** A system by which the BLM inventories and manages the scenic values and visual quality of public lands. The system is based on research that has produced ways of accessing aesthetic qualities of the landscape in objective terms. In RMPs, lands are assigned management classes, which determine the amount of modification allowed for the basic elements of the landscape.

**Visual resource management classes.** A process to define the degree of acceptable visual change within a characteristic landscape. Visual Resources are inventoried using procedures established in the BLM Handbook H-8410-1 and are managed under the guidelines in BLM Handbook H-8431. A class is based on the physical and sociological characteristics of any given homogeneous area and serves as a management objective. Categories assigned to public lands are based on scenic quality, sensitivity level, and distance zones. Each class has an objective that prescribes the amount of change allowed in the characteristic landscape (from H-1601-1, BLM Land Use Planning Handbook). The four classes are described below:

- Class I provides for natural ecological changes with very little management activity. This class includes primitive areas, some natural areas, some wild and scenic rivers, and other similar areas where landscape modification activities should be restricted.
- Class II areas are those 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. The goal is to retain the existing landscape character.

- Class III includes areas where changes in the basic elements (form, line, color, or texture) caused by a management activity may be evident in the characteristic landscape. The level of change from an activity should not dominate the landscape, but may attract attention of the casual observer. Changes should repeat the basic landscape elements.
- Class IV applies to areas where changes may subordinate the original composition and character; however, they should reflect what could be a natural occurrence within the characteristic landscape, if possible. The level of change to the existing landscape can be high and may dominate the view. This class provides for management activities which require modification to the existing landscape character.

**Waiver.** Permanent exemption from a lease stipulation. The stipulation no longer applies anywhere within the leasehold.

**Water quality.** The chemical, physical, and biological characteristics of water with respect to its suitability for a particular use.

**Way.** A vehicle route within a WSA that was in existence and inventoried during the FLPMA Section 603-mandated wilderness inventory. Interim Management Policy for Lands under Wilderness Review (H-8550-1) defines a way as “a track maintained solely by the passage of vehicles, which has not been improved and/or maintained by mechanical means to ensure relatively regular and continuous use.” The term is also used during wilderness inventory to identify routes that are not roads. The term is developed from the definition of the term “roadless” provided in the Wilderness Inventory Handbook (September 27, 1978), as follows: “roadless: refers to the absence of roads which have been improved and maintained by mechanical means to insure relatively regular and continuous use. A way maintained solely by the passage of vehicles does not constitute a road.” A trace maintained solely by the passage of vehicles which has not been improved and /or maintained by mechanical means to ensure relatively regular and continuous use. (Interim Management Policy for lands under Wilderness review- IMP, H - 8550-1).

**Wetlands.** Areas that are inundated or saturated by surface or ground water often and long enough to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.

**Wild and scenic river.** Rivers identified in Section 5 of the Wild and Scenic Rivers Act of 1968 for study as potential additions to the National Wild and Scenic Rivers System. The rivers will be studied under the provisions of Section 4 of the act (from M-835 I, BLM WSR Policy and Program).

**Wildfire.** An unplanned ignition of a wildland fire (such as a fire caused by lightning, volcanoes, unauthorized and accidental human caused fires) and escaped prescribed fires. (2009 Guidance for Implementation of Federal Wildland Fire Management Policy)

**Wild lands.** A designation resulting from a plan decision to protect lands with wilderness characteristics (LWC) located outside of the Wilderness Study Areas (WSAs) and Wilderness Areas. Wild land protection measures are developed in the course of plan development BLM is required under Section 201 of FLPMA to conduct and maintain a current inventory of natural resources. BLM conducts its wilderness characteristics inventory through the BLM Manual 6301 and incorporates the findings in

the RMP through its Manual 6302. These manuals implement Secretarial Order 3310 and incorporates principles from BLM guidance (ex: Organic Act directives) and legal rules developed as part of BLM's original wilderness inventories.

**Wildland fire.** Any non-structure fire that occurs in vegetation or natural fuels. Wildland fire includes prescribed fire and wildfire. (2014 NWCG glossary)

**Wildland urban interface (WUI).** The line, area, or zone in which structures and other human development meet or intermingle with undeveloped wildland or vegetative fuels.

**Wild river.** Those rivers or sections of rivers that are free of impoundments and generally inaccessible except by trail, with watersheds or shorelines essentially primitive and unpolluted. These represent vestiges of primitive America.

**Wild, scenic, or recreational.** The term used for what is traditionally shortened to wild and scenic rivers. Designated river segments are classified as wild, scenic, or recreational but cannot overlap (from M-8351, BLM WSR Policy and Program).

**Withdrawal.** An action that restricts the use of public lands by removing them from the operation of some or all of the public land laws (e.g. mineral rights).

**Woodland.** A community of trees that are often small, characteristically short-boled relative to their crown depth and forming only an open canopy with the intervening area being occupied by a lower vegetation type.

# CHAPTER 7

## REFERENCES

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Antiquities Act of 1906. Internet website: <http://www.nps.gov/history/local-law/anti1906.htm>.

BLM. 2015. Billings and Pompeys Pillar National Monument Proposed Resource Management Plan and Final Environmental Impact Statement (PRMP/FEIS). June 1, 2015.

BLM Manual 6100 – National Landscape Conservation System Management (public). Internet website: [http://www.blm.gov/style/medialib/blm/wo/Information\\_Resources\\_Management/policy/blm\\_manual.Par.64370.File.dat/6100.pdf](http://www.blm.gov/style/medialib/blm/wo/Information_Resources_Management/policy/blm_manual.Par.64370.File.dat/6100.pdf).

BLM Manual 6220 – National Monuments, National Conservation Areas, and Similar Designations (Public). Internet website: [http://www.blm.gov/style/medialib/blm/wo/Information\\_Resources\\_Management/policy/bl\\_manual.Par.5740.File.dat/6220.pdf](http://www.blm.gov/style/medialib/blm/wo/Information_Resources_Management/policy/bl_manual.Par.5740.File.dat/6220.pdf).

BLM Manual 6250 – National Scenic and Historic Trail Administration (public). Internet website: [http://www.blm.gov/style/medialib/blm/wo/Information\\_Resources\\_Management/policy/bl\\_manual.Par.63382.File.dat/M6250%20NSHT%20Administration%20Final\\_091312.pdf](http://www.blm.gov/style/medialib/blm/wo/Information_Resources_Management/policy/bl_manual.Par.63382.File.dat/M6250%20NSHT%20Administration%20Final_091312.pdf).

BLM, Forest Service, NPS. 1972. Pryor Mountain Wild Horse Range Biology and Alternatives for management, Billings MT.

BLM, Forest Service. 1974. Pryor Mountain Complex Land Use Decisions.

BLM, NPS, USFWS, and BIA, and Forest Service. 2003. Interagency Strategy for the Implementation of Federal Wildland Fire Management Policy. June 20, 2003. Internet website: [http://www.google.com/url?sa=t&rct=j&q=&esrc=s&frm=1&source=web&cd=1&cad=rja&uact=8&ved=0CB4QFjAAahUKEwiXhqSSzO\\_HAhVNOYgKHRPbCK0&url=http%3A%2F%2Fwww.sierraforestlegacy.org%2FResources%2FCommunity%2FSmokeManagement%2FAirQualityPolicy%2FfedWldFireMgmtPolicy.pdf&usg=AFQjCNENnBCABwAJfSxdWW\\_4KzTsbuGGA](http://www.google.com/url?sa=t&rct=j&q=&esrc=s&frm=1&source=web&cd=1&cad=rja&uact=8&ved=0CB4QFjAAahUKEwiXhqSSzO_HAhVNOYgKHRPbCK0&url=http%3A%2F%2Fwww.sierraforestlegacy.org%2FResources%2FCommunity%2FSmokeManagement%2FAirQualityPolicy%2FfedWldFireMgmtPolicy.pdf&usg=AFQjCNENnBCABwAJfSxdWW_4KzTsbuGGA)

Executive Order 13195. Internet website: <http://www.gpo.gov/fdsys/pkg/WCPD-2001-01-22/pdf/WCPD-2001-01-22-Pg183.pdf>.

Montana Bald Eagle Working Group. 2010. Montana Bald Eagle Management Guidelines: An Addendum to Montana Bald Eagle Management Plan, 1994, Montana Fish, Wildlife and Parks, Helena, Montana. Presidential Proclamation 7396: Establishment of Pompeys Pillar National Monument. Internet website: <http://www.gpo.gov/fdsys/pkg/WCPD-2001-01-22/pdf/WCPD-2001-01-22-Pg149.pdf>.

National Historic Preservation Act. Internet website: <http://www.achp.gov/docs/NHPA%20in%20Title%2054%20and%20Conversion%20Table.pdf>.

National Landscape Conservation System Act. Internet website: <http://www.gpo.gov/fdsys/pkg/CRPT-110srpt116/html/CRPT-110srpt116.htm>.

National Trails Systems Act. Internet website: <http://www.nps.gov/nts/legislation.html>.

Presidential Proclamation 7396: Establishment of Pompeys Pillar National Monument. Internet website: <http://www.gpo.gov/fdsys/pkg/WCPD-2001-01-22/pdf/WCPD-2001-01-22-Pg149.pdf>.

# Appendices

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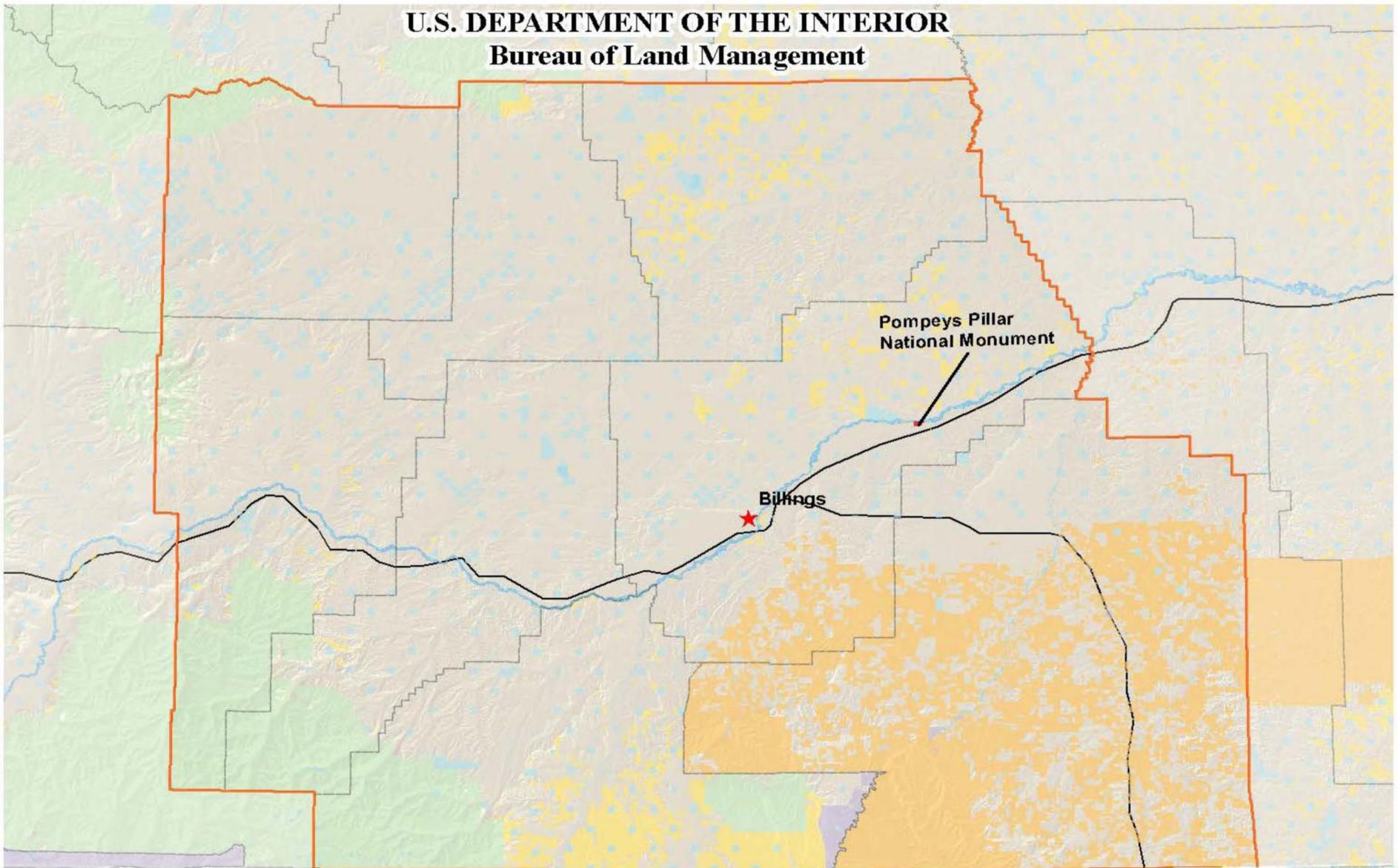


**Appendix A**  
**Approved RMP Maps**

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U.S. DEPARTMENT OF THE INTERIOR  
Bureau of Land Management



Pompeys Pillar  
National Monument

Billings



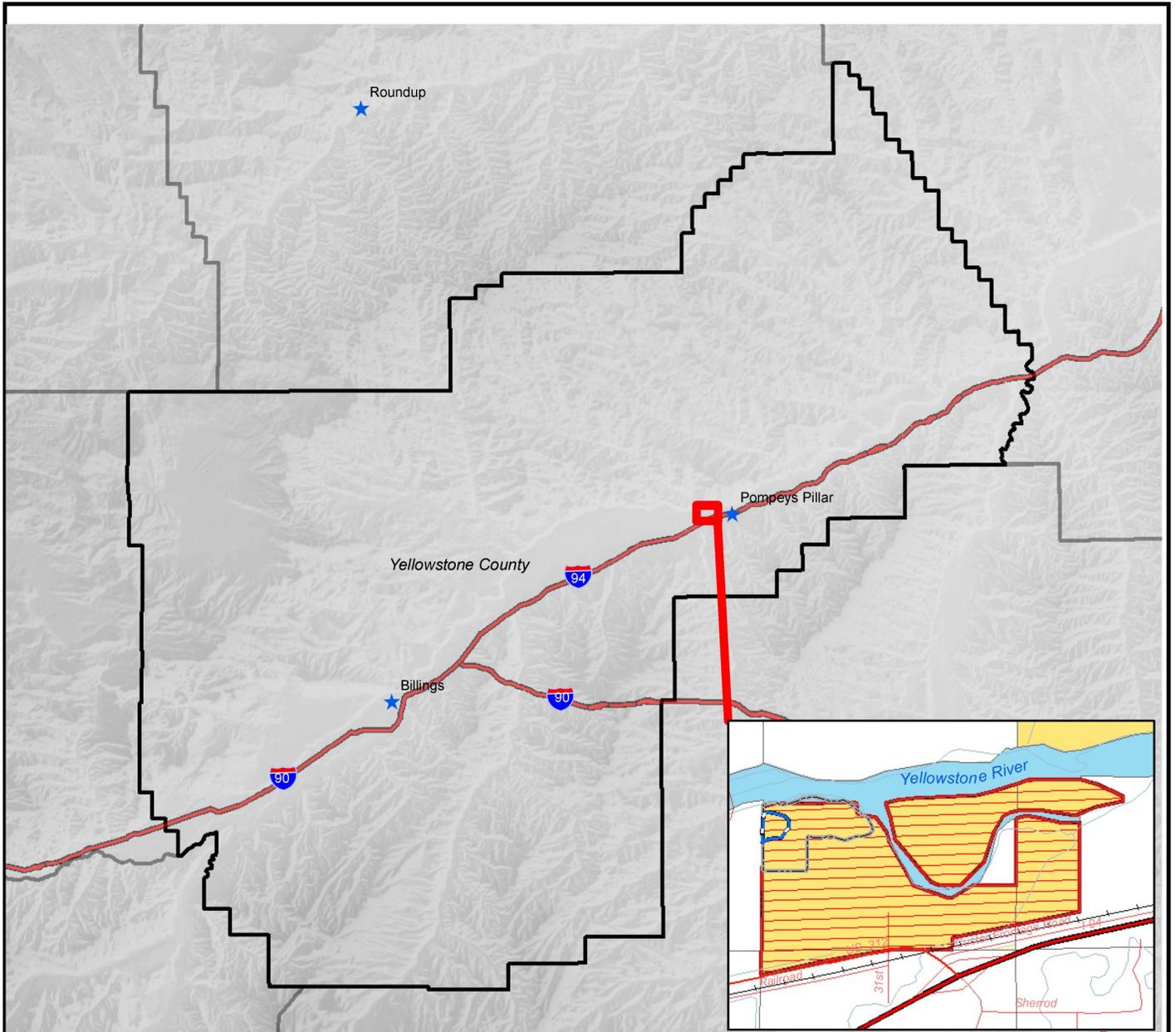
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Billings & Pompeys Pillar  
National Monument RMP / EIS

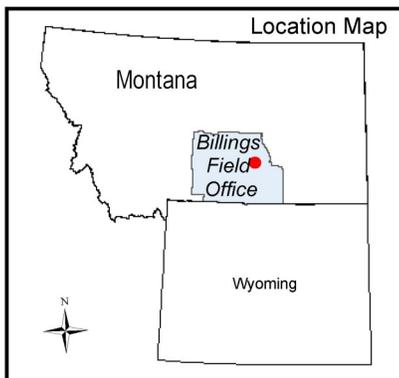
- BLM
- Bureau of Reclamation
- Corps of Engineers
- BIA - Indian Trust Lands
- National Park Service
- Division of State Lands
- US Forest Service
- WATER



Map 1



U.S. DEPARTMENT OF THE INTERIOR  
Bureau of Land Management  
Billings & Pompeys Pillar  
National Monument RMP / EIS



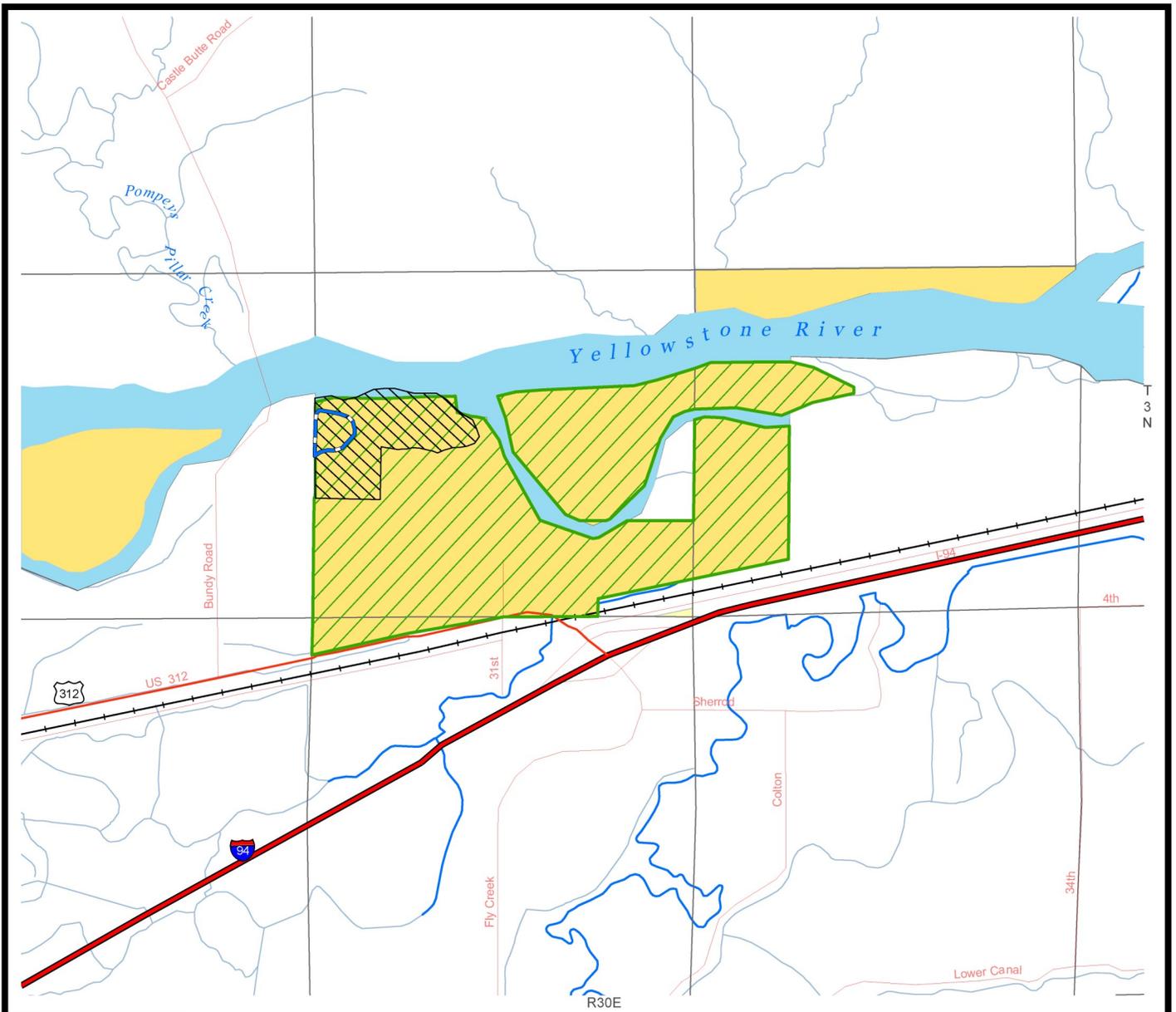
**Pompeys Pillar National Monument**

Map generated by the Billings Field Office in July 2011

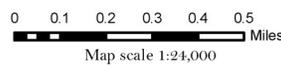
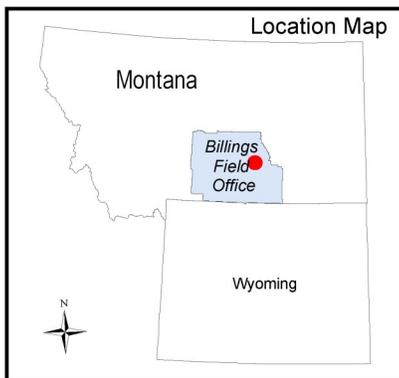
Albers Equal Area, NAD83 Projection

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Legend	
	Area of Critical Environmental Concern
	National Monument
	National Historic Landmark
	Public Lands Survey System
	Railroads
	Limited Access Highway
	Pipelines & Powerlines
	Streams
	BLM - Public Domain
	Bureau of Reclamation
	Private
	WATER



**U.S. DEPARTMENT OF THE INTERIOR**  
**Bureau of Land Management**  
 Billings & Pompeys Pillar  
 National Monument RMP / EIS  
**Pompeys Pillar National Monument,**  
**Pompeys Pillar National Historic Landmark,**  
**Pompeys Pillar Area of Critical**  
**Environmental Concern**  
**Approved RMP**



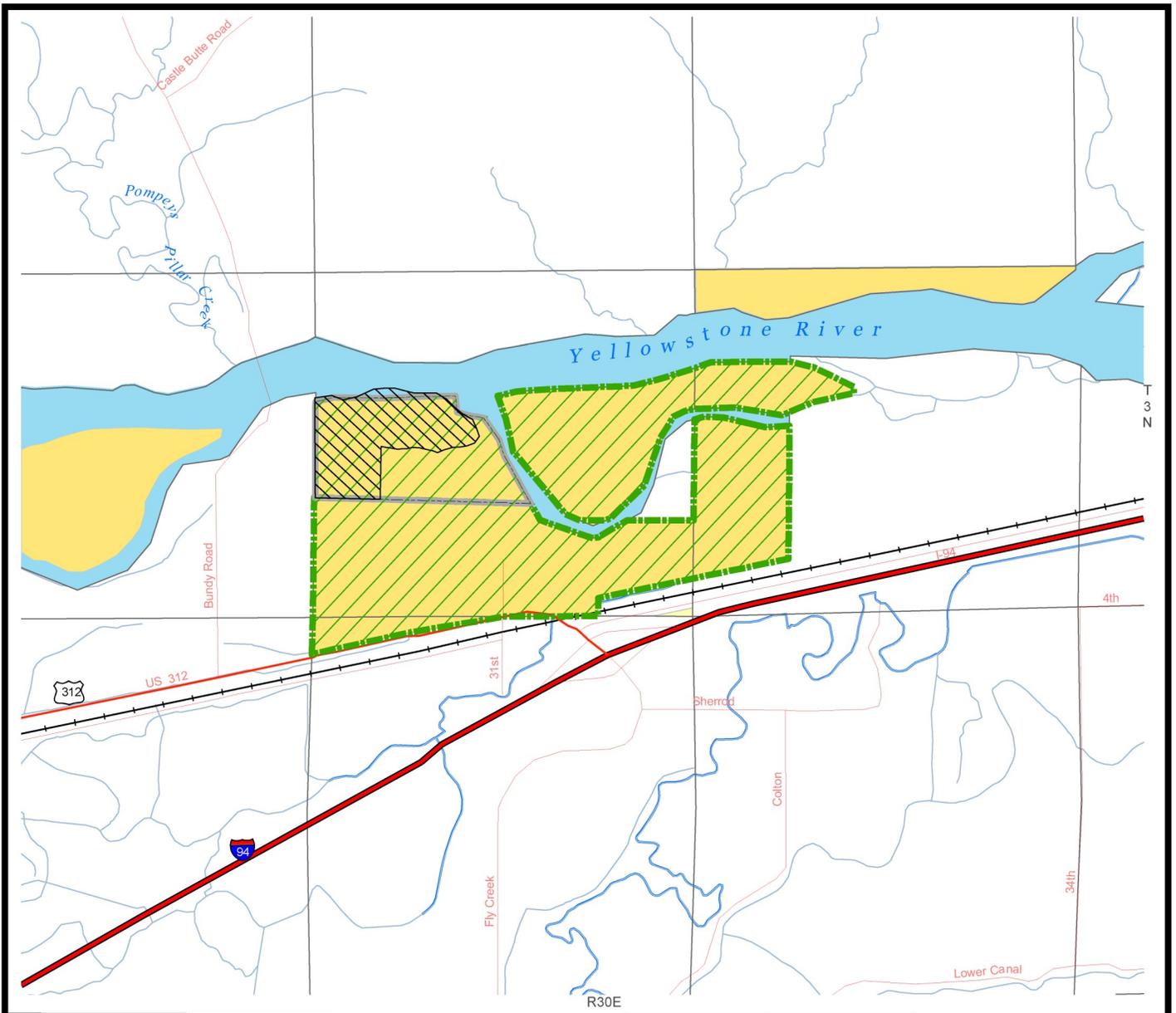
Map generated by the Billings Field Office in August 2015

Albers Equal Area, NAD83 Projection

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Legend	
	National Historic Landmark
	Pompeys Pillar National Monument
	Pompeys Pillar ACEC
	Public Lands Survey System
	Roads
	Streams
	Bureau of Land Management
	Bureau of Reclamation
	Water
	Private

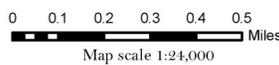
**Map 3**



U.S. DEPARTMENT OF THE INTERIOR  
Bureau of Land Management  
Billings & Pompeys Pillar  
National Monument RMP / EIS



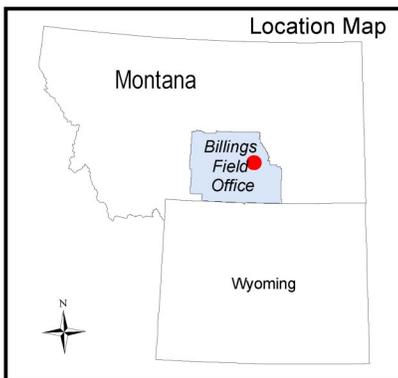
**Pompeys Pillar National Monument**  
**Pompeys Pillar ACEC**  
**Pompeys Pillar Management Zones**  
**Approved RMP**



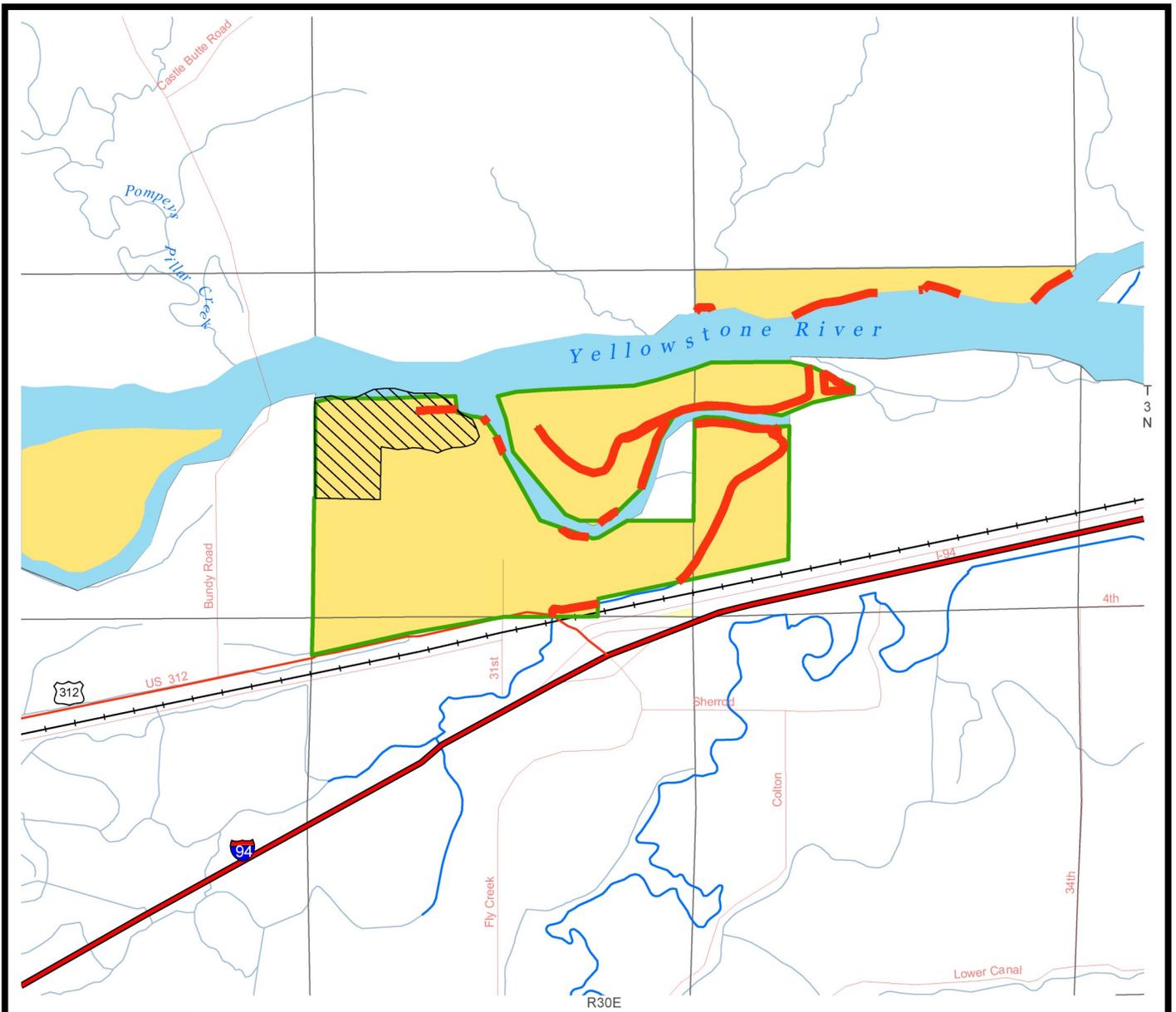
Map generated by the Billings Field Office in August 2015

Albers Equal Area, NAD83 Projection

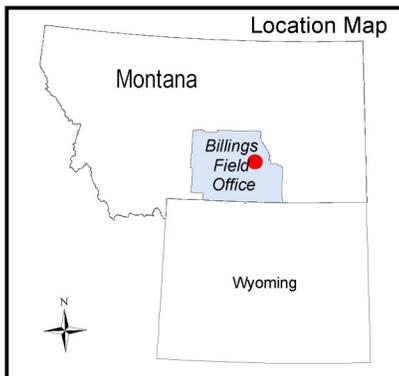
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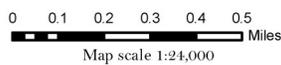
Legend	
	Pompeys Pillar National Monument
	Pompeys Pillar ACEC
	Front County Zone
	General Management Zone
	Public Lands Survey System
	Roads
	Streams
	Bureau of Land Management
	Bureau of Reclamation
	Water
	Private



U.S. DEPARTMENT OF THE INTERIOR  
Bureau of Land Management  
Billings & Pompeys Pillar  
National Monument RMP / EIS



## Pompeys Pillar National Monument Riparian Priority Recover Areas Approved RMP



Map generated by the Billings Field Office in August 2015

Albers Equal Area, NAD83 Projection

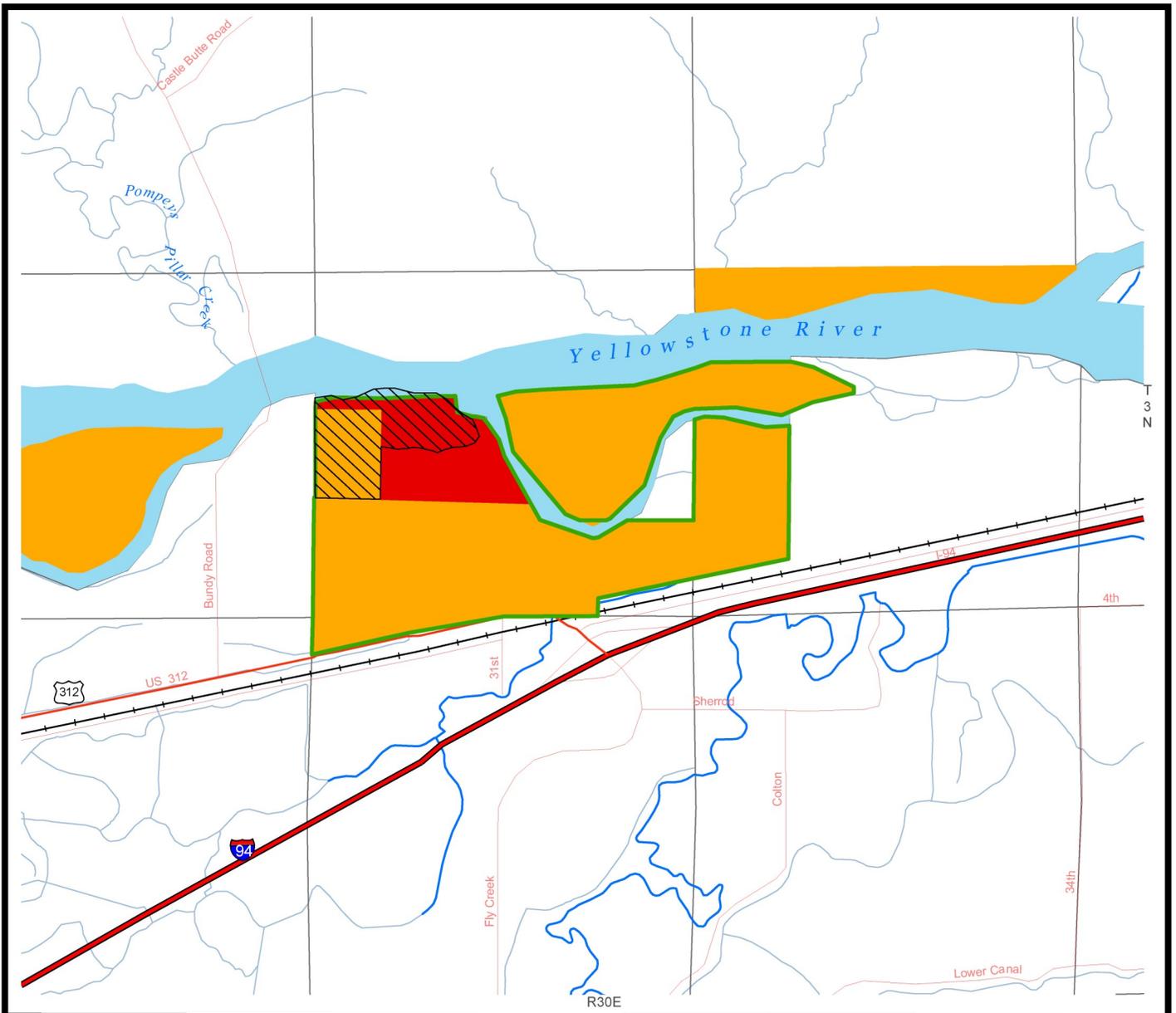
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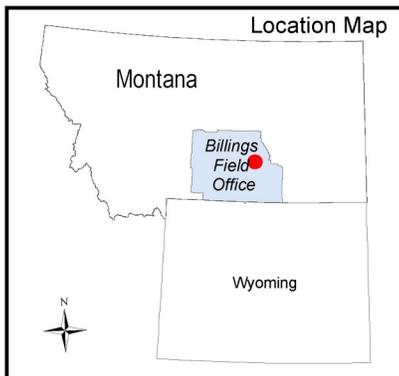
### Legend

- Pompeys Pillar National Monument
- Pompeys Pillar ACEC
- Priority Recovery Areas
- Public Lands Survey System
- Railroads
- Roads
- Streams
- Bureau of Land Management
- Bureau of Reclamation
- Water
- Private

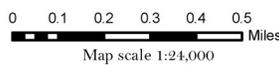
Map 5



U.S. DEPARTMENT OF THE INTERIOR  
Bureau of Land Management  
Billings & Pompeys Pillar  
National Monument RMP / EIS



## Pompeys Pillar National Monument Visual Resource Management Approved RMP



Map generated by the Billings Field Office in August 2015

Albers Equal Area, NAD83 Projection

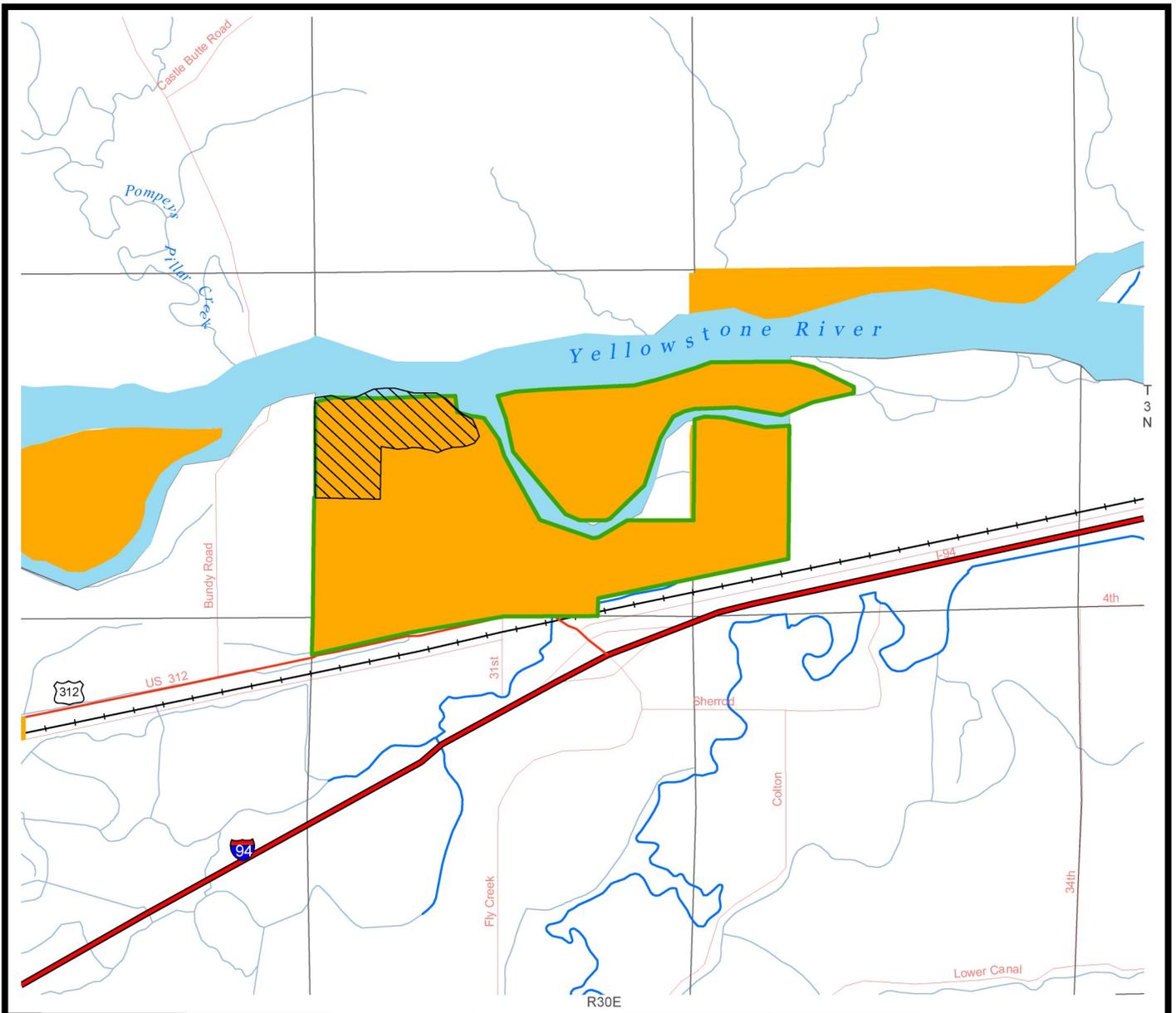
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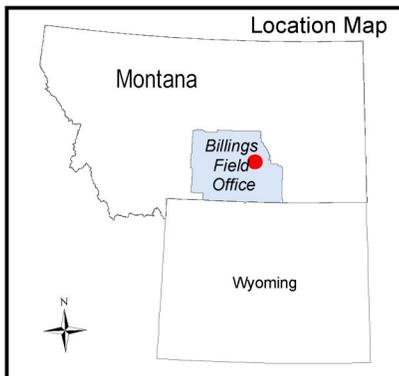
### Legend

- Pompeys Pillar National Monument
- Pompeys Pillar ACEC
- Public Lands Survey System
- Roads
- Streams
- Water
- Management Class**
- Class II
- Class III

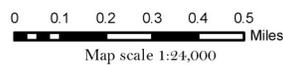
Map 6



U.S. DEPARTMENT OF THE INTERIOR  
Bureau of Land Management  
Billings & Pompeys Pillar  
National Monument RMP / EIS



**Pompeys Pillar National Monument**  
**Lands Retention**  
**Approved RMP**

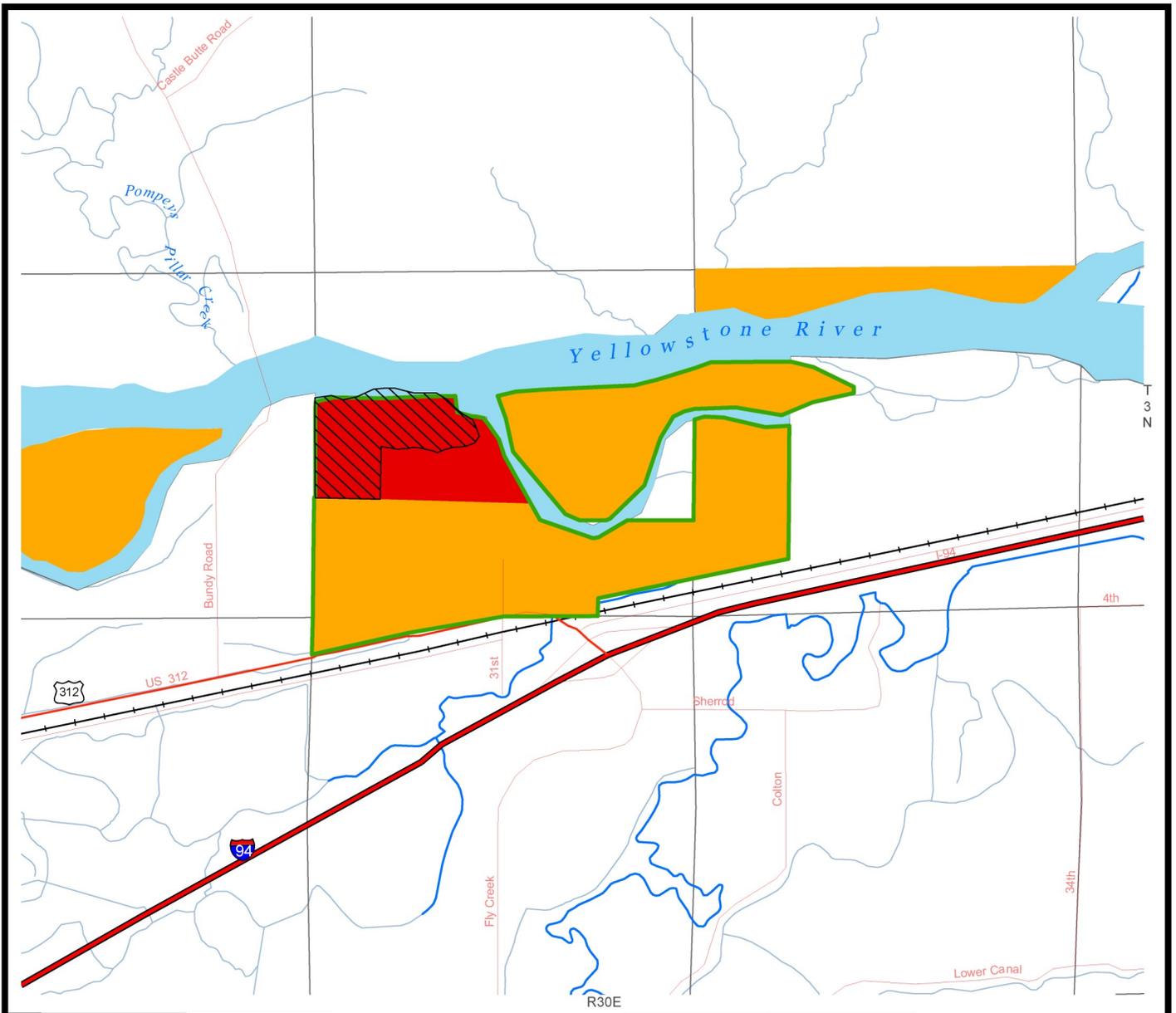


Map generated by the Billings Field Office in August 2015

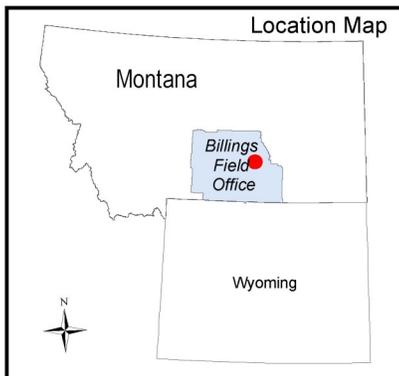
Albers Equal Area, NAD83 Projection

Legend	
	Pompeys Pillar National Monument
	Pompeys Pillar ACEC
	Public Lands Survey System
	Retention
	Roads
	Streams

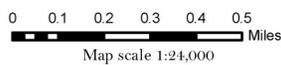
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Billings & Pompeys Pillar  
National Monument RMP / EIS



**Pompeys Pillar National Monument  
Rights-of-Way  
Approved RMP**

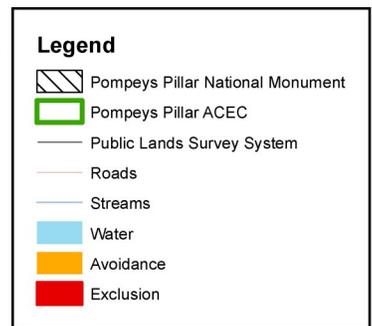


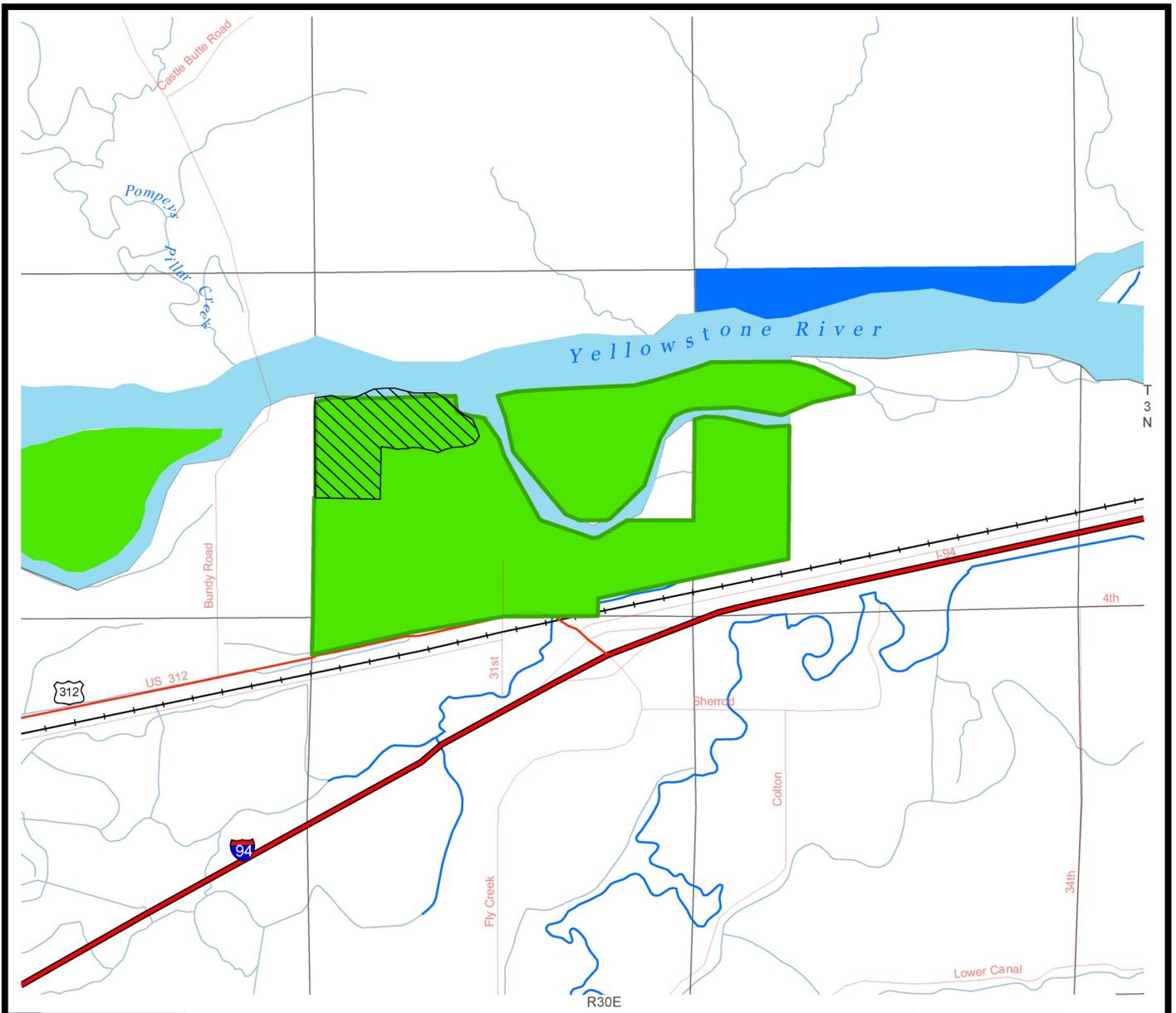
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Albers Equal Area, NAD83 Projection

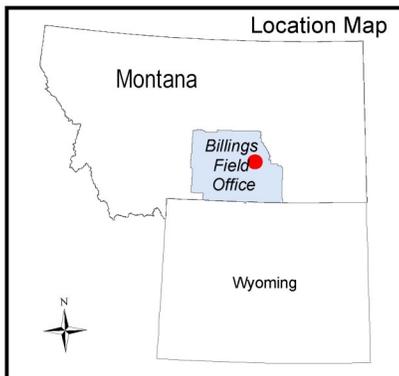
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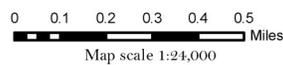




U.S. DEPARTMENT OF THE INTERIOR  
Bureau of Land Management  
Billings & Pompeys Pillar  
National Monument RMP / EIS



## Pompeys Pillar National Monument Livestock Grazing Approved RMP

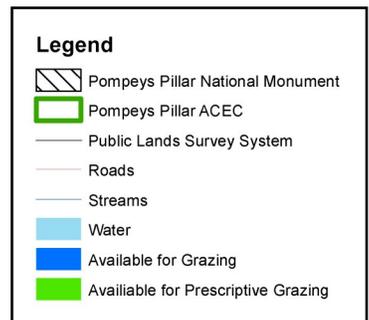


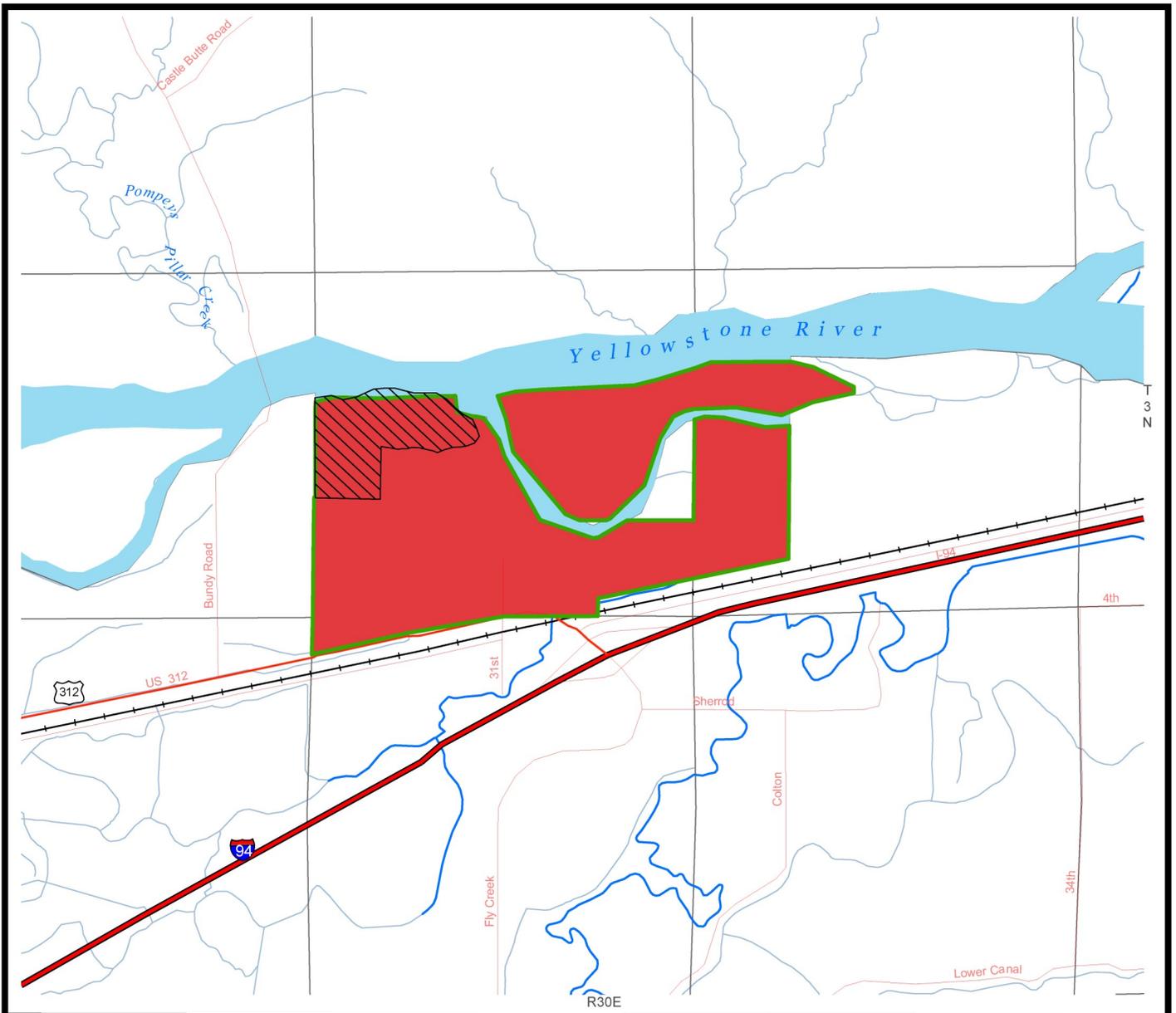
Map generated by the Billings Field Office in August 2015

Albers Equal Area, NAD83 Projection

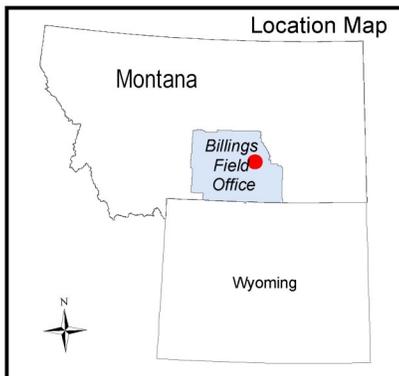
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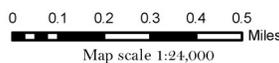


U.S. DEPARTMENT OF THE INTERIOR  
Bureau of Land Management  
Billings & Pompeys Pillar  
National Monument RMP / EIS



The entire 51 acres of the National Monument is Closed to hunting.

**Pompeys Pillar National Monument  
Closed to Target Shooting  
Approved RMP**

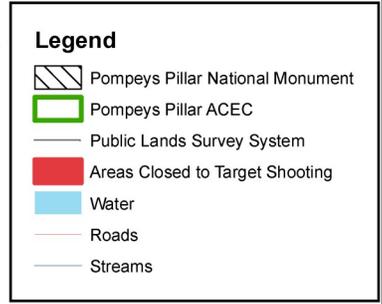


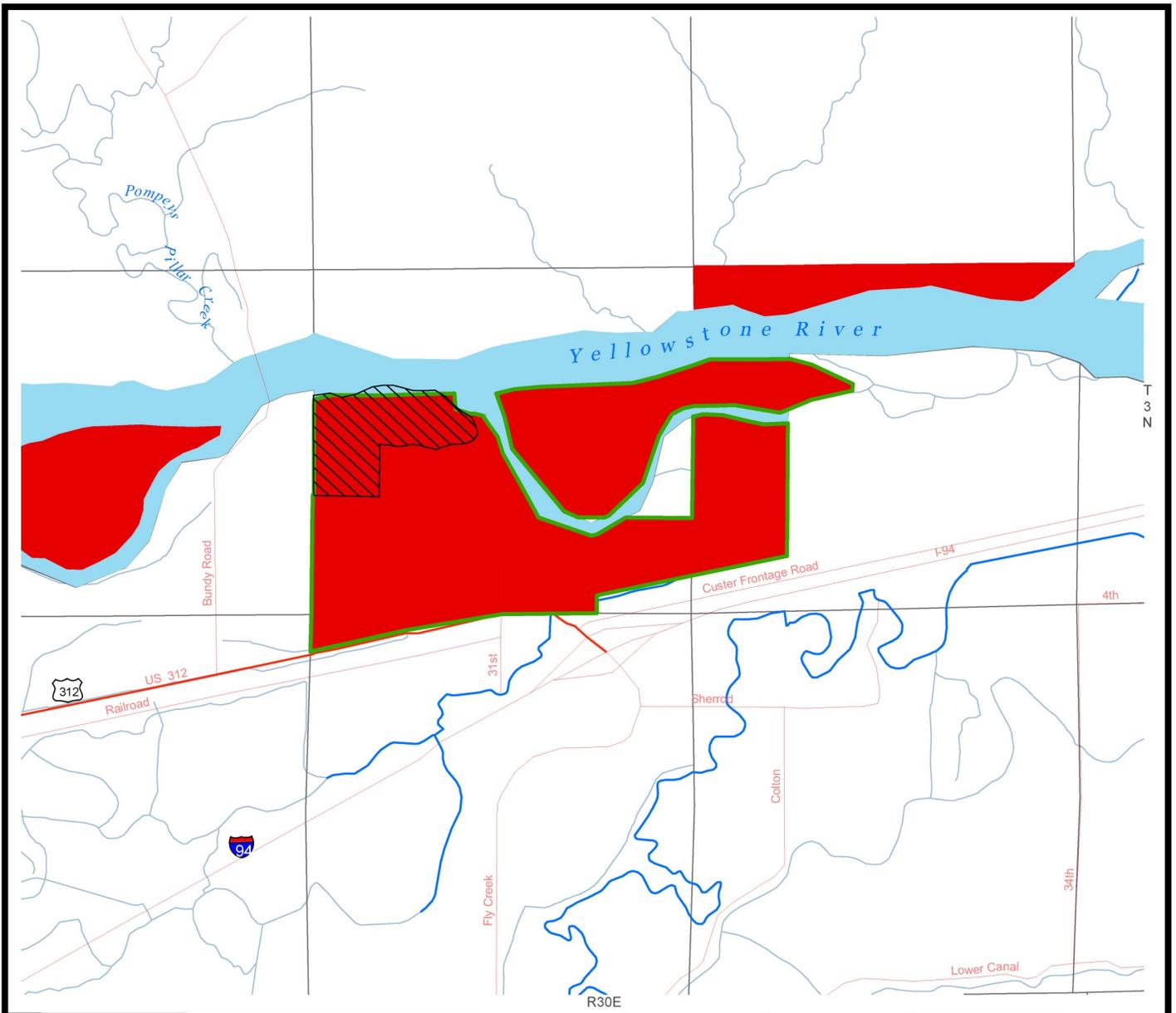
Map generated by the Billings Field Office in August 2015

Albers Equal Area, NAD83 Projection

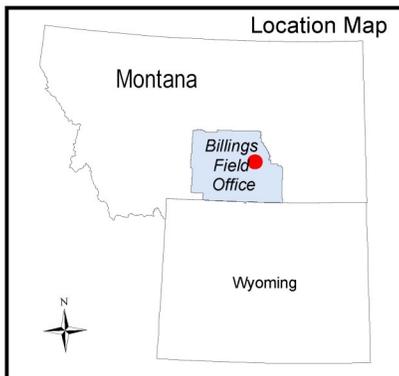
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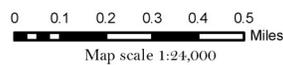




U.S. DEPARTMENT OF THE INTERIOR  
Bureau of Land Management  
Billings & Pompeys Pillar  
National Monument RMP / EIS



## Pompeys Pillar National Monument Renewable Energy Approved RMP

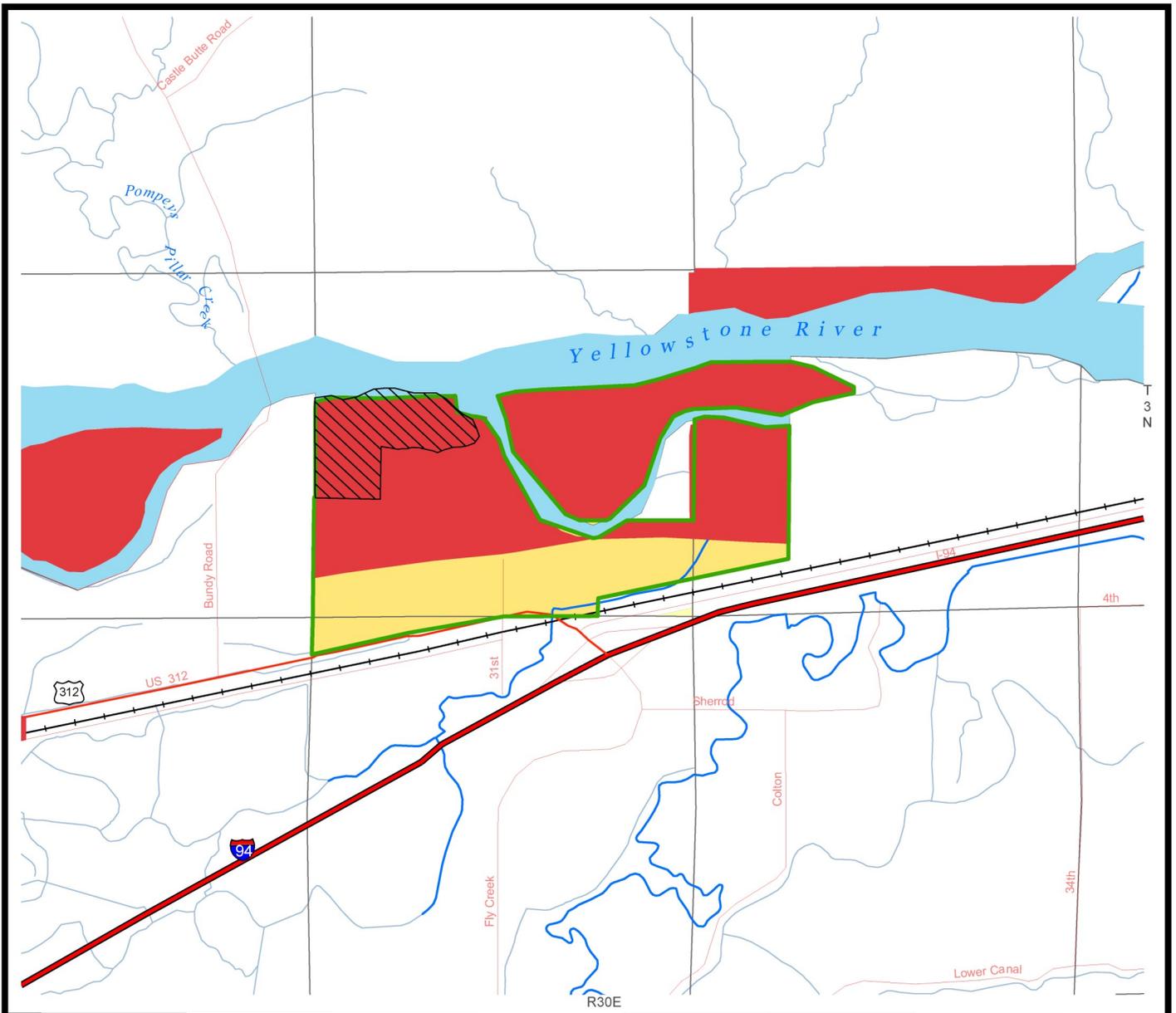


Map generated by the Billings Field Office in August 2015

Albers Equal Area, NAD83 Projection

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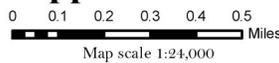
Legend	
	Pompeys Pillar National Monument
	Pompeys Pillar ACEC
	Public Lands Survey System
	Exclusion Areas
	Water
	Roads
	Streams



U.S. DEPARTMENT OF THE INTERIOR  
Bureau of Land Management  
Billings & Pompeys Pillar  
National Monument RMP / EIS



**Pompeys Pillar National Monument  
National Historic Trail  
Management Corridors  
Approved RMP**

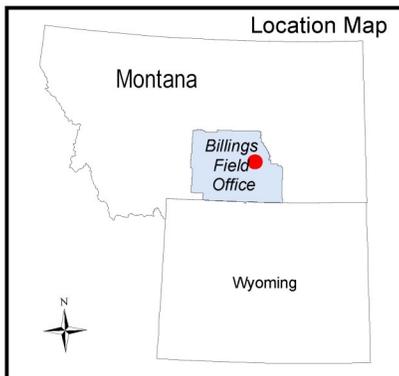


Map generated by the Billings Field Office in August 2015

Albers Equal Area, NAD83 Projection

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**Legend**

- Pompeys Pillar National Monument
- Pompeys Pillar ACEC
- Lewis and Clark National Historic Trail Management Corridor
- Bureau of Land Management
- Bureau of Reclamation
- Water
- Private
- Survey System
- Railroads
- Roads
- Streams

## **Appendix B: Best Management Practices**

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## B. Best Management Practices

The publications referenced in this appendix are sources of “Best Management Practices” (BMPs). BMPs are measures that have been developed by agency, industry, scientific, and/or working groups as voluntary methods for reducing environmental impacts associated with certain classes of activity. BLM typically uses these measures as guidelines or “project design features” during implementation planning at the activity and/or project-specific levels.

The list included in this appendix is not limiting, but references the most frequently used sources. As new publications are developed, BLM may consider those BMPs. In addition, many BLM handbooks (such as BLM Manual 9113-Roads and 9213-Interagency Standards for Fire and Aviation Operation) also contain BMP-type measures for minimizing impacts. These BLM-specific guidance and direction documents are not referenced in this appendix.

Planning implications: Use of Best Management Practices is not mandatory, since individual measures may not be appropriate for use in every situation. They may be added, dropped, or modified through plan maintenance.

NEPA implications: Only the wind energy development BMPs have been analyzed in a NEPA process. The use of other BMPs should be analyzed on a case-by-case basis in NEPA documents associated with projects on the public lands. These case-by-case analyses should not “tier to” the BMP publication as a way to dismiss environmental impacts (i.e., must still analyze and disclose the environmental considerations and effects associated with use of the BMP).

In this sections B.1 through B.10 reference specific documents in which to locate BMPs. Section B.11 lists BMPs by resource or resource use. Section B.12 is the BLM Wind Energy Development Program Policies and Best Management Practices (BMPs).

### B.1 Air

#### **Air Resource BMPs: Best Management Practices for Fluid Minerals (USDOI, BLM)**

**Developed by:** U.S. Department of Interior, Bureau of Land Management

Publication reference:

**Available**

**Online:** [http://www.blm.gov/style/medialib/blm/wo/MINERALS\\_REALTY\\_AND\\_RESOURCE\\_PROTECTION/\\_bmps.Par.60203.File.dat/WO1\\_Air%20Resource\\_BMP\\_Slideshow%2005-09-2011.pdf](http://www.blm.gov/style/medialib/blm/wo/MINERALS_REALTY_AND_RESOURCE_PROTECTION/_bmps.Par.60203.File.dat/WO1_Air%20Resource_BMP_Slideshow%2005-09-2011.pdf)

**Description:** Updated in May 2011, this Power Point presentation provides a summary of typical Best Management Practices (BMPs) for protecting air resources during oil and gas development and production operations. Emission reduction BMPs are provided for criteria air pollutants,

hazardous air pollutants, volatile organic compounds (an ozone precursor), and greenhouse gases. Emission source types include combustion emissions from mobile and stationary sources, fugitive emissions, and stationary source vented emissions from non-combustion sources. Emission controls include transport reduction strategies and fugitive dust controls, as well as emission control techniques for drilling, completion, and production. Emission monitoring and maintenance strategies are also addressed. This document provides a partial list of air resource BMPs and includes links to many additional BMP descriptions that addressing technical and economic considerations.

## **B.2 Water**

### **Water Quality BMPs (Best Management Practices) for Montana Forests**

**Developed by:** MSU Extension Service, Missoula, Montana, in cooperation with the Montana Department of Natural Resources & Conservation, Forestry Division Montana Logging Association. (Logan, Robert. 2001).

**Publication Reference:** Publication EB 158

**Available from:** Conservation Districts Bureau, DNRC, P.O. Box 20160, Helena, MT. 59620-1601, or MSU Extension Forestry, 32 Campus Drive, Missoula, MT 59812, or MSU Extension Publications, P.O. Box 172040, Bozeman, MT 59717.

**Description:** Discusses methods for managing forest land, while protecting water quality and forest soils. These BMPs are intended for all forest land in Montana, including non-industrial private, forest industry, and state or federally-owned forests. These are preferred (but voluntary) methods that go beyond Montana State Streamside Management Zone Law. These BMPs includes definitions, basic biological information, and BMPs for: Streamside Management Zones, road design, use, planning and location, construction, drainage and closure, stream crossings, soils, timber harvesting methods, reforestation, winter planning, and clean-up.

### **Montana Guide to the Streamside Management Zone Law**

**Developed by:** Montana Department of Natural Resources and Conservation Service Forestry Bureau, in cooperation with Montana Department of Environmental Quality, Montana Logging Association, Montana Wood Products Association, Plum Creek Timber LP, USDA Forest Service, USDI Bureau of land Management.

**Publication Reference:** Revised 2006; reprinted November 2006

**Available from:** Montana Department of Natural Resources and Conservation, 2705 Spurgin Road, Missoula, MT 59801-3199 or local MT DNRC field offices.

**Description:** MT State Law (77-5-301[1] MCA). Complementary BMPs are found in the Water Quality BMPs for Montana Forests (also referenced in the appendix). Provides definitions, stream classifications, guidelines and exceptions on the seven forest practices prohibited by Montana law in Stream Management Zones: 1. broadcast (Slash) burning, 2. operation of

wheeled or tracked vehicles except on established roads, 3. the forest practice of clearcutting, 4. the construction of roads, except when necessary to cross a stream or wetlands; 5. the handling, storage, application, or disposal of hazardous or toxic materials in a manner that pollutes streams, lakes, or wetland, or that may cause damage or injury to humans, land, animals or plants; 6. the side casting of road material into a stream, lake, wetland, or watercourse; and 7. the deposit of slash in streams, lakes, or other water bodies.

## **Erosion and Sediment Control Practices: Field Manual**

**Developed by:** Prepared for the Montana Department of Transportation

Publication reference: FHWA/MT-030003/8165

**Available From:** National Technical Information Service, Springfield, VA 21161

**Description:** The Erosion and Sediment Control Best Management Practices Construction Field Manual was developed to assist in design, construction, and post-construction phases of MDT projects. This manual provides background to concepts of Erosion and Sediment Control. Most of MDTs Best Management Practices are listed within the manual based on application categories. Each BMP is described; its applications and limitations are listed, as well as its design criteria. Construction phase and post-construction phase BMPs are described. This manual is a field guide and condensed version of the Erosion and Sediment Control Design Construction Best Management Practices Manual. For more detailed discussion on topic found within, refer to the Erosion and Sediment Control Construction Best Management Practices Manual.

## **Erosion and Sediment Control Practices: Reference Manual**

**Developed by:** Prepared for the Montana Department of Transportation

Publication reference: FHWA/MT-030003/8165

**Available From:** National Technical Information Service, Springfield, VA 21161

**Description:** The Erosion and Sediment Control Construction Best Management Practices Manual was developed to assist in the design, construction, and post-construction phases of MDT projects. This manual provides background to State and Federal regulations associated with erosion and sediment control practices including a general overview of the erosion and sediment processes. Best Management practices are listed within the manual based on application categories. Each BMP is described; its applications and limitations are listed, as well as its design criteria. The design phase includes development of construction plans, NOI, and SWPPP. Construction phase includes the finalization of the SWPPP, NOI, and the implementation of BMPs. Post-Construction phase includes monitoring, maintenance, and removal activities.

## **Montana Non-Point Source Management Plan**

**Developed by:** Montana Department of Environmental Quality, Water Quality Planning Bureau, Watershed Protection Section

Publication reference: 2007

**Available From:** Montana Department of Environmental Quality, Water Quality Planning Bureau, Watershed Protection Section, P.O. Box 200901, Helena, MT 59620-0901

Online

at: <http://www.deq.state.mt.us/wqinfo/nonpoint/2007NONPOINTPLAN/Final/NPSPlan.pdf>

**Description:** This document describes the Montana Department of Environmental Quality's (DEQ) updated strategy for controlling nonpoint source (NPS) water pollution, which is the state's single largest source of water quality impairment. NPS pollution is contaminated runoff from the land surface that can be generated by most land use activities, including agriculture, forestry, urban and suburban development, mining, and others. Common NPS pollutants include sediment, nutrients, temperature, heavy metals, pesticides, pathogens, and salt. The purpose of the Montana NPS Pollution Management Plan (Plan) is: 1) to inform the state's citizens about NPS pollution problems and 2) to establish goals, objectives, and both long-term and short-term strategies for controlling NPS pollution on a statewide basis. The goal of Montana's NPS Management Program is to protect and restore water quality from the impacts of non-point sources of pollution in order to provide a clean and healthy environment.

## **National Menu of Stormwater Best Management Practices (US EPA)**

**Developed by:** U.S. Environmental Protection Agency

Publication reference:

**Available Online:** <http://cfpub.epa.gov/npdes/stormwater/menuofbmps/index.cfm>

**Description:** The National Menu of Best Management Practices for Stormwater Phase II was first released in October 2000. EPA has renamed, reorganized, updated, and enhanced the features of the website. These revisions include the addition of new fact sheets and revisions of existing fact sheets. Because the field of stormwater is constantly changing, EPA expects to update this menu as new information and technologies become available. The Menu of BMPs is based on the Stormwater Phase II Rule's six minimum control measures.

1. Public Education - BMPs for MS4s to inform individuals and households about ways to reduce stormwater pollution.
2. Public Involvement - BMPs for MS4s to involve the public in the development, implementation, and review of an MS4's stormwater management program.
3. Illicit Discharge Detection & Elimination - BMPs for identifying and eliminating illicit discharges and spills to storm drain systems.

4. Construction - BMPs for MS4s and construction site operators to address stormwater runoff from active construction sites.
5. Post Construction - BMPs for MS4s, developers, and property owners to address stormwater runoff after construction activities have completed.
6. Pollution Prevention/Good Housekeeping- BMPs for MS4s to address stormwater runoff from their own facilities and activities.

## **Water-Road Interaction Technology Series Documents (USFS) May 2000**

Available at: <http://www.stream.fs.fed.us/water-road/>

### **B.3 Invasive Species and Noxious Weeds**

#### **Invasive Species: Final Vegetation Treatments using Herbicides on BLM in 17 Western States**

**Developed By:** Bureau of Land Management

**Publications reference:** U.S. Department of the Interior Bureau of Land Management (BLM). 2007. Vegetation Treatments Using Herbicides on BLM in 17 Western States. Programmatic Environmental Impact Statement, Final. ROD: September 29, 2007. BLM/WO/GI/-07/018+6711

**Available from:** [http://www.blm.gov/wo/st/en/prog/more/veg\\_eis.html](http://www.blm.gov/wo/st/en/prog/more/veg_eis.html)

**Description:** Considered activities, including noxious weed and invasive terrestrial plant species management, hazardous fuels reduction treatments, emergency stabilization and rehabilitation efforts. Addressed human health and ecological risk for the use of chemical herbicides on public lands and provided a cumulative impact analysis addressing the use of chemical herbicides in conjunction with other treatment methods.

The ROD also identifies which standard operation procedures must be used with all applications of herbicides. Standard operation procedures are found in Appendix B of the ROD.

BLM must also implement additional measures to mitigate potential adverse environmental effects of using herbicides as appropriate from site specific assessments to ensure that all practicable means to avoid or minimize environmental harm have been adopted. All BLM District and Field Offices must adhere to the mitigation measures listed in Appendix C of the ROD.

To prevent the spread of noxious weeds and invasive plants, the BLM will follow prevention measures to minimize the amount of existing non-target vegetation that is disturbed during project planning. Prevention measures are found in Table 2-7, on page 2-24 of the Final

Programmatic EIS (June 2007) and ROD (September 2007). (PEIS)

## B.4 Wildlife Habitat

### **Suggested Practices for Avian Protection on Power Lines: State of the Art in 2006 Avian Power Line Interaction Committee (APLIC).**

**Developed by:** First published in 1975 (Miller et al.), later updated in 1981 (Olendorff et al.) and most recently revised in 1996 by Edison Electric Institute and the Avian Power Line Interaction Committee (APLIC) in collaboration with the Raptor Research Foundation. 2006

Publication reference: CEC-500-2009-022

**Available from:** Santa Cruz Predatory Bird Research Group [morning@ucsc.edu](mailto:morning@ucsc.edu), Avian Power Line Interaction Committee [www.aplic.org](http://www.aplic.org), Edison Electric [www.eei.org](http://www.eei.org), California Energy Commission [www.energy.ca.gov](http://www.energy.ca.gov)

**Description:** Examines the history of raptor-power line interactions from biological and electrical standpoints; and proposes specific solutions for reducing avian-caused electrical outages and avian fatalities through cooperative measures between utilities, industry, and federal and state agencies.

### **Com Towers etc.**

*The following is an attachment from a USFWS Memo from the Director of USFWS pertaining to management guidance for the protection of wildlife for siting, construction, operation, and decommissioning of communication towers dated September 14, 2000.*

#### **Service Interim Guidelines for Recommendations on Communications Tower Siting, Construction, Operation, and Decommissioning**

1. Any company/applicant/licensee proposing to construct a new communications tower should be strongly encouraged to co-locate the communications equipment on an existing communication tower or other structure (e.g., billboard, water tower, or building mount). Depending on tower load factors, from 6 to 10 providers may collocate on an existing tower.
2. If collocation is not feasible and a new tower or towers are to be constructed, communications service providers should be strongly encouraged to construct towers no more than 199 feet above ground level, using construction techniques which do not require guy wires (e.g., use a lattice structure, monopole, etc.). Such towers should be unlighted if Federal Aviation Administration regulations permit.
3. If constructing multiple towers, providers should consider the cumulative impacts of all of those towers to migratory birds and threatened and endangered species as well as the impacts of each individual tower.
4. If at all possible, new towers should be sited within existing "antenna farms" (clusters of towers). Towers should not be sited in or near wetlands, other known bird concentration areas (e.g., State or Federal refuges, staging areas, rookeries), in known

- migratory or daily movement flyways, or in habitat of threatened or endangered species. Towers should not be sited in areas with a high incidence of fog, mist, and low ceilings.
5. If taller (>199 feet AGL) towers requiring lights for aviation safety must be constructed, the minimum amount of pilot warning and obstruction avoidance lighting required by the FAA should be used. Unless otherwise required by the FAA, only white (preferable) or red strobe lights should be used at night, and these should be the minimum number, minimum intensity, and minimum number of flashes per minute (longest duration between flashes) allowable by the FAA. The use of solid red or pulsating red warning lights at night should be avoided. Current research indicates that solid or pulsating (beacon) red lights attract night-migrating birds at a much higher rate than white strobe lights. Red strobe lights have not yet been studied.
  6. Tower designs using guy wires for support which are proposed to be located in known raptor or waterbird concentration areas or daily movement routes, or in major diurnal migratory bird movement routes or stopover sites, should have daytime visual markers on the wires to prevent collisions by these diurnally moving species. (For guidance on markers, see Avian Power Line Interaction Committee (APLIC). 1994. *Mitigating Bird Collisions with Power Lines: The State of the Art in 1994*. Edison Electric Institute, Washington, D.C., 78 pp, and Avian Power Line Interaction Committee (APLIC). 1996. *Suggested Practices/or Raptor Protection on Power Lines*. Edison Electric Institute Raptor Research Foundation, Washington, D. C; 128 pp. Copies can be obtained via the Internet at <http://www.eei.org/resources/pubcat/enviro> or by calling 1-800/334-5453).
  7. Towers and appendant facilities should be sited, designed and constructed so as to avoid or minimize habitat loss within and adjacent to the tower "footprint." However, a larger tower footprint is preferable to the use of guy wires in construction. Road access and fencing should be minimized to reduce or prevent habitat fragmentation and disturbance, and to reduce above ground obstacles to birds in flight.
  8. If significant numbers of breeding, feeding, or roosting birds are known to habitually use the proposed tower construction area, relocation to an alternate site should be recommended. If this is not an option, seasonal restrictions on construction may be advisable in order to avoid disturbance during periods of high bird activity.
  9. In order to reduce the number of towers needed in the future, providers should be encouraged to design new towers structurally and electrically to accommodate the applicant/licensee's antennas and comparable antennas for at least two additional users (minimum of three users for each tower structure), unless this design would require the addition of lights or guy wires to an otherwise unlighted and/or unguyed tower.
  10. Security lighting for on-ground facilities and equipment should be down-shielded to keep light within the boundaries of the site.
  11. If a tower is constructed or proposed for construction, Service personnel or researchers from the Communication Tower Working Group should be allowed access to the site to evaluate bird use, conduct dead-bird searches, to place net

catchments below the towers but above the ground, and to place radar, Global Positioning System, infrared, thermal imagery, and acoustical monitoring equipment as necessary to assess and verify bird movements and to gain information on the impacts of various tower sizes, configurations, and lighting systems.

12. Towers no longer in use or determined to be obsolete should be removed within 12 months of cessation of use.

In order to obtain information on the extent to which these guidelines are being implemented, and to identify any recurring problems with their implementation which may necessitate modifications, letters provided in response to requests for evaluation of proposed towers should contain the following request:

"In order to obtain information on the usefulness of these guidelines in preventing bird strikes, and to identify any recurring problems with their implementation which may necessitate modifications, please advise us of the final location and specifications of the proposed tower, and which of the measures recommended for the protection of migratory birds were implemented. If any of the recommended measures cannot be implemented, please explain why they were not feasible."

## **B.5 Wildland Fire Ecology and Management**

### **Interagency Burned Area Emergency Response Handbook**

Guidebook version 1.3 October 2006

**Developed by:** DOI, Bureau of Land Management

**Publication reference:** Interagency Burned Area Rehabilitation Guidebook, Interpretation of Department of the Interior 620 DM 3, For the Burned Area Rehabilitation of Federal and Tribal Trust Lands, Version 1.3.

**Available from:** [http://www.fws.gov/fire/ifcc/esr/Policy/BAR\\_Guidebook11-06.pdf](http://www.fws.gov/fire/ifcc/esr/Policy/BAR_Guidebook11-06.pdf) (last accessed 6/10/2011)

**Description:** Interpretation of Department of the Interior 620 DM 3 for the burned area rehabilitation of Federal and Tribal Trust Lands.

### **Burned Area Emergency Stabilization and Rehabilitation Handbook**

**Developed by:** DOI, Bureau of Land Management

Publication reference: Burned Area Emergency Stabilization and Rehabilitation Handbook (H-1742-1, 2007)

**Available**

**from:** [http://www.blm.gov/pgdata/etc/medialib/blm/wo/Information\\_Resources\\_Management/policy/blm\\_handbook.Par.52739.File.dat/h1742-1.pdf](http://www.blm.gov/pgdata/etc/medialib/blm/wo/Information_Resources_Management/policy/blm_handbook.Par.52739.File.dat/h1742-1.pdf) (last accessed 6/10/2011)

**Description:** This document addresses the process for implementing emergency fire rehabilitation projects following wildland fires.

## **Interagency Standards for Fire and Fire Aviation Operations (Redbook)**

**Developed by:** Department of the Interior; Bureau of Land Management, U.S. Fish and Wildlife Service, and National Park Service, and Department of Agriculture; U.S. Forest Service

**Available from:** National Interagency Fire Center, 3833 S. Development Avenue Boise, Idaho 83705-5354 [http://www.nifc.gov/policies/pol\\_ref\\_redbook\\_2011.html](http://www.nifc.gov/policies/pol_ref_redbook_2011.html) (last accessed 6/10/2011)

**Description:** This document addresses specific action items that are contained in the Guidance for Implementation of Federal Wildland Fire Management Policy (February 13, 2009).

## **B.6 Fluid Minerals**

### **Best Management Practices for Oil and Gas Development on Public Lands**

**Available from:** [http://www.blm.gov/bmp/Technical\\_Information.htm](http://www.blm.gov/bmp/Technical_Information.htm)

### **BMPs for Fluid Minerals**

**Developed by:** Bureau of Land Management

**Publication reference:** BLM/WO/ST-06/021+3071/REV 07

**Available from:** Online at: <http://www.blm.gov/bmp/>

**Description:** BMPs for oil and gas demonstrate practical ideas which may eliminate or minimize adverse impacts from oil and gas development to public health and the environment, landowners, and natural resources; enhance the value of natural and landowner resources; and reduce conflict. The publication reference is to the “Gold Book” which is formally titled “Surface Operating Standards and Guidelines for Oil and Gas Exploration and Development.” In addition, the first internet citation is to a location maintained by the Washington Office of the BLM containing general and technical information on the use and application of BMPs. The second location refers the reader directly to an online version of the “Gold Book.” The third and fourth locations refer the reader to color charts for use in selecting paint colors for oil and gas facilities.

### **Western Governors’ Association Coal Bed Methane BMPs Handbook**

<http://www.westgov.org/wga/initiatives/coalbed/>

## **Handbook on Best Management Practices and Mitigation Strategies for Coal Bed Methane in the Montana Portion of the Powder River Basin**

**Prepared for:** U.S. Department of Energy National Petroleum Technology Office National Energy Technology Laboratory Tulsa, Oklahoma

**Developed by:** Lead researcher: ALL Consulting Tulsa, Oklahoma; and Co-researcher ; the Montana Board of Oil & Gas Conservation Billings, Montana.

Publication reference:

**Available Online:** [http://bogc.dnrc.state.mt.us/website/mtcbm/webmapper\\_cbm\\_info\\_res.htm](http://bogc.dnrc.state.mt.us/website/mtcbm/webmapper_cbm_info_res.htm); last accessed 9/8/2010

**Description:** This handbook is intended to serve as a resource to industry, regulators, land managers, and concerned citizens. The handbook presents background information on CBM activity in the Montana portion of the Powder River Basin (Study Area) while also presenting a number of Best Management Practices and Mitigation Strategies specific to CBM that have been successfully used throughout the United States.

## **B.7 Coal**

### **Coal Mining BMPs**

**Developed by:** Office of Water, Office of Science and Technology, Engineering and Analysis Division, U.S. Environmental Protection Agency

**Publication reference:** COAL REMINING, BEST MANAGEMENT PRACTICES GUIDANCE MANUAL, MARCH 2000

**Available From:** Office of Water Office of Science and Technology Engineering and Analysis Division U.S. Environmental Protection Agency Washington DC, 20460

**Description:** The manual was created to support EPA's proposal of a Re-mining subcategory under existing regulations for the Coal Mining industry. The purpose of this guidance manual is to assist operators in the development and implementation of a best management practice (BMP) plan specifically designed for a particular re-mining operation. This guidance manual was also developed to give direction to individuals reviewing re-mining applications and associated BMP plans. This document is not intended as a substitute for thoughtful and thorough planning and decision making based on site-specific information and common sense.

## **B.8 Mineral Materials**

### **Mineral materials site BMP (construction and stormwater)**

**Developed by:** U.S. Environmental Protection Agency, adopted by Montana DEQ

**Publication Reference:** The National Menu of Best Management Practices for Stormwater Phase II, EPA, October, 2000.

**Description:** EPA has found the practices listed in the menu of BMPs to be representative of the types of practices that can successfully achieve the minimum control measures. The list of BMPs is not all-inclusive, and it does not preclude MS4s from using other technically sound practices. However, in all cases the practice or set of practices chosen needs to achieve the minimum measure.

EPA also recognizes that some MS4s may already be meeting the minimum measures, or that only one or two additional practices may be needed to achieve the measures. Existing stormwater management practices should be recognized and appropriate credit given to those who have already made progress toward protecting water quality. There is no need to spend additional resources for a practice that is already in existence and operational.

## **B.9 Livestock Grazing**

### **Montana Best Management Practices for Grazing**

**Developed by:** Working group with representation from: MSU College of Agriculture, Society of American Fisheries, Montana Stockgrowers Association, Montana Woolgrowers Association, USDI Bureau of Land Management, USDA Forest Service, USDA Natural Resources Conservation Service, Montana Farm Bureau, and Montana Department of Natural Resource and Conservation.

**Publication reference:** N/A, first printed in 1999

**Available From:** Conservation Districts Bureau, and Montana Department of Natural Resources and Conservation, P.O. Box 201601, Helena MT 59620-1601.

**Description:** Describes BMPs for livestock grazing designed to protect and enhance water quality, soils, plant communities, and other rangeland resources. Explains how and why to use BMPs to manage upland rangeland, forested rangeland, and riparian areas; and describes how grazing BMPs fit into a grazing management plan.

## **B.10 Transportation and Facilities**

### **Low Volume Roads Engineering Best Management Practices Field Guide (U.S. Forest Service)**

**Developed by:** US Agency for International Development (USAID) with the cooperation of the USDA, the Forest Service, the Office of International Programs, and the International Programs Department at Virginia Polytechnic Institute and State University. (Gordon Keller & James Sherar USDA Forest Service/USAID).

**Available on**

**line:** [http://ntl.bts.gov/lib/24000/24600/24650/Chapters/B\\_Preface\\_TableOfContents\\_Glossary.pdf](http://ntl.bts.gov/lib/24000/24600/24650/Chapters/B_Preface_TableOfContents_Glossary.pdf)

**Description:** The basic objective of this guide is to help engineers, planners, environmental specialists, and road managers make good decisions, protect the environment, and build good low-volume roads. This Low-Volume Roads Engineering Best Management Practices Field Guide is intended to provide an overview of the key planning, location, design, construction, and maintenance aspects of roads that can cause adverse environmental impacts and to list key ways to prevent those impacts. Best Management Practices are general techniques or design practices that, when applied and adapted to fit site specific conditions, will prevent or reduce pollution and maintain water quality. BMPs for roads have been developed by many agencies since roads often have a major adverse impact on water quality, and most of those impacts are preventable with good engineering and management practices. Roads that are not well planned or located, not properly designed or constructed, not well maintained, or not made with durable materials often have negative effects on water quality and the environment.

Road Construction and maintenance: H-9113-1—Road Design Handbook.

BLM Manual: M9113

Developed by:

Publication reference:

Available from:

Description:

## **B.11 Resource Program Best Management Practices (BMPs)**

Best management practices (BMP) are those land and resource management techniques determined to be the most effective and practical means of maximizing beneficial results and minimizing conflicts and adverse environmental impacts of management actions. BMPs could include, but are not limited to structural and nonstructural controls, specific operations, and maintenance procedures. BMPs can be applied before, during and after activities to reduce or eliminate adverse environmental impacts. BMPs are not one-size-fits-all solutions. BMPs should be matched and adapted through interdisciplinary analysis to determine which management practices would be necessary to meet the goals and objectives in the Resource Management Plan (RMP). The actual practices and mitigation measures that are best for a particular site are evaluated through the site-specific National Environmental Policy Act (NEPA) process and vary to accommodate unique site-specific and local resource conditions.

BMPs described in this appendix are designed to assist in achieving the RMP objectives. These guidelines could apply, where appropriate, to all use authorizations, including projects initiated by the Bureau of Land Management (BLM). BMPs are dynamic, and should not be interpreted as specific direction at the same level as the RMP decisions. BMPs are selected and implemented as necessary, based on site-specific conditions, to meet resource objectives for specific management actions.

This appendix does not provide an exhaustive list of BMPs. Additional BMPs may be identified during an interdisciplinary process when evaluating site-specific management actions. Implementation and effectiveness of BMPs must be monitored to determine whether the practices are achieving RMP goals and objectives. Adjustments could be made as necessary to ensure RMP goals and objectives are being met, as well as to conform with changes in BLM regulations, policy, direction, or new scientific information. BMPs may also be updated as new technology emerges. In addition, applicants can suggest alternate conditions that could accomplish the same result.

Because the management of environmental impacts is an ongoing process, continual refinement of BMP design is necessary. This process can be described in these five steps: (1) selection of design of a specific BMP; (2) application of the BMP; (3) monitoring; (4) evaluation; and (5) feedback. Data gathered through monitoring is evaluated and used to identify changes needed in BMP design or application or in the monitoring program.

These best management practices have been organized by the primary resource the best management practices could benefit or protect. Each best management practice could actually be implemented by a number of resource programs within the Field Office. Best management practices would be implemented at the discretion of the Billings Field Office on a project-specific basis, depending on the specific characteristics of the project area and the types of disturbance being proposed. They may not be appropriate to implement in all cases. It has been assumed for impact analysis that best management practices would be implemented whenever appropriate.

## **Surface Disturbing Activities**

- Evaluate areas subject to surface disturbance for the presence of cultural and paleontological resources/values. This is usually accomplished through the completion of a cultural and paleontological inventory. An on-the-ground inspection by a qualified archaeologist and/or paleontologist is required. In cases where cultural and/or paleontological resources are found, the preferred response would be to modify the proposed action to avoid the cultural/paleontological resource (avoidance). If avoidance is not possible, actions would be taken to preserve the data or value represented by the cultural resource (mitigation).
- Evaluate areas subject to surface disturbance for the presence of threatened, endangered or candidate animal or plant species. This is usually accomplished through the completion of a biological inventory. An on-the-ground inspection by a qualified biologist is required. In cases where threatened, endangered, or candidate species are affected, the preferred response would be to modify the proposed action to avoid species or their habitat (avoidance). If avoidance of a threatened, endangered, or candidate species or its habitat is not possible, a Section 7 consultation with USFWS would be required, and a biological assessment would be prepared to recommend actions to protect the species or its habitat.
- Consider requiring special design and reclamation measures to protect scenic and natural landscape values. These may include transplanting trees and shrubs, mulching and fertilizing disturbed areas, use of low-profile permanent facilities, and painting to minimize visual contrasts. Surface disturbing activities may be moved to avoid sensitive areas or to reduce the visual effects of the proposal.
- Design above-ground facilities requiring painting to blend in with the surrounding environment.
- Implement reclamation concurrent with construction and site operations to the extent possible. Final reclamation actions shall be initiated within 6 months of the termination of operations unless otherwise approved in writing by the authorized officer.
- Ensure fill material is pushed into cut areas and up over back slopes. Depressions should not be left that would trap water or form ponds.

## **Air**

Impacts to air resources and air quality related values (AQRVs) can be reduced using the following BMPs.

- a) Fugitive dust emissions can be reduced by:
  - 1) using two-track primitive roads whenever possible rather than developing a dirt road;

- 2) applying water or chemical suppressants (e.g., magnesium chloride, calcium chloride, lignin, sulfonate, or asphalt emulsion) to non-primitive unpaved roads or surfacing non-primitive unpaved roads with gravel, chip-seal, or asphalt;
  - 3) imposing vehicle speed limits on unpaved roads;
  - 4) restricting the extent of surface impacts during construction activities and ongoing operations by using directional drilling to reduce the number of oil and gas well pads;
  - 5) using dust abatement techniques before, during, and after surface clearing and excavation activities;
  - 6) covering construction materials and stockpiled soils if they are a source of fugitive dust;
  - 7) suspending construction activities during high winds;
  - 8) adding gravel to non-reclaimed well pad areas;
  - 9) re-vegetating areas when construction is complete;
  - 10) locating linear facilities in the same or parallel trenches and constructing them at the same time; and
  - 11) mowing rather than removing vegetation.
- b) Fugitive dust and vehicle exhaust emissions related to oil and gas activity can be reduced by restricting vehicle trips by:
- 1) consolidating facilities by using directional drilling and multiwell oil and gas pads;
  - 2) developing centralized liquid collection (water, produced water, and fracturing liquid) facilities and production (treatment and product storage) facilities to reduce the number and average distance of vehicle trips;
  - 3) using shuttles or vanpools for employee commuting;
  - 4) using automated equipment and remote telemetry; and
  - 5) using solar power to add automated equipment in areas without access to electricity.
- c) Non-vehicular engine exhaust emissions can be reduced by:
- 6) electrifying equipment when feasible;

- 7) achieving high levels of emission control by installing and operating low-emission equipment (i.e., drill rig engines with emissions at least as low as Tier 4 engine standards) or operating older equipment that has been retrofitted with additional emission controls such as nonselective catalytic reduction or catalytic oxidation;
  - 8) using natural gas or electric engines rather than diesel engines;
  - 9) using alternative energy (solar power, wind power, or both) to power new water source developments; and
  - 10) converting power sources at existing water well developments to alternative energy sources.
- d) Fugitive volatile organic compound (VOC), hazardous air pollutant (HAP), and/or methane (a greenhouse gas [GHG]) emissions from oil and gas activities can be reduced by the following BMPs when feasible:
- 1) using green completion technology to capture methane (and some VOC and HAP) emissions during completion and place the gas in sales pipelines;
  - 2) using flaring rather than venting during completion activities, but only in cases where product capture is not feasible;
  - 3) using closed tanks rather than open tanks or pits;
  - 4) installing vapor recovery units on storage tanks;
  - 5) using vapor balancing during condensate and oil tanker truck loading;
  - 6) using closed-loop drilling;
  - 7) replacing pneumatic (natural gas) pumps with electric or solar pumps;
  - 8) optimize glycol circulation rates on glycol dehydrators;
  - 9) replacing wet seals with dry seals in centrifugal compressors;
  - 10) replacing worn rod packing in reciprocating compressors;
  - 11) installing automated plunger lift systems in natural gas wells; and monitoring equipment leaks and repairing equipment leaks.

## **Soil**

- Surface disturbance on sustained slopes over 25%, would require reclamation and mitigation planning that demonstrates how site productivity will be restored.

- Surface runoff will be adequately controlled using mitigations such as: water bars, fiber mats, contour felling, and vegetative filters.
- Off-site areas will be protected from accelerated erosion, such as rilling, gullying, piping, and mass wasting.
- Surface-disturbing activities will not be conducted during extended wet periods.
- Construction will not be allowed when soils are frozen.
- Construction activities will be restricted during wet or muddy conditions and will be designed following BMPs to control erosion and sedimentation.
- Surface disturbing activities are to be avoided in areas of active mass movements (landslides and slumps) (MT-11-2)
- Erosion control and sited restoration measures will be initiated within one year of completion of a project. Disturbed areas will be re-contoured to provide proper drainage.
- Interim reclamation for long-term projects would be considered at the project level plan and could include seeding with BLM-approved seed mixtures.
- All surface disturbances are to be reseeded/re-vegetated with native plant species common to the site's natural plant community. Site specific planning may warrant the use, on a case by case basis, of introduced species where difficult site stabilization or wildlife concerns prevail.
- Require a temporary protection surface treatment such as mulch, matting and netting for the reclamation of all mechanically-disturbed areas (this excludes wildland fire).
- Speed restrictions for areas susceptible to wind erosion i.e., 25 mph, limited travel
- Use of saline dust inhibitors
- Areas with steep topography will be developed in accordance with the BLM Gold Book (United States Department of the Interior and United States Department of Agriculture 2007) requirements. Lease roads and constructed facilities will be located in accordance with the approved APD. In areas of construction, topsoil will be stockpiled separately from other material, and be reused in reclamation of the disturbed areas. Unused portions of the producing well site will have topsoil spread over it and will be reseeded
- Construction activities will be restricted during wet or muddy conditions and will be designed following BMPs to control erosion and sedimentation. If porous subsurface materials are encountered during pit construction, all onsite fluid pits will be lined. During road and utility ROW construction, surface soils will be stockpiled adjacent to the cuts and fills.

- Stream crossings will be designed to minimize impacts and not impede stream flow. Erosion control measures will be maintained and continued until adequate vegetation cover (as defined by BLM on a case-by-case basis) is reestablished. Vegetation will be removed only when necessary. Water bars will be constructed on slopes of 3:1 or steeper.
- Erosion control and site restoration measures will be initiated as soon as a particular area is no longer needed for exploration, production, staging, or access. Disturbed areas will be recontoured to provide proper drainage.
- The road ditches would be flat bottomed and “V” ditches not allowed. Place water turn outs where appropriate to lessen the water impacts upon the ditches.
- Topsoil piles may be required to be seeded following the BLM seeding policy.
- Displaced farmland, whether in crop production or not, will be reclaimed to original soil productivity through adoption of standard reclamation procedures.
- Require the use of specialized low-surface impact equipment (e.g. balloon tired vehicles) or helicopters, as determined by the BLM Authorized Officer, for activities in off-road areas where it is deemed necessary to protect fragile soils and other resources.
- During periods of adverse soil moisture conditions caused by climatic factors such as thawing, heavy rains, snow, flooding, or drought, suspend activities on existing roads that could create excessive surface rutting. When adverse conditions exist, the operator/permittee would contact the BLM Authorized Officer for an evaluation and decision based on soil types, soil moisture, slope, vegetation, and cover.
- When preparing the site for reclamation, include contour furrowing, terracing, reduction of steep cut and fill slopes, and the installation of water bars, as determined appropriate for site-specific conditions.
- Restoration requirements include reshaping, re-contouring, and/or resurfacing with topsoil, installation of water bars, and seeding on the contour. Removal of structures such as culverts, concrete pads, cattle guards, and signs would usually be required. Fertilization and/or fencing of the disturbance may be required. Additional erosion control measures (e.g. fiber matting and barriers) to discourage road travel may be required.

## **Climate:**

- Reduce CO2 emissions by reducing vehicle miles traveled and using fuel-efficient vehicles.
- Reduce CO2 emissions by using renewable energy to power equipment.
- Reduce CO2 emissions by using energy-saving techniques.

- Identify and implement methods to sequester CO<sub>2</sub>.
- Reduce methane emissions from oil and gas activities by:
  - ▶ capturing methane using green completion, when feasible, and beneficially using the gas by placing it in sales pipeline;
  - ▶ flaring methane during well completion activities for which green completion is infeasible;
  - ▶ replacing natural gas driven pneumatic equipment with solar or electrically powered equipment;
  - ▶ optimizing glycol recirculation rates for glycol dehydrators;
  - ▶ operating flash tank separators on glycol dehydrators;
  - ▶ identifying fugitive emissions from equipment leaks and repairing or replacing seals, valves, compressor rod packing systems, and pneumatic devices; and
  - ▶ implementing additional GHG emission reduction strategies from the oil and gas BMPs located at [http://www.blm.gov/style/medialib/blm/wo/MINERALS\\_REALTY\\_AND\\_RESOURCE\\_PROTECTION\\_/bmps.Par.60203.File.dat/WO1\\_Air%20Resource\\_BMP\\_Slideshow%2005-09-2011.pdf](http://www.blm.gov/style/medialib/blm/wo/MINERALS_REALTY_AND_RESOURCE_PROTECTION_/bmps.Par.60203.File.dat/WO1_Air%20Resource_BMP_Slideshow%2005-09-2011.pdf) and the EPA Natural Gas Star website at <http://www.epa.gov/gasstar/tools/recommended.html>.

### **Water/Wetlands/Riparian etc.**

- Avoid locating roads, trails, and landings in wetlands.
- Locate, identify, and mark riparian management areas during design of projects that may cause adverse impacts to riparian management areas.
- Keep open water free from slash.
- Avoid equipment operation in areas of open water, seeps, and springs.
- Use low ground pressure equipment (flotation tires or tracked) as necessary to minimize rutting and compaction.
- All linear and underground facilities crossing riparian areas or wetlands would be bored, unless an approved mitigation plan illustrates a maintenance or improvement to the riparian area or wetland.(alt table)
- If riparian zones are fenced to exclude grazing, fences will be 100' from the stream banks, unless site-specific circumstances dictate otherwise.

- Water well and spring mitigation agreements will be used to facilitate the replacement of groundwater that may be lost to drawdown. Replacement water may require supply from offsite sources.
- Avoid the application of fire retardant or foam within 300 feet of a stream channel or waterway, when possible, except for the protection of life and property. Aerial application and use of retardants and foams would be consistent with national policy guidelines established by the National Office of Fire and Aviation, as amended.
- Fire engines that have surfactant foam mixes in tanks must be fitted with an anti-siphon (back flow protection valve) if filled directly from a stream channel.
- Construct a containment barrier around all pumps and fuel containers utilized within 100 feet (30.5 meters) of a stream channel. The containment barrier would be sufficient size to contain all fuel being stored or used on site.
- Prior to use on lands administered by the Billings Field Office, all fire suppression equipment from outside the planning area utilized to extract water from lakes, streams, ponds, or spring sources (e.g. helicopter buckets, draft hoses, and screens) will be thoroughly rinsed to remove mud and debris and then disinfected to prevent the spread of invasive aquatic species. Rinsing equipment with disinfectant solution will not occur within 100 feet of natural water sources (i.e. lakes, streams, or springs). Suppression equipment utilized to extract water from water sources known to be contaminated with invasive aquatic species, as identified by the U.S. Fish and Wildlife Service and Montana Fish, Wildlife, and Parks, also will be disinfected prior to use elsewhere on lands administered by the Billings Field Office.
- Do not dump surfactant foam mixes from fire engines within 600 feet of a stream channel.
- Do not conduct fire retardant mixing operations within 600 feet of a stream channel.
- Remove all modifications made to impound or divert stream flow by mechanical or other means to facilitate extraction of water from a stream for fire suppression efforts when suppression efforts are completed.
- When drafting or dipping water during fire operations, continuously monitor water levels at the site that water is being removed from. Do not allow water extraction to exceed the ability of the recharge inflow to maintain the water levels that exist at the time initial attach efforts began. If the water level drops below this predetermined level, all water removal would cease immediately until water levels are recharged.
- When possible, do not cross or terminate fire control lines at the stream channel. Terminate control lines at the edge of the riparian zone at a location determined

- appropriate to meet fire suppression objectives based on fire behavior, vegetation/fuel types, and fire fighter safety.
- Do not construct new roads or mechanical fire control lines or improve existing roads within 300 feet of a stream channel unless authorized by the BLM Field Manager or Authorized Officer.
  - Limit stream crossings on travel routes and trails to the minimal number necessary to minimize sedimentation and compaction. The BLM Authorized Officer will determine if any impacts need to be rehabilitated by the permittee.
  - Conduct mixing of herbicides and rinsing of herbicide containers and spray equipment only in areas that are a safe distance from environmentally sensitive areas and points of entry to bodies of water (storm drains, irrigation ditches, streams, lakes, or wells).
  - When used to pump water from any pond or stream, screen the intake end of the draft hose to prevent fish from being ingested. Screen opening would be a minimum of 3/16 inch (4.7 mm).

## **Vegetation**

- Where seeding is required, use appropriate seed mixture and seeding techniques approved by the BLM Authorized Officer.
- Keep removal and disturbance of vegetation to a minimum through construction site management (e.g. using previously disturbed areas and existing easements, limiting equipment/materials storage and staging sites, etc.).
- Generally conduct reclamation with native seeds that are representative of the indigenous species present in the adjacent habitat. Document rationale for potential seeding with selected nonnative species. Possible exceptions would include use of nonnative species for a temporary cover crop to out-compete weeds. In all cases, ensure seed mixtures are approved by the BLM Authorized Officer prior to planting.
- Certify that all interim and final seed mixes, hay, straw, and hay/straw products are free of plant species listed on the Montana noxious weed list.
- An area is considered to be satisfactorily reclaimed when all disturbed areas have been recontoured to blend with the natural topography, erosion has been stabilized, and an acceptable vegetative cover has been established. Use established guidelines to determine if revegetation has been successful.

## **Vegetation - Rangelands**

- The perennial plant cover of the reclaimed area would equal or exceed perennial cover of selected comparison areas normally, adjacent habitat. If the adjacent habitat is severely disturbed, an ecological site description may be used as a cover

standard. Selected cover can be determined using a method as described in *Sampling Vegetation Attributes, Interagency Technical Reference, 1996, BLM/RS/ST-96/002+1730*. The reclamation plan for the area project would identify the site-specific release criteria and associated statistical methods in the reclamation plan or permit.

- Surface disturbing exploration operations would be subject to site specific stipulations found in Appendix C.
- Disturbed areas resulting from any construction will be seeded in accordance with the BLM seeding policy (USDI BLM, 1999c) or surface owner's requirements. Depending on surface ownership, seeding is usually required during the fall or spring.
- Should the reseeding of sagebrush be required, different seeding times and techniques will be required. To the extent practicable, vegetation will be preserved and protected from construction operations and equipment except where clearing operations are required to conduct oil and gas operations, such as for roads, well pads, pipelines, power lines, utility lines, and structures. Clearing of vegetation will be restricted to the minimum area needed for construction and equipment.
- Cuts and fills for new roads will be sloped to minimize erosion and to facilitate re-vegetation. Riparian zones will be protected by federal lease stipulations and permit mitigation measures. The BLM seeding policy will be followed for all reclamation and reseeding activities.
- During reclamation activities, early succession plants will be used for re-vegetation to provide a fast growing cover crop to minimize and compete against noxious weeds.
- Operator reclamation plans will be developed in consultation with the surface owner. Reclaimed areas reseeded with native species will require a certified weed-free seed mix. The seed mix used on private surface will be developed in consultation with the surface owner. Successful revegetation will usually require at least two growing seasons to ensure a self-sustaining stand of seeded species.
- Where seeding is required, use appropriate seed mixture and seeding techniques approved by the BLM Authorized Officer.
- Generally, conduct reclamation with native seeds that are representative of the indigenous species present in the adjacent habitat. Document rationale for potential seeding with selected nonnative species. Possible exceptions would include use of nonnative species for a temporary cover crop to out-complete weeds. In all cases, ensure seed mixes are approved by the BLM Authorized Officer prior to planting
- Certify that all interim and final seed mixes, hay, straw, and hay/straw products are free of plant species listed on the Montana noxious weed list.

- Displaced farmland, whether in crop production or not, will be reclaimed to original soil productivity through adoption of standard reclamation procedures.

## **Vegetation - Invasive Species and Noxious Weeds**

- To reduce the potential for the introduction of noxious weeds, clean off all equipment with pressure washing prior to operating on BLM lands. Removal of all dirt, grease, and plant parts that may carry noxious weed seeds or vegetative parts is required and may be accomplished with a pressure hose.
- Ensure all seed, hay, straw, mulch, or other vegetation material transported and used on public land for site stability, rehabilitation, or project facilitation is free of noxious weeds and noxious weed seed as certified by a qualified federal, state, or county officer.
- Operators will monitor noxious weed occurrence on all project areas and implement a noxious weed control program in cooperation with the BiFO to ensure noxious weed invasion does not become a problem. Reclamation /stabilization and maintenance materials used would be from weed seed free source to the extent practicable.
- The operator, grantee, or lessee will be responsible for the control of all noxious weed infestations on surface disturbances. Prior to any treatment, the operator, grantee, or lessee will be responsible for submission of Pesticide Use Proposals and subsequent Pesticide Use Reports. Control measures will adhere to those allowed in the Final Vegetation Treatments Using Herbicides on BLM in 17 Western States Programmatic EIS (June 2007) and ROD (September 2007). Herbicide approvals and treatments will be monitored by BiFO. Vehicle and hand application of herbicides near special status plant species would be determined on a case-by-case basis and allowed only when the treatment would benefit special status plant species. Aerial application of herbicides is prohibited within one-half mile of special status plant locations, or other distance deemed safe by the Billings Field Office.
- It is the responsibility of the operator to develop a noxious weed prevention plan outlining ways to control noxious weeds on lands disturbed in association with oil and gas lease operations. Lease-associated weed control strategies are to be coordinated with any involved surface owners and local weed control boards. A pesticide-use proposal must be reviewed and approved by BLM prior to any herbicide application on lands disturbed by federal oil and gas lease operations. A pesticide application record must be made within 24 hours after completion of application of herbicides. Additional measures may be required to prevent the spread of noxious weeds.
- The noxious weed prevention plan must include measures to prevent the spread of weed seeds from any vehicles and equipment traveling from or prior to mobilizing it to, the project area.

- When managing weeds in areas of special status species, carefully consider the impacts of the treatment on such species. Whenever possible, hand spraying of herbicides is preferred over other methods.
- Do not conduct noxious and invasive weed control within 0.5 mile of nesting and brood rearing areas for special status species during the nesting and brood rearing season.
- Consider nozzle type, nozzle size, boom pressure, and adjuvant use and take appropriate measures for each herbicide application project to reduce the chance of chemical drift.
- All applications of approved pesticides will be conducted only by certified pesticide applicators or by personnel under the direct supervision of a certified applicator.
- Prior to commencing any chemical control program, and on a daily basis for the duration of the project, the certified applicator will provide a suitable safety briefing to all personnel working with or in the vicinity of the herbicide application. This briefing will include safe handling, spill prevention, cleanup, and first aid procedures.
- Do not apply pesticides within 440 yards (0.25 mile) of residences without prior notification of the resident.
- Areas treated with pesticides will be adequately posted to notify the public of the activity and of safe re-entry dates, if a public notification requirement is specified on the label of the product applied. The public notice signs will be at least 8½" x 11" in size and will contain the date of application and the date of safe re-entry.

## **Wildlife Habitat and Special Status Species**

- Where effective, water developments would be managed to reduce the spread of West Nile virus.
- Well locations and associated road and pipeline routes would be selected and designed to avoid disturbances to areas of high wildlife value (e.g., raptor nest sites, wetland areas).
- Avoid activities and facilities that create barriers to the seasonal movements of big game and livestock.
- Reserve, workover, and production pits potentially hazardous to wildlife would be adequately protected (e.g., fencing, netting) to prohibit wildlife access as directed by the BLM.
- Install wildlife escape ramps in all watering troughs, including temporary water haul facilities, and open storage tanks. Pipe the overflow away from the last water trough on an open system to provide water at ground level.

- As appropriate, mark certain trees on BLM administered lands for protection as wildlife trees.
- Consider seasonal distribution of large wildlife species when determining methods used to accomplish weed and insect control objectives.
- Temporary and permanent access roads will be avoided on south-facing slopes within designated crucial big game winter range, where practicable.
- The planting of grasses, forbs, trees, or shrubs beneficial to wildlife will follow the BLM seeding policy. When needed, BLM will require installation of erosion and sedimentation control measures, such as riprap, erosion mats, mulch, bales, dikes or water bars. Riprap material and placement must be approved by the appropriate agency.
- All above-ground electrical poles and lines will be raptor-proofed to avoid electrocution following the criteria outlined in the Avian Power Line Interaction Committee (2006). ROW fencing would be kept to a minimum; if necessary, fences would consist of four-strand barbed wire meeting BLM Fencing Handbook 1741-1 standards for facilitating wildlife movement. Bottom wire would be smooth.
- For all breeding birds (sage grouse) observed, additional surveys would be conducted immediately prior to construction activities to search for active nest sites.
- To avoid potentially significant noise impacts, compressor engines would be located 2,500 feet or more from a dwelling or residence and from sage-grouse leks. Activities in crucial habitats would be avoided when practicable.
- Wildlife habitat mitigation would be carried out as quickly as possible or at the same time as the disturbance.
- Locatable mineral development activities would not be allowed within identified big game parturition areas between May 1 and June 30 or within raptor nesting areas from February 1 to July 31.
- Powerlines would be buried or otherwise constructed or modified to reduce impacts to wildlife where possible.
- Wildlife-proof fencing would be used on reclaimed area, in accordance with standards specified in BLM Fencing Handbook 1741-1, if it is determined that wildlife species are impeding successful vegetation establishment.
- Waste water / West Nile
  - ▶ Avoiding shallow depths in the pools. Depths should be sufficient to prevent the growth of wetland vegetation.
  - ▶ Provide steep slopes to micropool banks

- ▶ Consider mechanical aeration of permanent pools
- ▶ Make the micropool accessible to remove silt, vegetation, and maintain the outlet structure
- ▶ Make the micropool accessible to treat with larvicide
- ▶ Avoid rock at the outlet structures

## **Fisheries Habitat and Special Status Species**

- Habitat improvement techniques: including stream bank stabilization, riparian management, enhancing in-stream cover, providing fish passage, and preventing entrainment. All reasonable alternatives for maintaining adequate in-stream flows, physical habitat, and water quality would be used, along with purchase of private water rights and negotiations on timing, duration and volume of flows and draw-downs where possible.
- If riparian zones are fenced to exclude grazing, fences will be 100' from the stream banks, unless site-specific circumstances dictated otherwise.
- Habitat-improvement techniques will be used where appropriate to provide missing habitat components or improve existing habitats: Examples of these techniques include stream bank stabilization, riparian management, enhancement of in-stream cover, provisions for fish passage, and prevention of entrainment. All reasonable alternatives for maintaining adequate in-stream flows, physical habitat, and water quality will be used, along with the purchase of private water rights and negotiations on timing, duration and volume of flows and draw-downs where possible.
- At the project level, dead and down woody material would be retained in amounts that are within the range of natural variability for the plant community, to the extent compatible with reforestation objectives, fire hazard reduction standards, and public safety.
- For stream currently occupied by any special status species, do not allow extraction of water from ponds or pools if stream inflow is minimal (i.e. during drought situations) and extraction of water would lower existing pond or pool level.
- Activities such as stream crossings that could directly impact sensitive or protected fish species will be undertaken during non-spawning periods for these species. In the unlikely event that multiple, sensitive, or protected fish species with back-to-back spawning periods are present in the same stream reach, one of the following options will be exercised: selecting a nearby, alternative stream crossing site that does not provide suitable spawning habitat for the fish species of concern; using a nearby, existing stream crossing over the channel to avoid instream disturbances; or using shore-based equipment to position and extend the

- pipeline or other item (e.g., temporary bridge) across the stream, thereby avoiding in-channel activities.
- Habitat-improvement techniques will be used where appropriate to provide missing habitat components or improve existing habitats. Examples of these techniques include stream bank stabilization, riparian management, enhancing in-stream cover, provide fish passage, and prevent entrainment. All reasonable alternatives for maintaining adequate in-stream flows, physical habitat, and water quality will be used, along with purchase of private water rights and negotiations on timing, duration and volume of flows and draw-downs where possible.

## **Cultural and Heritage Resources**

- Ensure a Class III cultural inventory will be conducted prior to surface disturbance commencement
- Ensure that all activities associated with the undertaking, within 100 meters of the discovery, are halted and the discovery is appropriately protected, until the BLM Authorized Officer issues a Notice to Proceed. A Notice to Proceed may be issued by the BLM under any of the following conditions:
  - Evaluation of potentially eligible resource(s) results in a determination that the resource(s) are not eligible;
  - The fieldwork phase of the treatment option has been completed; and
  - The BLM has accepted a summary description of the fieldwork performed and a reporting schedule for that work
- The operator/permittee will inform all persons associate with the project/undertaking that knowingly disturbing cultural resources (historic or archaeological) or collecting artifacts is illegal.
- Perform viewshed reclamation when the setting of a site contributes to the significance of the property.
- Implement protection measures to stop, limit, or repair damage to sites. A variety of protection measures described in BLM Manual 8140 may be used to protect the integrity of sites at risk , such as signs, fencing or barriers, trash removal, target shooting closures, erosion control, backfilling, repairing, shoring up, or stabilizing structures, restricting uses and access, and closures.
- Nominate eligible sites, districts, landscapes and traditional cultural properties for inclusion on the National Register of Historic Places
- Encourage public/volunteer involvement in the management of cultural resources through participation of established site steward programs and other programs.
- Specific plans would be developed for each site type unless included in other integrated activity plans. Such plans would include protective measures, Native

American consultation, and regulatory compliance. These plans would also include but not be limited to developing a site monitoring system; identifying sites in need of stabilization, restoration, and protective measures (e.g. fences, surveillance equipment, etc.); developing research designs for selected areas/sites; designating sites/areas for interpretative development; identifying areas for cultural inventory where federal undertaking are expected to occur; and developing specific mitigation measures. The plan would designate sites, districts, and landmarks that would be nominated for inclusion in the National Register of Historic Places.

- Conduct inventory according to professional standards commensurate with the land-use activity, environmental conditions, and the potential for cultural resources
- Pro-actively reduce hazardous fuels or mitigate the potential hazard around archaeological and cultural sites that are susceptible to destruction by fire
- Reduce or eliminate imminent threats from natural or human caused deterioration or conflict with other resource uses
- Identify priority geographic areas for Section 110 cultural inventories based on a probability for unrecorded significant resources and/or resource need
- Ensure that all authorizations for land and resource use would comply with Section 106 of the National Historic Preservation Act, consistent with and subject to the objectives established in the RMP for the proactive use of cultural properties in the public interest
- Provide for legitimate field research by qualified scientists and institutions
- Allow for reconstruction, stabilization, maintenance, and interpretation of selected sites for public enjoyment and education
- Should National Register eligible cultural resources be found during an inventory, impacts to them would be mitigated, generally through avoidance. Should it be determined the cultural resources cannot be avoided; consultation with the State Historic Preservation Officer would be initiated. A program on mitigation would be developed via consultation between the Billings Field Office, the SHPO, and the Advisory Council on Historic Preservation
- Conduct regular monitoring of at-risk cultural sites to protect sites from conflicts with other resources uses and to document natural and human caused deterioration
- Establish and implement protective measures for sites, structures, objects, and traditional use areas that are important to Native American tribes with historical and cultural connections to the land, in order to maintain the viewshed, intrinsic values, and the auditory, visual, and aesthetic settings of the resources. Protection measures for undisturbed cultural resources and their natural setting would be

- developed in compliance with regulatory mandates and Native American consultation
- Conduct consultation process to identify both the resource management concerns and the strategies for addressing them through an interactive dialogue with Native American tribes with affinity to the project area
  - Consult with affiliated Native American tribes for the protection of areas and items of traditional life-ways and religious significance that includes, but is not limited to burials, rock art, traditional use areas, religious active areas, and sacred sites
  - Limit surface disturbing activities within selected Native American traditional cultural and religious sites for continued use by tribes. Traditional cultural sites would be identified in consultation with affiliated Native American tribes
  - Protect burial sites, associated burial goods, and sacred items in accordance with the Native American Graves Protection and Repatriation Act and the Archaeological Resources Protection Act

## **Paleontological Resources**

- Ensure a paleontological inventory will be conducted prior to surface disturbance commencement in areas with a PFYC rating of 3 or higher.
- When paleontological resources of potential scientific interest are encountered (including all vertebrate fossils and deposits of petrified wood), leave them intact and immediately bring them to the attention of the BLM Authorized Officer.
- BLM APD COAs provide guidance for notifying BLM and mitigating damage to paleontological resources discovered during oil and gas construction activities. Limitations include restricted use of explosives for geophysical exploration, monitoring requirements, and work stoppages for discovered resources.
- Reports of theft or damage to fossil resources would be responded to by appropriate BLM personnel
- Conduct regular monitoring to protect areas where unauthorized use may occur
- Where scientifically significant fossils are threatened by natural hazards or unauthorized collection, the BLM would work with permittees and other partners to salvage specimens and reduce future threats to resources at risk
- The BLM would work with local communities, interest groups, individuals, and other agencies to enhance the public's understanding and enjoyment of paleontological resources
- In areas where surface disturbance, either initiated by BLM or other land users, may threaten significant fossils, the BLM would follow its policy (see Manual and Handbook 8270-1) to assess any threat and mitigate damage.

## **Wildfire Ecology and Management**

- Operators are required to comply with BLM-imposed conditions during times of high fire danger. Such conditions may include restrictions on types of activities allowed, hours of operation, and requirements for maintaining certain fire suppression equipment at the work site. Operators must maintain a current fire suppression plan.
- Use appropriate management after wildland fire, including re-planting, to promote reforestation on forested lands which are not expected to regenerate or have not shown regeneration within 15 years.
- Notify valid existing land users (such as mine claimants, oil and gas lessees, holders of rights-of-way, livestock permittees, and other BLM permitted users of the area, etc.) prior to implementation of prescribed fires that may affect their investments.
- Remove vegetation, where appropriate, to protect BLM facilities (e.g. range improvements, communication sites, recreation sites, etc.)

## **Fire Management for Sage-Grouse Conservation**

- Develop field office-specific sage-grouse tool boxes containing maps, a list of resource advisors, contact information, local guidance, and other relevant information
- Provide localized maps to dispatch offices and extended attack incident commanders for use in prioritizing wildlife suppression resources and designing suppression tactics.
- Assign a sage-grouse resource advisor to all extended attack fires in or near key sage-grouse habitat areas. Prior to the fire season, provide training to sage-grouse resource advisors on wildfire suppression organization, objectives, tactics, and procedures to develop a cadre of qualified individuals.
- On critical fire weather days, pre-position additional fire suppression resources to optimize a quick and efficient response in sage-grouse habitat areas.
- During periods of multiple fires, ensure line officers are involved in setting priorities.
- To the extent possible locate wildfire suppression facilities (i.e. base camps, spike camps, drop points, staging areas, heli-bases, etc.) in areas where physical disturbance to sage-grouse habitat can be minimized. These include disturbed areas, grasslands, near roads/trails or in other areas where there is existing disturbance or minimal sagebrush cover.
- Power-wash all firefighting vehicles, to the extent possible, including engines, water tenders, personnel vehicles, and ATVs prior to deploying in or near sage-grouse habitat areas to minimize noxious weed spread.

- Minimize unnecessary cross-country vehicle travel during fire operations in sage-grouse habitat.
- Minimize burnout operations in key sage-grouse habitat areas by constructing direct fireline whenever safe and practical to do so.
- Utilize retardant and mechanized equipment to minimize burned acreage during initial attack.
- As safety allows, conduct mop-up where the black adjoins unburned islands, dog legs, or other habitat features to minimize sagebrush loss.

### **Fuels Management for Sage-Grouse Conservation**

- Where applicable, design fuels treatment objectives to protect existing sagebrush ecosystems, modify fire behavior, restore native plants, and create landscape patterns which most benefit sage-grouse habitat.
- Provide training to fuels treatment personnel on sage-grouse biology, habitat requirements, and identification of areas utilized locally.
- Use fire prescriptions that minimize undesirable effects on vegetation or soils (e.g. minimize mortality of desirable perennial plant species and reduce risk of hydrophobicity).
- Ensure proposed sagebrush treatments are planned with interdisciplinary input from BLM and/or state wildlife agency biologists and that treatment acreage is conservative in the context of surrounding sage-grouse seasonal habitats and landscape.
- Where appropriate, ensure that treatments are configured in a manner (e.g., strips) that promotes use by sage-grouse (See Connelly et al. 2000).
- Where applicable, incorporate roads and natural fuel breaks into fuel break design.
- Power-wash all vehicles and equipment involved in fuels management activities prior to entering the area to minimize the introduction of undesirable and/or invasive plants species.
- Design vegetation treatments in areas of high fire frequency to facilitate firefighter safety, reduce the risk of extreme fire behavior, and to reduce the risk and rate of fire spread to key and restoration habitats.
- Give priority for implementing specific sage-grouse habitat restoration projects in annual grasslands first to sites which are adjacent to or surrounded by sage-grouse key habitats. Annual grasslands are a second priority for restoration when the sites are not adjacent to key habitat but within two miles of key habitat. The third priority for annual grassland habitat restoration projects are sites beyond the two

- miles of key habitat. The intent is to focus restoration outward from existing, intact habitat.
- As funding and logistics permit, restore annual grasslands to a species composition characterized by perennial grasses, forbs, and shrubs.
  - Emphasize the use of native plant species, recognizing that non-native species may be necessary depending on the availability of native seed and prevailing site conditions.
  - Remove standing and encroaching trees within at least 100 meters of occupied sage-grouse leks and other habitats (e.g., nesting, wintering, and brood rearing) to reduce the availability of perch sites for avian predators as appropriate, and resources permit.
  - Protect wildland areas from wildfire originating on private lands, infrastructure corridors, and recreational areas.
  - Reduce the risk of vehicle or human-caused wildfires and the spread of invasive species by planting perennial vegetation (e.g. green strips) paralleling road rights-of-way.
  - Strategically place and maintain pre-treated strips/areas (e.g., mowing, herbicide application and strictly managed grazed strips) to aid in controlling wildfire should wildfire occur near key habitat or important restoration areas (such as where investments in restoration have already been made).

## **Visual Resource Management**

- Camouflage of all structures/facilities (e.g. wellheads, com sites, etc.) constructed as a result of a BLM authorized undertaking in Class II and Class III Visual Resource Management Areas will be required to preserve the viewshed. Camouflage will consist of placement of wellheads to reduce visual intrusions and painting of above-ground structures not requiring safety coloration an environmental color two shades darker than the surrounding environment.
- During implementation of vegetation treatments, create irregular margins around treatment areas to better maintain existing scenic character of the landscape.
- When feasible, bury utility lines on public lands when in the viewshed of residential or community development.
- Bury distribution powerlines or flow lines in or adjacent to access roads
- Use repetition of form, line, color, and texture to blend facilities with the surrounding landscape.
- Reclaim and recontour all disturbed areas, including access roads, to the original contour or a contour that blends with the surrounding topography.

- Avoid facility placement on steep slopes, ridge tops, and hilltops.
- Reclaim unused well pads within 1 year.

## **Fluid Mineral Exploration and Development**

- Reduce impacts to wildlife and visual resources by applying the following, as appropriate:
  - ▶ Directional drilling of oil and gas wells
  - ▶ Drilling of multiple wells from a single pad
  - ▶ Closed drilling systems
  - ▶ Cluster development
  - ▶ Below-ground wellheads
  - ▶ Remote well monitoring
  - ▶ Piping of produced liquids to centralized tank batteries off site to reduce traffic to individual wells
  - ▶ Transportation planning (e.g. to reduce road density and traffic volumes)
  - ▶ Compensatory mitigation
  - ▶ Noise reduction techniques and designs
  - ▶ Installation of raptor anti-perch devices in greater sage-grouse habitat
  - ▶ Avoidance of human activity between 8 pm and 8 am from March 1 through May 15 within ¼ mile of the perimeter of occupied greater sage-grouse leks
  - ▶ Onsite bioremediation of oil field wastes and spills
  - ▶ Removal of trash, junk, waste, and other materials not in current use
- Reclaim all disturbed surface areas promptly, performing concurrent reclamation as necessary, and minimize the total amount of all surface disturbance.
- Ensure all surface soil is stripped prior to conducting operations, stockpiled, and reapplied during reclamation, regardless of soil quality. Minimize the length of time soil remains in stockpiles and the depth or thickness of stockpiles.
- Strip and separate soil surfaces horizons where feasible and reapply in proper sequence during reclamation.

- Establish vegetation cover on soil stockpiles that are to be in place longer than 1 year.
- Construct and rehabilitate temporary roads to minimize total surface disturbance, consistent with intended use.
- Consider temporary measures such as silt fences, straw bales, or mulching to trap sediment in sensitive areas until reclaimed areas are stabilized with vegetation.
- Reshape to the approximate original contour all areas to be permanently reclaimed, providing for proper surface drainage.

## **Fluid Mineral Extraction**

- Applications for permit to drill would follow the best management practices as outlined in the BLM oil and gas Gold Book ([http://www.blm.gov/wo/st/en/prog/energy/oil\\_and\\_gas/best\\_management\\_practices/gold\\_book.html](http://www.blm.gov/wo/st/en/prog/energy/oil_and_gas/best_management_practices/gold_book.html)), as well as on-shore regulations, individual surface use plans, and conditions for approval that may be part of the Record of Decision for EISs or Decision Records for environmental assessments/Findings of No Significant Impacts, Documentations of NEPA Adequacy, and Categorical Exclusions prepared for site-specific projects.
- Notify the BLM Authorized Officer within 5 days of completion of reclamation work so that timely compliance inspections can be completed.
- The operator will work with the BLM Authorized Officer on the containment of drilling fluids and drill hole cuttings. Adequately fence, post, or cover mud and separation pits, and hazardous material storage areas.

## **Fluid Minerals: Best Management Practices**

- BMPs and standard operating procedures specific to coal bed natural gas (CBNG) can be found on pages 24 through 27 of the rod. Cited references are from the final SES
- Other more general oil and gas BMPs may be found at the following website: [http://www.blm.gov/wo/st/en/prog/energy/oil\\_and\\_gas/best\\_management\\_practices.html](http://www.blm.gov/wo/st/en/prog/energy/oil_and_gas/best_management_practices.html). This location is subject to periodic updates and should be reviewed as needed. These measures are not lease stipulations and can be added to permits for new activities.

## **Solid Minerals: Best Management Practices**

BLM's long term reclamation goals are to shape, stabilize, revegetate, or otherwise treat disturbed areas in order to provide a self-sustaining and productive use of the land in conformance with the land-use plan. Short-term reclamation goals are to stabilize disturbed areas and protect both disturbed and adjacent areas from unnecessary or undue degradation.

Reclamation for operations conducted under 43 CFR Group 3500 for the solid leasable minerals other than coal and oil shale; 43 CFR Group 3600 for mineral materials; and 43 CFR Parts 3802 and 3809 for locatable minerals. The authority for regulating surface coal mine reclamation was given to the Office of Surface Mining Reclamation and Enforcement when Congress enacted the Surface Mine Control and Reclamation Act of 1977.

The Federal Land Policy Management Act of 1976 (FLPMA) mandates that "the public lands be managed in a manner that will protect the quality of scientific, scenic, historical, ecological, environmental, air and atmospheric, water resource, and archeological values." Multiple-use management is defined in FLPMA (43 U.S.C. 1702(c)) and in regulations (43 CFR 1601.0-5(f)) as, in part, the "harmonious and coordinated management of the various resources without permanent impairment of the productivity of the lands and the quality of the environment with consideration being given to the relative values of the resources and not necessarily to the combination of uses that will give the greatest economic return or the greatest unit output." In addition, FLPMA mandates that activities be conducted so as to prevent "unnecessary or undue degradation of the lands" (43 U.S.C. 1732(b)).

The Mining and Minerals Policy Act of 1970 (30 U.S.C. 21a) established the policy for the Federal Government relating to mining and mineral development. The Act states that it is policy to encourage the development of "economically sound and stable domestic mining, minerals, metal and mineral reclamation industries." The Act also states, however, that the Government should also promote the "development of methods for the disposal, control, and reclamation of mineral waste products, and the reclamation of mined land, so as to lessen any adverse impact of mineral extraction and processing upon the physical environment that may result from mining or mineral activities."

BLM exercises the authority to supervise exploration, mining, and reclamation activities on Indian lands pursuant to 25 U.S.C. 396d and 25 CFR Parts 211, 212, and 216. The standards developed for reclamation and closure on Federal lands will apply to operations conducted on Indian lands. The Government's trust responsibilities for the various Indian tribes and entities require that BLM ensure proper reclamation and closure practices. The regulations governing operations on Indian lands require that "adequate measures be taken to avoid, minimize, or correct damage to the environment--land, water, and air--and to avoid, minimize, or correct hazards to the public health and safety" (25 CFR 216.1).

The reclamation plan shall guide both the operator and the BLM toward a planned future condition of the disturbed area. This requires early coordination with the operator to produce a comprehensive plan. The reclamation plan will serve as a binding agreement between the operator and the regulatory agencies for the expected reclamation condition of the disturbed lands and must be periodically reviewed and modified as necessary. Because this is a binding agreement between the operator and the regulatory agency it must be monitored on a regular basis to ensure the reclamation plan is current. New information concerning the ore body, use of different mining methods than originally planned, etc., will require the review of the previous NEPA analysis to determine whether additional environmental documentation is warranted.

Although the operator will usually develop the reclamation plan, appropriate pre-planning, data inventory, and involvement in the planning process by the regulatory agencies, is essential to

determine the optimum reclamation proposal. Most determinations as to what is expected should be made before the reclamation plan is approved and implemented. However, the regulations provide that plans can be modified to adjust to changing conditions or to correct for an oversight. The operator should not conduct surface disturbing activities without an approved plan. For notice level activities, the notice must contain an agreement to adhere to the reclamation requirements of the regulations and a proposal comprehensive enough for the BLM to ensure that unnecessary or undue degradation will not result. A reclamation plan should provide the following:

1. A logical sequence of steps for completing the reclamation process.
2. The specifics of how reclamation standards will be achieved.
3. An estimate of specific costs of reclamation.
4. Sufficient information for development of a basis of inspection and enforcement of reclamation and criteria to be used to evaluate reclamation success and reclamation bond release.
5. Sufficient information to determine if the reclamation plan is in conformance with the applicable BLM land-use plans, activity plans, and/or coastal zone management plans as appropriate.

In preparing and reviewing reclamation plans, the BLM and the operator must set reasonable, achievable, and measurable reclamation goals which are not inconsistent with the established land-use plans. Achievable goals will ensure reclamation and encourage operators to conduct research on different aspects of reclamation for different environments. These goals should be based on available information and techniques, should offer incentives to both parties, and should, as a result, generate useful information for future use.

The purposes of the reclamation plan are as follows:

1. Reclamation plans provide detailed guidelines for the reclamation process and fulfill Federal, State, County and other local agencies requirements. They can be used by regulatory agencies in their oversight roles to ensure that the reclamation measures are implemented, are appropriate for the site, and are environmentally sound.
2. Reclamation plans will be used by the operator throughout the operational period of the project and subsequent to cessation of exploration, mining, and processing activities. In turn, responsible agencies, including the BLM, will use the reclamation plan as a basis to review and evaluate the success of the reclamation program.
3. Reclamation plans should provide direction and standards to assist in monitoring and compliance evaluations.

### *Surface Disturbing Activities*

For the purposes of this Handbook, surface-disturbing activities will be separated into three broad categories.

- Prospecting is the search for new deposits or mineral commodities. Prospecting activities may include: geophysical/ geochemical studies, and hand sampling of mineral specimens.
- Exploration includes efforts to determine the presence of economic deposits of mineral commodities. Exploration activities may include: road-building, drilling, trenching, bulk sampling, as well as any of the activities cited for prospecting.
- Development and mining or mineral processing is the process of extracting valuable minerals from the earth and removing impurities from these minerals. These activities may include: developmental drilling, road-building, underground mining (including shafts, portals, and adits), surface mining (including trenching, open pits, and strip mines), dredging, placer mining, construction of buildings and facilities, use of leaching solutions or other chemicals, and the creation of tailings disposal sites and waste dumps.

See Table II-1 for a summary of activities and mineral categories/mine status.

#### *National Environmental Policy Act*

In accordance with the NEPA (NEPA), an environmental document will be prepared for those mineral actions which propose surface disturbance and have not been categorically excluded for the purpose of identifying and mitigating the impacts to the environment. Notices under 43 CFR 3809 are not Federal actions subject to the provisions of NEPA. The requirements and mitigation measures recommended in an Environmental Assessment (EA) or Environmental Impact Statement (EIS) shall be made a part of the reclamation plan.

#### *Requirements for Reclamation Plan Content*

The reclamation plan should be a comprehensive document submitted with the plan of operations, notice, exploration plan, or mining plan. It is expected that there will be changes to planned reclamation procedures over the life of the project. Any changes will generally be limited to techniques and methodology needed to attain the goals set forth in the plan. These changes to the plan may result from oversights or omissions from the original reclamation plan, permitted alterations of project activities, procedural changes in planned reclamation as a result of information developed by on-site revegetation research undertaken by the operator, results of monitoring data which indicates a new concern at the site and studies performed elsewhere, and/or changes in Federal/State regulations. Specific requirements are given in Manual Section 3042.

#### *BLM Review of the Reclamation Plan*

When reviewing the reclamation plan, the AO should:

1. Immediately upon its receipt, conduct a completeness review to determine whether the reclamation plan is technically and administratively complete.
2. Review the plan for content, both in the office and on-site with the operator, as necessary.

3. Recommend revisions, if necessary, as a result of the on-site review, NEPA documentation, and consultation with appropriate BLM personnel and other SMA's.
4. Ensure that the plan conforms to applicable State and Federal requirements.
5. Approve or accept the reclamation plan within the appropriate timeframes.
6. Set a schedule for inspection of operations and reclamation activities. Inspections must be scheduled at key points in the reclamation process, as well as at regular intervals.
7. Establish criteria for evaluating the success of reclamation.

When administering a reclamation plan, the AO should:

1. Conduct scheduled inspections and other inspections as necessary to ensure compliance with the reclamation plan. It is important to inspect work while it is in progress and before it is concealed by further work.
2. Document inspections in an established case file and discuss needed changes with the operator. These discussions with the operator should also be documented in the case file.
3. Ensure that required interim reclamation is current and in accordance with the plan.
4. Take appropriate action in the event of noncompliance.
5. Require revisions of the reclamation plan as necessary.
6. Monitor completed projects and evaluate the success of reclamation.
7. Accept final reclamation after a reasonable monitoring period and issue a decision. A reasonable monitoring period should not be less than 5 years for determining vegetation and erosion control success.

### **Mineral Material Sites: Standard Operating Procedures**

Before establishing a new community pit, free use area, collection area or exclusive sale, a Plan of Operation and a Reclamation Plan will be prepared. The appropriate NEPA analysis will also be completed.

When appropriate and necessary a reclamation bond will be collected. Reclamation and management of the site will when appropriate consist of the following:

- Suitable topsoil, subsoil, or underlying soil parent material that is suitable for plant growth will be removed and stored for site restoration.
- Topcover stockpiles will be stabilized in order to prevent erosion and dust.
- The area will be fenced to exclude livestock, promote revegetation, increase safety and reduce theft.
- A weed control plan will be developed or weed control will be addressed in the Plan of Operation.
- Purchasers of material will be warned of potential weed seeds.

- The pit walls will not exceed a safe working angle.
- Reclaimed slopes will not exceed 2.5:1 (h:v).
- Disturbed areas will be reclaimed to blend as closely as possible with natural contours.
- Final blending to natural contours should be considered and incorporated into the Plan of Operation.
- Stockpiled topcover will be replaced as soon as practically possible.
- Disturbed areas will be scarified (where necessary) and reseeded as soon as possible in order to reduce erosion, dust and visual effects.
- Measures may need to be taken to reduce visual effects. Visual effects should be considered and incorporated into the Plan of Operation.
- A seed mix approved by BLM and appropriate for the area will be used.
- Erosion controls will be incorporated into the Plan of Operation.
- If dust becomes excessive, measures will be taken to reduce the hazard.
- The site will be returned to as close as possible to the “Post Mining Land Use”
- All remaining litter or trash shall be removed from the site.

## **Realty, Cadastral Survey, and Lands**

- Corridors will be required for placement of roads, pipelines, and utility lines in a common area of disturbance wherever possible.
- Utility companies will manage vegetation in their rights-of-way, permit area or lease area for safe and reliable operation while minimizing impacts to vegetation and wildlife habitat.
- Keep removal and disturbance of vegetation to a minimum through construction site management e.g., using previously disturbed areas and existing easements, limiting equipment/materials storage and staging area sites, etc.
- Re-spread weed-free vegetation removed from the right-of-way to provide protection, nutrient recycling, and seed source.
- Ensure rights-of-way (ROW) and utility corridors use areas adjoining or adjacent to previously disturbed areas whenever possible.
- Stabilize disturbed areas within road ROWs and utility corridors with vegetation practices designed to hold soil in place and minimize erosion. Reestablish vegetation cover to increase infiltration and to provide additional protection from erosion.

- Construct sediment barriers when needed to slow runoff, allow deposition of sediment, and prevent transport from the site. Straining or filtration mechanisms may also be employed for the removal of sediment from runoff.
- Property boundaries and jurisdictional boundaries will be determined in their correct location before they are marked and posted. Land management activities will not be conducted to an approximate or unknown property or jurisdictional boundary line.

## **Management of Land Boundaries**

1. Billings and Pompeys Pillar National Monument RMP and Cadastral Survey and Lands Program Background:
  - a. In the area covered by this RMP is the Yellowstone River. In some townships significant river movement has taken place. This adds a layer of complexity in sorting out ownership. In reaches of the river with significant river movement the ownership and boundary lines between public lands and adjoining lands, and between BLM's special areas, are ill-defined and ripe for unintentional trespass or encroachment. Before ownership and the boundaries of the uplands (riparian areas, flood plain areas, access areas), islands, and the riverbed can be determine a river study is required. This are complex, requires the scare skills of a riparian specialist, and expensive. Tools available to enable the scheduling and funding of such river studies are (1) for long stretches of the river, Management of Land Boundary Plans to identify high risk high priority areas, set priorities, develop the workforce plan, and formulate necessary budget planning. and (2) for individual action areas, Standards for Boundary Evidence Certificates. The river that is becoming increasingly more popular for recreational activities such as rafting, fishing and hunting, and significant vegetative and habitat adjustments.
2. The BLM currently monitor boundaries of special areas through development of Management of Land Boundary (MLB) Plans.
3. MLB Plans are multi-scale; dependent on the issue(s) monitored,
4. MLB Plans are used on special areas as (a) a risk assessment tool for unit managers to protect and monitor land and resources and (b) for workforce planning and out year budget planning.
5. MLB Plans identifies the risk to resources and/or land from antiquated surveys, and errors and misrepresentations in the land tenure records, e.g., river movement, island formation, fraudulent or obliterated surveys.
6. The Director and ASLM have pledged to develop and utilize MLB Plans as a response to a recent OIG Audit Report.
7. It is recommended the first iteration MLB Plan for each Planning Area be first order (broad scale).
8. Individual actions can be review using the Standards for Boundary Evidence process, fourth order (site specific).

## **Livestock Grazing**

### 1. Water developments:

- Place water troughs off-site from springs, streams and riparian zones. To protect this type of water source, fence source (when possible) with wildlife friendly fencing materials.
- Place wildlife escape ramps in all water tanks and troughs.
- Trough height should not exceed twenty two (22) inches.
- Completely drain troughs and tanks at the end of the grazing season.
- Actual work in springs and stream beds will be done by hand where possible. If machinery is needed in these areas, it will be selected to minimize disturbance
- After construction of spring head boxes, troughs, pipelines, and well sites, the areas will be cleaned up and refuse removed.
- Cuts, fills, and excavation will be dressed and seeded to blend with surroundings. Pipelines will be buried where possible.
- Original water sources will be protected, fenced if required, and an off-stream watering supply will be provided near the site.
- Size of storage tanks and troughs will be designed to accommodate expected needs of livestock and wildlife using each water source.
- Water will be left at the sight for wildlife. Wells will be cased to prevent cave-ins and well sites will be fenced.
- Storage structures will be designed to provide water for wildlife. Drinking ramps (wildlife ramps) will be installed and storage structure heights will not prohibit young wildlife from obtaining water.

### 2. Fences:

- Property and allotment fences will be determined in their correct location before they are constructed. No fence will be constructed to an approximate or unknown property or allotment boundary line.
- Ensure that local wildlife needs are incorporated into any construction specifications on contract built fence projects.
- Before removing, replacing, or modifying existing fences, cadastral survey will be consulted to assure property boundary or evidence of ownership will not be destroyed.
- Consider removing, replacing, or modifying existing fences in sage grouse habitat.

- In critical sage grouse habitat, mark top wire with high-visibility marking material.
- Damaged gates and fences will be repaired or replaced according to landowner requirements at the operator's expense. When working on or near grazing lands, project-related construction equipment and vehicle movement will be minimized to avoid disturbance of grazing lands. Responsibilities for fence, gate, and cattle guard maintenance and noxious weed control will be defined in APDs, BLM approvals, or right-of-way (ROW) grants. Facilities will be placed to avoid or minimize impacts on livestock water.

## **Recreation**

- For developed recreation, construct recreation sites and provide appropriate sanitation facilities to minimize impacts to resource values, maximize public health and safety, and minimize user conflicts related to approved activities and access within an area as appropriate.
- Use public education and/or physical barriers (such as rocks, posts, and vegetation) to direct or preclude uses and to minimize impacts to resource values.
- Oil and gas exploration activities will be coordinated for timing to minimize conflicts during recreation peak use periods.
- Dispersed recreation activity would be monitored to identify where this use may be impacting the vegetation resource.
- Seasonal restrictions on public vehicular access will be evaluated where there are wildlife habitat conflict and/or conflicts with wild horses and or wild horse habitat or road damage/maintenance issues.
- Do not allow surface or underground disturbance to occur within 100 yards (horizontally or vertically) of known cave resources.
- Where appropriate, do not allow ground disturbing activities within 100 yards of cave entrances, drainage areas, subsurface passages, and developed recreation sites. Do not dispose of waste material or chemicals in sinkholes or gates by cave entrances. If during construction activities any sinkholes or cave openings are discovered, cease construction activities and notify the BLM Authorized Officer.
- The recreation permittee will assume liability for and clean up any and all releases of hazardous substances or oil (more than one quart) disposed on public lands as defined in the National Oil and Hazardous Substances Contingency Plan (40 CFR § 300). The permittee will immediately notify the BLM Authorized Officer of any and all releases of hazardous substances or oil (more than one quart) on public land.

## **Health and Safety**

- Hazardous waste site clearance surveys will be conducted prior to surface disturbance commencement.
- Solid and hazardous wastes generated as a result of oil and gas lease operations will be disposed of in a manner and at a site approved by the appropriate regulating agency.
- Areas with steep topography will be developed in accordance with the BLM Gold Book (United States Department of the Interior and United States Department of Agriculture 2007) requirements. Lease roads and constructed facilities will be located in accordance with the approved APD. In areas of construction, topsoil will be stockpiled separately from other material, and be reused in reclamation of the disturbed areas. Unused portions of the producing well site will have topsoil spread over it and will be reseeded.
- Construction activities will be restricted during wet or muddy conditions and will be designed following BMPs to control erosion and sedimentation. If porous subsurface materials are encountered during pit construction, all onsite fluid pits will be lined. During road and utility ROW construction, surface soils will be stockpiled adjacent to the cuts and fills.
- Stream crossings will be designed to minimize impacts and not impede stream flow. Erosion control measures will be maintained and continued until adequate vegetation cover (as defined by BLM on a case-by-case basis) is reestablished. Vegetation will be removed only when necessary. Water bars will be constructed on slopes of 3:1 or steeper.
- Erosion control and site restoration measures will be initiated as soon as a particular area is no longer needed for exploration, production, staging, or access. Disturbed areas will be re-contoured to provide proper drainage.
- The road ditches would be flat bottomed and “V” ditches not allowed. Place water turn outs where appropriate to lessen the water impacts upon the ditches.
- Topsoil piles may be required to be seeded following the BLM seeding policy.
- Take measures to isolate, control, and properly dispose of toxic and hazardous materials.

## **Transportation– Travel Management (Road design and maintenance)**

- Keep access roads to a minimum and use only when necessary.
- Design roads to minimize total disturbance, conform with topography, and minimize disruption of natural drainage patterns.
- Locate roads on stable terrain, such as ridgetops; natural benches; and flatter transitional slopes near ridges, valley bottoms, and moderate sideslopes, and away

- from slumps, slide-prone areas, concave slopes, clay beds, and where rock layers dip parallel to the slope. Locate roads on well-drained soil types; avoid wet areas.
- Construct roads for surface drainage by using outslopes, crowns, grade changes, drain dips, waterbars, and /or insloping, as appropriate, during road maintenance. Grade roads only as necessary.
  - Sloping the road base to the outside edge for surface drainage is normally recommended for local spurs or minor collector roads where low traffic volume and lower traffic speeds are anticipated. This is also recommended in situations where long intervals between maintenance will occur and where minimum excavation is wanted. Outsloping is not recommended on steep slopes. Sloping the road base to the inside is an acceptable practice with steep sideslopes and where the underlying soil formation is very rocky and not subject to appreciable erosion or failure.
  - Crown and ditching is recommended for arterial and collector roads where traffic volume, speed, intensity, and user comfort are considerations. Recommended gradients range from 0 percent (0%) to 15 percent (15%) where crown and ditching may be applied, as long as adequate drainage away from the road surface and ditch lines is maintained.
  - Retain vegetation between roads and streams to filter runoff caused by roads.
  - Use culverts that pass, at a minimum, a 50 year storm event and/or have a minimum diameter of 13 inches for permanent stream crossings and a minimum diameter of 18 inches for road crossdrains.
  - Strip and stockpile topsoil ahead of construction of new roads, if feasible. Reapply soil to cut and fill slopes prior to revegetation.
  - Use existing roads whenever possible rather than constructing new road systems.

## **B.12BLM Wind Energy Development Program Policies and Best Management Practices (BMPs)**

The BLM's Wind Energy Development Program will establish a number of policies and BMPs, provided below, regarding the development of wind energy resources on BLM administered public lands. The policies and BMPs will be applicable to all wind energy development projects on BLM-administered public lands. The policies address the administration of wind energy development activities, and the BMPs identify required mitigation measures that would need to be incorporated into project-specific Plans of Development (PODs) and right-of-way (ROW) authorization stipulations. Additional mitigation measures will be applied to individual projects, in the form of stipulations in the ROW authorization as appropriate, to address site-specific and species-specific issues.

These policies and BMPs were formulated through preparation of the Final Wind Energy PEIS (BLM 2005). The PEIS included detailed, comprehensive analysis of the potential impacts of

wind energy development and relevant mitigation measures; reviews of existing, relevant mitigation guidance; and reviews of comments received during scoping and public review of the Draft PEIS. Also available online at: <http://windeis.anl.gov/>

## **A.1 Policies**

- The BLM will not issue ROW authorizations for wind energy development on lands on which wind energy development is incompatible with specific resource values. Lands that will be excluded from wind energy site monitoring and testing and development include designated areas that are part of the National Landscape Conservation System (NLCS) (e.g., Wilderness Areas, Wilderness Study Areas, National Monuments, NCAs,<sup>1</sup> Wild and Scenic Rivers, and National Historic and Scenic Trails) and Areas of Critical Environmental Concern (ACECs).<sup>2</sup> Additional areas of land may be excluded from wind energy development on the basis of findings of resource impacts that cannot be mitigated and/or conflict with existing and planned multiple-use activities or land use plans.
- To the extent possible, wind energy projects shall be developed in a manner that will not prevent other land uses, including minerals extraction, livestock grazing, recreational use, and other ROW uses.
- Entities seeking to develop a wind energy project on BLM-administered lands shall consult with appropriate federal, state, and local agencies regarding specific projects as early as in the planning process as appropriate to ensure that all potential construction, operation, and decommissioning issues and concerns are identified and adequately addressed.
- The BLM will initiate government-to-government consultation with Indian Tribal governments whose interests might be directly and substantially affected by activities on BLM-administered lands as early in the planning process as appropriate to ensure that construction, operation, and decommissioning issues and concerns are identified and adequately addressed.
- Entities seeking to develop a wind energy project on BLM-administered lands, in conjunction with BLM Washington Office (WO) and Field Office (FO) staff, shall consult with the U.S. Department of Defense (DoD) regarding the location of wind power projects and turbine siting as early in the planning process as appropriate. This consultation shall occur concurrently at both the installation/field level and the Pentagon/BLM WO level. An interagency protocol agreement is being developed to establish a consultation process and to identify the scope of issues for consultation. Lands withdrawn for military purposes are under the administrative jurisdiction of the DoD or a military service and are not available for issuance of wind energy authorizations by the BLM.

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<sup>1</sup> Wind energy development is permitted in one NCA, the California Desert Conservation Area (COCA), in accordance with the provisions of the California Desert Conservation Area Plan 1980. As Amended (BLM 1999).

<sup>2</sup> Although the MPDS developed for this PEIS (Section 2.2.1 and Appendix 8) did not exclude all of these lands at the screening level, they will be excluded from wind energy development.

- The BLM will consult with the U.S. Fish and Wildlife Service (USFWS) as required by Section 7 of the Endangered Species Act of 1973 (ESA). The specific consultation requirements will be determined on a project-by-project basis.
- The BLM will consult with the State Historic Preservation Office (SHPO) as required by Section 106 of the National Historic Preservation Act of 1966 (NHPA). The specific consultation requirements will be determined on a project-by-project basis. If programmatic Section 106 consultations have been conducted and are adequate to cover a proposed project, additional consultation may not be needed.
- Existing land use plans will be amended, as appropriate, to (1) adopt provisions of the BLM's Wind Energy Development Program, (2) identify land considered to be available for wind energy development, and (3) identify land that will not be available for wind energy development.
- The level of environmental analysis to be required under NEPA for individual wind power projects will be determined at the FO level. For many projects, it may be determined that a tiered environmental assessment (EA) is appropriate in lieu of an EIS. To the extent that the PEIS addresses anticipated issues and concerns associated with an individual project, including potential cumulative impacts, the BLM will tier off of the decisions embedded in the PEIS and limit the scope of additional project-specific NEPA analyses. The site specific NEPA analyses will include analyses of project site configuration and micrositing considerations, monitoring program requirements, and appropriate mitigation measures. In particular, the mitigation measures discussed in Chapter 5 of the PEIS may be consulted in determining site-specific requirements. Public involvement will be incorporated into all wind energy development projects to ensure that all concerns and issues are identified and adequately addressed. In general, the scope of the NEPA analyses will be limited to the proposed action on BLM-administered public lands; however, if access to proposed development on adjacent non-BLM-administered lands is entirely dependent on obtaining ROW access across BLM-administered public lands and there are no alternatives to that access, the NEPA analysis for the proposed ROW may need to assess the environmental effects from that proposed development. The BLM's analyses of ROW access projects may tier off of the PEIS to the extent that the proposed project falls within the scope of the PEIS analyses.
- Site-specific environmental analyses will tier from the PEIS and identify and assess any cumulative impacts that are beyond the scope of the cumulative impacts addressed in the PEIS.
- The Categorical Exclusion (CX) applicable to the issuance of short-term ROWs or land use authorizations may be applicable to some site monitoring and testing activities. The relevant CX, established for the BLM in the DOI Departmental Manual 516, Chapter 11, Sec. 11.5, E(19) (DOI 2004), encompasses "issuance of short-term (3 years or less) rights-of-way or land use authorizations for such uses

- as storage sites, apiary sites, and construction sites where the proposal includes rehabilitation to restore the land to its natural or original condition."
- The BLM will require financial bonds for all wind energy development projects on BLM-administered public lands to ensure compliance with the terms and conditions of the rights-of-way authorization and the requirements of applicable regulatory requirements, including reclamation costs. The amount of the required bond will be determined during the rights-of-way authorization process on the basis of site-specific and project-specific factors. The BLM may also require financial bonds for site monitoring and testing authorizations.
  - Entities seeking to develop a wind energy project on BLM-administered public lands shall develop a project-specific Plan of Development (POD) that incorporates all BMPs and, as appropriate, the requirements of other existing and relevant BLM mitigation guidance, including the BLM's interim off-site mitigation guidance (BLM 2005a). Additional mitigation measures will be incorporated into the POD and into the ROW authorization as project stipulations, as needed, to address site-specific and species-specific issues. The POD will include a site plan showing the locations of turbines, roads, power lines, other infrastructure, and other areas of short-and long-term disturbance.
  - The BLM will incorporate management goals and objectives specific to habitat conservation for species of concern (e.g., sage-grouse), as appropriate, into the POD for proposed wind energy projects.
  - The BLM will consider the visual resource values of the public lands involved in proposed wind energy development projects, consistent with BLM Visual Resource Management (VRM) policies and guidance. The BLM will work with the ROW applicant to incorporate visual design considerations into the planning and design of the project to minimize potential visual impacts of the proposal and to meet the VRM objectives of the area.
  - Operators of wind power facilities on BLM-administered public lands shall consult with the BLM and other appropriate federal, state, and local agencies regarding any planned upgrades or changes to the wind facility design or operation. Proposed changes of this nature may require additional environmental analysis and/or revision of the POD.
  - The BLM's Wind Energy Development Program will incorporate adaptive management strategies to ensure that potential adverse impacts of wind energy development are avoided (if possible), minimized, or mitigated to acceptable levels. The programmatic policies and BMPs will be updated and revised as new data regarding the impacts of wind power projects become available. At the project-level, operators will be required to develop monitoring programs to evaluate the environmental conditions at the site through all phases of development, to establish metrics against which monitoring observations can be measured, to identify potential mitigation measures, and to establish protocols for

incorporating monitoring observations and additional mitigation measures into standard operating procedures and project-specific stipulations.

## **A.2 Best Management Practices (BMPs)**

The BMPs will be adopted as required elements of project-specific PODs and/or as ROW authorization stipulations. They are categorized by development activity: site monitoring and testing, development of the POD, construction, operation, and decommissioning. The BMPs for development of the POD identify required elements of the POD needed to address potential impacts associated with subsequent phases of development.

### **A.2.1 Site Monitoring and Testing**

- The area disturbed by installation of meteorological towers (i.e., footprint) shall be kept to a minimum.
- Existing roads shall be used to the maximum extent feasible. If new roads are necessary, they shall be designed and constructed to the appropriate standard.
- Meteorological towers shall not be located in sensitive habitats or in areas where ecological resources known to be sensitive to human activities (e.g., prairie grouse) are present. Installation of towers shall be scheduled to avoid disruption of wildlife reproductive activities or other important behaviors.
- Meteorological towers installed for site monitoring and testing shall be inspected periodically for structural integrity.

### **A.2.2 Plan of Development Preparation**

#### *General*

- The BLM and operators shall contact appropriate agencies, property owners, and other stakeholders early in the planning process to identify potentially sensitive land uses and issues, rules that govern wind energy development locally, and land use concerns specific to the region.
- Available information describing the environmental and sociocultural conditions in the vicinity of the proposed project shall be collected and reviewed as needed to predict potential impacts of the project.
- The Federal Aviation Administration (FAA)-required notice of proposed construction shall be made as early as possible to identify any air safety measures that would be required.
- To plan for efficient use of the land, necessary infrastructure requirements shall be consolidated wherever possible, and current transmission and market access shall be evaluated carefully.

- The project shall be planned to utilize existing roads and utility corridors to the maximum extent feasible, and to minimize the number and length/size of new roads, lay-down areas, and borrow areas.
- A monitoring program shall be developed to ensure that environmental conditions are monitored during the construction, operation, and decommissioning phases. The monitoring program requirements, including adaptive management strategies, shall be established at the project level to ensure that potential adverse impacts of wind energy development are mitigated. The monitoring program shall identify the monitoring requirements for each environmental resource present at the site, establish metrics against which monitoring observations can be measured, identify potential mitigation measures, and establish protocols for incorporating monitoring observations and additional mitigation measures into standard operating procedures and BMPs.
- "Good housekeeping" procedures shall be developed to ensure that during operation the site will be kept clean of debris, garbage, fugitive trash or waste, and graffiti; to prohibit scrap heaps and dumps; and to minimize storage yards.

#### *Wildlife and Other Ecological Resources*

- Operators shall review existing information on species and habitats in the vicinity of the project area to identify potential concerns.
- Operators shall conduct surveys for federal and/or state-protected species and other species of concern (including special status plant and animal species) within the project area and design the project to avoid (if possible), minimize, or mitigate impacts to these resources.
- Operators shall identify important, sensitive, or unique habitats in the vicinity of the project and design the project to avoid (if possible), minimize, or mitigate impacts to these habitats (e.g., locate the turbines, roads, and ancillary facilities in the least environmentally sensitive areas; i.e., away from riparian habitats, streams, wetlands, drainages, or critical wildlife habitats).
- The BLM will prohibit the disturbance of any population of federal listed plant species.
- Operators shall evaluate avian and bat use of the project area and design the project to minimize or mitigate the potential for bird and bat strikes (e.g., development shall not occur in riparian habitats and wetlands). Scientifically rigorous avian and bat use surveys shall be conducted; the amount and extent of ecological baseline data required shall be determined on a project basis.
- Turbines shall be configured to avoid landscape features known to attract raptors, if site studies show that placing turbines there would pose a significant risk to raptors.

- Operators shall determine the presence of bat colonies and avoid placing turbines near known bat hibernation, breeding, and maternity/nursery colonies; in known migration corridors; or in known flight paths between colonies and feeding areas.
- Operators shall determine the presence of active raptor nests (i.e., raptor nests used during the breeding season). Measures to reduce raptor use at a project site (e.g., minimize road cuts, maintain either no vegetation or nonattractive plant species around the turbines) shall be considered.
- A habitat restoration plan shall be developed to avoid (if possible), minimize, or mitigate negative impacts on vulnerable wildlife while maintaining or enhancing habitat values for other species. The plan shall identify revegetation, soil stabilization, and erosion reduction measures that shall be implemented to ensure that all temporary use areas are restored. The plan shall require that restoration occur as soon as possible after completion of activities to reduce the amount of habitat converted at any one time and to speed up the recovery to natural habitats.
- Procedures shall be developed to mitigate potential impacts to special status species. Such measures could include avoidance, relocation of project facilities or lay-down areas, and/or relocation of biota.
- Facilities shall be designed to discourage their use as perching or nesting substrates by birds. For example, power lines and poles shall be configured to minimize raptor electrocutions and discourage raptor and raven nesting and perching.

### *Visual Resources*

- The public shall be involved and informed about the visual site design elements of the proposed wind energy facilities. Possible approaches include conducting public forums for disseminating information, offering organized tours of operating wind developments, and using computer simulation and visualization techniques in public presentations.
- Turbine arrays and turbine design shall be integrated with the surrounding landscape. Design elements to be addressed include visual uniformity, use of tubular towers, proportion and color of turbines, nonreflective paints, and prohibition of commercial messages on turbines.
- Other site design elements shall be integrated with the surrounding landscape. Elements to address include minimizing the profile of the ancillary structures, burial of cables, prohibition of commercial symbols, and lighting. Regarding lighting, efforts shall be made to minimize the need for and amount of lighting on ancillary structures.

### *Roads*

- An access road siting and management plan shall be prepared incorporating existing BLM standards regarding road design, construction, and maintenance

such as those described in the BLM 9113 Manual (BLM 1985) and the Surface Operating Standards for Oil and Gas Exploration and Development (RMRCC 1989) (i.e., the Gold Book).

#### *Ground Transportation*

- A transportation plan shall be developed, particularly for the transport of turbine components, main assembly cranes, and other large pieces of equipment. The plan shall consider specific object sizes, weights, origin, destination, and unique handling requirements and shall evaluate alternative transportation approaches. In addition, the process to be used to comply with unique state requirements and to obtain all necessary permits shall be clearly identified.
- A traffic management plan shall be prepared for the site access roads to ensure that no hazards would result from the increased truck traffic and that traffic flow would not be adversely impacted. This plan shall incorporate measures such as informational signs, flaggers when equipment may result in blocked throughways, and traffic cones to identify any necessary changes in temporary lane configuration.

#### *Noise*

- Proponents of a wind energy development project shall take measurements to assess the existing background noise levels at a given site and compare them with the anticipated noise levels associated with the proposed project.

#### *Noxious Weeds and Pesticides*

- Operators shall develop a plan for control of noxious weeds and invasive species, which could occur as a result of new surface disturbance activities at the site. The plan shall address monitoring, education of personnel on weed identification, the manner in which weeds spread, and methods for treating infestations. The use of certified weed-free mulching shall be required. If trucks and construction equipment are arriving from locations with known invasive vegetation problems, a controlled inspection and cleaning area shall be established to visually inspect construction equipment arriving at the project area and to remove and collect seeds that may be adhering to tires and other equipment surfaces.
- If pesticides are used on the site, an integrated pest management plan shall be developed to ensure that applications would be conducted within the framework of BLM and DOI policies and entail only the use of EPA-registered pesticides. Pesticide use shall be limited to nonpersistent, immobile pesticides and shall only be applied in accordance with label and application permit directions and stipulations for terrestrial and aquatic applications.

#### *Cultural/Historic Resources*

- The BLM will consult with Indian Tribal governments early in the planning process to identify issues regarding the proposed wind energy development,

- including issues related to the presence of cultural properties, access rights, disruption to traditional cultural practices, and impacts to visual resources important to the Tribe(s).
- The presence of archaeological sites and historic properties in the area of potential effect shall be determined on the basis of a records search of recorded sites and properties in the area and/or, depending on the extent and reliability of existing information, an archaeological survey. Archaeological sites and historic properties present in the area of potential effect shall be reviewed to determine whether they meet the criteria of eligibility for listing on the National Register of Historic Places (NRHP).
  - When any rights-of-way application includes remnants of a National Historic Trail, is located within the viewshed of a National Historic Trail's designated centerline, or includes or is within the viewshed of a trail eligible for listing on the NRHP, the operator shall evaluate the potential visual impacts to the trail associated with the proposed project and identify appropriate mitigation measures for inclusion as stipulations in the POD.
  - If cultural resources are present at the site, or if areas with a high potential to contain cultural material have been identified, a cultural resources management plan (CRMP) shall be developed. This plan shall address mitigation activities to be taken for cultural resources found at the site. Avoidance of the area is always the preferred mitigation option. Other mitigation options include archaeological survey and excavation (as warranted) and monitoring. If an area exhibits a high potential, but no artifacts were observed during an archaeological survey, monitoring by a qualified archaeologist could be required during all excavation and earthmoving in the high-potential area. A report shall be prepared documenting these activities. The CRMP also shall (1) establish a monitoring program, (2) identify measures to prevent potential looting/vandalism or erosion impacts, and (3) address the education of workers and the public to make them aware of the consequences of unauthorized collection of artifacts and destruction of property on public land.

### *Paleontological Resources*

- Operators shall determine whether paleontological resources exist in a project area on the basis of the sedimentary context of the area, a records search for past paleontological finds in the area, and/or, depending on the extent of existing information, a paleontological survey.
- If paleontological resources are present at the site, or if areas with a high potential to contain paleontological material have been identified, a paleontological resources management plan shall be developed. This plan shall include a mitigation plan for collection of the fossils; mitigation could include avoidance, removal of fossils, or monitoring. If an area exhibits a high potential but no fossils were observed during survey, monitoring by a qualified paleontologist could be required during all excavation and earthmoving in the sensitive area. A report

shall be prepared documenting these activities. The paleontological resources management plan also shall establish a monitoring program, (2) identify measures to prevent potential looting/vandalism or erosion impacts, and (3) address the education of workers and the public to make them aware of the consequences of unauthorized collection of fossils on public land.

#### *Hazardous Materials and Waste Management*

- Operators shall develop a hazardous materials management plan addressing storage, use, transportation, and disposal of each hazardous material anticipated to be used at the site. The plan shall identify all hazardous materials that would be used, stored, or transported at the site. It shall establish inspection procedures, storage requirements, storage quantity limits, inventory control, nonhazardous product substitutes, and disposition of excess materials. The plan shall also identify requirements for notices to federal and local emergency response authorities and include emergency response plans.
- Operators shall develop a waste management plan identifying the waste streams that are expected to be generated at the site and addressing hazardous waste determination procedures, waste storage locations, waste-specific management and disposal requirements, inspection procedures, and waste minimization procedures. This plan shall address all solid and liquid wastes that may be generated at the site.
- Operators shall develop a spill prevention and response plan identifying where hazardous materials and wastes are stored on site, spill prevention measures to be implemented, training requirements, appropriate spill response actions for each material or waste, the locations of spill response kits on site, a procedure for ensuring that the spill response kits are adequately stocked at all times, and procedures for making timely notifications to authorities.

#### *Storm Water*

- Operators shall develop a storm water management plan for the site to ensure compliance with applicable regulations and prevent off-site migration of contaminated storm water or increased soil erosion.

#### *Human Health and Safety*

- A safety assessment shall be conducted to describe potential safety issues and the means that would be taken to mitigate them, including issues such as site access, construction, safe work practices, security, heavy equipment transportation, traffic management, emergency procedures, and fire control.
- A health and safety program shall be developed to protect both workers and the general public during construction, operation, and decommissioning of a wind energy project. Regarding occupational health and safety, the program shall identify all applicable federal and state occupational safety standards; establish safe work practices for each task (e.g., requirements for personal protective

equipment and safety harnesses; Occupational Safety and Health Administration [OSHA] standard practices for safe use of explosives and blasting agents; and measures for reducing occupational electric and magnetic fields [EMF] exposures); establish fire safety evacuation procedures; and define safety performance standards (e.g., electrical system standards and lightning protection standards). The program shall include a training program to identify hazard training requirements for workers for each task and establish procedures for providing required training to all workers. Documentation of training and a mechanism for reporting serious accidents to appropriate agencies shall be established.

- Regarding public health and safety, the health and safety program shall establish a safety zone or setback for wind turbine generators from residences and occupied buildings, roads, rights-of-ways, and other public access areas that is sufficient to prevent accidents resulting from the operation of wind turbine generators. It shall identify requirements for temporary fencing around staging areas, storage yards, and excavations during construction or decommissioning activities. It shall also identify measures to be taken during the operation phase to limit public access to hazardous facilities (e.g. permanent fencing would be installed only around electrical substations and turbine tower access doors would be locked).
- Operators shall consult with local planning authorities regarding increased traffic during the construction phase, including an assessment of the number of vehicles per day, their size, and type. Specific issues of concern (e.g., location of school bus routes and stops) shall be identified and addressed in the traffic management plan.
- If operation of the wind turbines is expected to cause significant adverse impacts to nearby residences and occupied buildings from shadow flicker, low-frequency sound, or EMF, site-specific recommendations for addressing these concerns shall be incorporated into the project design (e.g., establishing a sufficient setback from turbines).
- The project shall be planned to minimize electromagnetic interference (EMI) (e.g., impacts to radar, microwave, television, and radio transmissions) and comply with Federal Communications Commission [FCC] regulations. Signal strength studies shall be conducted when proposed locations have the potential to impact transmissions. Potential interference with public safety communication systems (e.g., radio traffic related to emergency activities) shall be avoided.
- The project shall be planned to comply with FAA regulations, including lighting regulations, and to avoid potential safety issues associated with proximity to airports, military bases or training areas, or landing strips.
- Operators shall develop a fire management strategy to implement measures to minimize the potential for a human-caused fire.

### **A.2.3 Construction**

#### *General*

- All control and mitigation measures established for the project in the POD and the resource-specific management plans that are part of the POD shall be maintained and implemented throughout the construction phase, as appropriate.
- The number and size/length of roads, temporary fences, lay-down areas, and borrow areas shall be minimized. Topsoil from all excavations and construction activities shall be salvaged and reapplied during reclamation.
- All areas of disturbed soil shall be reclaimed using weed-free native grasses, forbs, and shrubs. Reclamation activities shall be undertaken as early as possible on disturbed areas.
- All electrical collector lines shall be buried in a manner that minimizes additional surface disturbance (e.g., along roads or other paths of surface disturbance). Overhead lines may be used in cases where burial of lines would result in further habitat disturbance.
- Operators shall identify unstable slopes and local factors that can induce slope instability (such as groundwater conditions, precipitation, earthquake activities, slope angles, and the dip angles of geologic strata). Operators also shall avoid creating excessive slopes during excavation and blasting operations. Special construction techniques shall be used where applicable in areas of steep slopes, erodible soil, and stream channel crossings.
- Erosion controls that comply with county, state, and federal standards shall be applied. Practices such as jute netting, silt fences, and check dams shall be applied near disturbed areas.

#### *Wildlife*

- Guy wires on permanent meteorological towers shall be avoided, however, may be necessary on temporary meteorological towers installed during site monitoring and testing.
- In accordance with the habitat restoration plan, restoration shall be undertaken as soon as possible after completion of construction activities to reduce the amount of habitat converted at any one time and to speed up the recovery to natural habitats.
- All construction employees shall be instructed to avoid harassment and disturbance of wildlife, especially during reproductive (e.g. courtship and nesting) seasons. In addition, pets shall not be permitted on site during construction.

### *Visual Resources*

- Operators shall reduce visual impacts during construction by minimizing areas of surface disturbance, controlling erosion, using dust suppression techniques, and restoring exposed soils as closely as possible to their original contour and vegetation.

### *Roads*

- Existing roads shall be used, but only if in safe and environmentally sound locations. If new roads are necessary, they shall be designed and constructed to the appropriate standard and be no higher than necessary to accommodate their intended functions (e.g., traffic volume and weight of vehicles). Excessive grades on roads, road embankments, ditches, and drainages shall be avoided, especially in areas with erodible soils. Special construction techniques shall be used, where applicable. Abandoned roads and roads that are no longer needed shall be recontoured and revegetated.
- Access roads and on-site roads shall be surfaced with aggregate materials, wherever appropriate.
- Access roads shall be located to follow natural contours and minimize side hill cuts.
- Roads shall be located away from drainage bottoms and avoid wetlands, if practicable.
- Roads shall be designed so that changes to surface water runoff are avoided and erosion is not initiated.
- Access roads shall be located to minimize stream crossings. All structures crossing streams shall be located and constructed so that they do not decrease channel stability or increase water velocity. Operators shall obtain all applicable federal and state permits.
- Existing drainage systems shall not be altered, especially in sensitive areas such as erodible soils or steep slopes. Potential soil erosion shall be controlled at culvert outlets with appropriate structures. Catch basins, roadway ditches, and culverts shall be cleaned and maintained regularly.

### *Ground Transportation*

- Project personnel and contractors shall be instructed and required to adhere to speed limits commensurate with road types, traffic volumes, vehicle types, and site-specific conditions, to ensure safe and efficient traffic flow and to reduce wildlife collisions and disturbance and airborne dust.
- Traffic shall be restricted to the roads developed for the project. Use of other unimproved roads shall be restricted to emergency situations.

- Signs shall be placed along construction roads to identify speed limits, travel restrictions, and other standard traffic control information. To minimize impacts on local commuters, consideration shall be given to limiting construction vehicles traveling on public roadways during the morning and late afternoon commute time.

#### *Air Emissions*

- Dust abatement techniques shall be used on unpaved, unvegetated surfaces to minimize airborne dust.
- Speed limits (e.g., 25 mph [40 kph]) shall be posted and enforced to reduce airborne fugitive dust.
- Construction materials and stockpiled soils shall be covered if they are a source of fugitive dust.
- Dust abatement techniques shall be used before and during surface clearing, excavation, or blasting activities.

#### *Excavation and Blasting Activities*

- Operators shall gain a clear understanding of the local hydrogeology. Areas of groundwater discharge and recharge and their potential relationships with surface water bodies shall be identified.
- Operators shall avoid creating hydrologic conduits between two aquifers during foundation excavation and other activities.
- Foundations and trenches shall be backfilled with originally excavated material as much as possible. Excess excavation materials shall be disposed of only in approved areas or, if suitable, stockpiled for use in reclamation activities.
- Explosives shall be used only within specified times and at specified distances from sensitive wildlife or streams and lakes, as established by the BLM or other federal and state agencies.
- Borrow material shall be obtained only from authorized and permitted sites. Existing sites shall be used in preference to new sites.

#### *Noise*

- Noisy construction activities (including blasting) shall be limited to the least noise-sensitive times of day (i.e., daytime only between 7 a.m. and 10 p.m.)
- All equipment shall have sound-control devices no less effective than those provided on the original equipment. All construction equipment used shall be adequately muffled and maintained.
- All stationary construction equipment (i.e. compressors and generators) shall be located as far as possible from nearby residences.

- If blasting or other noisy activities are required during the construction period, nearby residents shall be notified in advance.

#### *Cultural and Paleontological Resources*

- Unexpected discovery of cultural or paleontological resources during construction shall be brought to the attention of the responsible BLM authorized officer immediately. Work shall be halted in the vicinity of the find to avoid further disturbance to the resources while they are being evaluated and appropriate mitigation measures are being developed.

#### *Hazardous Materials and Waste Management*

- Secondary containment shall be provided for all on-site hazardous materials and waste storage, including fuel. In particular, fuel storage (for construction vehicles and equipment) shall be a temporary activity occurring only for as long as is needed to support construction activities.
- Wastes shall be properly containerized and removed periodically for disposal at appropriate off-site permitted disposal facilities.
- In the event of an accidental release to the environment, the operator shall document the event, including a root cause analysis, appropriate corrective actions taken, and a characterization of the resulting environmental or health and safety impacts. Documentation of the event shall be provided to the BLM authorized officer and other federal and state agencies, as required.
- Any wastewater generated in association with temporary, portable sanitary facilities shall be periodically removed by a licensed hauler and introduced into an existing municipal sewage treatment facility. Temporary, portable sanitary facilities provided for construction crews shall be adequate to support expected on-site personnel and shall be removed at completion of construction activities.

#### *Public Health and Safety*

- Temporary fencing shall be installed around staging areas, storage yards, and excavations during construction to limit public access.

### **A.2.4 Operation**

#### *General*

- All control and mitigation measures established for the project in the POD and the resource-specific management plans that are part of the POD shall be maintained and implemented throughout the operational phase, as appropriate. These control and mitigation measures shall be reviewed and revised, as needed, to address changing conditions or requirements at the site, throughout the operational phase. This adaptive management approach would help ensure that impacts from operations are kept to a minimum.

- Inoperative turbines shall be repaired, replaced, or removed in a timely manner. Requirements to do so shall be incorporated into the due diligence provisions of the rights-of-way authorization. Operators will be required to demonstrate due diligence in the repair, replacement, or removal of turbines; failure to do so could result in termination of the rights-of-way authorization.

#### *Wildlife*

- Employees, contractors, and site visitors shall be instructed to avoid harassment and disturbance of wildlife, especially during reproductive (e.g., courtship and nesting) seasons. In addition, any pets shall be controlled to avoid harassment and disturbance of wildlife.
- Observations of potential wildlife problems, including wildlife mortality, shall be reported to the BLM authorized officer immediately.

#### *Ground Transportation*

- Ongoing ground transportation planning shall be conducted to evaluate road use, minimize traffic volume, and ensure that roads are maintained adequately to minimize associated impacts.

#### *Monitoring Program*

- Site monitoring protocols defined in the POD shall be implemented. These will incorporate monitoring program observations and additional mitigation measures into standard operating procedures and BMPs to minimize future environmental impacts.
- Results of monitoring program efforts shall be provided to the BLM authorized officer.

#### *Public Health and Safety*

- Permanent fencing shall be installed and maintained around electrical substations, and turbine tower access doors shall be locked to limit public access.
- In the event an installed wind energy development project results in EMI, the operator shall work with the owner of the impacted communications system to resolve the problem. Additional warning information may also need to be conveyed to aircraft with onboard radar systems so that echoes from wind turbines can be quickly recognized.

### **A.2.5 Decommissioning**

#### *General*

- Prior to the termination of the rights-of-way authorization, a decommissioning plan shall be developed and approved by the BLM. The decommissioning plan shall include a site reclamation plan and monitoring program.

- All management plans, BMPs, and stipulations developed for the construction phase shall be applied to similar activities during the decommissioning phase.
- All turbines and ancillary structures shall be removed from the site.
- Topsoil from all decommissioning activities shall be salvaged and replied during final reclamation.
- All areas of disturbed soil shall be reclaimed using weed-free native shrubs, grasses, and forbs.
- The vegetation cover, composition, and diversity shall be restored to values commensurate with the ecological setting.

**Appendix C:**  
**Bureau of Land Management Billings Field Office and**  
**Pompeys Pillar National Monument Sign Plan**

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**BUREAU of LAND MANAGEMENT**  
**BILLINGS FIELD OFFICE and**  
**POMPEYS PILLAR NATIONAL MONUMENT**  
**SIGN PLAN**

February, 2013

Submitted By: Tim FINGER  
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Feb 4, 2013  
Date

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## **Introduction**

The purpose of this Plan is to establish concise and consistent direction and guidance for the sign maintenance program, and outline the responsibilities of the Field Office/Monument staff and State Office Sign Coordinators for the maintenance of signage utilized on all public lands, waters and facilities managed by the Billings Field Office (BiFO).

Effective communication requires the clear, concise delivery of an understandable message through a powerful medium. Signs are one of the avenues for conveying information to the public about the Bureau of Land Management (BLM). They are a key factor in the way the public views the BLM's competency to manage the public lands and waters under its jurisdiction. Signs on the BLM-managed public lands and waters are our "silent employees."

A comprehensive sign program fosters safety, facilitates the management of an area, provides a learning opportunity for visitors, and offers a positive image and identity for all entities involved in the management of that area. On public lands managed by the Billings Field Office, this Plan conforms with and implements the National Sign Guidebook, which established standards and guidelines for signs and the BLM's National Sign Program.

## **Purpose of Plan**

This Plan:

1. Describes the different types of signs and the locations where they are to be used.
2. Outlines the design standards.
3. Provides specific design standards that apply to certain types of signs, including material and specification requirements.
3. Identifies procurement procedures.
4. delineates the inventory and maintenance strategies.
5. Set schedules for implementation
5. Provides reference material and other resources.

## **Sign Policy/Action**

This Plan provides guidance and direction for ensuring that the physical condition of BLM signage is such that it can accurately identify public lands, promote the safety of the public while visiting public lands, provide visitors with information and direction, mitigate user and management issues, and providing for the regular maintenance and professional appearance of BLM signage.

The following principles were used in formulating the Billings Field Office/Pompeys Pillar National Monument Sign Plan and are also consistent with the basis of the Bureau of Land Management National Sign Program:

1. Signs must deliver understandable messages to visitors. Each sign should address a single topic and not include jargon or technical terms. Messages should not be mixed.
2. The established BLM logo must be used, where appropriate.
3. Signs must comply with the Uniform Federal Accessibility Standards (UFAS) and the Americans with Disabilities Act Accessibility Guidelines (ADAAG). Sections 4.1 and 4.30 from both standards provide specific guidance for signs.
4. Signing situations related to vehicular and pedestrian traffic should follow the specifications established in the Manual on Uniform Traffic Control Devices (MUTCD), published by the Federal Highway Administration.
5. BLM-approved international symbols and established signing industry standards must be used for sign design, fabrication, installation, and maintenance.
6. Signs must comply with pertinent Federal, State, and local laws, as appropriate.
7. The standards and guidelines in the BLM National Sign Guidebook (December 2004) must be applied consistently to ensure that areas are safe and to enhance visitors' experiences on the BLM's public lands and waters.
8. Whenever possible, signs should be used in conjunction with other media, such as maps, brochures, interpretive materials, etc. These will use interchangeable layouts, designs, text, maps, and images as much as possible.

## **Sign Inventory**

The first step in an effective sign maintenance program is to have an accurate and current inventory. From this inventory those signs that are damaged, deteriorated, missing or down, can then be identified. A schedule can then be developed to replace these signs making it possible to estimate labor and material costs to install or repair these signs to a good condition. The inventory also provides a baseline for a condition assessment program to ensure that signs are inspected on a regular basis. These assessments will assist in identifying regular maintenance needs so future budgets can be planned and scheduled maintenance can be performed.

The Billings Field Office has a substantial, but incomplete inventory at this time, so a completion of the inventory is a high priority. Billings Field Office has numerous special emphasis areas such as WSAs, ACEC's, SRMA's, OHV areas, Wild Horse Range, etc.. These areas will have a

high priority for signing. The Billings Field Office has divided the Field Office into more manageable components for easier work. These areas are described as follows:

**Pompeys Pillar National Monument:** This land parcel includes the 51 acre National Monument and its related infrastructure and the adjacent ACEC for a total of 432 acres.

**Big Horn County, Montana:** All public lands located within Big Horn County, which includes only small isolated parcels of public lands. However BLM does work closely offsite with other agencies located in this area, such as the Crow Indian Reservation, the Northern Cheyenne Indian Reservation, and the Little Big Horn Battlefield National Monument. **Administrative Sites:** This includes the Britton Springs facility, the Bridger Fire Station, Field Office, Interagency Fire Center at Billings Airport, Sundance Lodge facility, etc..

**Carbon County:** This land mass includes the Pryor Mountains region, the Beartooth front region, and the large blocks of public lands between them, which overall includes several Travel Management Areas, ACECs, the Pryor Mountain Wild Horse Range, and several WSAs.

**Golden Valley County:** This area includes public lands on a portion of the Snowy Mountains and small blocks of public land elsewhere. It has a segment of the Nez Perce National Historic Trail on it as well, located on private lands.

**Musselshell County:** This area has blocks of public lands of varying size interspersed with private lands.

**Stillwater County:** Small block of public lands, some receiving public use, other isolated and inaccessible.

**Wheatland County:** Small and isolated tracts of public lands.

**Yellowstone County:** This area has a limited public land base, but has intensive use at popular Recreation Areas with a large urban interface.

**Big Horn County, Wyoming:** The Billings Field Office manages/administers 4,300 acres of public land in Big Horn County, Wyoming, which includes the southernmost part of the Pryor Mountain Wild Horse Range. The BLM works closely with the National Park Service as a portion of the Pryor Mountain Wild Horse Range (PMWHR) is located on the Big Horn Canyon National Recreation Area. The Pryor Mountains and Big Horn Tack-On WSAs both extend into Wyoming.

The BiFO staff will use Form 9130-4, "Sign Inventory/Maintenance Form", to ensure a consistent inventory of all signs. Staff will enter information from this form into the Facility Inventory Maintenance Management System database since funding to maintain signs are obtained through this system. The inventory may also be entered into a GIS system either from a hard copy or through data collection with a GPS unit. Digital photographs may be taken and

attached to the inventory sheets or entered directly into the GIS database. Staff will include all of the following items on an inventory form or in a GIS database for each sign:

- a. Date inventoried and name of person conducting the inventory;
- b. Location (initially identified on a map or as mileage from a starting point);
- c. All language on the sign;
- d. Size, color, and shape of sign (height, length, etc.);
- e. Size,
- f. Sign material;
- g. Condition of sign (good, deteriorated, damaged, missing/down, or obsolete);
- h. Type of post and attachment system (4X4 treated lumber, metal fence post, etc.);
- i. Condition of post (good, deteriorated, damaged, missing/down, obsolete); and
- j. Notes (poor location, accessibility issues, vegetation or terrain features blocking view of sign, or anything else that must be addressed later in the planning process).

When the inventory is complete, BiFO Staff will place all sign locations on a map of the area, with the detailed information cross-referenced to the Facilities Inventory Maintenance Management System. The map may consist of the several “bite-size” area maps used during the inventory (such as for the Pompeys Pillar NM/ACEC). Eventually, BiFO intends to combine all inventory data on one large map to facilitate the coordination of signs across the entire Field Office.

A working file will be established and maintained by the Field Office Sign Coordinator. Included in this file will be the inventory data, schedule of implementation, Review results, a copy of this plan, Inventory Form, sign examples and designs, encroachment permits, and any relevant communication and directives.

## **Sign Review**

Each sign should be reviewed every 5 years to answer the following questions and determine compliance with the Sign Plan:

- a. Is the sign consistent with existing planning documentation (resource management, activity, or project plans, etc.)?
- b. Is this sign needed? Does it serve a purpose? Is it one of several in an area? Have things changed in this location so that the sign is no longer necessary?

- c. Is the sign effective? Is the message inappropriate or confusing? Is lettering too small to be read from a high-speed vehicle?
- d. Is the location of the sign still appropriate?
- e. Are sign and post materials appropriate for year-round conditions, protection from vandalism, etc.?
- f. Does the sign complement the rest of the signs in the area?
- g. What is the condition of the sign? Even if the message is appropriate and the location is a good one, is the sign faded? Is it time to replace it?
- h. Is each sign meeting required rules and regulations, such as MUTCD, UFAS/ADAAG, etc.?

Sign maintenance will be planned and scheduled annually during preparation of the annual work plan so it can be performed on a regular basis. Sign condition assessments should be performed on signs at the minimum of once every 5 years. See tentative Schedule below for details.

<b>Billings Field Office/Pompeys Pillar NM Sign Plan Schedule</b>				
Area (by priority)	Initial Inventory Dates	Review Dates		Notes
Pompeys Pillar NM	2013	2018	2023	Follow-up local project plan under development by staff
Administrative Sites	No record	2013		
Yellowstone County	2008 - 2009	2014	2019	High Priority for inclusion in Activity-level Plans (TMA, SRMA, etc.)
Carbon County	2008-2010	2014	2019	High Priority for inclusion in Activity-level Plans (TMA, SRMA, etc.)
Musselshell County	2008	2013	2018	Medium Priority for Activity-level Plans (TMA, ACEC)
Golden Valley County	2008	2013		Low priority. No or limited public access to public lands
Stillwater County	2013	2018		Low Priority - No or limited public access to public lands
Wheatland County	Not done			Low Priority- No signs – no public

				access
Big Horn County, MT	Not done			Low Priority - No signs – no surface public lands
Big Horn County, WY	2008 -2010	2014	2019	Small amount of data – included with Carbon County

It intended that condition assessments be performed in conjunction with other assessments such as recreation sites, administrative sites, roads and trails, in an effort to increase efficiency and reduce the resources needed to perform similar actions within the same area.

Condition assessments will be performed to determine the condition and effectiveness of BLM signage. This includes evaluating the legibility, appearance, visibility, reflectivity, verification of location, condition of the sign support structure, and condition of the sign itself using the following condition ratings: Good, Deteriorated, Damaged, Missing/Down, Obsolete. The following information, at a minimum, should be collected while performing a sign condition assessment. The sign ID number (the unique identification number assigned within the sign data base for each sign), inspectors name and the date of inspection, the condition rating of the sign, and the condition rating of the sign support structure, and a current digital photo of the sign.

The following definitions of the Condition Ratings should assist in determining the condition of a sign.

Good – The sign may have experienced some weathering, but its lettering and symbols are legible. The sign is intact, with no holes or broken portions. It may need some cleaning to eliminate accumulated dirt and some minor touch up painting. No vegetation or other objects obscure the sign.

Deteriorated – The sign has been extensively impacted by weathering, requiring extensive cleaning and painting to restore it to its original condition. Lettering and symbols are just legible, and reflectivity is about half of what it was when the sign was installed new. Vegetation may also be starting to encroach on the sign. There may also be minor damage to the sign. These signs should be scheduled to be repaired or replaced; vegetation should also be cleared to restore visibility. Signs that are not able to be restored or repaired should be scheduled to be replaced.

Damaged – The sign is weathered to the point that its message is no longer legible. It has severe damage from holes or other vandalism. The sign may be repaired temporarily, but it should be replaced as soon as possible.

Missing/Down – The sign is either missing or damaged beyond repair. If a sign is still needed, a replacement sign should be ordered immediately.

Obsolete – The sign message is outdated or incorrect. Sign should be updated or removed as soon as possible.

If any action is taken on a sign, that action should be noted and the information added to that specific sign's record within the sign data base. This is to ensure the information contained within the data base is kept current. Actions include:

- 1.) Install, which is the initial placement and positioning of a sign.
- 2.) Inspect which is to view or examine officially, checking for structural integrity and whether the sign message is legible.
- 3.) Replace, which is the exchange of a sign with one that is identical to the sign that was originally placed.
- 4.) Repair, is the fixing or restoring of a sign to a good or sound condition, from a damaged or deteriorated condition.

## **Sign Categories**

Following the BLM Nationwide standards, BiFO signs are grouped into the following categories: identification signs; guide signs; informational signs; traffic control devices; regulatory, warning, and safety signs; and a miscellaneous group that includes temporary, specialty and special event signs. Each of these categories has its own requirements and functions. Messages should not be mixed on a single sign or in a grouping of signs if it leads to sign clutter.

- A. Identification Signs. Identification signs help to orient the visitor, project the presence and image of the BLM to the visitor, and identify important areas, facilities, and visitor amenities. These signs also provide public land visitors with a ready recognition of BLM facilities, projects, and services. Messages are primarily text and should be limited to key ideas and information. These signs should not contain any interpretation. If an area is cooperatively managed, an identification sign may display the names/logos of the other entities.

Identification signs must be the standard truncated shape, be recreation brown in color, and include the BLM emblem of proportional size.

- B. Administrative Signs. These signs are used to identify office buildings, field stations, such as Britton Springs visitor centers such as at Pompeys Pillar NM, etc., and must include a raised emblem.

All Administration signs must be the standard truncated shape, be recreation brown in color, and include the BLM emblem of proportional size.

- C. Feature Signs (Kiosks). The BiFO has a standard design and layout for Kiosks, which includes a map on the left side, resource information and regulations on the right, and contact numbers on the bottom. There is a brown banner along the top with the name of the site in the middle and a BLM logo and American Flag on either side. Kiosks are located only at high use areas, specifically at parking lots, trailheads, staging areas or entrance portals where vehicle pull-outs are available.

The Pompeys Pillar National Monument has its own but similar design and layout for its Kiosks.

- D. Area Signs. These signs designate the primary entrances to a popular land area, facility, or group of facilities. Area signs are located along primary access routes serving each area. This includes Pompey Pillar National Monuments, the South Hills Off-highway Vehicle (OHV) area, and the other BiFO Special Recreation Areas. The emblem may be raised on this type of sign, depending on the significance of the area.

These signs are recreation brown in color, and include the BLM emblem of proportional size.

- E. Guide Signs. Guide signs direct the visitor to a specific destination, such as facilities, projects, features, or points of interest. These signs will typically use arrows and distance indicators. These signs must be truncated in shape, be recreation brown, and contain the BLM emblem, unless a different shape is dictated by another jurisdictional agency such as a State highway department for a highway right-of-way. International symbols may be used when possible to provide supplemental information in a simple, concise manner. Directional signs will be located to provide the visitor adequate time to make a decision. Reassurance markers (route markers) may be placed along roads and trails, typically at the beginning, at the end, at intersections, or periodically along the route. The type of sign will vary depending on the project, such as large square Nez Perce NHT signs to brown fiberglass route markers along BLM designated roads and trails. As a general standard, the BiFO will use brown for direction, red or yellow for warning, and white for informational along travel routes.
- F. Informational/Interpretive/Regulatory Signs/Panels. Informational signs which provide limited educational opportunities and identify unique and unusual features as well as appropriate regulations. They enhance the public's awareness and appreciation of the public lands and waters. The BFO will use this type of sign at entrance portals and high destination area such as the Four Dances Natural Area/ACEC and Sundance Recreation Areas, Pompey Pillar NM, etc.

Specifically, the information should be based on a solid theme and central message.

Graphics, poetry, or other art forms may be used to illustrate the theme. Stories or descriptions of events unfolding should be used to teach concepts instead of identifying straight facts. Titles should use five words or less to identify the point or idea. Subtitles should be used to identify the theme and introduce text paragraphs. Appropriate colors reflecting the surrounding environment should be incorporated into the design. Letters should be at least 24 points in size. Entire text blocks should not be in all capital letters. Text should be written to convey a simple message. Graphics should be clear, easy to identify, and complement the text.

Regulatory signs should be legible and plainly displayed from any approach to a facility or feature, whether the visitor is on foot or in a vehicle. When appropriate, signs should be erected to assist in controlling authorized use, in deterring unauthorized entry and use, or in precluding accidental entry. The size, color, lettering, and the interval of posting must be appropriate for each situation.

The message on Regulatory Signs should be positive rather than prohibitive or negative, and should explain the reason for the restrictions to enhance the visitor's understanding. Signs should be rectangular, unless otherwise directed by a higher authority (MUTCD), and do not have to display the BLM emblem.

- G. **Accessibility.** These signs identify particular areas or facilities/programs that are universally accessible. There are four areas or facilities where the International Symbol of Accessibility (ISA) is required to be posted according to the two Federal Accessibility Standards (the Uniform Federal Accessibility Standards (UFAS) and the Americans with Disabilities Act Accessibility Guidelines (ADAAG)). The four areas/facilities requiring the ISA (ADAAG Section 4.1.2.(7)) are accessible parking spaces, accessible restrooms, accessible loading zone, and any accessible entrance to a building. The BiFO will mark and maintain these as the highest priority field office wide.
- H. **Miscellaneous Signs.** Temporary signs may be necessary at construction sites, fires, etc., and will be used only for specific periods of time. They are temporary, highlight special conditions or hazards, and may include seasonal messages or special precautions. They will be placed at appropriate high-visibility areas and removed when no longer necessary. Signs should be mounted appropriately and not fastened to trees or other natural features.

Signs used under emergency responses have no specific guidelines and will be designed and constructed as needed by the BiFO staff, with as much input and assistance from other affected parties as practical, given the circumstances.

The temporary use of banners and signs designating a special, one-time public event on the BLM public lands and waters is allowed. Although there are no specific guidelines, the National Sign Center may be contacted to design and create banners for special events, such as National Public Lands Day, National Trails Day, National Fishing and Boating Week, Great Outdoors Week, the Clark Days Commemoration, etc.

- I. General Purpose Signs. These are signs that are not specific to the BLM. Stop signs, speed limit and other traffic signs and Occupational Safety and Health (OSHA) signs are examples of signs that fall into this category.

OSHA signs must conform to the Occupational Safety and Health Standards (29 CFR 1910.145). BLM Staff are required to acquire them from Prison Industries or locally if not available and if permitted by the State Sign Coordinator.

Traffic signs have very stringent requirements and must be designed and installed in accordance with the Manual on Uniform Traffic Control Devices (MUTCD). These signs include any type of vehicular-related traffic control messages. Traffic control devices must be justified by legal warrants signed by a professionally registered engineer as specified in MUTCD.

## **Design Standards**

All Sign Standards set in the BLM Sign Manual (BLM MS-9130) will be followed. All sign standards set by the U.S. Department of Transportation will be followed, when applicable. If other agency standards apply, such as sign standards specific for the Nez Perce National Historic Trail, these will be adhered to, with a copy of the sign standards retained in the Sign Plan file for future reference.

## **Relationship to other Plans**

The Resource Management Plan (RMP) discusses in general terms the BiFO management strategy and direction. In its new draft RMP (2013), the BiFO travel management decisions are to designate a motorized and non-motorized route system. All non-designated but existing routes would be closed, possibly rehabbed, but not signed. Only designated routes would be signed as open. Specifics of implementation, including signing, brochures, and maps will be addressed in Activity-level Travel Management Plans. Special Recreation Management Areas (SRMAs) would also be addressed through Activity-level plans. ACECs may or may not have Activity-Level Plans.

## **Permits, Clearances, and Inventories**

Appropriate clearances such as Endangered Species Act (ESA), inventories for cultural resources, or National Environmental Policy Act (NEPA) documentation may be required. Prior to the BLM installing any sign, the appropriate jurisdictional agency must grant its permission. This may include the State Department of Transportation if the sign will be placed along a State highway, or the county road and bridge department if the sign will be installed along a county road. Encroachment Permits issued by the managing agency will be retained in the BiFO Sign Plan File.

When placing BLM signs on roads under other jurisdiction, BiFO staff should coordinate signing requirements with that agency. In those instances, staff should follow the placement and installation guidelines and standards of the agency with jurisdiction of the road.

## **Sign Placement**

Placement involves the horizontal positioning, vertical height, and location along the roadway where the sign is placed. The general standard for BiFO is to place all signs on the right-hand side of the traveled way as close to the standard location as is practical.

Consider the following guidelines when selecting sign placement locations:

1. Place signs where they provide adequate time for proper viewer response, considering factors such as speed, trail or road conditions, intermediate intersections, and road/trail geometry.
2. Select locations that minimize viewing obstructions. Some common placement locations to be avoided include:
  - Dips in the roadway or trail.
  - Just beyond the crest of a hill.
  - Where a sign could be obscured by other signs.
  - Where the sign may interfere with the normal operation of the facility.
  - Where there is increased need for drivers to focus on the roadway.
  - Too close to trees or other foliage that could grow to cover the sign face.
  - Snow removal areas.
  - Site location where a significant viewpoint is impaired

3. Erect signs individually on separate posts or mountings except where one sign supplements another, such as a warning sign with an advisory speed plaque, or where route markers and destination signs must be grouped.

All signs need to be visible to users in time for them to see the sign, perceive the message, react, and complete the necessary maneuver considering approach speeds and conditions.

Place regulatory signs at or near where their mandate or prohibition applies or begins.

Warning signs are normally placed in advance of the situation to which they call attention to allow adequate time for proper response.

Sign faces should be placed at approximately right angles to and directly facing traffic they are intended to serve. On curves, orient the sign to face the oncoming traffic—not the road edge.

## **Sign Priority**

Priorities for signing are listed below in order of importance:

1. Public health and safety.
2. Entrances to and boundaries of areas of national significance (e.g., Pompeys Pillar National Monument, Nez Perce and Lewis and Clark National Historic Trails, Wilderness Study Areas)—NLCS units and the PMWHR.
3. Special management areas (e.g., recreation sites, watchable wildlife sites, trails, back country byways, etc.).
4. Visitor enhancement and convenience.
5. Major concentrations of BLM-managed public lands and waters on major thoroughfares crossing large blocks of public lands.
6. Isolated or small parcels of public lands with no or limited access or use.
7. Conformance of existing signs to new standards, especially in high Priority Areas (see above)

## **Sign Ordering and Storage**

All signs will be ordered through appropriate administrative procedures described in other sections of this plan. The signs may be stored at sites throughout the FO prior to installation but individual programs are responsible for them. Any obsolete, damaged, or decayed signs which can be recycled should be brought to a central location designated by the Field Office Manager and disposed of from there on an annual basis, if necessary. Individual programs will be responsible for their own signs and funding. If several programs are involved, the programs will split the cost.

## **Sign Data Base**

The sign data base is intended to be on an electronic shared drive readily accessible to all BiFO staff members and as a paper file located in the Field Office. Any changes on the ground should be changed at the same time on this database and meet the standards as noted above (See “Sign Inventory” section). A new Form 9130-4, “Sign Inventory/Maintenance Form” will be filled out for each new or replacement sign, kiosk, or interpretive panel. At least once each fiscal year the Field Office Sign Coordinator shall imitate a field office-wide staff review of deteriorated, damaged or newly required signs.

## **Staff Responsibilities**

The following key positions are described, to better define duties and responsibilities, regarding sign maintenance.

**National Sign Center:** Establishes quality control, consistency, and standardization in all BLM signage. Identifies and recommends other public and private sources for the design and production of BLM signs. The Sign Center ensures that all materials produced are consistent with current laws, regulations, and policies. The Sign Center should produce all BLM signs and sign orders in a timely and cost-effective manner. The Sign Center provides expertise on design and materials when requested.

The National Sign Center in Rawlins, Wyoming, is the clearinghouse for all custom BLM signs. Safety and traffic signs should be ordered from the Federal Prison Industries (Unicor). The Sign Center will determine the most efficient cost-effective source whether it be in-house or contracting for the design and production of these signs. The Sign Center is available for assistance with special interpretative products.

**National Sign Coordinator:** Develops and maintains the BLM National Sign Program. Creates and develops program objectives. Develops current standards and evaluate procedures. The National Sign Coordinator provides program standards and specifications. The National Sign Coordinator approves the appropriate content on all BLM standard signs and has review and approval authority for all BLM signs not conforming to the established standards in the Sign Guidebook; Coordinates the numbering, printing, and issuing of all standard BLM signs. Coordinates and collaborates with all State Sign Coordinators in developing a National Sign Strategy and a National 5-Year Sign Maintenance Plan; Coordinates with all State Offices, program offices, State representatives, and Field Offices to achieve management goals. Has review and approval for all requests for alternative sources of design and production for all BLM signs. Coordinates and collaborates with the National Interpretive Lead on the design and production of interpretive waysides. Coordinates and collaborates with the National Accessibility Lead to ensure the design and production of all signs meet accessibility guidelines.

**State Sign Coordinator:** The State Sign Coordinator is responsible for producing and updating the State's 5-year sign plan and providing the data to the National Sign Coordinator. The State Sign Coordinator also provides guidance regarding sign maintenance issues and tracks overall sign maintenance needs identified within the statewide sign database. The State sign coordinator will be available to assist and provide guidance to Field Office staff.

**Field Office Sign Coordinator:** The Field Office Sign Coordinator is responsible for ensuring that the sign database inventory is complete and up to date. They are also responsible for creating and maintaining the Field Office's 5-Year Sign Plan and ensuring that maintenance, and replacement schedules for signs are performed on a regular basis and in an efficient manner. They coordinate with the Field Office personnel that can help and assist with sign maintenance such as equipment operators, recreation planners, and engineers. These are the "on the ground" personnel that keep the signage in good condition and looking professional.

## **Staff Input**

Prepared by (team members):

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Jared Bybee- State Lead Wild Horse and Burro and Rangeland Management Specialist

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Tom Carroll – Realty Specialist

Dustin Crowe – Rangeland Management Specialist

Don Galvin – Park Ranger

Paul Green – Equipment Operator

Jeff Herriford – Law Enforcement Officer

Irv Leach – Fire Management Officer

Ernie McKenzie – Wildlife Biologist/Fisheries and Riparian Specialist

Larry Padden – Natural Resources Specialist (Weeds)

Jay Parks – Wildlife Biologist

Carolyn Sherve-Bybee – Archeologist, RMP Planning Lead

Carmen Thomason – Fire Education and Mitigation Specialist

Kachmir Watt – Range Specialist

Jared Werning – Equipment Operator

## **References**

- Highway Safety Act of 1966 (as amended).
- Omnibus Public Land Management Act of 2009 (public Law 111-11)
- National Environmental Policy Act of 1969 (NEPA), as amended. 42 U.S.C, 4321 et seq.
- The Archaeological Resources Protection Act of 1979 (P.L. 96-95; 93 Stat. 721; 16 U.S.C. 470aa)
- The National Trails System Act of 1968, as amended, P.L. 90-543, P.L. 110-229 and 16 U.S.C. 1241-1251
- The Sikes Act, as amended, 16 U.S.C. 670a-670o and P.L. 90-465
- The Architectural Barriers Act of 1968, as amended, 42 U.S.C. 4151
- Executive Order 13195 (Trails for America in the 21st Century)
- Executive Orders 11644 (1972) and 11989 (1977) – Off Road Vehicle Management Policies
- BLM Travel and Transportation Manual (MS-1626)
- 42 U.S.C. 4332 – Cooperation of Agencies
- BLM Manual 1601 – Land Use Planning
- BLM Manual 9100 – Facilities Planning, Design, Construction, and Maintenance.
- BLM Manual 9130 – Sign Manual
- 43 CFR 2920 – Leases, Permits, and Easements
- 43 CFR 8342 – Off-Road Vehicles: Designation Procedures
- 43 CFR 8364 – Visitor Services: Closure and Restriction Orders
- BLM’s National Management Strategy for Motorized Off-highway Vehicle Use on Public Land (January 2001).
- National Mountain Bicycling Strategic Action Plan (BLM/WY/PL- 0303/001+1220).
- National Scenic and Historic Trails Strategy and Work Plan (BLM-WO-GI-06-020-6250).
- The BLM’s Priorities for Recreation and Visitor Services (Purple Book May 2003).

BLM's Unified Strategy to Implement —BLM's Priorities for Recreation and Visitor Services (January 2007).

Planning and Conducting Route Inventories (BLM Technical Reference 9113-1).

Roads and Trails Terminology, U.S. Department of the Interior, Bureau of Land Management, Washington DC, 20240 (Technical Note 422).

43 CFR 8341.2 or 8364.1. Temporary Closure or Restrictions.

## **Appendix D: Wildlife Resources**

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## Appendix D -Wildlife Resources

### D.1. Threatened and Endangered Species, Special Status Species Plants and Animals

Special status species include species listed, proposed for listing, or candidate species under the Endangered Species Act and sensitive species identified by the BLM

Species	USFWS Status	BLM Status
<b>Mammals</b>		
<i>White-tailed prairie dog</i>	None	Sensitive
<i>Black-tailed prairie dog</i>	None	Sensitive
<i>Black-footed ferret*</i>	Endangered	
<i>Gray wolf</i>	Threatened (experimental pop.)	
<i>Grizzly Bear</i>	Threatened	
<i>Canada Lynx</i>	Threatened	
<i>Wolverine</i>	Candidate	
<i>Townsend's big-eared bat</i>		Sensitive
<i>Spotted bat</i>		Sensitive
<i>Fringe-tailed myotis bat</i>		Sensitive
<i>Long-legged myotis bat</i>		Sensitive
<i>Long-eared myotis bat</i>		Sensitive
<i>Pallid bat</i>		Sensitive
<b>Birds</b>		
<i>Whooping crane</i>	Endangered	
<i>Mountain plover</i>	Proposed	Sensitive
<i>Greater sage-grouse</i>	Candidate	Sensitive
<i>BLM sensitive raptors (peregrine falcon, burrowing owl, ferruginous hawk, Swainson's hawk)</i>	None	Sensitive
<i>Migratory birds</i>	None	Sensitive
<b>Reptiles/Amphibians</b>		
<i>Greater short-horned lizard</i>		Sensitive
<i>Milk snake</i>		Sensitive
<i>Northern leopard frog</i>		Sensitive
<i>Spiny softshell turtle</i>		Sensitive
<i>Western hog-nosed snake</i>		Sensitive
<b>Fish</b>		
<i>Yellowstone Cutthroat Trout</i>		Sensitive
<i>Sauger</i>		

**Special Status Plants in the Billings Field Office Planning Area**

Common Name <sup>1</sup>	Scientific Name <sup>1</sup>	Global/State Status
Nodding rock cress	Arabis demissa v. languid (Boechera demissa)	G5S1S3
Cushion milkvetch	Astragalus aretioides (Orophaca aretioides)	G4S2
Geyer's milkvetch	Astragalus geeyeri	G4S2
Gray's milkvetch	Astragalus grayi	G4?S2
Oregon milkvetch	Astragalus oregonus	G4?S1
Blackfoot River evening-primrose	Camissonia andina (Oenothera andina)	G4S2
Lewis River suncup	Camissonia parvula (Oenothera parvula)	G5S1
Yellow spiderflower	Cleome lutea	G5S1
Pinyon Desert cryptantha	Cryptantha scoparia	G4S1
Spiny hopsage	Grayia spinosa	G5S2
Mat prickly phlox	Leptodactylon caespitosum	G4S2
Pryor Mountain bladderpod	Lesquerella lesicii (Physaria lesicii)	G1S1
Torrey's desert dandelion	Malacothrix torreyi (M. sonchoides v. torreyi)	G4S1
Dwarf mentzelia	Mentzelia pumila	G4S2
Leafy nama	Nama densum	G5S1
Wasatch bluegrass	Poa arnowiae (P. curta)	G4S1
Platte River cinquefoil	Potentilla platensis	G4S1
Largeflower goldenweed	Pyrrocoma carthamoides v. subsquarrosa (Haplopappus carthamoides var. subsquarrosus)	G4G5T2T3S2
Persistent sepal yellowcress	Rorippa calycina	G3S1
Shoshone carrot	Shoshonea pulvinata	G2G3S1
Salty buckwheat	Stenogonum salsuginosum (Eriogonum s.)	G4?S1
<p>The international network of Natural Heritage Programs employs a standardized ranking system to denote global (G) (range-wide) and State (S) (Nature-Serve 2006) status. Species are assigned numeric ranks ranging from 1 (highest risk, greatest concern) to 5 (demonstrably secure), reflection the relative degree of risk to the species' viability, based upon available information.</p> <p><b>G1 S1</b> At high risk because of extremely limited and/or rapidly declining numbers, range, and/or habitat, making it highly vulnerable to global extinction or extirpation in the state.</p> <p><b>G2 S2</b> At risk because of very limited and/or declining numbers, range, and/or habitat, making it vulnerable to global extinction or extirpation in the state.</p> <p><b>G3 S3</b> Potentially at risk because of limited and/or declining numbers, range, and/or habitat, even though it may be abundant in some areas.</p> <p><b>G4 S4</b> Uncommon but not rare (although it may be rare in parts of its range), and usually widespread. Apparently not vulnerable in most of its range, but possibly cause for long-term concern.</p> <p><b>G5 S5</b> Common, widespread, and abundant (although it may be rare in parts of its range). Not vulnerable in most of its range.</p> <p><b>Sub-rank</b></p> <p><b>T#</b> Rank of a subspecies or variety. Appended to the global rank of the full species, e.g. G4T3</p> <p>? Inexact Numeric Rank - Denotes uncertainty; inexactness.</p> <p><sup>1</sup>Species nomenclature consistent with the USDA PLANTS database (USDA 2009).</p>		

## D.2. US Fish and Wildlife Consultation Memorandum



### United States Department of the Interior Fish and Wildlife Service

Ecological Services  
Montana Field Office  
585 Shepard Way, Suite 1  
Helena, Montana 59601-6287  
Phone: (406) 449-5225 Fax: (406) 449-5339



File: M02 BLM

March 30, 2015

#### Memorandum

**To:** Jamie Connell, State Director, Bureau of Land Management, Montana/Dakotas State Office, Billings, Montana

**From:** *for* Jodi L. Bush, Field Supervisor, U.S. Fish and Wildlife Service, Montana Field Office, Helena, Montana

**Subject:** Updated List of Endangered, Threatened, Proposed, and Candidate Species

This is in response to your office's March 19, 2015 email request for updated information from the U.S. Fish and Wildlife Service (Service) regarding federally listed and proposed threatened and endangered species, candidate species, and critical habitat that may occur in the vicinity of the Lewistown, Billings and Pompey's Pillar National Monument, HiLine, and Miles City Field Office Resource Management Plan (RMP) Amendment / Revision and Environmental Impact Statement (EIS) planning areas in central and eastern Montana.

We understand the planning areas to include portions of the following counties:

- Lewistown RMP - Chouteau, Fergus, Judith Basin, Meagher, and Petroleum;
- Billings and Pompey's Pillar National Monument RMP - Big Horn, Carbon, Golden Valley, Musselshell, Stillwater, Sweet Grass, Wheatland, and Yellowstone;
- HiLine RMP - Glacier, Toole, Liberty, Hill, Blaine, Phillips, Valley, and Choteau;
- Miles City RMP - Carter, Powder River, Fallon, Custer, Rosebud, Wibaux, Prairie, Garfield, McCone, Dawson, Richland, Roosevelt, Sheridan, Daniels, Treasure, Valley, and Big Horn.

Our comments are provided as a cooperating agency pursuant to the National Environmental Policy Act (NEPA) and 40 Code of Federal Regulations Part 1500-1508, 43 C.F.R. 46.230, and as requested per the March 2012 Memorandum of Understanding (MOU) between BLM, the U.S. Fish and Wildlife Service (Service) and the U.S. Forest Service (USFS). These comments are authorized under the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531 et. seq.), and the Fish and Wildlife Coordination Act (16 U.S.C. 661 et seq.). In accordance with section 7(c) of the ESA, the Service has determined that the following listed species may be present in the subject planning area vicinities:

1

Species	Status <sup>1</sup>	Resource Management Plan Planning Areas			
		Billings and Pompey's Pillar National Monument	HiLine	Lewistown	Miles City
Black-footed Ferret ( <i>Mustela nigripes</i> )	LE/XN	x	x	x	x
Whooping Crane ( <i>Grus americana</i> )	LE		x		x
Least Tern ( <i>Sterna antillarum</i> )	LE		x		x
Pallid Sturgeon ( <i>Scaphirhynchus albus</i> )	LE		x	x	x
Grizzly Bear ( <i>Ursus arctos horribilis</i> )	LT	x	x		
Piping Plover ( <i>Charadrius melodus</i> )	LT CH		x		x
Canada Lynx ( <i>Lynx Canadensis</i> )	LT CH	x		x	
Red Knot ( <i>Calidris canutus rufa</i> )	LT	x	x		x
Northern Long-eared Bat ( <i>Myotis septentrionalis</i> )	P				x
Greater sage-grouse ( <i>Centrocercus urophasianus</i> )	C	x	x	x	x
Sprague's Pipit ( <i>Anthus spragueii</i> )	C	x	x	x	x
Whitebark Pine ( <i>Pinus albicaulis</i> )	C	x	x	x	

<sup>1</sup> LT = Listed Threatened; LE = Listed Endangered; P = Proposed Threatened or Endangered; CH = Critical Habitat; C = Candidate; XN = Experimental Non-Essential Population

The Service appreciates your efforts to incorporate fish and wildlife resource concerns, including threatened and endangered species, into your project planning. If you have questions or comments related to this issue, please contact Jeff Berglund at (406) 449-5225, extension 206.



United States Department of the Interior  
Fish and Wildlife Service



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January 11, 2010

**To:** Field Manager, Bureau of Land Management, Billings Field Office, Billings, MT

**From:** Field Supervisor, FWS, Ecological Services Field Office, Helena, MT

**Subject:** Threatened and Endangered Species List and Migratory Bird Input For Resource Management Plan Development

This is in response to your letter dated November 24, 2009 requesting information from the U.S. Fish and Wildlife Service (Service) on federally listed threatened and endangered species that may occur in the vicinity of Bureau of Land Management (BLM) administered lands in Big Horn, Carbon, Golden Valley, Musselshell, Stillwater, Sweet Grass, Wheatland, and Yellowstone Counties. We understand that BLM has initiated a revision of the Resource Management Plan (RMP) that guides management of BLM administered surface and mineral estate acres in these counties. Your request was received in this office on November 25, 2009.

Species that are currently listed as threatened, endangered, proposed or candidates for protection under the Endangered Species Act and the counties in which they occur include:

Common Name	Scientific Name	Status	Counties
Black-footed ferret	<i>Mustela nigripes</i>	E/XN	Big Horn, Carbon, Golden Valley, Musselshell, Stillwater, Sweet Grass, Wheatland, Yellowstone
Grizzly Bear	<i>Ursus arctos horribilis</i>	T	Carbon, Stillwater, Sweet Grass
Canada Lynx	<i>Lynx canadensis</i>	T, CH	Carbon, Stillwater, Sweet Grass
Whooping Crane	<i>Grus americana</i>	E	Yellowstone

E – endangered; T – threatened; CH – critical habitat; XN – non-essential experimental population

A number of species with potential habitat in central and southern Montana may become candidate or listed species within the next year. The species currently under consideration and the anticipated date of the release of the finding of whether listing is warranted are:

Greater Sage Grouse ( <i>Centrocercus urophasianus</i> )	Feb. 26, 2010
Northern Leopard Frog ( <i>Lithobates pipiens</i> )	July 1, 2010
Mountain Plover ( <i>Charadrius montanus</i> )	July 31, 2010
Sprague's Pipit ( <i>Anthus spragueii</i> )	Sept. 1, 2010
White-tailed Prairie Dog ( <i>Cynomys leucurus</i> )	June 1, 2010

This species list is valid for 90 days. If the RMP is not completed in that time, you may reconfirm the currently listed species for the project area at:

[http://www.fws.gov/montanafieldoffice/Endangered\\_Species/Listed\\_Species.html](http://www.fws.gov/montanafieldoffice/Endangered_Species/Listed_Species.html)

### Mountain Plover

At this time, we are providing additional information on the mountain plover. Mountain plover breeding and wintering habitats include grasslands, mixed grassland areas and short-grass prairie, shrub-steppe, plains, alkali flats, agricultural lands, cultivated lands, sod farms, and prairie dog towns. Plovers may nest on sites where vegetation is sparse or absent, or near closely cropped areas, manure piles or rocky areas. Mountain plovers are rarely found near water and show a preference for previously disturbed areas or modified habitat. In Montana, mountain plovers prefer active prairie dog towns.

On December 30, 1982, we designated the mountain plover as a category 2 candidate species, meaning that more information was necessary to determine whether the species status is declining, stable, or improving (47 FR 58458). In 1990, we prepared a status report on the mountain plover indicating that Federal listing may be warranted (Leachman and Osmundson 1990). We elevated the mountain plover to a category 1 candidate species in the November 15, 1994, Animal Candidate Notice of Review (59 FR 58982). At that time, category 1 candidate species were defined as those species for which we had sufficient information on biological vulnerability and threats to support issuance of a proposed rule to list. In 1996, we redefined candidate species and eliminated category 2 and 3 candidate designations (61 FR 64481). Candidate species were defined using the old category 1 definition. The mountain plover retained its candidate species designation as reported in the September 19, 1997, Review of Plant and Animal Taxa (62 FR 49398). On July 7, 1997, we received a petition to list the mountain plover as threatened from the Biodiversity Legal Foundation. The Service responded by notifying the petitioner that petitions for candidate species are considered second petitions, because candidate species are species for which we have already decided that listing may be warranted. Therefore, no 90-day finding was required for the Biodiversity Legal Foundation's petition. We published a proposed rule to list the mountain plover as threatened on February 16, 1999 (64 FR 7587). After gathering additional information, the Service published the Proposed rule again (67 FR 72396) with a 4(d) rule. We published a Not Warranted/Withdrawal

(68 FR 53083) on September 9, 2003. We were subsequently sued. The Service settled a lawsuit on the 2003 Not Warranted finding for mountain plover (68 FR 53083) by agreeing to submit a Federal Register notice reopening the proposal to list the mountain plover and providing for public comment by July 31, 2009. Upon the publication of this notice, the withdrawal of the proposed rule (68 FR 53083) from 2002 will be vacated, meaning that it will be back in effect and the plover will be a proposed species again. A final decision is due by May 1, 2011. The FR notice will allow an opportunity to provide new information to the public for review and comment, but won't be an analysis of the status of the species.

After July 31, 2010, the mountain plover will be a proposed species and therefore we will again be reviewing project impacts to this species under the Act. We strongly encourage the lead federal agency to develop protective measures, with an assurance of implementation should mountain plovers be found within the project areas. Although conferencing on species proposed for listing is only required when the proposed action is likely to jeopardize that species, development of protective measures through conferencing can expedite consultation requirements should the species be listed prior to the completion of the project/actions.

To minimize potential adverse impacts to plovers in sites planned for development, the Service recommends surveys for mountain plovers in all suitable habitat as well as avoidance of nesting areas from April 10 through July 10. Please refer to the Mountain Plover Survey Guidelines (March 2002), for information regarding surveys and protection stipulations. For instance, the Service recommends that if an active mountain plover nest site is found, project activities near the nest site should be delayed 37 days or 7 days post hatching. If a brood of flightless chicks is observed, activities should be delayed at least 7 days. Cessation of disturbance in occupied plover habitat during the breeding season will help to protect nests and flightless broods. While the Service believes that surveys and avoidance of nesting and brood rearing areas will reduce the chances of direct impacts to and mortality of individual mountain plovers within the area, we also recommend consideration of changes in habitat suitability and habitat loss during project planning. Measures to protect the mountain plover from further decline may include (1) avoidance of suitable habitat during the plover nesting season (April 10 through July 10), (2) prohibition of ground disturbing activities in prairie dog towns, and (3) prohibition of any permanent above ground structures that may provide perches for avian predators or deter plovers from using preferred habitat.

Until July 31, 2010, we encourage the Bureau and their applicants to continue providing protection for this species as it remains protected under the Migratory Bird Treaty Act (16 U.S.C. 703) and as a sensitive species under Bureau policy (Bureau Manual 6840.06 E. Sensitive Species).

There may be state species of concern in the vicinity of these sites and we recommend contacting the Montana Department of Fish, Wildlife and Parks at 1420 East Sixth Ave., P.O. Box 200701, Helena, MT 59620-0701, 406-444-2535 or the Montana Natural Heritage Program, 1515 East 6<sup>th</sup> Avenue, Box 201800, Helena, MT 59620-1800, 406-444-5354. Information for state species of concern, along with observation data for many plant and animal species

(including federally listed species), may be accessed via the Natural Heritage Tracker at:  
<http://mtnhp.org/Tracker/NHTMap.aspx>.

### Migratory Birds

All federal agencies have an obligation to protect and conserve the many species of migratory birds, including eagles and other raptors protected under the Migratory Bird Treaty Act (MBTA), Bald and Golden Eagle Protection Act, and Migratory Bird Executive Order 13186 (January 11, 2001). The MBTA, 16 U.S.C. 703, enacted in 1918, prohibits the taking of any migratory birds, their parts, nests, or eggs except as permitted by regulations and does not require intent to be proven. Section 703 of the MBTA states, "Unless and except as permitted by regulations ... it shall be unlawful at any time, by any means or in any manner, to ... take, capture, kill, attempt to take, capture, or kill, or possess ... any migratory bird, any part, nest, or eggs of any such bird..." The BGEPA, 16 U.S.C. 668, prohibits knowingly taking, or taking with wanton disregard for the consequences of an activity, any bald or golden eagles or their body parts, nests, or eggs, which includes collection, molestation, disturbance, or killing.

Under the MBTA (16 U.S.C. 703-712: Ch. 128 *as amended*) activities in grassland, wetland, stream, and woodland habitats, and those that occur on bridges (e.g., which may affect swallow nests on bridge girders) that would otherwise result in the taking of migratory birds, eggs, young, and/or active nests should be avoided.

Although the provisions of MBTA are applicable year-round, most migratory bird nesting activity in Montana occurs during the period of April 15 to July 15. However, some migratory birds are known to nest outside of the primary nesting season. For example, raptors can be expected to nest in woodland habitats during February 1 through July 15, whereas sedge wrens which occur in some wetland habitats normally nest from July 15 to September 10.

The 1988 amendment to the Fish and Wildlife Conservation Act mandates the USFWS to "identify species, subspecies, and populations of all migratory nongame birds that, without additional conservation actions, are likely to become candidates for listing under the Endangered Species Act of 1973." *Birds of Conservation Concern 2008 (BCC 2008)* is the most recent effort to carry out this mandate. The overall goal of this report is to accurately identify the migratory and non-migratory bird species (beyond those already designated as federally threatened, endangered or proposed) that represent our highest conservation priorities and draw attention to species in need of conservation action. Bird species that occur in Montana that are included in *Birds of Conservation Concern 2008* and may occur in your project area are listed at the end of this document as an appendix. A list of all birds protected under the MBTA can be found at: <http://www.fws.gov/migratorybirds/RegulationsPolicies/mbta/mbtandx.html>.

Migratory birds are of great ecological and economic value to this country and to other countries. The United States has recognized the critical importance of this shared resource by ratifying international, bilateral conventions for the conservation of migratory birds. Such conventions include the Convention for the Protection of Migratory Birds with Great Britain on

behalf of Canada 1916, the Convention for the Protection of Migratory Birds and Game Mammals-Mexico 1936, the Convention for the Protection of Birds and Their Environment - Japan 1972, and the Convention for the Conservation of Migratory Birds and Their Environment - Union of Soviet Socialist Republics 1978. These migratory bird conventions impose substantive obligations on the United States, and therefore the Corps, for the conservation of migratory birds and their habitats.

The Service appreciates your efforts to incorporate fish and wildlife resource concerns, including threatened and endangered species, into your project planning. If you have questions or comments related to this issue, please telephone Lou Hanebury at 406-247-7367.

#### Literature Cited

Leachman, B., and B. Osmundson. 1990. Status of the mountain plover. A literature review. U.S. Fish and Wildlife Service. Golden, Colorado. 83 pp.

Appendix I USFWS – Birds of Conservation Concern 2008 in Montana

American Bittern	<i>Botaurus lentiginosus</i>	Marbled Godwit	<i>Limosa fedoa</i>
Baird's Sparrow	<i>Ammodramus bairdii</i>	McCown's Longspur	<i>Calcarius mccownii</i>
Bald Eagle	<i>Haliaeetus leucocephalus</i>	Mountain Plover	<i>Charadrius montanus</i>
Black Rosy-Finch	<i>Leucosticte atrata</i>	Nelson's Sharp-tailed Sparrow	<i>Ammodramus nelsoni</i>
Black Swift	<i>Cypseloides niger</i>	Olive-sided Flycatcher	<i>Contopus cooperi</i>
Black Tern	<i>Chlidonias niger</i>	Peregrine Falcon	<i>Falco peregrinus</i>
Black-billed Cuckoo	<i>Coccyzus erythrophthalmus</i>	Pinyon Jay	<i>Gymnorhinus cyanocephalus</i>
Buff-breasted Sandpiper	<i>Tryngites subruficollis</i>	Prairie Falcon	<i>Falco mexicanus</i>
Burrowing Owl	<i>Athene cunicularia</i>	Red-headed Woodpecker	<i>Melanerpes erythrocephalus</i>
Calliope Hummingbird	<i>Stellula calliope</i>	Sage Sparrow	<i>Amphispiza belli</i>
Cassin's Finch	<i>Carpodacus cassinii</i>	Sage Thrasher	<i>Oreoscoptes montanus</i>
Chestnut-collared Longspur	<i>Calcarius ornatus</i>	Short-billed Dowitcher	<i>Limnodromus griseus</i>
Dickcissel	<i>Spiza maericana</i>	Short-eared Owl	<i>Asio flammeus</i>
Ferruginous Hawk	<i>Buteo regalis</i>	Smith's Longspur	<i>Calcarius pictus</i>
Flammulated Owl	<i>Otus flammeolus</i>	Solitary Sandpiper	<i>Tringa solitaria</i>
Golden Eagle	<i>Aquila chrysaetos</i>	Sprague's Pipit	<i>Anthus spragueii</i>
Grasshopper Sparrow	<i>Ammodramus savannarum</i>	Swainson's Hawk	<i>Buteo swainsoni</i>
Horned Grebe	<i>Podiceps auritus</i>	Upland Sandpiper	<i>Bartramia longicauda</i>
Hudsonian Godwit	<i>Limosa haemastica</i>	White-headed Woodpecker	<i>Picoides albolarvatus</i>
Least Bittern	<i>Ixobrychus exilis</i>	Williamson's Sapsucker	<i>Saphyrpicus thyroides</i>
Lewis's Woodpecker	<i>Melanerpes lewis</i>	Yellow Rail	<i>Coturnicops noveboracensis</i>
Loggerhead Shrike	<i>Lanius ludovicianus</i>	Yellow-billed Cuckoo	<i>Coccyzus americanus</i>
Long-billed Curlew	<i>Numenius americanus</i>		

The majority of birds on this list are Neotropical Migratory Species that inhabit eastern Montana. These birds are known or suspected to breed in Montana and spend their winter in the “neotropics” (Central and South America).

The 1988 amendment to the Fish and Wildlife Conservation Act (FWCA) of 1980 (Pub. L. 100-653, Title VIII) requires the Secretary of the Interior, through the U.S. Fish and Wildlife Service, to “identify species, subspecies, and populations of all migratory non-game birds that, without additional conservation actions, are likely to become candidates for listing under the Endangered Species Act (ESA) of 1973.” *Birds of Conservation Concern 2008* fulfills that mandate.

The species that appear in *Birds of Conservation Concern 2008* are deemed to be the highest priority for conservation actions. We anticipate that this document will be consulted by Federal agencies and their partners prior to undertaking cooperative research, monitoring, and management actions that might directly or indirectly affect migratory birds.

Our objective in publishing this list is to focus conservation attention on bird species of concern well in advance of a possible or plausible need to consider them for listing under the ESA. Inclusion on this list does not constitute a finding that listing under the ESA is warranted, or that substantial information exists to indicate that listing under the ESA may be warranted.

*Birds of Conservation Concern 2008* may be downloaded from Division of Migratory Bird Management’s World Wide Web page at <http://migratorybirds/fws.gov>.

### **D.3. SAMPLE Wildlife Monitoring and Protection Plan**

*The following document is a SAMPLE of the kind and type of measures that could be implemented in the event that the Billings Field Office was to receive a proposal for intensive development on public lands. This example was written specifically for coal bed natural gas development, but can be easily adapted to new types of development and site specific resources. The information is presented here to help guide future development proponents as to the level of detail that may be required. Many of the measures contained herein serve as examples of Conditions of Approval and future monitoring requirements.*

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## **Introduction**

This Wildlife Monitoring and Protection Plan (WMPP) has been revised and updated from the Statewide Oil and Gas Draft Environmental Impact Statement (DEIS) and Amendment of the Powder River and Billings Resource Management Plans (RMPs) (BLM, 2001) for the Final Billings RMP/ EIS. The DEIS and Amendment addressed future exploration and development of BLM and State of Montana managed CBNG resources and conventional oil and gas resources. The WMPP will be implemented on federal lands, including split estate, in cooperation with state agencies, federal agencies, operators, tribal representatives and landowners. If owners and managers of state and private mineral development are willing to incorporate this guidance into management of their activities, they may become a partner by entering into a Cooperative Agreement.

The goal of the WMPP is to avoid or minimize impacts to wildlife and serve as a communication tool to foster cooperative relationships among project proponents, the public, resource management agencies, landowners and adjacent tribal governments. Because this plan addresses a large geographic area composed of diverse wildlife habitats and unique situations, it must be programmatic in nature. However, the need to provide management recommendations and guidance to conserve species and habitats remains. Regional or site specific monitoring and protection plans which follow the guidance provided in this programmatic document will be required as part of each Project Plan. Implementation of this plan during the course of project development and operations should promote wildlife conservation and allow land managers and project personnel to maintain wildlife populations and productivity levels simultaneously with development. It also allows for adaptation of the project plan to ensure the protection of wildlife habitat and species affected.

## **Plan Purpose**

The WMPP was prepared to acquire baseline wildlife information, monitor populations, and assess stipulations or other protection measures for effectiveness. Wildlife stipulations attached to leases provide protective measures: 1) for certain species or habitats, 2) during a particular time period. These stipulations may not address other concerns related to special status species or water/habitat related issues caused by direct and indirect impacts from project development. Because it is purely speculative to predict how all wildlife will react or how development will proceed, it is difficult to develop prescriptive mitigation standards across the entire planning area. Although, BLM has some adaptive management strategies in place (e.g., COAs and compliance inspections), these mechanisms do not give us the information necessary to understand cause and effect relationships. Inventory and monitoring data will be used in adaptive management for improving wildlife management techniques and processes. Therefore, the purpose of this plan is to acquire baseline wildlife information, monitor populations, and assess the effectiveness of stipulations or other protective measures. The WMPP will facilitate our ability to pinpoint problems (including the evaluation of other contributing factors), design

project plans which include conservation for declining species, monitor the effectiveness of decisions, and make recommendations to adjust management to address specific situations.

Project Plans would be required in areas where multiple separate and distinct land disturbing activities may be taking place at different times on different schedules but under one plan. These areas would typically be larger scale and longer term project proposals with potentially significant resource impacts as determined through NEPA analysis. Smaller scale projects with minimal resource impacts would not require Project Plans.

## Area and Objectives

The WMPP document is the framework for wildlife monitoring and protection in the Billings RMP area and provides a template for regional and/or project specific WMPP development. The BLM, MFWP, and FWS will work cooperatively to implement portions of the WMPP over the planning area.

As energy or project development begins, development specific WMPPs, following the same template as this document, will be written in cooperation with other agencies, operators, landowners and other interests. The development analysis will include wildlife impacts from the affected area, and also the cumulative impacts from other developments (including those of other companies) as well as other activities in the area. The objectives of the program are to:

- Establish a framework for cooperation among agencies, operators, landowners, tribal governments and interest groups;
- Provide a process for data collection, data management and reporting;
- Determine needs for inventory, monitoring and protection measures;
- Provide guidance and recommendations for the conservation of wildlife species and habitats;
- Establish protocols for biological clearances or inventories of Special Status Species;
- Meet the terms and conditions of the Biological Opinion;
- Determine if management practices to conserve wildlife species and habitat in stipulations and conservation measures contained in the BLM Record of Decision, are meeting specified objectives;
- Develop recommendations to adjust management actions based on field observations and monitoring results.

Implementation of the WMPP will begin with the issuance of the *Record of Decision* and will remain in effect for the life of a project (up to 25 years). Guidance for the conservation of special status species will be incorporated into the Project Plan. Signatories on an Interagency Cooperative Agreement will serve as the “*Steering Committee (Interagency Working Group)*.” A “*Core Team*” (i.e., agency biologists) will oversee the implementation of the programmatic elements of the WMPP. As development is initiated, operator-funded biologists, approved by the BLM, will write area-specific monitoring and protection plans. These plans will be reviewed by the BLM resource specialists for completeness and content.

Initially, the programmatic template will undergo an annual review for effectiveness. A major review will be conducted every 5 years, or as determined by members of the *Core Team*,

*Wildlife, and Aquatic Task Groups.* The various cooperators will meet annually (or more often as needed) to evaluate the progress of the various POD inventory and monitoring efforts.

## **Implementation Protocol**

This section provides preliminary wildlife inventory, monitoring, and protection protocol. Required actions for inventory, monitoring and protection vary by species and development intensity. In development areas, Wildlife Reporting, Inventory, and Monitoring requirements are summarized in Table 1. Standard protocol for Survey and Protection Measures way (ROW) for the application of field reviews are provided in Table 2. Alternative measures and protocols will be developed as determined by *Core Team* members in response to specific needs identified in annual reports. This document provides methods for a number of wildlife species/categories. Additional species/categories may be added based on needs identified in annual wildlife reports. The wildlife species/categories for which specific inventory, monitoring, and protection procedures will be applied were developed based on input provided by the public, other agencies, and the BLM.

Considerable efforts will be required by agency and operator personnel for plan implementation. Many of the annually proposed agency data collection activities are consistent with current agency activities. Additionally, agency cost-sharing approaches will be considered such that public demands and statutory directives are achieved.

## **Annual Reports and Meetings**

State and federal agencies will cooperate to implement the programmatic elements of inventory, monitoring and protection actions associated with development in the Billings RMP area. The Montana participants in the Interagency Working Group will oversee implementation across the planning area and summarize information from work achieved in various PODs.

During project development (up to 25 years), to include habitat restoration or rehabilitation efforts, operators will annually provide an updated inventory and description of all existing project features (i.e., location, size, and associated level of human activity at each feature), as well as those tentatively proposed for development during the next 12 months. These data will be coupled with annual wildlife inventory, monitoring, and protection data obtained for the previous year and included in annual reports. Annual reports will be prepared by the BLM. Annual wildlife inventory, monitoring, and protection data gathered by parties other than the BLM (e.g., operators, MFWP) should provide data/summaries to the BLM using current format standards. Upon receipt of this information, annual reports will be completed in draft form by the BLM and submitted to the operators, FWS, MFWP, and other parties. A meeting of the *Core Team* will be organized by the BLM and held annually to discuss and modify, as necessary, proposed wildlife inventory, monitoring, and protection protocol for the subsequent year. Additional meetings will be scheduled as necessary.

Discussions regarding annual operator-specific financing and personnel requirements will occur at these meetings. A formula for determining these requirements will be developed at the first year's meeting (i.e., size of development, anticipated impacts, amount of public land, etc.). A protocol regarding how to accommodate previously unidentified development sites will also be

determined during the annual meeting. Final decisions will be made by the BLM based on the input of all affected parties.

A final annual report will be issued by BLM to all potentially affected individuals and groups by early February of each year. Annual reports will summarize annual wildlife inventory and monitoring results, note any trends across years, identify and assess protection measures implemented during past years, specify monitoring and protection measures proposed for the upcoming year, and recommend modifications to the existing WMPP based on the effectiveness and/or ineffectiveness of past years (i.e., identification of additional species/categories to be monitored). Where possible, data presented in reports will be used to identify potential correlations between development and wildlife productivity and/or abundance. The BLM will be the custodian of the data and stored in BLM's Geographic Information System (GIS) for retrieval and planning unless otherwise agreed to by BLM, MFWP and FWS. Raw data collected each year will be provided to other management agencies (e.g., FWS, MFWP) at the request of these agencies. In addition, sources of potential disturbance to wildlife will be identified, where practical (e.g., development activities, weather conditions, etc.). Inventory and monitoring data will be shared on a timely basis by all cooperating agencies.

Additional reports may be prepared in any year, as necessary, to comply with other relevant wildlife laws, rules, and regulations (e.g., black-footed ferret survey reports, mountain plover, sage-grouse lek counts and bald eagle habitat loss reports).

## **Annual Inventory and Monitoring**

This document outlines the inventory and monitoring protocol for a number of selected wildlife species/categories. Protocol will be unchanged except as authorized by the BLM or specified in this plan. Additional wildlife species/categories and associated surveys may be added or wildlife species/categories and surveys may be omitted in future years, depending on the results presented in the coordinated review of annual wildlife reports. MFWP will be contacted during the coordination of survey and other data acquisition phases. Opportunistic wildlife observations may be made throughout the year by agency and operator personnel.

The frequency of inventory and monitoring will be dependent upon the level of development. In general, inventory and monitoring frequency will increase with increased levels of development. The level of effort should also be determined by species presence and development projection. Inventory and monitoring results may lead to further currently unidentifiable studies (i.e., cause and effect). The following sections identify the level of effort required by the WMPP. Site and species-specific surveys will continue to be conducted in association with application or project field reviews.

### **Big Game**

Elk, mule deer, white-tailed deer, and pronghorn are the common big game species that may occur within parts or all of the project planning area. Annual big game seasonal habitat use data will be collected and made available to operators, Tribes and landowners. Big game use of

seasonal habitats is highly dependent upon a combination of environmental factors including terrain, forage quality and snow depth. Therefore, it is difficult to attribute changes in habitat use to a single factor. Comparisons in trends between big game seasonal habitat reference areas and seasonal habitats associated with project development may provide some insight into the response of big game to development.

## **General Wildlife**

Wildlife mortality from project related development or activities will be documented and reported to the BLM and FWS, and measures will be taken to prevent future mortality. If the mortalities are birds, they will be collected and kept for identification by someone with an appropriate salvage permit. Also, the facilities or activities would need to be “spot checked” by appropriate BLM or FWS personnel to ensure compliance. In no cases would operators or other workers be allowed to be in possession of migratory bird carcasses. Access roads and other roads with project-related traffic increases will be monitored for wildlife mortality so that specific mitigation can be designed and implemented as deemed necessary by BLM, in consultation with MFWP.

## **Aquatic Species**

Prior to development, baseline aquatic inventories will be conducted in potentially affected areas with operator financial assistance, in an effort to determine occurrence, abundance, and population diversity of the aquatic community. These inventories should be repeated as necessary in selected intermittent/perennial streams associated with produced water discharge, as well as selected intermittent/perennial streams associated with no produced water discharge (control sample site).

Natural fluctuations in species occurrence, abundance, and population diversity will be determined by comparing changes in control sample sites to baseline inventories. Changes in occurrence, abundance, and population diversity of the aquatic community in streams associated with produced water discharge may then be possible by comparing to the natural fluctuations.

Detection of a retraction in the range of a species, a downward trend in abundance, or reduced population diversity in systems with produced water discharge shall warrant a review of Project Plans and possible recommendations for adjustment of management to address the specific problems.

Aquatic groups to be inventoried and monitored will include:

- **Benthic macroinvertebrates** - Determine population diversity using Hess/kick net sampling protocol to measure species abundance and establish a diversity index.
- **Amphibians and aquatic reptiles** - Determine population diversity and abundance utilizing sampling methodologies being developed for prairie species.
- **Non-game fish** - Determine population diversity using electrofishing and seining.

- **Algae (periphyton)** – Determine population diversity.

## **Raptors**

Raptor inventories will be conducted in the project area every 5 years, with financial assistance being provided by proponents. In potentially affected areas, baseline inventory should be conducted by the BLM (with operator financial assistance) prior to the commencement of development, to determine the location of raptor nests/territories and their activity status. These inventories should be repeated every 5 years (in areas with 1 or less well locations/section) for the life of the project to monitor trends in habitat use. These surveys may be implemented aerially or from the ground. Operators may provide financial assistance for some work. Data collected during the surveys (both inventory and monitoring) will be recorded on BLM approved data sheets and entered into the BLM GIS database. BLM should be contacted prior to commencement of wildlife surveys to insure proper survey protocols are being utilized.

Nest productivity monitoring will be conducted by the BLM or a BLM-approved biologist. Active nests located within 1 mile of project-related disturbance areas will be monitored between March 1 and mid-July to determine nesting success (i.e., number of nestlings/fledglings per nest). These surveys generally will be conducted from the ground. However, some nests may be difficult to observe from the ground due to steep and rugged topography and may require aerial surveys. Operators may provide financial assistance for aircraft rental as necessary. Attempts will be made to determine the cause of any documented nest failure (e.g., abandonment, predation).

Additional raptor nest activity and productivity monitoring measures will be applied in areas with development (i.e., areas with greater than 1 well locations/section) on and within 1 mile of the project area. Inventory/monitoring efforts in these areas, as well as selected undeveloped reference areas will be conducted annually during April and May, followed by nest productivity monitoring. Site and species-specific nest inventories will also continue to be conducted as necessary in association with all application and project field reviews.

All raptor nest/productivity surveys will be conducted using procedures that minimize potential adverse effects to nesting raptors. Specific survey protocol for reducing detrimental effects are listed in Grier and Fyfe (1987) and Call (1978) and include the following:

- Nest visits will be delayed for as long as possible during the nesting season.
- Nests will be approached cautiously, and their status (i.e., number of nestling/fledglings) will be determined from a distance with binoculars or a spotting scope.
- Nests will be approached tangentially and in an obvious manner to avoid startling adults.
- Nests will not be visited during adverse weather conditions (e.g., extreme cold, precipitation events, windy periods, or during the hottest part of the day).
- Visits will be kept as brief as possible.
- Inventories will be coordinated by the BLM.
- The number of nest visits in any year will be kept to a minimum.

## Threatened, Endangered, Candidate, and Other Species of Concern

Operators must identify and map the presence of cottonwood riparian, herbaceous riparian or wet meadows, permanent water or wetlands, prairie dog towns, or rock outcrops, ridges or knolls on their application. The presence of sensitive habitat may not indicate a species is present. It does, however, alert the proponent and BLM that a field review and surveys may be required to process the permit or initiate action. The level of effort associated with the inventory and monitoring required for threatened, endangered, candidate, and other species of concern (TEC&SC) will be commensurate with established protocol for the potentially affected species. Methodologies and results of these surveys will be included in annual reports or provided in separate supplemental reports. As TEC&SC species are added to or withdrawn from FWS and/or BLM lists, appropriate modifications will be incorporated to this plan and specified in annual reports.

TEC&SC data collected during the surveys will be provided only as necessary to those requiring the data for specific management and/or project development needs. Site- and species-specific TEC&SC surveys will continue to be conducted as necessary in association with all APD and ROW application field reviews. Data will be collected on BLM approved data sheets and entered into the BLM GIS database.

### Ferruginous Hawk

Timing of surveys is very important in documenting the territory, occupancy, success and productivity of ferruginous hawk populations. The accepted survey and monitoring guidelines for ferruginous hawk are taken from the *Survey and Monitoring Guidelines for Ferruginous Hawks in Montana, 1995*.

### Bald Eagle

Inventory and monitoring protocol for the bald eagle will be as described for raptors, with the following additions.

- Operators will indicate the presence of eagle habitat (nesting, foraging, roosting, winter) as previously defined on their application.
- Prior to development or construction, surveys of the wooded riparian corridors within 1.0 mile of a project area will be conducted in the winter and/or spring by BLM biologists and/or BLM-approved biologists to determine the occurrence of winter bald eagle roost sites/territories.
- Surveys will be conducted from daybreak to 2 hours after sunrise and/or from 2 hours before sunset to 1 hour after sunset by fixed-wing aircraft. Follow-up ground surveys, if necessary, will be conducted during the same time frame.
- Surveys will be at least 7 days apart. The location, activity, number, and age class (immature, mature) of any bald eagles observed will be recorded.

- If a roost or suspected roost is identified, BLM, FWS, and MFWP will be notified and a GPS record of the roost/suspected roost will be obtained and entered into the BLM GIS database. There will be No Surface Occupancy within 0.5 miles of any identified bald eagle roost site/territories.
- Nest productivity will be conducted by the BLM or a BLM-approved biologist in areas with one or more well locations per section and within 1 mile of the project area.
- Active nests located within one mile of project-related disturbance areas (well sites, pipelines, roads, compressor stations, and other infrastructure) will be monitored on an annual basis between March 1 and mid-July to determine nesting success (i.e., number of nestlings/fledglings per nest).

## **Burrowing Owl**

Operators should indicate the presence of prairie dog towns on their application. The presence of sensitive habitat does not indicate burrowing owls are present. It does, however, alert the proponent and BLM that a field review and surveys may be required to process the permit or initiate action. In association with APD and ROW application field reviews, prairie dog colonies within 0.5 miles of a proposed project or any other suitable habitat within a 0.5 mile radius area, will be surveyed for western burrowing owls by BLM biologists or a BLM-approved operator-financed biologist twice yearly from June through August to determine the presence/absence of nesting owls. Efforts will be made to determine reproductive success (number of fledglings per nest).

## **Black-footed Ferret**

Operators should indicate the presence of prairie dog towns on their application. The presence of sensitive habitat does not necessarily indicate suitable black-footed ferret habitat is present. It does, however, alert the company and BLM that a field review and surveys may be required to process the permit or initiate action. BLM biologists and/or BLM-approved operator-financed biologists will determine the presence/absence of prairie dog colonies within 0.5 miles of proposed activity during APD and ROW application field reviews. Prairie dog colonies on the area will be mapped to determine overall size following the approved methodology. Colony acreage will be determined using GIS applications. Colonies that meet FWS size criteria as potential black-footed ferret habitat (FWS 1989) will be surveyed to determine active burrow density using the methods described by Biggins et al. (1993) or other BLM- and FWS-approved methodology.

Project activity will be located to avoid impacts to prairie dog colonies that meet FWS criteria as black-footed ferret habitat (FWS 1989). If avoidance is not possible, all colonies meeting the FWS size criteria and any colonies for which density estimates are not obtained will be surveyed for black-footed ferrets by an operator-financed, FWS-certified surveyor prior to, but no more than 1 year in advance of disturbance to these colonies. Black-footed ferret surveys will be conducted in accordance with FWS guidelines (FWS 1989) and will be conducted on a site-specific basis, depending on the areas proposed for disturbance in a given year as specified in the annual report. If a black-footed ferret or its sign is found during a survey, all development

activity would be subject to recommendations from the *Montana Black-footed Ferret Survey Guidelines, Draft Managing Oil and Gas Activities in Prairie Dog Ecosystems with Potential for Black-footed ferret Reintroduction* and re-initiation of Section 7 Consultation with FWS.

### **Black-tailed and White-tailed Prairie Dog**

The BLM will determine the acreage of occupied black-tailed and/or white-tailed prairie dog habitat within suitable mountain plover habitat on federally managed surface acres and federal mineral estate lands. Further, a reasonable effort should be made to estimate actual impacts, including habitat loss, project development will have on occupied black-tailed and white-tailed prairie dog acres within suitable mountain plover habitat over the entire project area.

Prairie dog towns on BLM lands within 0.5 miles of a specific project area will be identified, mapped, and surveyed as described in the black-footed ferret section. On an annual basis, the BLM and/or a BLM-approved operator-financed biologist will survey, at least a portion of, the prairie dog colonies, including the reference colonies. Prairie dog populations are subject to drastic population fluctuations primarily due to disease (plague). Therefore, efforts will be made to compare the data from the reference colonies with that obtained from the project areas, in order to monitor the response of prairie dog populations to project development.

### **Mountain Plover**

Surface use is prohibited within 1/4 mile of active mountain plover nest sites. Disturbance to prairie dog towns will be avoided where possible. Any active prairie dog town occupied by mountain plover will have Controlled Surface Use between April 1 and July 31, which may be reduced to Controlled Surface Use within 1/4 mile of an active nest, once nesting has been confirmed. An exception may be granted by the authorized officer after the BLM consults with the FWS on a case-by-case basis and the operator agrees to adhere to the new operational constraints.

On federally managed surface acres, black-tailed and white-tailed prairie dog towns greater than 80 acres in size within suitable mountain plover habitat will have a no surface use stipulation from May 1 through June 15. Prior to permit approval, habitat suitability will be determined. The BLM, FWS and MFWP will estimate potential mountain plover habitat across the project area using a predictive habitat model. Over the next 5 years, information will be refined by field validation using most current FWS mountain plover survey guidelines (FWS 2002c) to determine the presence/absence of potentially suitable mountain plover habitat. In areas of suitable mountain plover habitat, surveys will be conducted prior to ground disturbance activities by the BLM or a BLM-approved operator biologist, using the FWS protocol at the project area, plus a 0.5 mile buffer. Efforts will be made to identify mountain plover nesting areas not subject to development, to be used as reference sites. Comparisons will be made of the trends in mountain plover nesting occupancy between these reference areas and areas experiencing development.

The BLM shall monitor loss of mountain plover habitat associated with all portions of this action (operators will indicate the presence of prairie dog towns or other mountain plover habitat indicators on their application). Suitable mountain plover habitat has been defined under ‘critical

habitat' for the mountain plover in FWS' Statewide Biological Opinion. The actual measurement of disturbed habitat will be the responsibility of the BLM or their agent (consultant, contractor, etc) with a written summary provided to the FWS' Montana Field Office, upon project completion or immediately, if the anticipated impact area is exceeded.

## **Sage-Grouse**

Sage-grouse lek inventories will be conducted over the project area every 5 years to determine lek locations. Surveys of different areas may occur during different years with the intent the high potential project areas will be covered at least once every 5 years. Inventories and protocol will be consistent with the *Montana Sage Grouse Conservation Plan*, coordinated by the BLM and MFWP. In areas with development, aerial inventories will be conducted annually on affected sections, 3 mile buffers, and selected undeveloped reference areas. Surveys may be conducted aerially or on the ground, as deemed appropriate by the BLM and MFWP. Operator may provide financial assistance.

Reference leks, identified by BLM and MFWP, are leks located in similar habitat and within close proximity to areas currently being developed.

Aerial surveys will be used for determining lek locations. BLM, MFWP or a BLM-approved operator-financed biologist will monitor sage-grouse lek attendance within 3 miles of areas having development such that all leks on these areas are surveyed at least once every 3 years. Data collected during these surveys will be recorded on BLM and MFWP approved data sheets and entered into the approved database. An effort should also be made to compare trends of the number of males per lek to reference leks.

Sage-grouse winter use surveys of suitable winter habitat within 4 miles of a project area will be coordinated by the BLM and implemented during November through February as deemed appropriate by these agencies. Results will be provided in interim and/or annual reports. Historical information of winter sage-grouse locations will be useful in focusing efforts in areas suspected of providing winter habitat. Sage-grouse winter habitat use surveys will be conducted when suitable conditions exist.

## **Protection Measures**

Wildlife protection measures have been put in place through lease stipulations and project design. Stipulations or mitigation that will be approved in the Final Billings RMP/EIS restrict activities are designed to reduce the likelihood of "take" of a federally listed species. For all stipulations and mitigation measures that include protection of specific habitats (e.g., sage-grouse winter habitat), identification of the specific habitat areas will be based on the best available science. This may include BLM surveys or information from other sources. For example, researchers have developed sage-grouse habitat models that should provide better information on sage-grouse habitat areas than is currently available.

## Lease Stipulations and Mitigation Measures

The lease stipulations will be approved in the Final Billings RMP/EIS. These are mandatory measures or actions developed as a result of wildlife research and input from agencies and operators. Avoidance of important breeding, nesting, and seasonal habitats is the primary protection measure that will reduce the possibility of development having an impact on wildlife populations, productivity, or habitat use. Additional conservation measures will be incorporated through the Project Plan design or as Conditions of Approval. Data collected during monitoring efforts and analyzed will be used to determine the appropriateness and the effectiveness of these measures throughout the project area. Based on the results of the monitoring data, these measures will be reviewed by the *Core Team*. As monitoring data are collected over time, it is likely some protection measures will be added, while others will be modified or removed in cooperation with other agencies and the *Core Team*. All changes in these protection measures will be reported, with a justification for the change, in annual reports. An RMP amendment may be required depending on the recommended change.

## Waivers, Exceptions and Modifications (WEMs)

**“Waivers”** A lease stipulation may be waived by the Authorized Officer if a determination is made by the BLM, in consultation with MFWP and/or FWS, that the proposed action will not adversely affect the species in question.

**“Exceptions”** to protection measure may be granted by the Authorized Officer, in coordination with FWS for T&E species and MFWP, if the operator submits a plan that demonstrates impacts from the proposed action will not be significant, or can be adequately mitigated.

**“Modifications”** may be made by the Authorized Officer if it is determined portions of the area do not include habitat protected by the stipulation.

Stipulations will be developed and approved for the following species through the Billings RMP process: Raptors, Bald Eagle, Peregrine Falcon, Big Game, Sage-Grouse, Sharp-tailed grouse, Prairie dogs, Mountain Plover, Sprague’s Pipit and associated black-footed ferret habitat, waterbird colonies, and Yellowstone cutthroat trout.

## Terms and Conditions from Section 7 Consultation

In order to be exempt from the prohibitions of Section 9 of the ESA, the Bureau must comply with the following terms and conditions, which will implement the reasonable and prudent measures described and outlined in the Biological Opinion. **These terms and conditions are nondiscretionary.**

### All Species

In the event, dead or injured wildlife species are located during construction and operation, the FWS, Montana Field Office, Helena, Montana (406-449-5225) will be notified within 24 hours. If the mortalities are birds, they will be collected and kept for identification by someone with an appropriate salvage permit. Also, the project areas would need to be “spot checked” by

appropriate BLM or FWS personnel to insure compliance. In no cases would operators or other workers be allowed to be in possession of migratory bird carcasses. The responsible agency must provide for monitoring the actual number of individuals taken. Because of difficulty in identification, all small birds found dead should be stored in a freezer for the FWS to identify.

The Bureau shall monitor all loss of TEC&SC habitat associated with all actions. TEC&SC habitat will be defined under “habitat use” and “critical habitat” respectively, for each species in the Biological Opinion. The actual measurement of disturbed habitat can be the responsibility of the BLM or their agent (consultant, contractor, etc.), with a written summary provided to the FWS’ Montana Field Office upon project completion. The report will include the location and acres of habitat loss, field survey reports, what stipulations were applied, and a record of any variance granted to timing and/or spatial buffers. The monitoring of habitat loss for these species will commence from the date the Record of Decision (ROD) is signed. The actual measurement of disturbed habitat can be the responsibility of the Bureau’s agent (consultant, contractor, etc.) with a written summary provided to the FWS’ Montana Field Office semi-annually, or immediately if the Bureau determines the action (*i.e.* APD, pipeline, compressor station) will adversely affect a listed species. It is the responsibility of the Bureau to ensure the semi-annual reports are complete and filed with the FWS in a timely manner. The semi-annual report will include field survey reports for endangered, threatened, proposed and candidate species for all actions. The semi-annual reports will include all actions completed under this Biological Opinion up to 30 days prior to the reporting date. The first report will be due 6 months from the signing of the ROD and on the anniversary date of the signing of the ROD. Reporting will continue for the life of the project.

All new roads required for the proposed project will be appropriately constructed, improved, maintained, and signed to minimize potential wildlife/vehicle collisions. Appropriate speed limits will be adhered to on all project area roads, and operators will advise employees and contractors regarding these speed limits.

## **Bald Eagle**

The Bureau shall require implementation of all conservation measures/mitigation measures identified in the Biological Assessment and the Biological Opinion, including the wildlife inventory, monitoring, and protection protocol identified in the WMPP. The Bureau shall monitor for compliance with the measures and protocol. They are as follows:

- The appropriate standard seasonal or year-long stipulations for raptors or no surface occupancy for bald eagles as identified in the Final Billings RMP will be applied.
- Inventory and monitoring protocol for the bald eagle will be as described for raptors, with the following additions. Operators will indicate the presence of eagle habitat as previously defined, on their application. Prior to development or construction, surveys of the wooded riparian corridors within 1.0 mile of a project area will be conducted in the winter and/or spring by BLM biologists and/or BLM-approved biologists to determine the occurrence of winter bald eagle roosts. Surveys will be conducted from daybreak to 2 hours after sunrise and/or from 2 hours before sunset to 1 hour after sunset by aircraft. Follow-up ground surveys, if necessary, will be conducted during the same time frame. Surveys will be at least 7 days apart. The

location, activity, number, and age class (immature, mature) of any bald eagles observed will be recorded and if a roost or suspected roost is identified, BLM, FWS, and MFWP will be notified and a GPS record of the roost/suspected roost will be entered into the approved database. No Surface Occupancy will be applied within 0.5 miles of any identified bald eagle roost sites.

- Nest productivity will be conducted by the BLM or a BLM approved biologist in areas with development (i.e., areas with greater than 1 well locations/section) and within 1 mile of the project area. Active nests located within one mile of project-related disturbance areas will be monitored between March 1 and mid-July to determine nesting success (i.e., number of nestlings/fledglings per nest).
- No new above-ground power line should be constructed within ½ mile of an active eagle nest or nest occupied within the recent past. No surface occupancy or use is allowed within 0.5 miles of known bald eagle nest sites which have been active within the past 5 years. All other actions will be consistent with the *Montana Bald Eagle Management Plan - July 1994*.
- Power lines will be built to standards identified by the Power Line Interaction Committee (2006) to minimize electrocution potential. The FWS has more specific recommendations that reaffirm and complement those presented in the *Suggested Practices*. It should be noted these measures vary in their effectiveness to minimize mortality, and may be modified as they are tested. Local habitat conditions should be considered in their use. The FWS does not endorse any specific product that can be used to prevent and/or minimize mortality; however, we are providing a list of Major Manufacturers of Products to Reduce Animal Interactions on Electrical Utility Facilities.

### **New Distribution Lines and Facilities**

- The following represents areas where the raptor protection measures will be applied when designing new distribution line construction:
- Bury distribution lines where feasible.
- Raptor-safe structures (e.g., with increased conductor-conductor spacing) are to be used (i.e., minimum 60" for bald eagles would cover all species).
- Equipment installations (overhead service transformers, capacitors, reclosers, etc.) are to be made raptor safe (e.g., by insulating the bushing conductor terminations and by using covered jumper conductors).
- Jumper conductor installations (e.g., corner, tap structures, etc.) are to be made raptor safe by using covered jumpers or providing adequate separation.
- Employ covers for arrestors and cutouts.
- Lines should avoid high avian use areas such as wetlands, prairie dog towns, and grouse leks. If not avoidable, use anti-perching devices to discourage perching in sensitive habitats such as grouse leks, prairie dog towns and wetlands to decrease predation and decrease loss of avian predators to electrocution.

## Modification of Existing Facilities

Raptor protection measures to be applied when retrofitting existing distribution lines in an effort to reduce raptor mortality. Problem structures may include dead ends, tap or junction poles, transformers, reclosers and capacitor banks or other structures with less than 60" between conductors or a conductor and ground. The following modifications will be made:

- Cover exposed jumpers.
- Gap any pole top ground wires.
- Isolate grounded guy wires by installing insulating link.
- On transformers, install insulated bushing covers, covered jumpers, cutout covers and arrestor covers.
- When raptor mortalities occur on existing lines and structures, raptor protection measures are to be applied (e.g., modify for raptor-safe construction, install perches, perching deterrents, nesting platforms, nest deterrent devices, etc).
- Use anti-perching devices to discourage perching in sensitive habitats such as grouse leks, prairie dog towns and wetlands to decrease predation, and decrease loss of avian predators to electrocution.
- In areas where midspan collisions are a problem, install effective line-marking devices. All transmission lines that span streams and rivers or in known or discovered raptor migration areas, should maintain proper spacing and have markers installed.
- These additional standards to minimize migratory bird mortalities associated with utility transmission lines will be incorporated into the Terms and Conditions for all APDs and stipulations for ROW applications.

## Mountain Plover

The Bureau shall require implementation of the conservation measures for mountain plover as identified in the Biological Assessment dated October 2006, and the wildlife inventory, monitoring, and protection protocol addressed in the *WMPP*. The Bureau shall monitor for compliance with the measures and protocol. They are as follows:

- Surface use is prohibited within 1/4 mile of active mountain plover nest sites. Disturbance to prairie dog towns will be avoided where possible. Any active prairie dog town occupied by mountain plovers will have a Controlled Surface Use stipulation applied between April 1 and July 31. This area may be reduced to No Surface Use within 1/4 mile of an active nest once nesting has been confirmed. An exception may be granted by the authorized officer after the BLM consults with the FWS and the operator agrees to adhere to the new operational constraints.
- Due to the declining status of mountain plover in the analysis area and the need to retain the most important and limited nesting habitat, all active prairie dog colonies on federal surface within suitable mountain plover habitat will have No Surface Occupancy applied. This No Surface Occupancy may be modified through an amendment to the biological opinion after analysis of impacts to this preferred nesting habitat is completed.

- BLM will determine the acreage of occupied black-tailed and white-tailed prairie dog habitat within suitable mountain plover habitat on federally managed surface and mineral estate lands. Further, a reasonable effort should be made to estimate the actual impacts, including habitat loss, development will have on occupied black-tailed and white-tailed prairie dog acres within suitable mountain plover habitat over the entire project area. The BLM, FWS, and cooperators will develop a survey protocol that may include prioritization of subsets of the project area to be analyzed. Based on the results of such analysis, No Surface Occupancy on active prairie dog habitat within suitable mountain plover habitat may be modified utilizing an amendment to the biological opinion.
- Prior to permit approval, habitat suitability will be determined. The BLM, FWS or MFWP will estimate potential mountain plover habitat across the project area using a predictive habitat model. Over the next 5 years, information will be refined by field validation using most current FWS mountain plover survey guidelines (FWS 2002c) to determine the presence/absence of potentially suitable mountain plover habitat. In areas of suitable mountain plover habitat, surveys will be conducted prior to ground disturbance activities by the BLM or a BLM-approved biologist using the FWS protocol at a specific project area plus a 0.5 mile buffer. Efforts will be made to identify mountain plover nesting areas not subject to development as reference sites. Comparisons will be made of the trends in mountain plover nesting occupancy between these reference areas and areas experiencing project development.
- BLM shall monitor all loss of mountain plover habitat associated with this action (operators will indicate the presence of prairie dog towns or other mountain plover habitat indicators on their application). Suitable mountain plover habitat has been defined under 'critical habitat' for the mountain plover in the Biological Opinion. The actual measurement of disturbed habitat can be the responsibility of the BLM, its agent (consultant, contractor, etc) with a written summary provided to the FWS' Montana Field Office upon completion or immediately if the anticipated impact area is exceeded relative to the estimated surface disturbances defined in the SEIS.
- If suitable mountain plover habitat is present, surveys for nesting mountain plovers will be conducted prior to ground disturbance activities, if ground disturbing activities are anticipated to occur between April 10 and July 10. Disturbance occurring outside this period is permitted, but any loss of mountain plover suitable habitat must be documented. Sites must be surveyed 3 times between the April 10 and July 10 period, with each survey separated by at least 14 days. The earlier date will facilitate detection of early-breeding plovers. A disturbance-free buffer zone of 1/4 mile will be established around all mountain plover nesting locations between April 1 and July 31. If an active nest is found in the survey area, the planned activity should be delayed 37 days, or seven days post-hatching. If a brood of flightless chicks is observed, activities should be delayed at least seven days (FWS 2002). Exceptions and/or waiver to stipulations can be made by the BLM through consultation with the FWS.

- Roads will be located outside of nesting plover habitat where possible. Apply mitigation measures to reduce mountain plover mortality caused by increased vehicle traffic. Construct speed bumps, use signing or post speed limits as necessary to reduce vehicle speeds near mountain plover habitat.
- Creation of hunting perches will be minimized within ½ mile of occupied nesting areas. Utilize perch inhibitors (perch guards) to deter predator use.
- Native seed mixes will be used to re-establish short grass vegetation during reclamation.
- There will be No Surface Occupancy of ancillary facilities (e.g., compressor stations, processing plants) within 1/4 mile of known nesting areas. Variance may be granted after consultation with the FWS.
- In habitat known to be occupied by mountain plover, no dogs will be permitted at work sites to reduce the potential for harassment of plovers.
- The FWS will provide operators and the BLM with educational material illustrating and describing the mountain plover, its habitat needs, life history, threats, and development activities that may lead to incidental take of eggs, chicks, or adults. This information will be required to be posted in common areas and circulated in a memorandum among all employees and service providers.

## **Programmatic Guidance for the Development of Project Plans**

Guidance for developing Project Plans and/or conservation measures applied as COAs provide a full range of practicable means to avoid or minimize harm to wildlife species or their habitats. Operators will minimize impacts to wildlife by incorporating applicable WMPP programmatic guidance into project plans. Not all measures may apply to each site-specific development area and means to reduce harm are not limited to those identified in the WMPP. This guidance may change over time if new conservation strategies become available for Special Status Species or if monitoring indicates the measure is not effective or unnecessary.

BLM and MFWP will work together to collect baseline information about wildlife and sensitive habitats possibly containing special status species. During the project development phase, operators will identify potentially sensitive habitats and coordinate with BLM to determine which species or habitats are of concern within or adjacent to the project area. In areas where required site-specific wildlife inventories have not been completed, operators and BLM will work cooperatively to achieve this. BLM's responsibilities under NEPA and ESA essentially are the same on split estate as they are with federal surface. BLM and operators will seek input from the private surface owner to include conservation measures in split estate situations.

The following guidance and conservation measures are considered "features" or project "design criteria" to be used during Project Plan preparation. The design of projects can incorporate conservation needs for wildlife species or measures can be added as COAs. These types of

conservation actions offer flexibility for local situations and help minimize or eliminate impacts to the species of interest.

1. Use the best available information for siting structures (e.g., storage facilities, generators and holding tanks) outside the zone of impact in important wildlife breeding, brood-rearing and winter habitat based on the following considerations:
  - a. size of the structure(s),
  - b. level/type of anticipated disturbance
  - c. life of the operation, and
  - d. extent to which impacts would be minimized by topography.
2. Concentrate energy-related facilities when practicable.
3. Encourage development in incremental stages to stagger disturbance; design schedules that include long-term strategies to localize disturbance and recovery within established zones over a staggered time frame.
4. Prioritize areas relative to their need for protection, ranging from complete protection to moderate to high levels of energy development.
5. Develop a comprehensive Project Plan for a single activities in one area or for multiple activities in one or several areas, to minimize road densities. Project Plans would be required in areas where multiple separate and distinct land disturbing activities may be taking place at different times on different schedules but under one plan. Also, these areas would typically be larger scale and longer term project proposals with potentially significant resource impacts as determined through NEPA analysis. Smaller scale projects with minimal resource impacts would not require Project Plans.
6. To reduce additional surface disturbance, existing roads and two-tracks on and adjacent to the project area will be used to the extent possible and will be upgraded as necessary.
7. Minimize stream channel disturbances and related sediment problems during construction of road and installation of stream crossing structures. Do not place erodible material into stream channels. Remove stockpiled material from high water zones. Locate temporary construction bypass roads in locations where the stream course will have minimal disturbance. Time construction activities to protect fisheries and water quality.
8. Design stream-crossings for adequate passage of fish (if potential exists). Minimize impacts on water quality and, at a minimum, the 25-year frequency runoff. Consider oversized pipe when debris loading may pose problems. Ensure sizing provides adequate length to allow for depth of road fill.
9. Use corridors to the maximum extent possible: roads, power, gas and water lines should use the same corridor whenever possible.

10. Avoid, where possible, locating roads in crucial sage-grouse breeding, nesting and wintering areas and mountain plover habitats. Develop roads utilizing topography, vegetative cover, site distance, etc. to effectively protect identified wildlife habitats.
11. Conduct all road and stream crossing construction and maintenance activities in accordance with agency approved mitigation measures and BMPs.
12. Utilize remote monitoring technologies whenever possible to reduce site visits thereby reducing wildlife disturbance and mortalities.
13. All new roads required for the proposed project will be appropriately constructed, improved, maintained, and signed to minimize potential wildlife/vehicle collisions and facilitate wildlife movement through the project area. Appropriate speed limits will be adhered to on all project area roads, and operators will advise employees and contractors regarding these speed limits.
14. Road closures may be implemented during crucial periods (e.g., extreme winter conditions, and calving/fawning seasons). Personnel will be advised to minimize stopping and exiting their vehicles in big game winter range.
15. Roads no longer required for operations or other uses will be reclaimed if required by the surface owner or surface management agency. Reclamation will be conducted as soon as practical.
16. Operator personnel and contractors will use existing state and county roads and approved access routes, unless an exception is authorized by the surface management agency.
17. Use minimal surface disturbance to install roads and pipelines. Reclaim sites of abandoned wells to restore native plant communities.
18. Reclamation of disturbed areas will be initiated as soon as practical. Native species will be used in the reclamation of important wildlife habitat. Wildlife habitat needs will be considered during seed mix formulation.
19. Locate storage facilities, generators, and holding tanks outside the line of sight and sound of important sage-grouse breeding habitat.
20. Minimize ground disturbance in sagebrush stands with documented use by sage-grouse:
  - a. breeding habitat – the lek and associated sagebrush;
  - b. nesting habitat – sagebrush within 4 miles of a lek; and
  - c. wintering habitat – sagebrush with documented winter use by sage-grouse.
21. Site new power lines and pipelines in disturbed areas wherever possible; remove overhead powerlines when use is complete.

22. Minimize the number of new overhead power lines in sage-grouse or mountain plover habitat. Use the best available information for siting powerlines in important sage-grouse breeding, brood-rearing, and winter habitat. Bury lines in sage-grouse and mountain plover habitat, when feasible.
23. Restrict timing for powerline installation to prevent disturbance during critical sage-grouse periods (breeding March 1 – June 15; winter December 1 –March 31).
24. If above ground powerline siting is required within 2 miles of important sage-grouse breeding, brood-rearing, and winter habitat, emphasize options for preventing raptor perch sites utilizing Avian Powerline Action Committee 2006 guidelines.
25. Encourage monitoring of avian mortalities by entering into a Memorandum of Understanding with FWS and the state agencies to establish procedures and policies to be employed by the parties to lessen industry’s liability concerns about the “take” of migratory birds.
26. Remove unneeded structures and associated infrastructure when project is completed.
27. Restrict maintenance and related activities in sage-grouse breeding/nesting complexes; 15 March -15 June, between the hours of 4:00-8:00 am and 7:00-10:00 pm.
28. Restrict noise levels from production facilities to 50 decibels (10 dBa above background noise at the lek).
29. Restrict use of heavy equipment that exceeds 50 dBa within 2 miles of a lek from 4-8am and 7-10pm during April 1 – June 30.
30. Protect, to the extent possible, natural springs from disturbance or degradation.
31. Design and manage produced water storage impoundments so as not to degrade or inundate sage-grouse leks, nesting sites and wintering sites, prairie dog towns or other Special Status Species habitats.
32. Produced water should not be stored in shallow, closed impoundments or playas. Impoundments designed as flow through systems will lessen the likelihood selenium will bio-accumulate to levels adversely affecting other wildlife.
33. Develop offsite mitigation strategies in situations where fragmentation or degradation of Special Status Species habitat is unavoidable.
34. Protect reserve, workover, and production pits potentially hazardous to wildlife by netting and/or fencing as directed by the BLM to prevent wildlife access and minimize the potential for migratory bird mortality.

35. Reduce potential increases in poaching through employee and contractor education regarding wildlife laws. Operators should report violations to BLM and MFWP.
36. Operator employees and their contractors will be discouraged from possessing firearms while working.

**Table 1. Summary of General Wildlife Reporting, Inventory, and Monitoring, Billings Resource Management Plan**

<b>Action</b>	<b>Dates</b>	<b>Responsible Entity</b>
Project plans for outcoming years, showing general location of proposed development	Annually	Team (BLM, FWS, MFWP, operators)
Annual reports summarizing findings and presenting necessary protection measures	Annually	BLM with reviews MFWP, FWS, operators, and other interested parties
Meeting to finalize future year’s inventory, monitoring, and protection measures	Annually	BLM with participation by FWS, MFWP, operators, and other interested parties
<b>Inventory and Monitoring</b>		
Big game use monitoring	When Applicable	BLM with assistance
Determine mountain plover habitat suitability	Prior to permit approval	BLM & operator assistance
In areas of suitable mountain plover habitat, conduct nest surveys in project area, plus a .5 mile buffer	Prior to ground disturbing activities	BLM & operator assistance
In areas of suitable mountain plover habitat, map active black-tailed prairie dog colonies on federal mineral estate.	Prior to permit approval	BLM & operator assistance
Active prairie dog colonies within .5 mile of a specific project area will be identified, mapped and surveyed	Prior to permit approval	BLM with operator assistance
Raptor nest inventories (POD areas plus 1 mile buffer; burrowing owls excluded)	Every 5 years during April and May but prior to permit approval	BLM with operator assistance
In areas with potential bald eagle winter roost sites/territories, conduct surveys within one mile of project area	Prior to ground disturbing activities	BLM & operator assistance
Conduct bald eagle nest inventories within one mile buffer of project area	Between March 1 and mid-July	BLM & operator assistance
Monitor productivity at active bald eagle nests within one mile of project-related disturbance	Between March 1 and mid-July	BLM & operator assistance
Raptor next productivity monitoring at active nests within one mile of project disturbance area	Annually March to mid-July	BLM with operator assistance
Sage-grouse lek inventories (project area plus three mile buffer)	Every 5 years	BLM with operator assistance
Sage-grouse lek attendance monitoring on and within 3miles of the POD boundary	Annually	BLM with operator assistance will visit selected leks each year so that all leks will be visited annually
Threatened, Endangered & Sensitive species inventory/monitoring within selected CBNG development areas	When Applicable	BLM with operator assistance

**Table 1. Summary of General Wildlife Reporting, Inventory, and Monitoring, Billings Resource Management Plan**

Action	Dates	Responsible Entity
Other wildlife species inventory/monitoring within selected CBNG development areas	When Applicable	BLM with operator assistance
Monitor high priority bat populations for White-Nose Syndrome	When applicable	BLM with assistance

**Table 2. Summary of Survey and Protection Measures, for Development within the Billings Resource Management Plan**

Protection Measure	Dates
Bald eagle nest surveys within 1 mile of project area	Yearlong
Bald eagle nest avoidance within 0.5 mile of active nests	No Surface Use or Occupancy
Bald Eagle Winter Roost surveys within 1 mile of project area	December 1 to April 1
Bald Eagle Winter Roost avoidance within 0.5 miles of roost site	No Surface Use or Occupancy
Black-footed ferret surveys	Prairie dog colonies > 80 acres
Mountain plover surveys within 0.5 miles of project area	May 1 to June 15
Active prairie dog colonies on federal surface in mountain plover habitat	BLM & operator assistance
Mountain plover nest/brood avoidance within .25 miles of project area	April 1 to July 31
Peregrine falcon nest avoidance within 1 mile of active nest	No Surface Use or Occupancy
Threatened, Endangered & Sensitive species surveys	As necessary
Threatened, Endangered & Sensitive species avoidance	As necessary
Big game crucial winter range avoidance	December 1 – March 31
Elk Parturition Range avoidance	April 1 – June 15
Big Horn Sheep – Powder River Breaks	No Surface Use or Occupancy
Prairie dog colony mapping and burrow density determinations	Yearlong
Raptor nest survey/inventory within 0.5 miles of project area	Yearlong
Raptor nest avoidance within 0.5 miles of active nests	March 1 – August 1

**Table 2. Summary of Survey and Protection Measures, for Development within the Billings Resource Management Plan**

<b>Protection Measure</b>	<b>Dates</b>
Sage-grouse nesting habitat avoidance on areas within 4.0 miles of a lek	April 1 – June 30
Sage-grouse and sharp-tailed grouse lek avoidance within 0.6 miles of a lek	No Surface Use or Occupancy
Sharp-tailed grouse nesting habitat avoidance on areas within 2 miles of a lek	March 1 – June 15
Western burrowing owl surveys (prairie dog colonies within 0.5 miles of disturbance)	June – August
General wildlife avoidance/protection	As necessary

**NOTE:**

In areas of higher or more intensive development, the frequency and timing of inventory and monitoring may need to be increased or expanded to address potential resource impacts. Additional monitoring, inventory, or studies may need to be conducted on areas of development and selected undeveloped comparison or control areas.

## References

- Atkinson, E. C. 1995.** Survey and monitoring guidelines for ferruginous hawks in Montana. USDI, Bureau of Land Management and Montana Fish Wildlife and Parks. 42pp.
- Avian Power Line Interaction Committee. 1994.** Mitigating bird collisions with power lines: The state of the art in 1994. Edison Electric Institute, Washington, D.C. 78pp. +append
- Avian Power Line Interaction Committee. 2006.** Suggested practices for avian protection on power lines: The state of the art in 2006. Edison Electric Institute and California Electric Commission, Washington, D.C. and Sacramento, CA. 207pp.
- Biggins, D.E., B.J. Miller, L.R. Hanebury, B. Oakleaf, A.H. Farmer. 1993.** A technique for evaluating black-footed ferret habitat. Pp 73-87 *In* Proceedings of the Symposium on the Management of Prairie Dog Complexes for the Reintroduction of the Black-footed Ferret. U.S. Department of the Interior, Fish and Wildlife Service.
- Call, M. W. 1978.** Nesting habitats and surveying techniques for common western raptors. U.S. Department of the Interior, Bureau of Land Management, Technical Note No. 316. 115pp.
- Grier, J.W., and R.W. Fyfe. 1987.** Preventing research and management disturbance. Pages 173-182 *In* B.A.G. Pendleton, B.A. Milsap, K.W. Kline, and D.M. Bird editors. Raptor management techniques. Institute of Wildlife Research, National Wildlife Federation, Scientific and Technical Series No. 10 420 pp.
- Montana Sage-grouse Work Group. 2005.** Management Plan and Conservation Strategies for Sage-grouse in Montana – Final. Revised February 1, 2005.
- USDI Bureau of Land Management. 1983.** Final Environmental Impact Statement, Resources Management Plan, Billings Resource Area. U.S. Department of the Interior, Bureau of Land Management. November 1983. BLM-MT-ES-84-002-4410.
- USDI Bureau of Land Management. 1984.** Powder River Resource Area, Resource Management Plan, Miles City District, Final Environmental Impact Statement, December 1984, United States Department of Interior, Bureau of Land Management, Miles City District Office, BLM-MT-ES-85-0014410.
- USDI Bureau of Land Management. 1992.** Final Oil and Gas RMP/EIS Amendment for the Billings, Powder River and South Dakota Resource Areas. U.S. Department of the Interior, Bureau of Land Management, Miles City District.
- U.S. Fish and Wildlife Service. 1989.** Black-footed ferret survey guidelines for compliance with the *Endangered Species Act*. U.S. Fish and Wildlife Service, Denver Colorado, and Albuquerque, New Mexico (April 1989). 10pp. +append
- U.S. Fish and Wildlife Service. 2002c.** Mountain Plover survey guideline. U.S. Fish and Wildlife Service, Denver, Colorado. 7pp.

#### **D.4. Requirements and/or Guidelines for Wildlife Controlled Surface Use Stipulations or Exceptions to No Surface Occupancy Stipulations**

Plans that are required by controlled surface use (CSU) stipulations or exceptions to no surface occupancy stipulations for crucial winter range, greater sage-grouse habitat, bighorn sheep range, and other Special Status Species areas will be subject to the following requirements and/or guidelines. These requirements and guidelines may be modified based on the best available science and research, and best management practices.

**The plan shall address:**

- Mitigation or methods that would be used to abate continuous noise (related to long-term operations and/or activities) or temporary noise (related to installation, maintenance, one-time use, emergency operations, etc.) to minimize disruption to wildlife.
- The management of water developments to reduce the spread of West Nile virus within greater sage-grouse habitat areas. The placement of linear rights-of-way (ROW) to reduce disturbance to wildlife.
- The placement of new utility developments (powerlines, pipelines, etc.) and transportation routes in a manner that does not impact wildlife such as through eliminating the need for powerlines or burying powerlines.
- The design and placement of high profile structures exceeding 10 feet in height in a manner that does not impact wildlife.
- The reduction of the frequency of human visitation at wells sites such as through remote monitoring of production facilities.
- Interim reclamation on long-term access roads and well pads including reshaping, topsoiling and revegetating cut and fill slopes to maximize the habitat restoration.
- Restoration of disturbed areas at final reclamation to pre-disturbance conditions or desired plant community.
- Placement of permanent (longer than 2 months) structures which create movement to minimize impacts to wildlife.

**The plan shall consider:**

- The use of off-site mitigation, (e.g., creation of sagebrush habitat or conservation easements) with proponent dollars to offset habitat losses.
- The creation of a “*Mitigation Trust Account*” when impacts cannot be avoided, minimized, or effectively mitigated through other means. If approved by the BLM, the proponent may contribute funding to maintain habitat function based on the estimated cost of habitat treatments or other mitigation needed to maintain the functions of impacted habitats. Off-site mitigation should only be considered when no feasible options are available to adequately mitigate within and immediately adjacent to the impacted site, or when the off-site location would provide more effective mitigation of the impact than can be achieved on-site.

## **D.5. Crucial Areas Planning System (CAPS)**

### **Montana Fish, Wildlife and Parks Crucial Areas Planning System User's Guide Version 1.0 –April 2010**

In 2008, Montana Fish, Wildlife & Parks (MTFWP) took the lead in conducting a Crucial Areas Assessment. The Assessment evaluated the fish, wildlife and recreational resources of Montana in order to identify crucial areas and fish and wildlife corridors. The result, in part, is a Web-based **Crucial Areas Planning System (CAPS)**, a new MTFWP mapping service aimed at future planning for a variety of development and conservation purposes so fish, wildlife, and recreational resources can be considered earlier.

The Crucial Areas Planning System (CAPS) is intended to provide useful and non-regulatory information during the early planning stages of development projects, conservation opportunities, and environmental review.

CAPS is not intended to replace consultation with MTFWP staff. In cases where federally threatened or endangered species occur, CAPS does not replace a federal consultation under the Endangered Species Act.

Finest data resolution is at the square mile section scale or waterbody, and use of these data layers at a more localized scale is not appropriate and may lead to inaccurate interpretations. The classification may or may not apply to the entire section. Consult the local MTFWP biologist for more localized information.

### **How Data Are Used in This RMP:**

CAPS data used in this RMP are from the “Big Game Winter Range Habitat” CAPS Score 1 & 2. Big game data is for the protection of big game winter ranges. Refer to maps 15-20 for a current map of habitat within the Billings Field Office.

Attached are descriptions of the assessment process used by MTFWP. In the future, changes, revisions, or elimination of this data will be coordinated and agreed upon with MTFWP.



## Montana Fish, Wildlife & Parks Crucial Areas Assessment



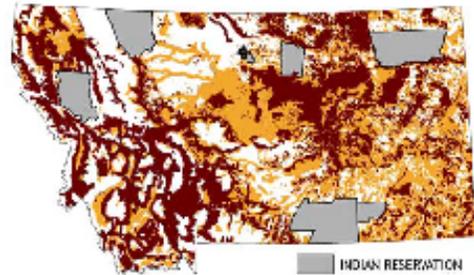
### NATIVE GAME SPECIES

#### Big Game Winter Range Habitat

**SUMMARY:** This layer depicts the relative value of habitats providing big game winter range for elk, white-tailed deer, mule deer, antelope and moose.

**MEASUREMENT UNIT:** Public land survey sections - approximately one square mile.

**MAPPING CONSIDERATIONS:** Indian reservations were not evaluated due to a lack of data. National park lands are not currently represented in big game distribution layers and therefore have lower than expected values in some areas.



INDIAN RESERVATION

Score 2 (High)

Score 1 (Moderate)

#### DATA SOURCE(S) / QUALITY:

**Big Game:** *Metric Evaluated:* Winter range habitat value. *Species:* pronghorn antelope, elk, moose, mule deer and white-tailed deer. *Data Layers:* big game distribution - publicly available for individual species, maintained by FWP. Layers are updated using expert knowledge, which includes known habitat associations and extrapolation from survey data. Resolution is based upon 1 square mile public land survey sections; Montana land cover classification – draft layer maintained by the Montana Natural Heritage Program (NHP) Spatial Analysis Lab, University of Montana. Classification based upon remote sensing. Resolution is 30 meters

**METHODS:** Big game habitat values were determined by assigning points based on species use and habitat quality. All winter habitat was assigned an initial score of 1 and an additional point was assigned for more highly valued areas. Following is a description areas that were assigned higher values. In the western mountains, areas identified as winter use in the species distribution layers received one point. In the Northwest (FWP Region 1) winter use of elk or white-tail deer was given an additional point. In the Southwest (FWP Regions 2 & 3), elk or mule deer was given an additional point. For the rest of the state, areas identified as winter use areas for one species received a point

and an additional point if the area was winter range for additional species. Also, sagebrush grassland habitats were used to identify important habitats in the prairie environment where winter ranges are less distinct. Areas containing >50% sagebrush grassland, received one point and areas containing >75% sagebrush grassland were given an additional point. The final summed value was rescaled to 0 to 1 before being combined with the other species categories.

#### DATA SOURCES

- Survey data – counts or estimates
- Survey data – categorical (e.g. presence/absence)
- Expert opinion based on observation

#### DATA EXTRAPOLATION TECHNIQUE USED

- None
- Modeling of habitat-species associations (deductive)
- Statistical modeling (inductive)
- Extrapolation to habitat unit (e.g. stream section)
- Extrapolation based on expert opinion

Full documentation @ <http://fwp.mt.gov/fishAndWildlife/conservationinAction/crucialAreas.html>



## Montana Fish, Wildlife & Parks Crucial Areas Assessment

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**FINAL CATEGORIZATION:** The resulting scores ranged from 0 to 2. A score of 0 indicates the area was not identified as having winter range present. A score of 1 indicates important winter range habitats. A score of 2 indicates highly valued winter range habitats. Big game winter range was given twice the value of the other species groups for the calculation of the cumulative native game layer.

CATEGORY	PERCENT OF STATE
SCORE 2 (High)	35.6 %
SCORE 1 (Moderate)	30.0 %

**CONTACT:** Adam Messer, FWP – Data Services Section; 406.444.0095; [amesser@mt.gov](mailto:amesser@mt.gov)

**DATE MODIFIED:** April 7, 2010 – V 1.0

Full documentation @ <http://fwp.mt.gov/fishAndWildlife/conservationinAction/crucialAreas.html>

**Appendix E:**  
**PFC - Proper Functioning Condition**

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## E. PFC – PROPER FUNCTIONING CONDITION

### E.1 WHAT IT IS - WHAT IT ISN'T

**PFC is:** A methodology for assessing the physical functioning of riparian and wetland areas. The term PFC is used to describe both the **assessment** process, and a defined, on-the-ground **condition** of a riparian-wetland area. In either case, PFC defines a minimum or starting point.

The PFC **assessment** provides a consistent approach for assessing the physical functioning of riparian-wetland areas through consideration of hydrology, vegetation, and soil/landform attributes. The PFC assessment synthesizes information that is foundational to determining the overall health of a riparian-wetland area.

The on-the-ground **condition** termed PFC refers to how well the physical processes are functioning. PFC is a state of resiliency that will allow a riparian wetland system to hold together during a 25 to 30 year flow event, sustaining that system's ability to produce values related to both physical and biological attributes.

**PFC isn't:** The sole methodology for assessing the health of the aquatic or terrestrial components of a riparian-wetland area.

**PFC isn't:** A replacement for inventory or monitoring protocols designed to yield information on the "biology" of the plants and animals dependent on the riparian-wetland area.

**PFC can:** Provide information on whether a riparian-wetland area is physically functioning in a manner which will allow the maintenance or recovery of desired values, e.g., fish habitat, neotropical birds, or forage, over time.

**PFC isn't:** Desired (future) condition. It is a prerequisite to achieving desired condition.

**PFC can't:** Provide more than strong clues as to the actual condition of habitat for plants and animals. Generally a riparian-wetland area in a physically nonfunctioning condition will not provide quality habitat conditions. A riparian wetland area that has recovered to a proper functioning condition would either be providing quality habitat conditions, or would be moving in that direction if recovery is allowed to continue. A riparian-wetland area that is functioning-at-risk would likely lose any habitat that exists in a 25 to 30 year flow event.

**Therefore:** To obtain a complete picture of riparian-wetland area health, including the biological side, one must have information on both physical status, provided through the PFC assessment, and biological habitat quality. Neither will provide a

complete picture when analyzed in isolation. In most cases proper functioning condition will be a prerequisite to achieving and maintaining habitat quality.

**PFC is:** A useful tool for prioritizing restoration activities. By concentrating on the “at risk” systems, restoration activities can save many riparian-wetland areas from degrading to a non functioning condition. Once a system is non functional the effort, cost, and time required for recovery is dramatically increased. Restoration of non functional systems should be reserved for those situations where the riparian wetland has reached a point where recovery is possible, when efforts are not at the expense of "at risk" systems, or when unique opportunities exist. At the same time, systems that are properly functioning are not the highest priorities for restoration. Management of these systems should be continued to maintain PFC and further recovery towards desired condition.

**PFC is:** A useful tool for determining appropriate timing and design of riparian-wetland restoration projects (including structural and management changes). It can identify situations where instream structures are either entirely inappropriate or premature.

**PFC is:** A useful tool that can be used in watershed analysis. While the methodology and resultant data is "reach based", the ratings can be aggregated and analyzed at the watershed scale. PFC, along with other watershed and habitat condition information helps provide a good picture of watershed health and the possible causal factors affecting watershed health. Use of PFC will help to identify watershed scale problems and suggest management remedies and priorities.

**PFC isn't:** Watershed analysis in and of itself, or a replacement for watershed analysis.

**PFC is:** A useful tool for designing implementation and effectiveness monitoring plans. By concentrating implementation monitoring efforts on the “no” answers, greater efficiency of resources (people, dollars, time) can be achieved. The limited resources of the local manager in monitoring riparian-wetland parameters can be prioritized to those factors that are currently “out of range” or at risk of going out of range. The role of research may extend to validation monitoring of many of the parameters.

**PFC wasn't:** Designed to be a long term monitoring tool but it may be an appropriate part of a well designed monitoring program.

**PFC isn't:** Designed to provide monitoring answers about attainment of desired conditions. However, it can be used to provide a thought process on whether a management strategy is likely to allow attainment of desired conditions.

**PFC can:** Reduce the frequency and sometimes the extent of more data and labor intensive inventories. PFC can reduce process by concentrating efforts on the most significant problem areas first and thereby increasing efficiency.

- PFC can't:** Eliminate the need for more intensive inventory and monitoring protocols. These will often be needed to validate that riparian-wetland area recovery is indeed moving toward or has achieved desired conditions, e.g., good quality habitat; or simply establish what the existing habitat quality is.
- PFC is:** A qualitative assessment based on quantitative science. The PFC assessment is intended for individuals with local, on-the-ground experience in the kind of quantitative sampling techniques that support the checklist. These quantitative techniques are encouraged in conjunction with the PFC assessment for individual calibration, where answers are uncertain, or where experience is limited. PFC is also an appropriate starting point for determining and prioritizing the type and location of quantitative inventory or monitoring necessary.
- PFC isn't:** A replacement for quantitative inventory or monitoring protocols. PFC is meant to complement more detailed methods by providing a way to synthesize data and communicate results.

## **E.2 PFC Checklist**

The following section contains the PFC checklist as used by BLM staff and others in the field. Immediately following are the general instructions, and then the two pages of the checklist itself.

### E.3 General Instructions

- 1) The concept "**Relative to Capability**" applies wherever it may be inferred.
- 2) This checklist constitutes the **Minimum National Standards** required to determine Proper Functioning Condition of lotic riparian-wetland areas.
- 3) As a minimum, an **ID Team** will use this checklist to determine the degree of function of a riparian-wetland area.
- 4) Mark one box for each element. Elements are numbered for the purpose of cataloging comments. The numbers do not declare importance.
- 5) For any item marked "**No**," the severity of the condition must be explained in the "**Remarks**" section and must be a subject for discussion with the ID Team in determining riparian-wetland functionality. Using the "**Remarks**" section to also explain items marked "**Yes**" is encouraged but not required.
- 6) Based on the ID Team's discussion, "**functional rating**" will be resolved and the checklist's summary section will be completed.
- 7) Establish photo points where possible to document the site.

### Standard Checklist

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Name of Riparian-Wetland Area: \_\_\_\_\_

Date: \_\_\_\_\_ Area/Segment ID: \_\_\_\_\_ Miles: \_\_\_\_\_

ID Team Observers: \_\_\_\_\_

#### HYDROLOGIC (circle one)

- Yes /No/ N/A 1) Floodplain inundated in "relatively frequent" events (1-3 years)
- Yes/ No /N/A 2) Active/stable beaver dams
- Yes/ No /N/A 3) Sinuosity, width/depth ratio, and gradient are in balance with the landscape setting (i.e., landform, geology, and bioclimatic region)
- Yes/ No/ N/A 4) Riparian zone is widening or has achieved potential extent
- Yes /No /N/A 5) Upland watershed not contributing to riparian degradation

#### VEGETATIVE (circle one)

- Yes /No/ N/A 6) Diverse age-class distribution (recruitment for maintenance/recovery)
- Yes/ No/ N/A 7) Diverse composition of vegetation (for maintenance/recovery)
- Yes /No/ N/A 8) Species present indicate maintenance of riparian soil moisture characteristics
- Yes /No/ N/A 9) Streambank vegetation is comprised of those plants or plant communities that have root masses capable of withstanding high streamflow events
- Yes/ No/ N/A 10) Riparian plants exhibit high vigor
- Yes /No /N/A 11) Adequate vegetative cover present to protect banks and dissipate energy during high flows
- Yes/ No/ N/A 12) Plant communities in the riparian area are an adequate source of coarse and/or large woody debris

#### SOILS-EROSION DEPOSITION (circle one)

- Yes/ No /N/A 13) Floodplain and channel characteristics (i.e., rocks, overflow channels, coarse and/or large woody debris) adequate to dissipate energy

- Yes /No /N/A** 14) Point bars are revegetating  
**Yes /No/ N/A** 15) Lateral stream movement is associated with natural sinuosity  
**Yes/ No /N/A** 16) System is vertically stable  
**Yes /No /N/A** 17) Stream is in balance with the water and sediment being supplied by the watershed  
(i.e., no excessive erosion or deposition)

**Remarks:**

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**Summary Determination Functional Rating:**

Proper Functioning Condition \_\_\_\_\_

Functional – At Risk \_\_\_\_\_

Nonfunctional \_\_\_\_\_

Unknown \_\_\_\_\_

**Trend for Functional - At Risk:**

Upward \_\_\_\_\_

Downward \_\_\_\_\_

Not Apparent \_\_\_\_\_

**Are factors contributing to unacceptable conditions outside BLM's control or management?**

Yes \_\_\_\_\_

No \_\_\_\_\_

**If yes, what are those factors?**

\_\_\_\_ Flow regulations

\_\_\_\_ Mining activities

\_\_\_\_ Upstream channel conditions

\_\_\_\_ Channelization

\_\_\_\_ Road encroachment

\_\_\_\_ Oil Field water discharge

\_\_\_\_ Augmented flows

\_\_\_\_ Other (specify) \_\_\_\_\_

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## **Appendix F: Implementation and Monitoring**

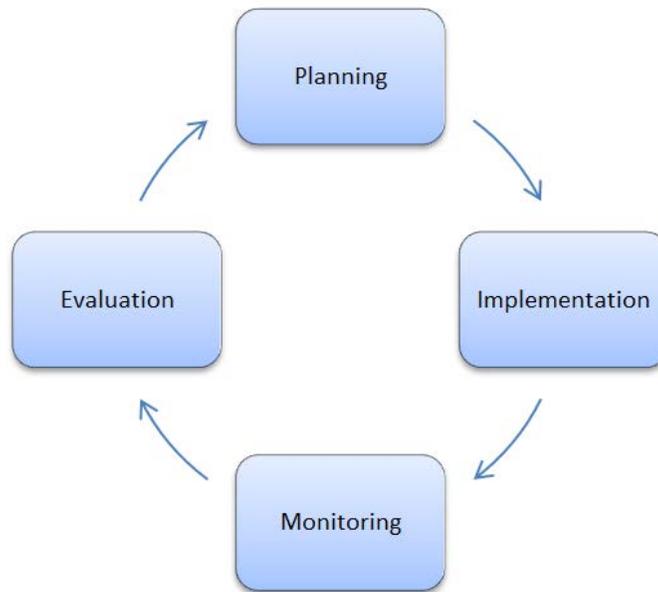
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## F. Implementation and Monitoring

Plan implementation is a continuous process occurring over the life of the resource management plan that will consider changing circumstances and new information through monitoring. The goal is to maintain a dynamic resource management plan that is evaluated and amended if necessary on an issue-by-issue basis.

The implementation and monitoring process for the Billings Field Office and Pompeys Pillar National Monument (NM) involves four major steps: planning, implementation, monitoring, evaluation, and adjustments, as necessary. Planning involves a great amount of time and resources to identify issues and management opportunities to address those issues. During the planning process, the scope of the issue is identified and management goals, objectives and actions are defined to address the issues. Once the planning process is completed, decisions are implemented, monitored, and evaluated over a period of time to determine if goals are being met and if management actions are achieving the desired objective or standard. Results of monitoring are documented and communicated to appropriate parties, and management objectives and actions are modified based on results, if necessary.



### Planning

The Proposed Resource Management Plan (RMP) and Final Environmental Impact Statement (EIS) is approved once the Record of Decision (ROD) is signed. An Approved Plan will also be available that will include all the approved decisions from the RMP.

The BLM regulation in 43 CFR 1610.5-4 provides that land use plan decisions and supporting components can be maintained to reflect minor changes in data. Maintenance is limited to further refining, documenting, or clarifying a previously approved decision incorporated in the

plan. Maintenance must not expand the scope of resource uses or restrictions or change the terms, conditions, and decisions of the Approved Plan.

Land use plan decisions are changed through either a plan amendment or a plan revision. The process for conducting plan amendments is essentially the same as the land use planning process used in developing RMPs. The primary difference is that circumstances may allow for completing a plan amendment through the environmental assessment (EA) process, rather than through an EIS. Plan amendments (43 CFR 1610.5-5) change one or more of the terms, conditions, or decisions of an approved land use plan. Plan amendments are most often prompted by the need to consider a proposal or action that does not conform to the plan; implement new or revised policy that changes land use plan decisions; respond to new, intensified, or changed uses on BLM land; and consider significant new information from resource assessments, monitoring, or scientific studies that change land use plan decisions.

## **Implementation**

Implementation of the resource management plan (RMP) begins once the Record of Decision and Approved Plan for the Proposed RMP/Final EIS is signed.

Decisions made through the RMP planning process are implemented over a period of time. Some of the decisions are immediate and go into effect with the Record of Decision. These include decisions such as the road designations and lands available for disposal through exchange. Some decisions would be implemented after a site-specific environmental review is completed. Examples include range improvements, recreation sites, or approval of an application for permit to drill a natural gas well. Other decisions include guidance that would be applied during site-specific analysis or activity planning.

Any future proposals or management actions will be reviewed against the Approved Plan to determine if the proposal would be in conformance with the RMP. While the Final EIS for the Billings and Pompeys Pillar NM RMP provides the compliance with NEPA for the broad-scale decisions to be made in the Record of Decision, it does not replace the requirement to comply with NEPA for implementation actions. Proposed actions fall into one of five categories: (1) actions that are exempt from NEPA; (2) actions that are categorically excluded; (3) actions that are covered by an existing NEPA environmental document; (4) actions that require preparation of an environmental assessment (EA) to determine if an environmental impact statement (EIS) is needed; or (5) actions that require preparation of an EIS. The NEPA procedural, documentation, and public involvement requirements are different for each category.

Activity level planning will address any proposed new activities and long-term permitted activities that need to be brought into compliance with plan decisions, subject to valid existing rights. Monitoring of these activities will then determine the effectiveness of applying the land use plan direction. Where land use plan actions or best management practices are not effective, modifications could occur without amendment or revision of the plan as long as assumptions and impacts disclosed in the analysis remain valid and broad-scale goals and objectives are not changed. This approach uses on-the-ground monitoring, review of scientific information, and consideration of practical experience and common sense to adjust management and modify implementation of the plan to reach the desired outcome.

As part of this process, the BLM will review management actions and the plan periodically to determine whether the objectives set forth in this document are being met. Where they are not being met, the BLM will consider adjustments of appropriate scope. Where the BLM considers taking or approving actions which will alter or not conform to overall direction of the plan, the BLM will prepare a plan amendment and environmental analysis of appropriate scope.

In addition, during the life of the Approved Plan, the BLM expects that new information gathered from field inventories and assessments, research, other agency studies, and other sources will update baseline data or support new management techniques, best management practices, and scientific principles. To the extent that such new information or actions address issues covered in the plan, the BLM will integrate the data through plan maintenance.

## **Monitoring**

Monitoring is the repeated measurement of activities and conditions over time. Monitoring data gathered over time is examined and used to draw conclusions on whether management actions are meeting stated objectives, and if not, why. Conclusions are then used to make recommendations on whether to continue current management or what changes need to be made in management practices to meet objectives.

Monitoring determines whether planned activities have been implemented in the manner prescribed by the plan. This monitoring documents BLM's progress toward full implementation of the land use plan decision. There are no specific thresholds or indicators required for this type of monitoring.

Monitoring also is used to determine if the implementation of activities has achieved the desired goals and objectives. This requires knowledge of the objectives established in the RMP as well as indicators that can be measured. Indicators are established by technical specialists in order to address specific questions, and thus avoid collection of unnecessary data. Success is measured against the benchmark of achieving desired future conditions established by the plan.

Monitoring is also used to ascertain whether a cause-and-effect relationship exists among management activities or resources being managed. It confirms whether the predicted results occurred and if assumptions and models used to develop the plan are correct. This type of monitoring is often done by contract with another agency, academic institution, or other entity, and is usually expensive and time consuming since results are not known for many years.

Regulations at 43 CFR 1610.4-9 require that the proposed plan establish intervals and standards, as appropriate, for monitoring and evaluation of the plan, based on the sensitivity of the resource decisions involved. Progress in meeting the plan objectives and adherence to the management framework established by the plan is reviewed periodically. CEQ regulations implementing NEPA state that agencies may provide for monitoring to assure that their decisions are carried out and should do so in important cases (40 CFR 1505.2(c)). To meet these requirements, the BLM will prepare periodic reports on the implementation of the RMP.

## **Evaluation**

Evaluation is a process in which the plan and monitoring data are reviewed to see if management goals and objectives are being met and if management direction is sound.

Land use plan evaluations will be used by BLM to determine if the decisions in the RMP, supported by the accompanying NEPA analysis, are still valid. Evaluation of the RMP will generally be conducted every five years, unless unexpected actions, new information, or significant changes in other plans, legislation, or litigation triggers an evaluation. Land use plan evaluations determine if decisions are being implemented, whether mitigation measures are satisfactory, whether there are significant changes in the related plans of other entities, whether there is new data of significance to the plan, and if decisions should be changed through amendment or revision.

Based on a Record of Decision and Approved Plan released in the spring of 2014, the following evaluation schedule would be followed for the Billings and Pompeys Pillar National Monument RMP/EIS:

Fall 2019

Fall 2024

Fall 2029

Fall 2034

Evaluations will follow the protocols established by the BLM Land Use Planning Handbook H-1601-1 in effect at the time the evaluation is initiated.

## **INTRODUCTION**

For each resource, there are a series of items that will be monitored. Each item is evaluated by location, technique for data gathering, unit of measure, frequency, remedial action trigger, and management option (Table 1). The monitoring and evaluation plan states the event that will be evaluated and lists the key resources that will be managed in the planning area. If an adverse impact can be corrected by a management action within the scope of this plan, the change will be implemented. If the adverse impact can be corrected only by a management action that is outside the scope of this plan, the management change will be a formal amendment.

**TABLE 1. MONITORING TABLE**

Element	Item	Location	Technique	Unit of Measure	Frequency and Duration	Remedial Action Trigger	Management Options
<b>AIR RESOURCES AND CLIMATE</b>							
Air Resources and Climate	Gaseous and particulate regulated air pollutants and air quality related values (AQRVs), such as acid deposition, lake acidification, and visibility	Area-wide	Air quality photochemical grid modeling	Micrograms/cubic meter ( $\mu\text{g}/\text{m}^3$ ) and parts per million (ppm) concentrations (as $\mu\text{g}/\text{m}^3$ )	Modeling will be performed when adequate data are available to validate model performance (see the <i>Air Resources and Climate Appendix</i> )	Predicted exceedances of National Ambient Air Quality Standards (NAAQS) or Montana Ambient Air Quality Standards (MAAQS) or unacceptable impacts to AQRVs	Implement additional emission controls or operating limits
	Gaseous and particulate regulated air pollutants	Area-wide	Continued automated sampling and analysis	$\mu\text{g}/\text{m}^3$ and ppm concentrations (as $\mu\text{g}/\text{m}^3$ )	Continuous	Measured exceedances of NAAQS or MAAQS	Implement additional emission controls or operating limits
	Climate indicators including temperature, precipitation, precipitation timing and intensity, snowfall, snow pack, albedo, greenhouse gas	Area-wide	Analysis of existing climatic data and climate change data available from the National Oceanic and Atmospheric Administration, the Western	Degrees Fahrenheit ( $^{\circ}\text{F}$ ), degrees Celsius ( $^{\circ}\text{C}$ ), inches, feet, unitless (albedo), ppm, parts per billion	Annual	None (actions triggered based on resource-specific concerns)	Provide annual updates summarizing recent climate trends to Bureau of Land Management (BLM) resource management

Element	Item	Location	Technique	Unit of Measure	Frequency and Duration	Remedial Action Trigger	Management Options
	(GHG) concentrations		Regional Climate Center, United States Environmental Protection Agency (USEPA), and other reliable sources of information				personnel
<b>SOILS</b>							
<b>Soils</b>	Soil erosion, uplands	Area-wide where management activities are occurring or expected to occur	Visual observation, photo point, rangeland health assessment, surface aggregate stability test, silt fence, and surveyed erosion pins	Soil loss in tons per acre	Site will be visually examined quarterly. Where erosion is considered excessive, measurements of site characteristics will be taken to determine rate of soil loss.	Visual evidence of pedestal, wind scour, rill greater than 3 inches, active headcutting gully, or sheet erosion. Soil or site stability indicators are not similar to reference rangeland health conditions. Change in surface aggregate stability to a lower class. Loss of soil exceeding 10	Report exceedance to the BLM, Montana Department of Environmental Quality (MDEQ), or USEPA. Enforcement action would be taken.

Element	Item	Location	Technique	Unit of Measure	Frequency and Duration	Remedial Action Trigger	Management Options
						tons per acre per year	
<b>Soils</b> (cont'd)	Soil erosion, streambanks, riparian areas, and floodplains	Area-wide along rivers and tributaries where management activities are occurring or expected to occur	Visual observation, photo point, rangeland health or proper functioning condition assessments, silt fence, and surveyed erosion pins	Area affected in square feet or acres	Site would be visually examined quarterly. Where streambank erosion is considered excessive, measurements of site characteristics will be taken to determine soil loss.	Visual evidence of active headcutting, channelization beyond natural conditions, or bank slump. Proper functioning condition (PFC) rated functional-at-risk with a downward trend or nonfunctional. A 10% increase in streambank loss.	Report exceedance to the BLM, MDEQ, or USEPA. Enforcement action would be taken.
	Soil salinization and sodification	Area-wide where management activities were occurring or expected to occur	Visual observation, measurement of soil characteristics such as (electrical conductivity (EC), sodium adsorption ratio (SAR),	Area affected in square feet or acres	Site would be visually examined quarterly. Where impacts to soil or vegetation were observed, measurements of site	A 20% increase in levels in EC, SAR, or exchange sodium percentage (EC greater than 8, SAR greater than 8, exchangeable	Report exceedance to the BLM, MDEQ, or USEPA. Enforcement action would be taken.

Element	Item	Location	Technique	Unit of Measure	Frequency and Duration	Remedial Action Trigger	Management Options
			exchange sodium percentage, and pH		characteristics would be taken to determine salinity and sodicity levels.	sodium percentage greater than 10, or pH greater than 8.5)	
Soils (cont'd)	Compaction	Area-wide where management activities were occurring or expected to occur	Visual inspection, penetrometer, or ratio of penetration resistance or bulk density to that of the reference area	Lbs. per square inch, mass per volume	Site would be visually examined 1 to 2 times yearly; where compaction is considered excessive, measurements would be taken.	When an area has a 10% increase in density or ratio of penetration resistance or bulk density to that of the reference area greater than 1 and the compacted area exceeds 10% of surface disturbance	Decompact or close access to compacted site until area recovers from compaction
	Rutting	Area-wide where management activities were occurring or expected to occur	Visual observation and measured depth of rut	Inches	Site would be visually examined 1 to 2 times yearly. Where rutting is considered excessive, measurements would be taken.	Ruts exceed 4 inches in depth	Close access to rutted site until soil conditions are not susceptible to rutting and are repaired.

Element	Item	Location	Technique	Unit of Measure	Frequency and Duration	Remedial Action Trigger	Management Options
Soils (cont'd)	Subsidence of fill material	Areas where management activities required fill material	Visual observation and measured depth of subsidence	Feet	Site would be visually examined 1 to 2 times yearly. Where slumping or piping is considered excessive, measurements would be taken.	10% increase in slumping or piping depth	Close access to site until area is reclaimed
<b>WATER</b>							
Water	Surface water quality and quantity	In watersheds expected to be affected, potentially affected, or down gradient from CBNG surface discharge points or regionally at the monitoring stations identified by the interagency working group (refer to <i>Final Supplement to the Montana Statewide Oil and Gas Environmental Impact</i> )	As determined by the interagency working group (refer to the FSEIS) or water quality parameters, temperature, and discharge or stage measurements	As determined by the interagency working group (refer to the FSEIS) or feet, cubic feet per second (cfs), and standard quantitative measurements of water quality (e.g., milligrams per liter [mg/L], pH, $\mu$ S/cm, and $^{\circ}$ C)	As determined by the interagency working group or based on activity plan schedule (refer to the FSEIS)	Exceedance of any parameter above the State of Montana surface water quality standards or identified BLM thresholds (refer to the FSEIS)	Report exceedances to the MDEQ, which would determine cause and take appropriate actions if monitoring indicates that BLM thresholds were met or exceeded, Untreated discharge of CBNG water from federal wells would no longer be allowed upstream from that station.

Element	Item	Location	Technique	Unit of Measure	Frequency and Duration	Remedial Action Trigger	Management Options
		<p><i>Statement and Proposed Amendment of the Powder River and Billings Resource Management Plans [FSEIS]).</i></p> <p>Note that the 10% of 7Q10 criteria for untreated CBNG water would apply unless stations upstream and downstream from proposed outfalls are monitored (refer to the FSEIS).</p>					Previous approvals may be modified.
<b>Water</b> (cont'd)	Groundwater drawdown	Regionally at locations determined by the interagency working group (refer to the FSEIS)	Monitoring wells would be finished in bedrock units; especially coal seams expected to be developed for CBNG.	Depth to water reported in hundredths of feet	Depth to water measurements would be made approximately monthly to establish an initial baseline. Measurements would be	A 20-foot decrease in static water level from seasonally adjusted mean static water level (determined from baseline data) (refer to	If falling water levels were determined to be caused by CBNG activity, operators must offer water well mitigation agreements to all landowners

Element	Item	Location	Technique	Unit of Measure	Frequency and Duration	Remedial Action Trigger	Management Options
					made approximately quarterly thereafter unless a greater frequency was determined to be necessary. Monitoring would continue until at least 80% recovery of static water level was achieved.	the FSEIS)	with water sources in the defined drawdown area (20 feet or greater drawdown) of their development. Hydrologic barriers, such as injection wells, may be an option in some cases to prevent drainage of American Indian gas and water resources.
<b>Water</b> (cont'd)	Groundwater quality and quantity	Alluvial groundwater would be monitored in stream valleys topographically down gradient from CBNG surface discharge points. Since discharge to ephemeral streams would not be allowed,	Monitoring wells would be finished in the alluvium. Depth to water measurements and water quality parameters, including (but not limited to) pH, EC, water temperature, common ions (Na, Mg, Ca,	Standard quantitative measurements of water quality and static water level (mg/L, °C, µS/cm, and hundredths of feet)	Depth to water measurements would be made approximately monthly to establish an initial baseline. Depth to water would then be collected approximately quarterly thereafter.	A change in groundwater chemistry that affects its class of use or rise in static groundwater levels of 5 feet or more that may cause impacts at the ground surface (refer to the FSEIS)	If impacts were determined to result from CBNG development, direct discharge of CBNG water into waterways in the watershed may be discontinued until modified

Element	Item	Location	Technique	Unit of Measure	Frequency and Duration	Remedial Action Trigger	Management Options
		these wells would be along larger streams (refer to the FSEIS).	K, HCO <sub>3</sub> , Cl, SO <sub>4</sub> ) would be obtained.		Water quality samples would be taken approximately annually unless more frequent monitoring is needed. Monitoring would continue until at least 80% recovery of static water level was achieved.		water management plans were submitted and approved (refer to the FSEIS).
<b>Water</b> (cont'd)	Groundwater quality and quantity	Operators would install monitoring wells adjacent to impoundments (refer to the FSEIS).	A monitoring well would be installed within the first permeable unit and within the first groundwater encountered (up to 50 feet total depth) to determine effectiveness of infiltration; if evaporation basins were leaking, a water quality sample of the	Depth to water (feet to water reported in hundredths of feet). Water quality samples would be collected if rises in groundwater were observed or if water were observed in a previously dry zone.	Wells would be gauged monthly for the first year and quarterly thereafter unless a rise was observed. If a rise were observed, monitoring would be monthly. Water quality samples would be collected whenever the water level is above	A rise of 1 foot or more in static water levels above seasonally adjusted mean water levels (determined from the first year of data) or a change in the class of use in the groundwater (refer to the FSEIS).	Any change in class of use would be reported to the MDEQ. Operators may be required to install additional monitoring wells further downgradient, or discharge into impoundments may be required to cease until a revised water

Element	Item	Location	Technique	Unit of Measure	Frequency and Duration	Remedial Action Trigger	Management Options
			first groundwater (if encountered) would be collected to determine class of use.		baseline. Monitoring would continue at least until the end of CBNG water discharge into the impoundment.		management plan is submitted and approved (refer to the FSEIS)
<b>Water</b> (cont'd)	Springs	A network of springs determined to be fed by the regional flow system would be identified along coal outcrops in the CBNG development area (refer to the FSEIS)	Spring discharge and water quality parameters, including (but not limited to) pH, EC, water temperature, and common ions (Na, Mg, Ca, K, HCO <sub>3</sub> , Cl, SO <sub>4</sub> ), would be determined from existing springs.	Discharge cubic feet per second (cfs), pH, EC (μS/cm), and water temperature (°C) would be determined in the field. Standard quantitative measurements of water quality also would be used (mg/L).	Field measurement of discharge, pH, EC, and water temperature would be determined approximately quarterly. An initial water quality sample would be collected; additional samples would be analyzed if substantial changes in the field parameters were observed.	A 50% decrease in spring discharge below seasonally adjusted mean (determined in the first 3 years) or a significant change in water quality that affects its beneficial use (refer to the FSEIS).	If decreased spring discharges or water quality were determined to result from CBNG activity, operators must offer spring mitigation agreements to landowners who use the spring. If the affected spring were identified as important wildlife habitat, adaptive management practices would be used at the

Element	Item	Location	Technique	Unit of Measure	Frequency and Duration	Remedial Action Trigger	Management Options
							landscape level to improve spring ecosystems. Hydrologic barriers, such as injection wells, may be an option in some cases to prevent drainage of American Indian gas and water resources (refer to the FSEIS).
<b>Water</b> (cont'd)	Streambank or channel alteration	Any federal area-wide action in which potential impacts from management activities are occurring or expected to occur	Monumented cross sections, longitudinal profile, visual inspection, photo point, PFC, surveyed erosion pins, and any suitable methods as described in <i>Grazing Management Processes and Strategies for Riparian-wetland Areas</i>	Area affected in square feet or acres	Based on activity plan schedule and a minimum of once every 10 years	Trend away from objective, a 10% increase in streambank or channel alteration, exceedance of any parameter above the State of Montana surface water quality standards for sediment, total	Activities would be required to be altered or discontinued in order to provide environmental factors for increasing functionality or conditions of the streams. Exceedance would be reported to BLM, MDEQ, or USEPA and

Element	Item	Location	Technique	Unit of Measure	Frequency and Duration	Remedial Action Trigger	Management Options
			(Wyman et al. 2006), <i>Bureau of Land Management Prairie Stream Surveys: Study Plan</i> (BLM 2010k), and <i>Stream Channel Reference Sites: An Illustrated Guide to Field Technique</i> (Harrelson, Rawlins, and Potyondy 1994).			suspended solids, or turbidity without a variance.	enforcement action would be taken.
<b>Water</b> (cont'd)	Surface water quality and quantity	Any federal area-wide action in which potential impacts from management activities are occurring or expected to occur	Water quality parameters, temperature, discharge, or stage measurements	Feet, cfs, or standard quantitative measurements of water quality (e.g., mg/L, pH, $\mu$ S/cm, $^{\circ}$ C)	Based on activity plan schedule	Exceedance of any parameter above the State of Montana surface water quality standards	Activities would be required to be altered or discontinued. Exceedance would be reported to BLM, MDEQ, or USEPA and enforcement action would be taken.
<b>Water, Indian trust</b>	Groundwater	Adjacent to the Northern Cheyenne and	Sampling of dedicated monitoring	Standard quantitative measurements of	Field measurements six times	Where site-specific studies show a	The BLM would require the operators

<b>Element</b>	<b>Item</b>	<b>Location</b>	<b>Technique</b>	<b>Unit of Measure</b>	<b>Frequency and Duration</b>	<b>Remedial Action Trigger</b>	<b>Management Options</b>
		Crow Indian Reservations	wells in the zones of extraction and zones above and below the expected activity; wells are to be placed in the affected areas to areas unaffected by management activities	water quality and measurement of depth in feet	annually prior to production activities and continued throughout the activity period and for the duration of 95% of the recovery of pre-development conditions	potential to affect Reservation groundwater, the tribe would be consulted as to appropriate protection measures and where continuous monitoring showed a drawdown of groundwater attributed to CBNG production.	to modify federal CBNG production. Mitigation options would include reducing production rates, shutting in the well or wells, establishing a hydrologic barrier, or providing compensation to the affected tribe.

Element	Item	Location	Technique	Unit of Measure	Frequency and Duration	Remedial Action Trigger	Management Options
<b>VEGETATION</b>							
<b>Trees and shrubs</b>	Functional habitat within desired conditions	Site-specific and landscape-level	Visual observation, photos, utilization, browse-evaluation, trend	Cover, diversity, and composition.	Varies and designed to address objectives	Failure to meet Rangeland Health Standards. Trend moving away from management objectives.	Change in livestock season-of-use, timing, intensity, frequency, and duration
<b>Herbaceous</b>	Functional habitat within desired conditions.	Site-specific and landscape-level	Utilization, visual observation, photos, and trend	Cover, diversity, and composition.	Varies and designed to address objectives	Failure to meet Rangeland Health Standards or trend moving away from management objectives	Change in livestock season-of-use, timing, intensity, frequency, and duration
<b>Riparian and Wetland</b>	Functional rating and trend	Priority allotments with allotment management plans and areas rated as non-functional or functional-at risk with downward trend	Lotic and lentic standard PFC checklist and multiple indicators monitoring techniques (see <i>Riparian Area Management, A User Guide to Assessing Proper Functioning Condition and the Supporting Science for</i>	Miles or acres based on functional rating and trend	Once every 5 to 10 years based on priority of non-functional and functional-at risk with downward trend areas	Trend away from objective or when no improvement occurs in areas rated as non-functional and functional-at risk with downward trend	Management changes would address causes of degradation. If impacts to management changes did not maintain or improve riparian and wetland functionality, additional monitoring or project revision would

Element	Item	Location	Technique	Unit of Measure	Frequency and Duration	Remedial Action Trigger	Management Options
			<i>Lotic Areas, TR 1737-15 [Prichard 1998] and Riparian Area Management A User Guide to Assessing Proper Functioning Condition and the Supporting Science for Lentic Areas, TR 1737-16 [Prichard et al. 1999])</i>				be required. Oil and gas operators would be required to alter activities in order to provide environmental factors for maintaining or improving functionality of riparian and wetland areas.
<b>Noxious and Invasive Species</b>	Infestations	Inventoried infestation	Photo points, geographic information systems (GIS) data, mapping, and National Invasive Species Information Management System	Infestation size, presence or absence	Annually or every 3 to 5 years and prioritized by species location and treatment method.	Expansion of weeds, Early Detection Rapid Response, new infestations in areas of high public use, and public accessible areas	Change in control method or combine multiple control methods and strategies
<b>FISH AND WILDLIFE</b>							
<b>Fisheries and aquatic wildlife in prairie streams</b>	Habitat conditions and index of biological integrity	All locations within Miles City Field Office (MCFO)	<i>Bureau of Land Management Prairie Stream Surveys: Study Plan (BLM</i>	300 meter stream study reaches	Every 5 years (all sites or streams) As needed: as	Decrease in index of biological integrity score, habitat	Management changes would address causes of degradation. If impacts to

Element	Item	Location	Technique	Unit of Measure	Frequency and Duration	Remedial Action Trigger	Management Options
		prairie stream survey protocol and locations as needed due to degraded habitat, allotment inspections, pre- and post-development, or as other needs arise	2010k) and index of biological integrity approach following <i>Development and evaluation of a fish assemblage index of biotic integrity for Northwestern Great Plains streams</i> (Bramblett, Johnson, Zale, and Heggem 2005) and <i>Fish and Habitat Sampling Protocol for Prairie Streams</i> (Bramblett 2003)		determined by a decrease in riparian conditions (e.g. declining PFC rating), water quality or water resource parameters indicate a decline in habitat conditions, or land-use or development plans indicate a potential for deleterious impacts to habitat	parameters, decreased riparian function, or allotment failing to meet Standards for Rangeland Health	management changes did not maintain or improve prairie stream aquatic wildlife habitat, additional monitoring or project revision would be required. Oil and gas operators would be required to alter activities in order to provide environmental factors for maintaining or improving prairie stream aquatic wildlife habitat.
<b>Fisheries and aquatic wildlife in sport-fish reservoirs</b>	Habitat conditions and surveys by Montana Fish, Wildlife, and Parks (MFWP)	Designated sport-fish reservoirs	Gill netting and trapping conducted by MFWP	Acres of reservoir	1 to 5 years or determined by MFWP	Decrease in population sizes due to factors related to resource use	Management changes would address causes of degradation. If impacts of management changes did not maintain or improve sport-

Element	Item	Location	Technique	Unit of Measure	Frequency and Duration	Remedial Action Trigger	Management Options
							fish reservoir habitat, additional monitoring or project revision would be required. Oil and gas operators would be required to alter activities to provide environmental factors for maintaining or improving sport-fish reservoir habitat.
<b>Upland game birds and migratory bird species</b>	Use and trend	Sharp-tailed and sage- grouse leks or winter grounds and migratory bird species habitats	Field inspect leks/breeding bird surveys and strategies outlined in the Wildlife Appendix	Number of males/numbers and species of migratory birds	Monitoring will be tied to yearly (varies per species, 1-5 years for migratory bird species) planning with MFWP or based upon project specific need or existing requirements	Varies and is project-specific (i.e., downward trend in lek attendance)	Extension of timing or project location or re-location, stipulations or COAs, and off-site mitigation

Element	Item	Location	Technique	Unit of Measure	Frequency and Duration	Remedial Action Trigger	Management Options
<b>Threatened and Endangered species and other special status wildlife species habitat</b>	Habitat use and trends	Black-tailed prairie dog colonies, interior least terns, and special status species raptor nests	Field surveys that include aerial, boat, or ground survey methodologies	Acres and number of prairie dog colonies, least tern numbers and nesting sites, and raptor nest site surveys	Monitoring will be tied to yearly planning with MFWP or based upon project-specific need or existing requirements	Varies and is project- specific	Extension of timing or project location re- location; stipulations or COAs; off-site mitigation
<b>Upland game bird: sage and sharp-tailed grouse</b>	Habitat condition or baseline data collection	Sage-grouse nesting, brood-rearing, winter grounds, and sharp-tailed grouse habitats	Methodologies such as line point intercept and other methodologies as outlined in the <i>Management Plan and Conservation Strategies for Sage Grouse in Montana-Final</i> (Montana Sage Grouse Work Group 2005)	Existing habitat conditions, height of residual vegetation, cover, species diversity, and potential habitat trends	Monitoring will be tied to grazing permit renewals, existing conditions, and allotments that contain a high percentage of BLM-administered lands and other actions that cause direct or indirect habitat loss	Varies and is project- specific	Mitigate potential effects of habitat conditions or loss or require changes to livestock season-of-use
<b>Wildland Fire Management and Ecology</b>							
<b>Wildland Fire Management and Ecology</b>	Fire Regime and Condition Class (FR/CC)	Area-wide	FR/CC Standard Landscape Worksheet	Composition of departure and condition classes compared to reference conditions	Field measurements evaluated on a 10-year cycle	A change in the direction of trend away from management	Implement additional vegetation or habitat treatments

Element	Item	Location	Technique	Unit of Measure	Frequency and Duration	Remedial Action Trigger	Management Options
<b>CULTURAL RESOURCES</b>							
<b>Cultural Resources</b>	Random sample of 10 additional sites	Area-wide	Site inspection	Site, surrounding area	Annually	Any noticeable trend indicating increased disturbance, natural or human-caused	For any noticeable trend indicating increased disturbance (natural or human-caused), halt activity affecting sites, increase frequency and number of sites monitored (if sites are being impacted), increase monitoring of nearby sites, and evaluate damage to sites

Element	Item	Location	Technique	Unit of Measure	Frequency and Duration	Remedial Action Trigger	Management Options
<p><b>Cultural Resources</b> (cont'd)</p>	<p>Site degradation caused by human activity</p>	<p>Significant cultural sites and area-wide</p>	<p>Inspection of area disturbed</p>	<p>Site, surrounding area</p>	<p>Annually</p>	<p>Any noticeable trend indicating increased disturbance (natural or human-caused), such as excavations</p>	<p>Closure of areas surrounding site to prevent further disturbance to significant cultural resources (may require an RMP amendment); for any noticeable trend indicating increased disturbance (natural or human-caused), halt activity affecting sites, increase frequency and number of sites monitored (if sites are being impacted), increase monitoring of nearby sites, and evaluate damage to sites</p>

Element	Item	Location	Technique	Unit of Measure	Frequency and Duration	Remedial Action Trigger	Management Options
<b>Cultural Resources (cont'd)</b>	Environmental degradation, such as erosion or trampling	Significant cultural sites and area-wide	Inspection of displaced or altered area	Site, surrounding area	Annually	Accelerated loss or damage to significant cultural material	Closure of areas surrounding site to prevent further disturbance to significant cultural resources (may require an RMP amendment; for any noticeable trend indicating increased disturbance (natural or human-caused), halt activity affecting sites, increase frequency and number of sites monitored (if sites are being impacted), increase monitoring of nearby sites, and evaluate damage to sites

Element	Item	Location	Technique	Unit of Measure	Frequency and Duration	Remedial Action Trigger	Management Options
<b>PALEONTOLOGICAL RESOURCES</b>							
<b>Paleontological Resources</b>	Significant paleontological localities	Area-wide	Inspection of disturbed area	Degradation caused by human or natural activities that lead to loss of significant fossil resources	Annually	Loss or damage to significant fossil resources	Closure of areas surrounding site to prevent further disturbance to significant fossil resources (may require an RMP amendment)
	Locality degradation caused by human activity	Significant paleontological localities	Inspection of area disturbed	Percentage of locality	Annually	Any noticeable trend indicating increased disturbance such as excavations	Closure of areas surrounding site to prevent further disturbance to significant fossil resources (may require an RMP amendment)

Element	Item	Location	Technique	Unit of Measure	Frequency and Duration	Remedial Action Trigger	Management Options
<b>VISUAL RESOURCE MANAGEMENT (VRM)</b>							
<b>VRM I</b>	(see <i>Wilderness</i> in this table)						
<b>VRM II</b>	VRM II	See Map #	Field visit	Photo points	Once every 1 to 5 years	Unanticipated or unacceptable effects or conflicts occurring	Require mitigation; signing; increase enforcement visits; and replan for area (may require an RMP amendment)
<b>VRM III/IV</b>	Large scale-surface disturbing project	Planning area	Field visit or key observation points	Photos	As the need arises	Large-scale surface-disturbing project on landscape	Require mitigation

Element	Item	Location	Technique	Unit of Measure	Frequency and Duration	Remedial Action Trigger	Management Options
<b>FORESTRY AND WOODLAND PRODUCTS</b>							
<b>Forestry and Woodland Products</b> (cont'd)	Reforestation	BiFO	Site inspection and stocking surveys	Trees per acre and visual evaluation of tree vigor	Initial survey 10 years after harvest or wildfire; subsequent survey after 15 years to determine if artificial regeneration is necessary	Less than 150 trees per acre; trees greater than 4.6 inches diameter at breast height	Planting of nursery stock or broadcast seeding
	Silvicultural treatments	BiFO	Site inspection	Trees per acre; basal area per acre; volume per acre (thousand board feet per acre); and size classes; visual evaluation of forest health	Pre- and post-treatment	Obtain current stand data information and evaluate effects of treatments	Stocking surveys, stand exams, forest inventory, permanent plots, and photo points
	Forest health	BiFO	National Agricultural Imagery Program photography, aerial detection surveys, site visits	Visual evaluation	Annually	Evaluate insect and disease damage and tree mortality levels	Silvicultural treatments, sanitation harvest, chemical application (e.g., verbenone, carbaryl)
	Roads	BiFO	Site Inspection	Visual Evaluation	Pre- and post-treatment	Damage to road surface (e.g., rutting, erosion, sediment	Culvert replacement or installation, rolling dips, proper

Element	Item	Location	Technique	Unit of Measure	Frequency and Duration	Remedial Action Trigger	Management Options
						delivery, or culvert washouts)	drainage and road placement, reconstruction, cut and fill slope stabilization, surface blading, grass seeding, armoring, road closures, timing restrictions, and other activities (see Montana BMPs in the <i>Forestry and Woodland Products Appendix</i> )
<b>MINERALS</b>							
Element	Item	Location	Technique	Unit of Measure	Frequency and Duration	Remedial Action Trigger	Management Options
<b>Oil, Gas, and Geothermal</b>	Geophysical notice of intent (NOI)	Area-wide	Line or area inspection	Operations conducted in compliance with NOI	Minimum of once during operations	Violation of regulations, change from approved NOI	Issue certified letter with corrective action and timeframe; bond release cannot occur until violations are corrected

Element	Item	Location	Technique	Unit of Measure	Frequency and Duration	Remedial Action Trigger	Management Options
<p><b>Oil, Gas, and Geothermal</b> (cont'd)</p>	<p>Application for permit to drill operations (surface and technical inspections)</p>	<p>Area-wide</p>	<p>Site inspection</p>	<p>Operations conducted in compliance with applications for permit to drill</p>	<p>Surface Inspections: construction, drilling, and production – Minimum of once and as necessary</p> <p>Interim and final reclamation – minimum of once and until reclamation is complete</p> <p>Technical inspection: drilling and production – minimum of once and as necessary</p>	<p>Violations of regulations, change from approved applications for permit to drill</p>	<p>Issue a written order or an incident of non-compliance with timeframe to correct violations or shut in operations</p>

Element	Item	Location	Technique	Unit of Measure	Frequency and Duration	Remedial Action Trigger	Management Options
Oil, Gas, and Geothermal (cont'd)	Sundry notice	Area-wide	Site inspection	Operations conducted in compliance with approved sundry notice	As necessary	Violations of regulations, change from approved sundry notice	Issue a written order or an incident of non-compliance with timeframe to correct or shut in operations
	Oil and gas drainage	Area-wide	Drainage evaluation	Radius of drainage	As necessary	The BLM determines that federal oil or gas is being drained (physically removed) by an off-lease well.	Notify lessee of drainage situation. Require lease protection, compensatory royalty, or relinquishment
	Produced water disposal	Area-wide	Site inspection	Operations conducted in compliance with permit	Minimum of once annually or as necessary	Violation of regulations or change from approved permit	Issue a written order or an incident of non-compliance with timeframe to correct or shut in operations with timeframe for correction

Element	Item	Location	Technique	Unit of Measure	Frequency and Duration	Remedial Action Trigger	Management Options
<b>RECREATION</b>							
<b>Recreation</b>	General recreation use	Area-wide with emphasis on dispersed use of undeveloped recreational sites (extensive recreation management areas)	Area inspection to look for vandalism and resource abuse and to install photo points	Site condition	Twice a year (e.g., once in June and once in October) and photograph annually	User conflicts, resource degradation, or safety hazards	Signing, fencing or other mitigation measures
	Concentrated recreation use and demand	Special recreation management areas and sites with recreation facilities	Visitor registration, traffic counters, estimates, and photo points	Visitor days and site condition	Visitor registration boxes and counters checked once monthly (at the minimum) and weekly or biweekly during heavy use periods; photograph annually	Increased visitor use per year or sustained use that requires additional or improved facilities	Monitor more frequently and signing, fencing, or other mitigation measures
		Area-wide commercial and competitive activities (special recreation permits)	Administrative review and site inspection or reviews for permittees with permit stipulations	Permit stipulations, resource condition, and success of reclamation	On site during competitive events, periodic site inspection for commercial operations, and administrative review annually	Violation of permit stipulations, irreparable resource damage, and compromised visitor safety and recreation experience	Monitor more frequently and signing, fencing, or other mitigation measures

Element	Item	Location	Technique	Unit of Measure	Frequency and Duration	Remedial Action Trigger	Management Options
<b>RENEWABLE ENERGY</b>							
Renewable Energy	Rights-of-way (ROWs)	Area-wide	Site inspection	ROW	Minimum of once during or for construction within 5 years of issuance, then in the 20 <sup>th</sup> year after issuance and every 10 years thereafter; before release or collection of a bond; before renewal termination or relinquishment acceptance; or as required by specific terms and conditions in the ROW grant or the plan of development (POD) or regulations	Nonuse of the ROW or violation of ROW grant stipulations, the terms of the POD, or regulations	Require compliance with ROW grant stipulations, POD terms, or regulations with possible suspension or termination for non-compliance or nonuse

Element	Item	Location	Technique	Unit of Measure	Frequency and Duration	Remedial Action Trigger	Management Options
<b>TRAVEL MANAGEMENT AND OHV</b>							
<b>Travel Management and OHV</b> (cont'd)	Track progress on implementation or planning signing, and mapping	Planning-area-wide	Field trips and localized public meetings	Verify minimized resource damage, user conflicts, and new user-created roads	Annual	Effects not anticipated in EIS or unacceptable effects	Require further mitigation or reclamation; consider replanning area (may require an RMP amendment)
<b>REALTY, CADASTRAL SURVEY, AND LANDS</b>							
<b>Realty, Cadastral Survey, and Lands</b>	ROWs	Area-wide	Site inspection	ROW	Minimum of once during or for construction within 2 years of issuance for Mineral Leasing Act reviews and within 5 years of issuance for Federal Land and Policy Management Act reviews, then in the 20 <sup>th</sup> year after issuance and every 10 years thereafter; before release or collection of a bond; before renewal termination or	Nonuse of the ROW or violation of ROW grant stipulations, the terms of the POD, or regulations	Require compliance with ROW grant stipulations, POD terms, or regulations with possible suspension or termination for non-compliance or nonuse

Element	Item	Location	Technique	Unit of Measure	Frequency and Duration	Remedial Action Trigger	Management Options
					relinquishment acceptance; or as required by specific terms and conditions in the ROW grant or the POD or regulations		
<b>Realty, Cadastral Survey, and Lands (cont'd)</b>	2920 Land Use Permits and Leases	Area-wide	Site inspection	Lease or Permit	Minimum of once during or for construction within 2 years of issuance; before release or collection of a bond; before renewal termination or relinquishment acceptance; or as required by specific terms and conditions in the lease or permit or the POD or regulations	Nonuse of the lease or permit or violation of lease or permit stipulations, the terms of the POD, or regulations	Require compliance with lease or permit stipulations, POD terms, or regulations with possible suspension or termination for non-compliance or nonuse
	Other Land Use Authorizations	Area-wide	Site inspection	Use Authorization	Minimum of once during or for construction; before release or collection of a bond;	Nonuse of the authorization or violation of authorization stipulations, the terms of the POD, or	Require compliance with authorization stipulations, POD terms, or regulations;

Element	Item	Location	Technique	Unit of Measure	Frequency and Duration	Remedial Action Trigger	Management Options
					before renewal termination or relinquishment acceptance; or as required by specific terms and conditions in the authorization or the POD or regulations	regulations	with possible suspension or termination for non-compliance or nonuse
<b>Realty, Cadastral Survey, and Lands (cont'd)</b>	Commercial film permits						
Element	Item	Location	Technique	Unit of Measure	Frequency and Duration	Remedial Action Trigger	Management Options
<b>SPECIAL DESIGNATION AREAS</b>							
<b>ACECs</b>	Cultural ACECs	Area-wide	Site inspection	Sites receiving most public visitation, surrounding area	Annually	Any noticeable trend indicating increased disturbance, natural or human-caused	Increase frequency of monitoring to ensure ACEC values are not being impaired

<b>Element</b>	<b>Item</b>	<b>Location</b>	<b>Technique</b>	<b>Unit of Measure</b>	<b>Frequency and Duration</b>	<b>Remedial Action Trigger</b>	<b>Management Options</b>
<b>National Historic Trails</b>	Lewis & Clark NHT and Nez Perce NHT	Area wide	Area inspection to look for vandalism, resource abuse, and to install photo points	Site condition	Annually	User conflicts, resource degradation, or safety hazards	Signing; site mitigation; more restrictive management (may require a resource management plan [RMP])

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## Appendix G: Pompeys Pillar Designations

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**Establishment of Pompeys Pillar National Monument  
January 17, 2001**

## THE WHITE HOUSE

### Office of the Press Secretary

For Immediate Release

January 17, 2001

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#### ESTABLISHMENT OF THE POMPEYS PILLAR NATIONAL MONUMENT

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BY THE PRESIDENT OF THE UNITED STATES OF AMERICA

### A PROCLAMATION

Pompeys Pillar National Monument is a massive sandstone outcrop that rises from an almost two-acre base on the banks of the Yellowstone River 150 feet toward Montana's Big Sky, east of Billings. The monument's premier location at a natural ford in the Yellowstone River, and its geologic distinction as the only major sandstone formation in the area, have made Pompeys Pillar a celebrated landmark and outstanding observation point for more than eleven thousand years of human occupation. Hundreds of markings, petroglyphs, and inscriptions left by visitors have transformed this geologic phenomenon into a living journal of the American West.

The monument's most notable visitor, Captain William Clark of the Lewis and Clark Expedition, arrived at Pompeys Pillar on July 25, 1806, on his return trip from the Pacific coast. Clark's journal recorded his stop at this "remarkable rock" with its "extensive view in every direction." He described an idyllic landscape of grassy plains, snow-capped mountains, and cliffs abutting the wandering river. Clark marked his presence by engraving his name and the date of his visit on the outcrop. This simple inscription is the only remaining physical evidence of Lewis and Clark's epic journey. In his journal, Clark named the rock Pompey's Tower, Pompey being Clark's nickname for Sacagawea's young son, Jean Baptiste Charbonneau, who was born at the expedition's winter camp at Fort Mandan on February 11, 1805. The name was changed to Pompeys Pillar by author Nicholas Biddle when his account of the Expedition was published in 1814.

Ethnographic and archaeological evidence indicates that the Pillar was a place of ritual and religious activity. Hundreds of petroglyphs on the face of the rock, noted by Clark in his journal, reflect the importance of the monument to early peoples. The Crow people, the dominant residents of the region when Clark passed through, call the pillar the "Mountain Lions Lodge" in their language, and it figures prominently in Crow oral history. Pompeys Pillar also includes the markings and signature of a host of characters from the pioneer past, including fur trappers, Yellowstone River steamboat men, frontier army troops, railroad workers, missionaries, and early settlers. In 1873, Lieutenant Colonel George Armstrong Custer and his men camped at its base, where they came under attack from Sioux snipers.

Section 2 of the Act of June 8, 1906 (34 Stat. 225, 16 U.S.C. 431), authorizes the President, in his discretion, to declare by public proclamation historic landmarks, historic and prehistoric structures, and other objects of historic or scientific interest that are situated upon the lands owned or controlled by the Government of the United States to be national monuments, and to reserve as a part thereof parcels of land, the limits of which in all cases shall be confined to the smallest area compatible with the proper care and management of the objects to be protected.

WHEREAS it appears that it would be in the public interest to reserve such lands as a national monument to be known as the Pompeys Pillar National Monument:

NOW, THEREFORE, I, WILLIAM J. CLINTON, President of the United States of America, by the authority vested in me by section 2 of the Act of June 8, 1906 (34 Stat. 225, 16 U.S.C. 431), do proclaim that there are hereby set apart and reserved as the Pompeys Pillar National Monument, for the purpose of protecting the objects identified above, all lands and interests in lands owned or controlled by the United States within the boundaries of the area described on the map entitled "Pompeys Pillar National Monument" attached to and forming a part of this proclamation. The Federal land and interests in land reserved consist of approximately 51 acres, which is the smallest area compatible with the proper care and management of the objects to be protected.

All Federal lands and interests in lands within the boundaries of this monument are hereby appropriated and withdrawn from all forms of entry, location, selection, sale, or leasing or other disposition under the public land laws, including but not limited to withdrawal from location, entry, and patent under the mining laws, and from disposition under all laws relating to mineral and geothermal leasing.

Lands and interests in lands within the proposed monument not owned by the United States shall be reserved as a part of the monument upon acquisition of title thereto by the United States.

The Secretary of the Interior shall manage the monument through the Bureau of Land Management, pursuant to applicable legal authorities, to implement the purposes of this proclamation.

The establishment of this monument is subject to any valid existing rights, including the mineral estate held by the United States in trust for the Crow Tribe.

Nothing in this proclamation shall be deemed to enlarge or diminish the jurisdiction of the State of Montana with respect to fish and wildlife management.

This proclamation does not reserve water as a matter of Federal law. Nothing in this reservation shall be construed as a relinquishment or reduction of any water use or rights reserved or appropriated by the United States on or before the date of this proclamation. The Secretary shall work with appropriate State authorities to ensure that any water resources needed for monument purposes are available.

Nothing in this proclamation shall be deemed to revoke any existing withdrawal, reservation, or appropriation; however, the national monument shall be the dominant reservation. Warning is hereby given to all unauthorized persons not to appropriate, injure, destroy, or remove any feature of this monument and not to locate or settle upon any of the lands thereof.

IN WITNESS WHEREOF, I have hereunto set my hand this seventeenth day of January, in the year of our Lord two thousand one, and of the Independence of the United States of America the two hundred and twenty-fifth.

WILLIAM J. CLINTON

###

**Federal Register Notice of Establishment of  
Pompeys Pillar National Monument  
January 22, 2001**



## Presidential Documents

Proclamation 7396 of January 17, 2001

### Establishment of the Pompeys Pillar National Monument

By the President of the United States of America

#### A Proclamation

Pompeys Pillar National Monument is a massive sandstone outcrop that rises from an almost two-acre base on the banks of the Yellowstone River 150 feet toward Montana's Big Sky, east of Billings. The monument's premier location at a natural ford in the Yellowstone River, and its geologic distinction as the only major sandstone formation in the area, have made Pompeys Pillar a celebrated landmark and outstanding observation point for more than eleven thousand years of human occupation. Hundreds of markings, petroglyphs, and inscriptions left by visitors have transformed this geologic phenomenon into a living journal of the American West.

The monument's most notable visitor, Captain William Clark of the Lewis and Clark Expedition, arrived at Pompeys Pillar on July 25, 1806, on his return trip from the Pacific coast. Clark's journal recorded his stop at this "remarkable rock" with its "extensive view in every direction." He described an idyllic landscape of grassy plains, snow-capped mountains, and cliffs abutting the wandering river. Clark marked his presence by engraving his name and the date of his visit on the outcrop. This simple inscription is the only remaining physical evidence of Lewis and Clark's epic journey. In his journal, Clark named the rock Pompy's Tower, Pompy being Clark's nickname for Sacagawea's young son, Jean Baptiste Charbonneau, who was born at the expedition's winter camp at Fort Mandan on February 11, 1805. The name was changed to Pompeys Pillar by author Nicholas Biddle when his account of the Expedition was published in 1814.

Ethnographic and archaeological evidence indicates that the Pillar was a place of ritual and religious activity. Hundreds of petroglyphs on the face of the rock, noted by Clark in his journal, reflect the importance of the monument to early peoples. The Crow people, the dominant residents of the region when Clark passed through, call the pillar the "Mountain Lions Lodge" in their language, and it figures prominently in Crow oral history. Pompeys Pillar also includes the markings and signature of a host of characters from the pioneer past, including fur trappers, Yellowstone River steamboat men, frontier army troops, railroad workers, missionaries, and early settlers. In 1873, Lieutenant Colonel George Armstrong Custer and his men camped at its base, where they came under attack from Sioux snipers.

Section 2 of the Act of June 8, 1906 (34 Stat. 225, 16 U.S.C. 431), authorizes the President, in his discretion, to declare by public proclamation historic landmarks, historic and prehistoric structures, and other objects of historic or scientific interest that are situated upon the lands owned or controlled by the Government of the United States to be national monuments, and to reserve as a part thereof parcels of land, the limits of which in all cases shall be confined to the smallest area compatible with the proper care and management of the objects to be protected.

WHEREAS it appears that it would be in the public interest to reserve such lands as a national monument to be known as the Pompeys Pillar National Monument:

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All Federal lands and interests in lands within the boundaries of this monument are hereby appropriated and withdrawn from all forms of entry, location, selection, sale, or leasing or other disposition under the public land laws, including but not limited to withdrawal from location, entry, and patent under the mining laws, and from disposition under all laws relating to mineral and geothermal leasing.

Lands and interests in lands within the proposed monument not owned by the United States shall be reserved as a part of the monument upon acquisition of title thereto by the United States.

The Secretary of the Interior shall manage the monument through the Bureau of Land Management, pursuant to applicable legal authorities, to implement the purposes of this proclamation.

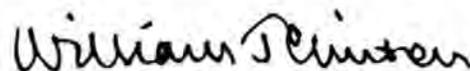
The establishment of this monument is subject to any valid existing rights, including the mineral estate held by the United States in trust for the Crow Tribe.

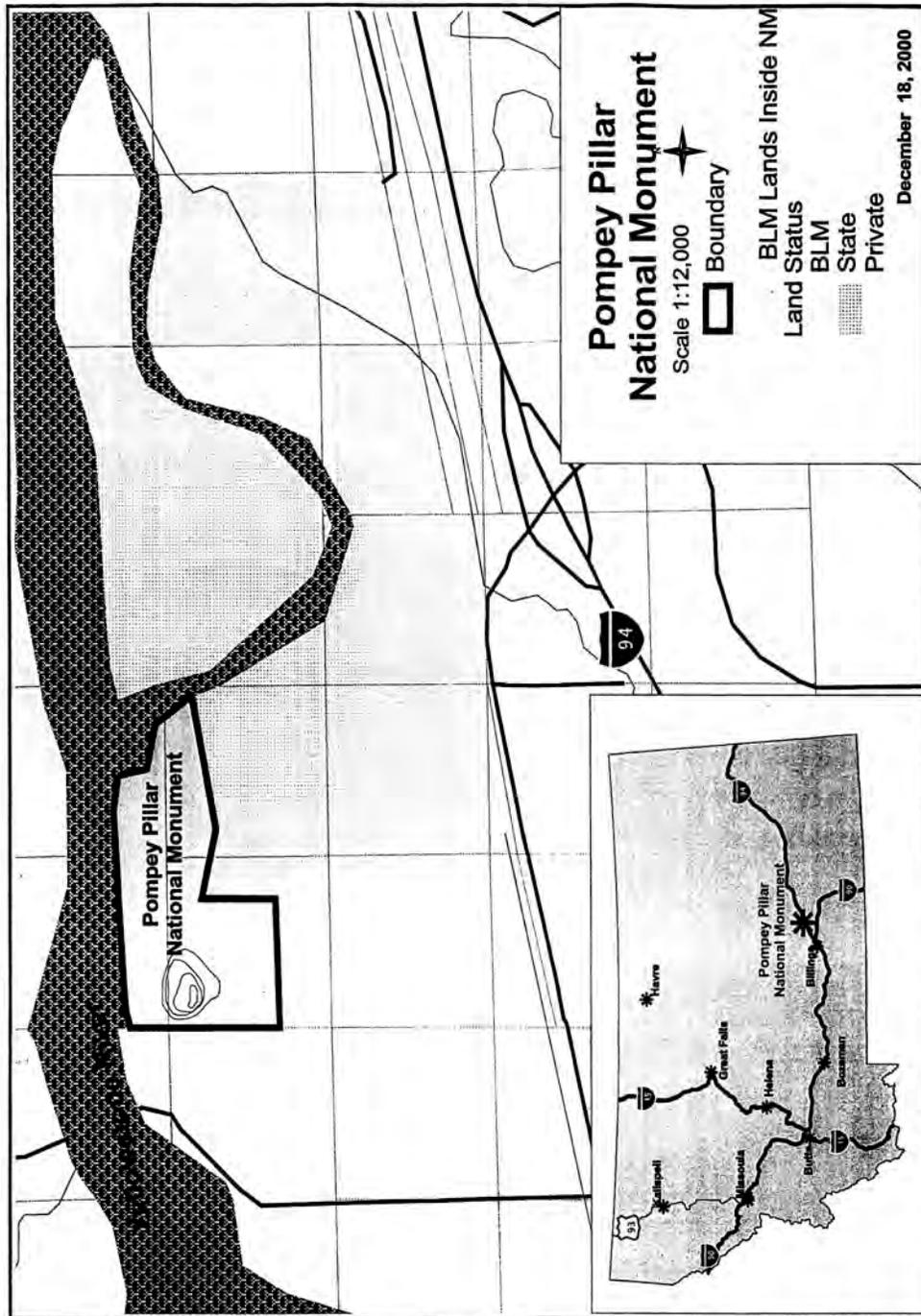
Nothing in this proclamation shall be deemed to enlarge or diminish the jurisdiction of the State of Montana with respect to fish and wildlife management.

This proclamation does not reserve water as a matter of Federal law. Nothing in this reservation shall be construed as a relinquishment or reduction of any water use or rights reserved or appropriated by the United States on or before the date of this proclamation. The Secretary shall work with appropriate State authorities to ensure that any water resources needed for monument purposes are available.

Nothing in this proclamation shall be deemed to revoke any existing withdrawal, reservation, or appropriation; however, the national monument shall be the dominant reservation. Warning is hereby given to all unauthorized persons not to appropriate, injure, destroy, or remove any feature of this monument and not to locate or settle upon any of the lands thereof.

IN WITNESS WHEREOF, I have hereunto set my hand this seventeenth day of January, in the year of our Lord two thousand one, and of the Independence of the United States of America the two hundred and twenty-fifth.





JFR Doc. 01-2101  
Filed 1-19-01; 8:45 am  
Billing code 3195-01-C

**Pompeys Pillar National Register of Historic Places  
September 20, 1983**

FHR-8-250 (10/78)

XI Advance of the Frontier, 1763 to 1830  
Lewis and Clark Expedition

UNITED STATES DEPARTMENT OF THE INTERIOR  
HERITAGE CONSERVATION AND RECREATION SERVICE  
**NATIONAL REGISTER OF HISTORIC PLACES**  
**INVENTORY-NOMINATION FORM**

FOR HCRS USE ONLY
RECEIVED
DATE ENTERED

SEE INSTRUCTIONS IN *HOW TO COMPLETE NATIONAL REGISTER FORMS*  
TYPE ALL ENTRIES -- COMPLETE APPLICABLE SECTIONS

**1 NAME**

HISTORIC Pompeys Pillar

AND/OR COMMON

Pompeys Pillar/Pompy's Tower

**2 LOCATION**

STREET & NUMBER

about 2 miles east of Nibbe, Montana

NOT FOR PUBLICATION

CITY, TOWN

Nibbe, Montana

XX VICINITY OF

CONGRESSIONAL DISTRICT

2nd

STATE

Montana

CODE  
30

COUNTY  
Yellowstone

CODE  
111

**3 CLASSIFICATION**

CATEGORY	OWNERSHIP	STATUS	PRESENT USE
<input type="checkbox"/> DISTRICT	<input type="checkbox"/> PUBLIC	<input checked="" type="checkbox"/> OCCUPIED	<input type="checkbox"/> AGRICULTURE <input type="checkbox"/> MUSEUM
<input type="checkbox"/> BUILDING(S)	<input checked="" type="checkbox"/> PRIVATE	<input type="checkbox"/> UNOCCUPIED	<input type="checkbox"/> COMMERCIAL <input checked="" type="checkbox"/> MARK
<input type="checkbox"/> STRUCTURE	<input type="checkbox"/> BOTH	<input type="checkbox"/> WORK IN PROGRESS	<input type="checkbox"/> EDUCATIONAL <input type="checkbox"/> PRIVATE RESIDENCE
<input checked="" type="checkbox"/> SITE	<b>PUBLIC ACQUISITION</b>	<b>ACCESSIBLE</b>	<input type="checkbox"/> ENTERTAINMENT <input type="checkbox"/> RELIGIOUS
<input type="checkbox"/> OBJECT	<input type="checkbox"/> IN PROCESS	<input checked="" type="checkbox"/> YES: RESTRICTED	<input type="checkbox"/> GOVERNMENT <input type="checkbox"/> SCIENTIFIC
	<input type="checkbox"/> BEING CONSIDERED	<input type="checkbox"/> YES: UNRESTRICTED	<input type="checkbox"/> INDUSTRIAL <input type="checkbox"/> TRANSPORTATION
		<input type="checkbox"/> NO	<input type="checkbox"/> MILITARY <input type="checkbox"/> OTHER:

**4 OWNER OF PROPERTY**

NAME

Stella Foote

STREET & NUMBER

1207 Hillhayen Way

CITY, TOWN

Billings,

VICINITY OF

STATE

Montana

**5 LOCATION OF LEGAL DESCRIPTION**

COURTHOUSE,

REGISTRY OF DEEDS, ETC. Yellowstone County Courthouse

STREET & NUMBER

CITY, TOWN

Billings

STATE

Montana

**6 REPRESENTATION IN EXISTING SURVEYS**

TITLE

none known

DATE

FEDERAL STATE COUNTY LOCAL

DEPOSITORY FOR  
SURVEY RECORDS

CITY, TOWN

STATE

## 7 DESCRIPTION

<b>CONDITION</b>		<b>CHECK ONE</b>	<b>CHECK ONE</b>
<input type="checkbox"/> EXCELLENT	<input type="checkbox"/> DETERIORATED	<input type="checkbox"/> UNALTERED	<input type="checkbox"/> ORIGINAL SITE
<input checked="" type="checkbox"/> GOOD	<input type="checkbox"/> RUINS	<input checked="" type="checkbox"/> ALTERED	<input type="checkbox"/> MOVED DATE _____
<input type="checkbox"/> FAIR	<input type="checkbox"/> UNEXPOSED		

**DESCRIBE THE PRESENT AND ORIGINAL (IF KNOWN) PHYSICAL APPEARANCE**

Pompeys Pillar is located on the south bank of the Yellowstone River, in Yellowstone County, Montana, about one mile north of U.S. 10, one mile east of Nibbe in south central Montana. As viewed from the west and south, the vertical stone face of the pillar juts abruptly above the level floor of the valley, which measures more than a mile across at this point. From its top both the Beartooth and Big Horn Mountains can be seen. Contrary to most written descriptions, the overall height of the pillar, including a thick cap of earth, is probably not more than 120 feet above its base.

The northeast side of the rock gradually slopes downward to ground level. Diameter of the long axis running east and west is about 350 feet. A strip of land, 300 feet wide, separates the pillar from the river bank. The elevation of the adjacent valley floor is about 2800 feet above sea level.

Pompeys Pillar is composed of thick beds of fine-grained sandstone separated by narrower layers of sandstone breccia. The material probably corresponds to the Parkman sandstone formation laid down as marine sediment during the upper Cretaceous period more than 60 million years ago. At one time in the far distant geological past the pillar obviously was part of the same formation now exposed in the bluff only a few hundred yards north across the river. The action of the river probably eroded through a protruding headland and effectively isolated the tip which is seen today as the pillar.

Evidence of Indian occupation was obvious both to Clark and later travelers who reported the presence of pictographs inscribed on the rock. Although the Indian carvings are barely noticeable today, and in only one place, a number of traditional stories about the pillar still circulate in the Crow tribe. The Crow were the principal occupants of the area during the 1800's, with occasional visits by Gros Ventres, Blackfeet, and Assiniboine, and later the Sioux.

Stuart W. Conner, a Billings archeologist, studied and copied the petroglyphs recently (ca. 1970). They are located just southeast of the Clark signature and can only be faintly distinguished as red markings on the rock as the area is also covered with hundreds of more recent carved signatures. One pictograph is the figure of an animal with an arrow in its back, and there is also a series of stick figures, apparently scratched into the rock through a coating of red stain (believed to be Shoshone, A.D. 1200-1800).

Clark's signature is on the face of an overhanging wall of rock, just below the top and on the east end and riverside of the pillar, about seven feet above a short path running along the base of the wall. The signature can be plainly seen through the glass-fronted bronze case, and all around it, for at

Form No. 10-300a  
(Rev. 10-74)

UNITED STATES DEPARTMENT OF THE INTERIOR  
NATIONAL PARK SERVICE

**NATIONAL REGISTER OF HISTORIC PLACES  
INVENTORY -- NOMINATION FORM**

Pompeys Pillar

FOR NPS USE ONLY
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DATE ENTERED

CONTINUATION SHEET

ITEM NUMBER 7 PAGE 1

least 15 feet, are hundreds of initials, names and dates carved into the flat stone area. Most of the older inscriptions date around the turn of the century, although one 1875 date is still prominent.

The Northern Pacific Railway Company acquired a 400 foot right-of-way through this area in 1882, located about a half mile south of Pompeys Pillar, which would be plainly seen from passing trains. The railroad seemed to take a protective interest in the landmark and had a heavy iron grate made and sunk firmly into the rock to protect Clark's signature. Although this grate provided partial protection against vandals, the eroding action of the wind and weather continued to dim the signature.

In 1926, at the instigation of the local DAR group, the railroad authorized the Billings Marble and Granite Works to cut the letter deeper into the stone. There is a possibility that the inscription may have been cut more deeply by a member of the Josephine crew in 1875 also. In 1928 the Billings chapter of the DAR erected a bronze plaque commemorating Lewis and Clark, in 1938 the Masons placed another plaque honoring both explorers as Masons, and in 1968 a plaque commemorating the efforts of Don Foote in the preservation of Pompeys Pillar, was placed there. All three of these bronze plaques are affixed to the face of the cliff within a few feet and east of the Clark inscriptions, and on the same flat surface as other carvings and the petroglyphs. The national historic landmark plaque is mounted on a large rock at the base of the pillar.

Pompeys Pillar and 105 surrounding acres were purchased in 1956 by the Foote family of Billings, who presently own it, and extensive plans were made to develop the site as a privately operated historical area then called "Pompeys Pillar Monument Park." Trails up the north side of the pillar were graded, steps and railings were installed to assist the climber. Interpretive markers were erected and a road was built from the highway to the river bank and then around the base of the pillar itself. The Clark signature was encased in a bronze casement sunk into the rock, with inch-thick shatterproof glass protecting the carving.

The Footes planned a rather large-scale development of the site including a Western frontier town and possibly a museum to house the family's extensive collection of western Americana. They moved three old buildings to the area including a turn-of-the century country store from Nibbe, Montana, a log structure from the Billings suburb of Lockwood, and a homesteader's cabin from Livingston. These buildings, plus a fourth structure intended for a livery stable and now used for a ticket booth, and a mobile home used by

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(Rev. 10-74)

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NATIONAL PARK SERVICE

**NATIONAL REGISTER OF HISTORIC PLACES  
INVENTORY -- NOMINATION FORM**

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Pompeys Pillar

CONTINUATION SHEET

ITEM NUMBER 7 PAGE 2

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the owners, are all located in a wooded area just east of the pillar. They are non-historic and do not contribute to the national significance of the site. Plans for the frontier town have been curtailed, but the area has been improved for recreational use and paths have been cleared through the cottonwood trees which line the river bank. An unpaved parking area has been made just northeast of the pillar, and picnicking facilities have been installed.

A number of miscellaneous objects associated with western history, though not necessarily with Pompeys Pillar, are displayed around the base of the rock formation, including a number of old wagons which line the road south of the pillar, a display of petrified wood, a case of Indian relics and a dugout canoe built by a local group. Since the original purchase of 105 acres, the Foote family has purchased approximately 80 more acres of adjacent property, which is used for farming and cattle raising, managed by a tenant whose house and farm buildings are located to the south, nearer route 312.

---

Much of the data from special NPS study by Andrew M. Loveless, 1965.

## 8 SIGNIFICANCE

PERIOD	AREAS OF SIGNIFICANCE -- CHECK AND JUSTIFY BELOW			
<input type="checkbox"/> PREHISTORIC	<input checked="" type="checkbox"/> ARCHEOLOGY-PREHISTORIC	<input type="checkbox"/> COMMUNITY PLANNING	<input type="checkbox"/> LANDSCAPE ARCHITECTURE	<input type="checkbox"/> RELIGION
<input type="checkbox"/> 1400-1499	<input type="checkbox"/> ARCHEOLOGY-HISTORIC	<input type="checkbox"/> CONSERVATION	<input type="checkbox"/> LAW	<input type="checkbox"/> SCIENCE
<input type="checkbox"/> 1500-1599	<input type="checkbox"/> AGRICULTURE	<input type="checkbox"/> ECONOMICS	<input type="checkbox"/> LITERATURE	<input type="checkbox"/> SCULPTURE
<input type="checkbox"/> 1600-1699	<input type="checkbox"/> ARCHITECTURE	<input type="checkbox"/> EDUCATION	<input type="checkbox"/> MILITARY	<input type="checkbox"/> SOCIAL/HUMANITARIAN
<input type="checkbox"/> 1700-1799	<input type="checkbox"/> ART	<input type="checkbox"/> ENGINEERING	<input type="checkbox"/> MUSIC	<input type="checkbox"/> THEATER
<input checked="" type="checkbox"/> 1800-1899	<input type="checkbox"/> COMMERCE	<input checked="" type="checkbox"/> EXPLORATION/SETTLEMENT	<input type="checkbox"/> PHILOSOPHY	<input type="checkbox"/> TRANSPORTATION
<input type="checkbox"/> 1900-	<input type="checkbox"/> COMMUNICATIONS	<input type="checkbox"/> INDUSTRY	<input type="checkbox"/> POLITICS/GOVERNMENT	<input type="checkbox"/> OTHER (SPECIFY)
		<input type="checkbox"/> INVENTION		

SPECIFIC DATES July 25, 1806

BUILDER/ARCHITECT

### STATEMENT OF SIGNIFICANCE

Pompeys Pillar is an isolated block of light-yellow sandstone that abruptly rises more than 100 feet above the level plain and south bank of the Yellowstone River, near Nibbe, Montana. On its upper east surface is carved "Wm Clark July 25, 1806", probably the only extant physical evidence of the entire Lewis and Clark expedition.

The pillar's primary historic significance is its association with the Lewis and Clark expedition of 1804-1806. However, it was evidently used by the Indians as a signal tower, and the walls bear Indian petroglyphs, which were noted by Clark in his journal. Also noted by Clark was the location of the rock tower near the intersection of the 46th parallel and the 108th meridian, which made the pillar a natural landmark for many later expeditions and surveys.

It was while on a side trip during the expedition's return east in 1806, following the Yellowstone River easterly, that explorer William Clark's party, which included Sacajawea and her child, noticed the prominent rock formation, which from that direction does resemble a tower. Clark recorded that he climbed the tower, carved his name and date on its surface, and named the rock formation for Sacajawea's infant son.

On their return from the Pacific, William Clark and Meriwether Lewis had divided the expedition, at Travellers Rest to explore various routes, and Clark and his men set out for the caches on Beaverhead. From there they proceeded down the river to Three Forks, and at that point the party again subdivided. Clark and his group crossed over Bozeman Pass to the Yellowstone and descended that stream.

Clark described the visit to the sandstone tower as follows:

- . . .at 4PM arrived at the remarkable rock situated in an extensive bottom on the Stard. Side of the river and 250 paces from it. thick rock I ascended and from it's top had a most extensive view in every direction. This rock which I shall call Pompey's Tower is 200 feet high and 400 paces in secumpherance and only axcessible on one Side which is from the N.E. the other parts of it being a perpendicular clift of lightish coloured gritty rock...The natives have ingraved on the face

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NATIONAL PARK SERVICE

**NATIONAL REGISTER OF HISTORIC PLACES  
INVENTORY -- NOMINATION FORM**

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Pompeys Pillar

CONTINUATION SHEET

ITEM NUMBER 8 PAGE 1

of this rock the figures of animals &c. near which I marked my name and the day of the month & year....

After reviewing the countryside and noting the "emence" herds of buffalo and elk nearby, Clark took the last look he would ever have of the Rockies and returned to the canoes. Continuing downriver, the party rejoined Meriwether Lewis, and the expedition reached St. Louis September 23, 1806.

Most later expeditions and surveys through southern Montana either passed by or terminated at Pompeys Pillar. In 1860, members of an exploration party climbed to its summit in order to observe scientifically a solar eclipse. The survey for the line of the Northern Pacific Railroad was completed near the pillar in 1873 and here George A. Custer, an officer in the accompanying military escort, arrived at the point farthest west he would ever reach.

A mining party under James Stuart in Spring 1863 noticed not only Clark's inscription, but the names of two of his men as well. A number of these early reports described the large numbers of wildlife, particularly buffalo also noted by Clark near the site. On June 3, 1875 an exploratory expedition along the Yellowstone river with several Smithsonian professors and a military escort reached Pompeys Pillar on board the Josephine, and the captain carved the name of the ship and the date on the pillar and flew the Stars and Stripes from the top of the rock tower. The next year a force of about 450 men under Colonel John Gibbon camped near the site and inscribed their names in the rock, and several noted Clark's signature in their journals.

No writer has ever seriously challenged the authenticity of the Clark signature; and on the basis of the known records and present condition of the carving, it appears most probable that the inscription is Clark's. It would be most unlikely that an early nineteenth century visitor could perpetrate such a hoax.

The name "Pomp" was the nickname Clark gave to Sacajawea's infant son, Baptiste Charboneau, according to a 1806 letter of Clark's. Nicholas Biddle, one of the later editors of the Lewis and Clark journals has been accused of substituting the name of a Roman column for Clark's simple name "Pompy's Tower".

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(Rev. 10-74)

UNITED STATES DEPARTMENT OF THE INTERIOR  
NATIONAL PARK SERVICE

**NATIONAL REGISTER OF HISTORIC PLACES  
INVENTORY -- NOMINATION FORM**

Pompeys Pillar

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Reuben G. Thwaites, The Original Journals of Lewis and Clark (New York, 1905).

James Stuart, "The Yellowstone Expedition of 1863," Contributions to the Historical Society of Montana (Helena, 1902).

Joseph M. Hanson, The Conquest of the Missouri (New York, 1946).

Lt. James H. Bradley, The March of the Montana Column (Norman, 1961).

Andrew M. Loveless, "Report on the Historical Investigation of Pompeys Pillar, Yellowstone County, Montana," National Park Service report: February 1965.

Robert G. Ferris, editor, Lewis and Clark: Historic Places Associated with Their Transcontinental Exploration, (1804-1806) (Washington, D.C.: National Park Service, 1975).

FHR-8-250A (10/78)

UNITED STATES DEPARTMENT OF THE INTERIOR  
HERITAGE CONSERVATION AND RECREATION SERVICE

**NATIONAL REGISTER OF HISTORIC PLACES  
INVENTORY-NOMINATION FORM**

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**CONTINUATION SHEET**

ITEM NUMBER 10 PAGE 1

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This boundary is marked by the contour line 2890 on the USGS 7.5 minute map, Nibbe, Montana, where the butte rises from the nearly level surrounding terrace. This boundary is marked by a dirt road on the southeast and extends to the dirt road on the west at one spot. The boundary does not include the roads. No more area is included because there have been certain developments (discussed earlier) in the tree grove around the pillar. These tourist trade improvements, while they do not detract from Pompeys Pillar, are not associated with the significance of the National Landmark, and therefore have been excluded from the Landmark boundaries.

11

1

Andrew M. Loveless 1965.

Ray H. Mattison 1958

Ann M. Johnson 1982

Rocky Mountain Regional Office  
National Park Service  
P.O.Box 25287  
Denver, Co. 80225

GPO 936-000

**9 MAJOR BIBLIOGRAPHICAL REFERENCES**

see continuation sheet

**10 GEOGRAPHICAL DATA**

ACREAGE OF NOMINATED PROPERTY 6 acres

UTM REFERENCES

A	12	7	3	2	0	4	0	5	0	9	7	7	2	0	B	12	7	3	1	9	2	8	5	0	9	7	6	4	0		
	ZONE	EASTING			NORTHING					EASTING			NORTHING					EASTING			NORTHING					EASTING			NORTHING		
C	12	7	3	1	9	2	8	5	0	9	7	7	2	0	D	12	7	3	1	9	2	0	5	0	9	7	7	6	0		

VERBAL BOUNDARY DESCRIPTION

see continuation sheet

LIST ALL STATES AND COUNTIES FOR PROPERTIES OVERLAPPING STATE OR COUNTY BOUNDARIES

STATE	CODE	COUNTY	CODE
STATE	CODE	COUNTY	CODE

**11 FORM PREPARED BY**

NAME / TITLE

Blanche Higgins, Landmark Review Project  
ORGANIZATION

6/15/76  
DATE

Historic Sites Survey, National Park Service  
STREET & NUMBER

TELEPHONE

CITY OR TOWN

Washington

STATE

D.C.

**12 STATE HISTORIC PRESERVATION OFFICER CERTIFICATION**

THE EVALUATED SIGNIFICANCE OF THIS PROPERTY WITHIN THE STATE IS:

NATIONAL  STATE  LOCAL

As the designated State Historic Preservation Officer for the National Historic Preservation Act of 1966 (Public Law 89-665), I hereby nominate this property for inclusion in the National Register and certify that it has been evaluated according to the criteria and procedures set forth by the National Park Service.

STATE HISTORIC PRESERVATION OFFICER SIGNATURE

TITLE

DATE

FOR NPS USE ONLY

I HEREBY CERTIFY THAT THIS PROPERTY IS INCLUDED IN THE NATIONAL REGISTER

ATTEST:

KEEPER OF THE NATIONAL REGISTER

DATE 9/27/83

DATE

**Pompeys Pillar National Historic Landmark Designation**

**February 25, 1965**

Form 10-517  
(Sept. 1957)

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
NATIONAL PARK SERVICE  
NATIONAL SURVEY OF HISTORIC SITES AND BUILDINGS

1. STATE Montana	2. THEME(S). IF ARCHEOLOGICAL SITE, WRITE "ARCH" BEFORE THEME NO. XI - The Advance of the Frontier, 1763-1830
3. NAME(S) OF SITE Pompeys Pillar	4. APPROX. ACREAGE 185 acres
5. EXACT LOCATION (County, township, range, etc. If difficult to find, sketch on Supplementary Sheet) Yellowstone County, 33 miles northeast of Billings and 1/2 mile north of US 10.	
6. NAME AND ADDRESS OF PRESENT OWNER (Also administrator if different from owner) Mr. Don C. Foote, 1207 Hillhaven Way, Billings, Montana	
7. IMPORTANCE AND DESCRIPTION (Use: "Be briefly what makes site important and what remains are extant")	

Pompeys Pillar is an isolated block of light-yellow sandstone that abruptly rises 120 feet above the floor of the Yellowstone Valley. It measures some 350 feet across at its widest point and is located just south of the Yellowstone River. On its upper east surface, protected by a glass-fronted bronze case, is carved "Wm Clark July 25 1806."

The pillar's primary historical significance is centered on its association with the Lewis and Clark Expedition of 1804-06. It also represented a notable landmark for later expeditions and surveys along the Yellowstone River.

While on a side trip during the return east in 1806, explorer William Clark noted in his journal the discovery of a prominent tower of rock near the Yellowstone which he named for Sacajawea's infant son. He described climbing the rock and carving his name and the date on its surface. The location of the pillar, near the intersection of the 46th parallel and the 108th meridian, was recorded by Clark, and his account was eventually published along with the edited journals of the expedition.

Most later expeditions and surveys through southern Montana either passed by or terminated at Pompeys Pillar. In 1860, members of an exploration party climbed to its summit in order to observe scientifically a solar eclipse. The survey for the line of the Northern Pacific Railroad was completed near the pillar in 1873 and here George A. Juster, an officer in the accompanying military escort, arrived at the point

8. BIBLIOGRAPHICAL REFERENCES (Give best sources; give location of manuscript and rare works)

Reuben G. Thwaites, The Original Journals of Lewis and Clark (New York, 1904-05).  
James Stuart, "The Yellowstone Expedition of 1863," Contributions to the Historical Society of Montana (Helena, 1902).  
Joseph M. Hanson, The Conquest of the Missouri (New York, 1946).  
Lt. James H. Bradley, The March of the Montana Column (Norman, 1961).

9. REPORTS AND STUDIES (Mention best reports and studies, as, NPS study, HABS, etc.)

Historic Site Study of February, 1965, by Andrew M. Loveless, Historian, Custer Battlefield

10. PHOTOGRAPHS* ATTACHED: YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	11. CONDITION Excellent	12. PRESENT USE (Museum, farm, etc.) Farm	13. DATE OF VISIT February 18, 1965
14. NAME OF RECORDER (Signature) Andrew M. Loveless	15. TITLE Historian	16. DATE February 23, 1965	

\* DRY MOUNT ON AN 8 X 10 1/2 SHEET OF FAIRLY HEAVY PAPER. IDENTIFY BY VIEW AND NAME OF THE SITE, DATE OF PHOTOGRAPH, AND NAME OF PHOTOGRAPHER. GIVE LOCATION OF NEGATIVE. IF ATTACHED, ENCLOSE IN PROPER NEGATIVE ENVELOPES.

(IF ADDITIONAL SPACE IS NEEDED USE SUPPLEMENTARY SHEET, 10-317a, AND REFER TO ITEM NUMBER)

U. S. GOVERNMENT PRINTING OFFICE 15-70210-1

Form 10-517a  
(Sept. 1965)

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
NATIONAL PARK SERVICE

NATIONAL SURVEY OF HISTORIC SITES AND BUILDINGS  
SUPPLEMENTARY SHEET

This sheet is to be used for giving additional information or comments, for more space for any item on the regular form, and for recording pertinent data from future studies, visitations, etc. Be brief, but use as many Supplement Sheets as necessary. When items are continued they should be listed, if possible, in numerical order of the items. All information given should be headed by the item number, its name, and the word (cont'd), as, 6. Description and Importance (cont'd) . . .

STATE	NAME(S) OF SITE
Montana	Pompeys Pillar

Farthest west he would ever reach.

The Northern Pacific, in 1882, installed an iron screen to protect Clark's signature. In 1928, the Billings chapter of the DAR erected a bronze plaque commemorating Lewis and Clark, and in 1938, the Masons placed another honoring both explorers who were Masons. The present owner briefly managed the area as a privately operated historical park in 1956. Most of the 185 acre tract presently continues under cultivation.

**Notes:**

The 1965 "National Survey of Historic Sites and Buildings" survey form was the documentation for the designation of Pompeys Pillar as a National Historic Landmark (NHL). These short forms, which were generally 1-2 pages in length, served as the NHL documentation forms in these early days of the NHL Program. Years later, after the National Park Service developed actual National Register nomination forms, then those forms were used to create updated documentation forms for NHLs. The 1983 National Register nomination form is the most updated NHL nomination form for Pompeys Pillar.

National Historic Landmark status is different than National Monument status. It wasn't until 2001 that Pompeys Pillar was declared a National Monument by President Bill Clinton. The authority for that designation was through the Antiquities Act (Section 2), which authorizes the President to make national monuments out of sites that are "historic landmarks, historic and prehistoric structures, and other objects of historic or scientific interest" on land that is already managed by the federal government.

**Appendix H:**  
**Realty, Cadastral Survey, and Lands**

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## **H. Realty, Cadastral Survey, and Lands**

Section 102(a)(1) of the Federal Land Policy Management Act (FLPMA) provides that Congress declares that it is the policy of the United States that... “the public lands be retained in Federal ownership, unless as a result of the land use planning procedure provided for in this Act, it is determined that disposal of a particular parcel will serve the national interest;...”

### **H.1 General Information Pertaining to Land Ownership Adjustments**

#### **H.1.1 Land Exchanges**

This type of real estate transaction is typically processed under the authority of the FLPMA and involves the discretionary, voluntary exchange of lands or interests in lands between the Federal government and a non-Federal party. It is required that:

Sec. 206(b) - the Federal and non-Federal lands involved be located in the same state

Sec. 206(b) - the Federal and non-Federal lands be of equal value, or in certain circumstances, approximately equal in value

Sec. 206(a) - exchanges be completed only after a finding that the public interest would be well served

In considering whether an exchange is in the public interest, the BLM policy is to give consideration to the following (43 CFR 2200.0-6):

- achieve better management of Federal lands,
- meet the needs of state and local residents and their economies, and
- secure important objectives, including but not limited to, protection of fish and wildlife habitats, cultural resources, watersheds, wilderness and aesthetic values; enhancement of recreation opportunities and public access; consolidation of lands and/or interests in lands; consolidation of split estate; expansion of communities; accommodation of land use authorizations; promotion of multiple-use values; and fulfillment of public needs.

In making the public interest determination, there needs to be a finding that: the resource values and the public objectives that the Federal lands or interests to be conveyed may serve if retained in Federal ownership are not more than the resource values of the non-Federal lands or interests and the public objectives they could serve if acquired, and the intended use of the conveyed Federal lands will not significantly conflict with established management objectives on adjacent Federal lands and Indian trust lands.

## **H.1.2 Land Exchanges vs. Other Methods of Disposal/Acquisition**

To help assure the integrity of state and local tax bases, land exchange would be the first priority for both acquisition of non-Federal land and the conveyance of Federal lands into non-Federal ownership of those parcels identified for disposal, except under the following circumstances:

1. where there is a competitive market situation and multiple entities are interested in a parcel of land, land sale may be considered, or
2. where one of the following situations apply, a disposal method other than exchange may be considered:
  - a) resolving inadvertent unauthorized use or occupancy,
  - b) providing for community expansion and development,
  - c) meeting obligations completing state indemnity selections, and
  - d) creating facilities or service for public health, safety and welfare.

## **H.1.3 Sales**

Sales of public lands are authorized under section 203 of FLPMA and offered at not less than fair market value. Public lands determined suitable for sale are offered only on the initiative of the BLM. Such sales have to meet at least one of the following FLPMA sales criteria:

Sec. 203(a)(1) – such tract because of its location or other characteristics is difficult and uneconomic to manage as part of the public lands, and is not suitable for management by another Federal department or agency; or

Sec. 203(a)(2) – such tract was acquired for a specific purpose and the tract is no longer required for that or any other Federal purpose; or

Sec. 203(a)(3) – disposal of such tract will serve important public objectives, including but not limited to, expansion of communities and economic development, which cannot be achieved prudently or feasibly on land other than public land and which outweigh other public objectives and values, including, but not limited to, recreation and scenic values, which would be served by maintaining such tract in Federal ownership.

The preferred method of sale of public lands is by competitive bidding at public auction. However, modified competitive bidding may be used to protect on-going uses, to assure compatibility of the possible uses with adjacent lands, or to avoid dislocation of existing users. Direct sale may be used when the public lands offered for sale are completely surrounded by lands in one ownership with no public access, or where the lands are needed by state or local governments or non-profit corporations, or where necessary to protect existing equities in the lands or resolve inadvertent unauthorized use or occupancy.

## **H.1.4 Conveyance of Federally-Owned Mineral Interests – Section 209(b), FLPMA**

Section 209(b) of FLPMA provides for the conveyance of mineral interests owned by the United States where the surface is or will be in non-Federal ownership. There must be a finding that: 1) there are no known mineral values in the land, or 2) that the reservation of the mineral rights in the United States is interfering with or precluding appropriate non-mineral development of the land and that such development is a more beneficial use of the land than mineral development. Such conveyance of mineral interests can only be made to the existing or proposed record owner of the surface upon payment of administrative costs and the fair market value of the interests being conveyed.

### **H.1.4.1 Purchases**

Purchases of lands or interest in lands would be limited to cases where no practical alternatives exist, high public values would be obtained, and purchase funds are appropriated. Such actions would need to meet the acquisition criteria for the particular alternative being considered.

### **H.1.4.2 Methods of Acquisition**

Acquisition of lands or interests in lands would be by methods such as exchange, purchase, and/or donation.

### **H.1.4.3 Methods of Disposal**

Disposal methods to implement land ownership adjustment actions would not vary by alternative, and generally would include the following: a) exchanges b) sales c) Recreation and Public Purposes Act conveyances d) airport grants e) state indemnity grants.

Mineral patents are not considered a land ownership adjustment for the purposes of this plan.

Three adjustment categories (defined below), will be established and utilized, based on the BLM land tenure adjustment classes. These three categories are:

Category I: Lands managed in Category I – Retention would include all ACECs, WSAs, Lands with Wilderness Characteristics, archeological sites/historic districts, and lands acquired through LWCF, National Historic Trails, National Monuments or other congressionally-designated areas. Lands within Category I would not be transferred from BLM management by any method for the life of the plan.

Category II: Retention/Limited Land Ownership Adjustment (no land disposals through sale). Public lands within Category II would not be available for sale under section 203 of FLPMA. However, lands within this category could be exchanged for lands or interest in lands. Some public lands in Category II may contain resource values protected by law or policy. If actions cannot be taken to adequately mitigate impacts from disposal of those lands, those parcels would be retained.

**Category III** (Disposal – land ownership adjustments, including sale): These lands generally have low or unknown resource values or are isolated or fragmented from other public land ownerships making them difficult to manage. Public land parcels in this category are relatively smaller in size (typically 160 acres or less). A listing of the legal descriptions of these disposal parcels can be found at the end of this Appendix (under Legal Descriptions of Disposal Tracts by Alternative). These parcels have been found to potentially meet the sale criteria of section 203(a)(1) of FLPMA and could be made available for sale, however, exchange could have priority over disposal by FLPMA sale.

## **H.2 Land Ownership Adjustment Criteria**

Three types of land ownership adjustment criteria will be adopted (retention, disposal, and acquisition) to provide guidance in categorizing BLM administered land, and in making decisions concerning specific actions.

### **H.2.1 General Criteria**

1. Requirements of applicable laws, executive orders and regulations will be followed.
2. Priority will be determined by the area directly impacted and the significance of the resources in descending order of National, regional, statewide and local. Both economic and non-economic values will be considered in assessing resource significance.
3. A critical level of significance will be assigned to resource values if they are adversely impacted over an area larger than the specific tract being considered for any land ownership adjustment action.
4. Public value losses which cannot be mitigated will be assigned a higher level of significance than those which can be mitigated.
5. A higher level of significance will be assigned to public values which are associated with solving chronic management problems.

### **H.2.2 Retention Criteria**

Lands identified in Category I (Retention) would remain in public ownership. Lands managed in Category I (Retention) would include all ACECs, WSAs, National Historic Trails, National Monuments, and other special designations, Lands with Wilderness Characteristics, archeological sites/historic districts, and lands acquired through LWCF. Lands within Category I would not be transferred from BLM management by any method for the life of the plan.

Lands identified in Category II would likely remain as BLM administered land. Although the underlying philosophy is long-term public ownership, adjustments in retention areas involving exchanges and/or sales may occur when the public interest is served. Some public lands in Category II may contain resource values protected by law or policy. If actions cannot be taken to

adequately mitigate impacts from disposal of those lands, those parcels would be retained. Considerations for retention of public lands include:

1. Areas containing moderate to high resource values and/or characteristics. These include but are not limited to:
  - ▶ Land along rivers, streams, lakes, dams, ponds, springs, and trails
  - ▶ Riparian areas, community watersheds and/or flood plains
  - ▶ Areas that contain T&E species of wildlife or aquatic or vegetation
  - ▶ Areas with special status wildlife species, or aquatic species or vegetative species
  - ▶ Important general wildlife habitat areas
  - ▶ Recreation sites and areas with high recreational values
  - ▶ Significant cultural resource sites
  - ▶ Geologic areas containing unique or rare features or formations
  - ▶ Areas with important or unique forest/woodland values (consider the value of the forest type and potential for carbon sequestration and habitat diversity).
  - ▶ Lands with vegetation characteristics that exhibit moderate or higher value carbon sequestration potential.
  - ▶ Other areas containing moderate to high resource values and/or characteristics
2. Lands with a combination of moderate to high multiple-use values which dictate retention in public ownership.
3. Areas of National environmental significance: These include but are not limited to:
  - ▶ Wilderness
  - ▶ Wilderness Study Areas and former WSAs being studied for protective management
  - ▶ Wild & Scenic Rivers
  - ▶ National Scenic & Historic Trails and Study Trails
  - ▶ Lands containing nationally significant cultural resource sites nominated to or eligible for the National Register of Historic Places
  - ▶ National Conservation areas and National Monuments
  - ▶ Wetlands and Riparian Areas under Executive Order 11990
  - ▶ Other Congressionally Designated Areas and Study Areas
  - ▶ Areas of Critical Environmental Concern
4. Areas of National economic significance. These include but are not limited to:
  - ▶ Designated Mineral Resource Areas where disposal of the surface would unnecessarily interfere with the logical development of the mineral estate, e.g., surface minerals, coal, phosphate, known geologic structures, etc.
  - ▶ Lands containing strategic minerals needed for National defense.

5. Lands which provide public access and contain previously mentioned public values which, when considered together, warrant their retention
6. Lands used in support of National defense: These include but are not limited to U.S. Military and National Guard maneuver areas.
7. Areas where future plans will lead to further consolidation and improvement of land patterns and management efficiency.
8. Areas which the general public, state and local government consider suitable for public ownership.
9. Lands withdrawn by the BLM or other Federal agencies for which the purpose of the withdrawal remains valid and the resource uses can be managed concurrently by BLM.
10. Lands that contribute significantly to the stability of the local economy by virtue of Federal ownership.
11. Lands acquired through LWCF funding and donations.
12. Guidelines for the retention of the mineral estate are fairly well described and are mandated under FLPMA. These require that the mineral estate be reserved by the U.S. in all land disposals except in some cases where exchanges are involved. In exchanges, the mineral estate may be reserved by both parties presuming there will be no material interference with development of the mineral resource due to disposal of the surface estate. If values are equal, mineral estate title may pass with the surface estate.

### **H.2.3 Acquisition Criteria**

The following criteria will be used to evaluate proposals which would result in the acquisition of non-Federal lands and/or interest in lands through exchange, fee purchase, donation or other transactions. Priority will be determined on the basis of multiple-use analysis. The greater the number of resource programs and public values served, the higher the priority for acquisition. All proposals will be evaluated to determine if the non-Federal lands meet any of the following specific criteria:

1. Contain moderate to high resource values and/or characteristics.
  - ▶ Land along rivers, streams, lakes, dams, ponds, springs, and trails
  - ▶ Riparian areas, community watersheds and/or flood plains
  - ▶ Areas that contain T&E species of wildlife or aquatic or vegetation
  - ▶ Areas with special status wildlife species, or aquatic species or vegetative species
  - ▶ Important general wildlife habitat areas
  - ▶ Recreation sites and areas

- ▶ Significant cultural resource sites
  - ▶ Geologic areas containing unique and/or scarce features
  - ▶ Areas with important or unique forest/woodland values (consider the value of the forest type and potential for carbon sequestration and habitat diversity).
  - ▶ Lands with vegetation characteristics that exhibit moderate or higher value carbon sequestration potential.
  - ▶ Other areas containing moderate to high resource values and/or characteristics
2. Have the potential for enhancement, manageability or investment opportunity of existing BLM administered lands, particularly lands within or adjoining special designations units (NM, NHT, ACEC, etc.).
  3. Facilitate access to BLM administered land retained for long-term public use.
  4. Enhance congressionally designated areas, rivers, or trails.
  5. Primarily focused in the "retention" areas. (Acquisition outside of retention areas may be considered if the action leads to and/or facilitates long-term needs or program objectives).
  6. Facilitate National, state and local BLM priorities or mission statement needs.
  7. Will enhance existing or future activity plans on BLM administered land.
  8. Stabilize or enhance local economies or values.
  9. Meet long-term BLM land management goals as opposed to short-term BLM land management goals.
  10. Are of sufficient size to improve use of adjoining BLM administered land or, if isolated, large enough to allow for the identified potential public land use.
  11. Allow for more diverse use, more intensive use, or a change in uses to better fulfill the Bureau's mission.
  12. Enhance the opportunity for new or emerging BLM administered land uses or values.
  13. Contribute to a wide spectrum of uses or large number of public land users.
  14. Secure for the public significant water related land interests. These interests will include lake shore, dam shore, river front, stream, and pond or spring sites.
  15. Consolidate mineral estates with surface estates to improve potential for development while improving resource management and economic values of existing BLM administered lands.
  16. Avoid the following when considering acquisition proposals:

- ▶ Acquiring lands or interests in lands that present management problems that outweigh the expected benefits of such an acquisition, including but not limited to:
  - ▶ presence of hazardous materials
  - ▶ abundance of noxious weeds
  - ▶ access situation is inadequate for managing the property for the purpose(s) for which it would be obtained, etc.
  - ▶ acquisition of small, isolated tracts
  - ▶ split estates, structures, water rights, unacceptable third party rights (outstanding rights)
  - ▶ uncertainty as to ownership, boundary location, gaps or overlaps without certainty of location

## **H.2.4 Access Criteria**

The BLM shall endeavor to maintain existing access, provide future access, mark public access on the ground and document geospatially public access in the land tenure records system to BLM administered lands in coordination with other Federal agencies, state and local governments, and private landowners.

### **H.2.4.1 Specific Access Criteria**

1. Obtain access to BLM administered lands in retention areas. (Acquisition of access outside of retention areas may be considered if the action leads to and/or facilitates long term needs or program objectives).
2. Protect, maintain, mark on the ground, and document geospatially existing access to BLM administered lands.
3. Manage access to BLM administered lands within BLM's multiple-use mandate.
4. Acquire access on the basis of the following considerations:

Where there are moderate to high resource values on existing BLM administered land.

Where there is public demand which is closely tied to resource values.

Access to larger blocks or parcels of BLM administered land have priority. The presence of important resource values may justify acquiring access to smaller tracts.

For those projects on BLM administered lands in which substantial public monies have been spent, and in which continuing diverse public use is expected, permanent exclusive access for the general public should be obtained. For lesser investment projects and/or those to which general public use will need to be limited, nonexclusive easements should be obtained.

Although the Bureau is not required to provide access to mineral resources, the acquisition of such access could be useful in controlling the construction of multiple and unnecessary access routes within the same general area.

Priority would be placed on acquiring easements on roads where landowners are willing to allow public access through their lands.

Priority would be placed on acquiring easements where landowners or third parties are willing to contribute to the on the ground marking, land description preparation, gathering of associated geospatial data, and documentation on BLM land tenure records system.

## **H.2.5 Disposal Criteria**

These are lands identified for potential removal from BLM administration through transfer to other Federal agencies, or by exchange, sale or R&PP Patent to state, county or local public entities, or by exchange or sale to private entities, private groups, private organizations or individuals. Disposal decisions will be made in the public interest based upon the following criteria:

1. Widely scattered parcels which are difficult and uneconomical to manage with anything beyond minimal custodial administration and have no significant public values.
2. Lands acquired for a specific Federal purpose which are no longer required for that or any other Federal purpose.
3. Lands with high public values proper for management by other Federal agencies, or state or local governments.
4. Lands which will serve important public objectives (such as community expansion) as provided in FLPMA.
5. Small parcels of BLM administered land contiguous to National Forest land may be considered for transfer to the U.S. Forest Service through a Public Land Order. Other BLM administered land may be considered for transfer where appropriate.
6. Small parcels of BLM administered lands contiguous to State land may be considered for transfer to the State of Montana. Other BLM administered land may be considered for transfer where appropriate.
7. Lands of limited public value and no public access.
8. Lands where disposal would aid in aggregating or repositioning other BLM administered lands or land resource values in retention areas to facilitate National, state and local objectives, unless purchased with LWCF funds.
9. Lands with general unauthorized use problems, if the lands are not required for public purposes.

10. Lands with unauthorized occupancy use where permanent structures are involved.

**H.2.5.1 Potential Disposal Parcels**

The following lands are identified for disposal through sale under section 203(a) of FLPMA if important recreation, wildlife, watershed, threatened or endangered species habitat, and/or cultural values are not identified during an intensive inter-disciplinary review process. These lands would also be available for transfer to another agency or to local governments, as needed, to accommodate community expansion and other public purposes. Detailed information on each tract, including legal description, acreage, and rationale for categorization, is contained in the Land Tenure table below. Tracts identified from the original 1984 Billings RMP ROD (FLTFA tracts) are identified within the table.

Any federal surface managed by the BLM within the BiFO, which was not specifically evaluated in the land tenure adjustment analysis is considered to be classified as a Category II, unless they fall within the definition of Category I lands.

Under the current planning process an additional 194 tracts were analyzed for tenure adjustment criteria for a total of 331 tracts analyzed for the current RMP. Acreages are derived from Master Title Plat information or GIS shape files and are approximate. An effort has been made to ensure that the table is correct; however errors may still exist in legal description, or acreage, and will be again reviewed through detailed project level proposals.

<b>Land Tenure Disposal Tracts By Alternative</b>	
<b>Alternative A*</b>	
<b>Legal Description Principal Meridian, Montana</b>	<b>Acres</b>
T. 1 N., R. 15 E., sec. 33, SESE	40.00
T. 2 N., R. 26 E., sec. 8, NE	160.00
T. 2 N., R. 26 E., sec. 8, SW	160.00
T. 2 N., R. 26 E., sec. 10, NE	160.00
T. 2 N., R. 26 E., sec. 14, N2NE	80.00
T. 3 N., R. 25 E., sec. 26, NE, E2SW, N2SE	320.00
T. 3 N., R. 27 E., sec. 4, SW	160.00
T. 3 N., R. 27 E., sec. 18, E2	320.00
T. 3 N., R. 27 E., sec. 24, SWSE, N2SESE, SWSESE	70.00
T. 3 N., R. 28 E., sec. 2, N2NE, SENE, NENW, SESW, NESE, S2SE	320.00
T. 3 N., R. 28 E., sec. 4, NENE	40.00

<b>Land Tenure Disposal Tracts By Alternative</b>	
<b>Alternative A*</b>	
<b>Legal Description Principal Meridian, Montana</b>	<b>Acres</b>
T. 3 N., R. 28 E., sec. 4, NWNW	40.00
T. 3 N., R. 28 E., sec. 10, N2	320.00
T. 3 N., R. 28 E., sec. 14, SWSW	40.00
T. 4 N., R. 28 E., sec. 34, E2	320.00
T. 4 N., R. 29 E., sec. 24, W2	320.00
T. 4 N., R. 29 E., sec. 34, SWNE, W2SW, SESW, SE	320.00
T. 4 N., R. 30 E., sec. 19, lots 1, 2, 3, 4 sec. 19, E2, E2W2	583.84
T. 4 N., R. 31 E., sec. 24, NENE	40.00
T. 4 N., R. 31 E., sec. 24, E2SE	80.00
T. 4 N., R. 32 E., sec. 22, N2NW, SWNW, W2SW	200.00
T. 4 N., R. 32 E., sec. 30, lots 1, 2, 3, 4	141.96
T. 5 N., R. 33 E., sec. 32, SWNW, N2SW, SESW	160.00
T. 1 S., R. 12 E., sec. 24, NENW, S2NW, N2SW, SWSW	240.00
T. 1 S., R. 13 E., sec. 18, SESW	40.00
T. 1 S., R. 14 E., sec. 6, lot 7 sec. 6, SESW	73.74
T. 1 S., R. 14 E., sec. 6, SENW	40.00
T. 1 S., R. 14 E., sec. 8, W2NW	80.00
T. 1 S., R. 14 E., sec. 18, lots 3, 4 sec. 18, SESW	109.45
T. 1 S., R. 15 E., sec. 1, S2SENW	20.00
T. 1 S., R. 15 E., sec. 2, SENE, N2SE	120.00
T. 1 S., R. 16 E., sec. 4, SENE, NESE	80.00
T. 1 S., R. 16 E., sec. 12, lots 9, 10, 11, 12	159.62

<b>Land Tenure Disposal Tracts By Alternative</b>	
<b>Alternative A*</b>	
<b>Legal Description Principal Meridian, Montana</b>	<b>Acres</b>
T. 1 S., R. 16 E., sec. 18, NWNE, NENW	80.00
T. 1 S., R. 16 E., sec. 29, NW, E2SW, NWSE	280.00
T. 1 S., R. 17 E., sec. 29, SWSE	40.00
T. 1 S., R. 18 E., sec. 24, NWNE, NW, NWSE	240.00
T. 1 S., R. 18 E., sec. 24, SWSW	40.00
T. 1 S., R. 18 E., sec. 26, NWNW	40.00
T. 1 S., R. 18 E., sec. 26, SE	160.00
T. 1 S., R. 19 E., sec. 32, N2NE	80.00
T. 1 S., R. 25 E., sec. 25, lot 3	10.10
T. 2 S., R. 18 E., sec. 9, SESE	40.00
T. 2 S., R. 18 E., sec. 10, NESW	40.00
T. 2 S., R. 19 E., sec. 8, SENE	40.00
T. 2 S., R. 19 E., sec. 8, N2SW	80.00
T. 2 S., R. 23 E., sec. 20, N2NE	80.00
T. 3 S., R. 19 E., sec. 23, SWNE, NESW, NWSE	120.00
T. 3 S., R. 22 E., sec. 1, W2SW sec. 2, E2SE	160.00
T. 3 S., R. 22 E., sec. 9, NENE	40.00
T. 3 S., R. 22 E., sec. 10, SWNE	40.00
T. 3 S., R. 22 E., sec. 14, NESW	40.00
T. 3 S., R. 23 E., sec. 9, NWNE	40.00
T. 3 S., R. 23 E., sec. 22, S2NW	80.00
T. 4 S., R. 16 E., sec. 2, SWNW, NESW, NWSE	120.00
T. 4 S., R. 17 E., sec. 5, NESW, N2SE	120.00

<b>Land Tenure Disposal Tracts By Alternative</b>	
<b>Alternative A*</b>	
Legal Description Principal Meridian, Montana	Acres
T. 4 S., R. 17 E., sec. 8, SESW sec. 17, NENW, S2NW	160.00
<b>Total</b>	<b>7,528.71</b>
*Denotes 1984 RMP ROD (FLTFA tracts)	

<b>Land Tenure Disposal Tracts By Alternative</b>	
<b>Alternative B</b>	
Legal Description Principal Meridian, Montana	Acres
T. 10 N., R. 13 E., sec. 21, lots 7, 9 sec. 25, lots 1, 2, 3 sec. 26, lots 1, 2 sec. 27, lots 4, 5, 6, 7 sec. 31, lots 8, 9 sec. 34, lots 5, 6, 7, 8, 9	49.89
<b>Total</b>	<b>49.89</b>

<b>Land Tenure Disposal Tracts By Alternative</b>	
<b>Alternative C</b>	
Legal Description Principal Meridian, Montana	Acres
T. 1 N., R. 15 E., sec. 33, SESE	40.00
T. 1 N., R. 16 E., sec. 14, N2NW	80.00
T. 2 N., R. 13 E., sec. 34, SWSW	40.00
T. 2 N., R. 15 E., sec. 20, NWNW	40.00
T. 2 N., R. 16 E., sec. 4, SWSW	40.00
T. 2 N., R. 17 E., sec. 22, NENE	40.00
T. 2 N., R. 17 E., sec. 24, NWNE	40.00
T. 2 N., R. 17 E., sec. 30, lots 3, 4 sec. 30, NESW	77.70

<b>Land Tenure Disposal Tracts By Alternative</b>	
<b>Alternative C</b>	
<b>Legal Description Principal Meridian, Montana</b>	<b>Acres</b>
T. 2 N., R. 29 E., sec. 9, NENE	40.00
T. 3 N., R. 14 E., sec. 20, lot 5	40.15
T. 3 N., R. 16 E., sec. 20, N2NE	80.00
T. 3 N., R. 16 E., sec. 22, NESE	40.00
T. 3 N., R. 16 E., sec. 30, SESE	40.00
T. 4 N., R. 16 E., sec. 32, W2NW	80.00
T. 4 N., R. 17 E., sec. 26, NENE	40.00
T. 4 N., R. 19 E., sec. 2, SESW	40.00
T. 4 N., R. 19 E., sec. 8, NWNW	40.00
T. 4 N., R. 32 E., sec. 10, NE	80.00
T. 5 N., R. 14 E., sec. 8, SWSE	40.00
T. 5 N., R. 16 E., sec. 20, SWNE	40.00
T. 6 N., R. 13 E., sec. 2, SESE	40.00
T. 6 N., R. 13 E., sec. 10, NENE	40.00
T. 6 N., R. 13 E., sec. 10, SWNW	40.00
T. 6 N., R. 13 E., sec. 14, NENW	40.00
T. 6 N., R. 14 E., sec. 22, S2SW	80.00
T. 6 N., R. 20 E., sec. 24, S2N2	160.00
T. 7 N., R. 14 E., sec. 24, SWSW	40.00
T. 8 N., R. 17 E., sec. 4, NWSE	40.00
T. 9 N., R. 12 E., sec. 12, NENW	40.00

<b>Land Tenure Disposal Tracts By Alternative</b>	
<b>Alternative C</b>	
<b>Legal Description Principal Meridian, Montana</b>	<b>Acres</b>
T. 10 N., R. 13 E., sec. 21, lots 7, 9 sec. 25, lots 1, 2, 3 sec. 26, lots 1, 2 sec. 27, lots 4, 5, 6, 7 sec. 31, lots 8, 9 sec. 34, lots 5, 6, 7, 8, 9	49.89
T. 10 N., R. 14 E., sec. 6, lot 2 sec. 6, SWNE	79.07
T. 10 N., R. 15 E., Sec. 8, SWSW	40.00
T. 10 N., R. 17 E., sec. 34, SESW	40.00
T. 1 S., R. 14 E., sec. 12, NESW	40.00
T. 1 S., R. 14 E., sec. 23, SWNE	40.00
T. 1 S., R. 14 E., sec. 26, NWNE	40.00
T. 1 S., R. 15 E., sec. 2, SENE, N2SE	120.00
T. 1 S., R. 15 E., sec. 6, lot 7	32.43
T. 1 S., R. 15 E., sec. 6, NESW	40.00
T. 1 S., R. 15 E., sec. 9, SWSE, SESW	80.00
T. 1 S., R. 15 E., sec. 18, lot 3	33.52
T. 1 S., R. 15 E., sec. 18, SENE	40.00
T. 1 S., R. 15 E., sec. 21, NESW	40.00
T. 1 S., R. 15 E., sec. 23, E2SW	80.00
T. 1 S., R. 15 E., sec. 27, S2SE	80.00
T. 1 S., R. 15 E., sec. 33, S2SW	80.00
T. 1 S., R. 16 E., sec. 4, SENE, NESE	80.00
T. 1 S., R. 16 E., sec. 18, NWNE, NENW	80.00
T. 1 S., R. 17 E., sec. 29, SWSE	40.00
T. 1 S., R. 17 E., sec. 31, lot 1	34.31

<b>Land Tenure Disposal Tracts By Alternative</b>	
<b>Alternative C</b>	
<b>Legal Description Principal Meridian, Montana</b>	<b>Acres</b>
T. 1 S., R. 18 E., sec. 24, SWSW	40.00
T. 1 S., R. 18 E., sec. 26, NWNW	40.00
T. 2 S., R. 13 E., sec. 14, NWNE	40.00
T. 2 S., R. 13 E., sec. 21, SWNW	40.00
T. 2 S., R. 13 E., sec. 34, NENW	40.00
T. 2 S., R. 13 E., sec. 34, NWSE	40.00
T. 2 S., R. 15 E., sec. 2, NWSE	40.00
T. 2 S., R. 15 E., sec. 3, SESW	40.00
T. 2 S., R. 15 E., sec. 4, SESE	40.00
T. 2 S., R. 15 E., sec. 11, NWNW	40.00
T. 2 S., R. 16 E., sec. 10, NWNW	40.00
T. 2 S., R. 16 E., sec. 12, SESW	40.00
T. 2 S., R. 16 E., sec. 17, N2SW	80.00
T. 2 S., R. 16 E., sec. 20, NESE	40.00
T. 2 S., R. 17 E., sec. 10, SWSW	40.00
T. 2 S., R. 17 E., sec. 24, SWSW	40.00
T. 2 S., R. 17 E., sec. 28, SWNW	40.00
T. 2 S., R. 17 E., sec. 30, lot 2	36.55
T. 2 S., R. 18 E., sec. 9, SESE	40.00
T. 2 S., R. 18 E., sec. 10, NESW	40.00
T. 2 S., R. 23 E., sec. 20, N2NE	80.00
T. 3 S., R. 22 E., sec. 1, W2SW sec. 2, E2SE	160.00
T. 3 S., R. 22 E., sec. 10, SWNE	40.00

<b>Land Tenure Disposal Tracts By Alternative</b>	
<b>Alternative C</b>	
<b>Legal Description Principal Meridian, Montana</b>	<b>Acres</b>
T. 3 S., R. 22 E., sec. 14, NESW	40.00
T. 3 S., R. 23 E., sec. 22, S2NW	80.00
T. 4 S., R. 15 E., sec. 31, SESE	40.00
T. 4 S., R. 19 E., sec. 35, SENE	40.00
T. 4 S., R. 20 E., sec. 12, SENW	40.00
T. 4 S., R. 21 E., sec. 28, NWNE	40.00
T. 4 S., R. 23 E., sec. 6, lot 3	39.87
T. 5 S., R. 19 E., sec. 5, SESE	40.00
T. 5 S., R. 20 E., sec. 6, SWSE	40.00
<b>Total</b>	<b>4,223.49</b>
*Denotes 1984 Billings RMP ROD (FLTFA tracts)	

<b>Land Tenure Disposal Tracts By Alternative</b>	
<b>Alternative D</b>	
<b>Legal Description Principal Meridian, Montana</b>	<b>Acres</b>
T. 4 S., R. 19 E., sec. 35, SENE	40.00
T. 5 S., R. 19 E., sec. 5, SESE	40.00
T. 5 S., R. 20 E., sec. 6, SWSE	40.00
T. 10 N., R. 13 E., sec. 21, lots 7, 9 sec. 25, lots 1, 2, 3 sec. 26, lots 1, 2 sec. 27, lots 4, 5, 6, 7 sec. 31, lots 8, 9 sec. 34, lots 5, 6, 7, 8, 9	49.89
<b>Total</b>	<b>169.89</b>
*Denotes 1984 Billings RMP ROD (FLTFA tracts)	

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# Appendix I: Land Health Standards

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# I. Land Health Standards

*(derived from: Standards for Rangeland Health and Guidelines for Livestock Grazing Management for Public Lands Administered by the Bureau of Land Management for Montana and the Dakotas)*

## I.1 Preamble

Rangeland health can be defined as the degree to which the integrity of the physical and ecological processes of the rangeland ecosystems are sustained.

The capacity of rangelands to produce commodities and satisfy values on a sustained basis depends upon the internal, self-sustaining ecological processes such as soil development, nutrient cycling, energy flow, and the structure and dynamics of plant and animal communities.

Rangeland health is the minimum ecological standard, independent of the rangeland's use and how it is managed. If rangeland health is protected, a variety of uses could be appropriate for any particular rangeland.

Standards apply to rangeland health and not to the important by-products of healthy rangelands such as more fish, higher livestock weaning weights, regional social and cultural values, increased timber production, economic viability of livestock operations or higher numbers of game animals. It is sustainability of the processes, of rangeland health, that produces these social values and commodities.

The Bureau of Land Management is committed to grazing as an appropriate use of public rangelands and to maintaining healthy and productive rangelands that support stable western communities. This is a commitment that began with the Taylor Grazing Act, which reversed the decline in the health of the range, is reiterated in the Federal Land Policy Management Act that ensures public lands are managed for multiple use and guarantees grazing as an activity on the public lands.

Standards for Rangeland Health and Guidelines for Livestock Grazing Management are intended to maintain healthy and productive public rangelands that are essential to support long-term grazing and stable communities that rely on the land.

Standards apply to the health of the land. All uses of public rangeland need to be conducted in such a manner that standards are achieved. Standards are measurable levels of resource quality, condition, or function upon which management decisions are based. It is BLM's policy to achieve rangeland health standards through management of existing uses when feasible.

Standards provide the technical and scientific basis for measuring progress towards healthy productive rangelands.

Disturbance regimes such as fire, climatic events, geology, the natural and historic range of variability and the potential of the area are considered when assessing rangeland health.

Standards are not expected to recreate theoretical "pristine" rangeland conditions that may have existed before livestock grazing began. It is assumed that most areas will be grazed unless there is no way to graze them and still achieve standards or the area is dedicated to other uses such as campgrounds, mining, and cultural or historical sites, like Pompeys Pillar.

At a minimum, State or regional standards must address:

- watershed function; - nutrient cycling and energy flow; - water quality; - habitat for endangered, threatened, proposed, Candidate 1 or 2 or special status species; and - habitat quality for native plant and animal populations and communities.

Guidelines for grazing management are the types of grazing management methods and practices determined to be appropriate to ensure that standards can be met or that significant progress can be made toward meeting standards.

Guidelines are best management practices (BMP), treatments, and techniques and implementation of range improvements that will help achieve rangeland health standards. Guidelines are flexible and are applied on site specific situations.

Field managers must determine if standards are being met, consider what factors are causing standards not to be met, and take appropriate action to deal with those factors. If livestock grazing is preventing achievement of standards, then guidelines would be applied through terms and conditions. If an area is not meeting standards due to conditions that are not related to livestock grazing then the grazing management may not need to be adjusted.

Guidelines may be adapted or changed when monitoring or other information indicates the guidelines are not effective or a better means of meeting applicable standards exist.

The new grazing regulations under 43 CFR 4180.2(e) require that minimum, state or regional guidelines developed must address a list of attributes:

- maintain or promote adequate amounts of vegetative ground cover;
- maintain or promote subsurface soil conditions;
- maintain, improve or restore riparian-wetland functions;
- maintain or promote stream channel morphology;
- maintain or promote appropriate kinds and amounts of soil organisms, plants and animals;
- promote the opportunity for seedling establishment;
- maintain, restore, enhance water quality;
- restore, maintain or enhance T&E habitat;
- restore, maintain, enhance T&E candidate and special status species habitat;
- maintain or promote native populations and their communities;
- emphasize native species in the support of ecological function; and
- only incorporate the use non-native plant species when native species are not available or are incapable of achieving proper functioning condition.

Terms and conditions of permits and leases are specific actions in the permit or lease that implement the spirit and intent of the standards and guidelines.

Terms and conditions are site specific. They are determined by an interdisciplinary team in consultation with permittees and interested parties for each individual allotment. Terms and conditions are a tool to achieve resource conditions in the standard. They are meant to be modified if monitoring data shows those terms and conditions currently being applied are not achieving desired results.

## **I.2 Standards for Rangeland Health**

Standards are statements of physical and biological condition or degree of function required for healthy sustainable rangelands. Achieving or making significant progress towards these functions and conditions is required of all uses of public rangelands. Historical data, when available, should be utilized when assessing standards.

### **MILES CITY STANDARD #1: Uplands are in proper functioning condition.**

This means that soils are stable and provide for the capture, storage and safe release of water appropriate to soil type, climate and landform. The amount and distribution of ground cover (i.e., litter, live and standing dead vegetation, microbiotic crusts, and rocks/gravel) for identified ecological site(s) or soil plant associations is appropriate for soil stability. Evidence of accelerated erosion in the form of rills and/or gullies, erosional pedestals, flow patterns, physical soil crusts/surface sealing and compaction layers below the soil surface is minimal. Ecological processes including hydrologic cycle, nutrient cycle and energy flow are maintained and support healthy biotic populations. Plants are vigorous, biomass production is near potential and there is a diversity of species characteristic of and appropriate to the site.

As indicated by:

- Physical Environment
  - ▶ erosional flow patterns; - surface litter; - soil movement by water and wind; - infiltration; - soil crusting and surface sealing; - compaction layer; - rills; - gullies; - cover amount; and - cover distribution.
- Biotic Environment
  - ▶ community diversity; - community structure; - exotic plants; - photosynthesis activity; - plant status; - seed production; - recruitment; and - nutrient cycle.

## **MILES CITY STANDARD #2: Riparian areas and wetlands are in proper functioning condition.**

This means that the functioning condition of riparian-wetland areas is a result of the interaction among geology, soil, water, and vegetation. Riparian-wetland areas are functioning properly when adequate vegetation, landform, or large woody debris is present to dissipate stream energy associated with high waterflows, thereby reducing erosion and improving water quality; filter sediment, capture bedload, and aid flood plain development; improve flood water retention and ground water recharge; develop root masses that stabilize streambanks against cutting action; develop diverse ponding and channel characteristics to provide the habitat and the water depth, duration, and temperature necessary for fish production, waterfowl breeding, and other uses; and support greater biodiversity.

The riparian/wetland vegetation is controlling erosion, stabilizing streambanks, shading water to reduce stream temperature in the summer and provide thermal protection in the winter, stabilizing shorelines, filtering sediment, aiding flood plain development, dissipating energy, delaying floodwater, and increasing recharge of ground water where appropriate to landform.

The stream channels and flood plain dissipate the energy of high water flows and transport sediment appropriate for the geomorphology (e.g., gradient, size, shape, roughness, confinement, and sinuosity), climate, and landform. Soils support appropriate riparian-wetland vegetation, allowing water movement, filtering sediment, and storing water for later release. Stream channels are not entrenching and water levels maintain appropriate riparian/wetland species.

Riparian Areas are defined as an area of land directly influenced by permanent water. It has visible vegetation or physical characteristics reflective of permanent water influence. Lake shores and streambanks are typical riparian areas. Excluded are such sites as ephemeral streams or washes that do not exhibit the presence of vegetation dependent upon free water in the soil.

Proper functioning condition of riparian areas are Indicated by:

- Hydrologic
  - ▶ floodplain inundated in relatively frequent events;
  - ▶ amount of altered streambanks;
  - ▶ sinuosity, width/depth ratio, and gradient are in-balance with the landscape setting (i.e., landform, geology, and bioclimatic region);
  - ▶ riparian zone width; and
  - ▶ upland watershed not contributing to riparian degradation.
- Erosion Deposition
  - ▶ floodplain and channel characteristics, i.e., rocks, coarse and/or woody debris adequate to dissipate energy;
  - ▶ point bars are vegetating;
  - ▶ lateral stream movement is associated with natural sinuosity;
  - ▶ system is vertically stable;
  - ▶ stream is in-balance with water and sediment being supplied by the watershed (i.e., no excessive erosion or deposition); and
  - ▶ bare ground.
- Vegetation
  - ▶ reproduction and diverse age structure of vegetation;
  - ▶ diverse composition of vegetation;

- ▶ species present indicate maintenance of riparian soil moisture characteristics;
- ▶ streambank vegetation is comprised of those plants or plant communities that have deep binding root masses capable of withstanding high streamflow events;
- ▶ utilization of trees and shrubs;
- ▶ healthy riparian plants; and
- ▶ adequate vegetative cover present to protect banks and dissipate energy during high flows.

### **MILES CITY STANDARD #3: Water quality meets Montana State standards.**

This means that surface and ground water on public lands fully support designated beneficial uses described in the Montana Water Quality Standards.

As indicated by:

- dissolved oxygen concentration;
- pH;
- turbidity;
- temperature;
- fecal coliform;
- sediment;
- color;
- toxins; and
- others: ammonia, barium, boron, chlorides, chromium, cyanide, endosulfan, lindane, nitrates, phenols, phosphorus, sodium, sulfates, etc.

### **MILES CITY STANDARD #4: Air quality meets Montana State standards.**

This means that air quality on public lands helps meet the goals set out in the State of Montana Air Quality Control Implementation Plan. Efforts will be made to limit unnecessary emissions from existing and new point or non-point sources.

Bureau of Land Management management actions or use authorizations do not contribute to air pollution that violates the quantitative or narrative Montana Air Quality Standards or contributes to deterioration of air quality in selected class areas.

As indicated by:

Section 176(c) Clean Air Act which states that activities of all Federal agencies must conform to the intent of the appropriate State Air Quality Implementation Plan and not:

- cause or contribute to any violations of ambient air quality standards;
- increase the frequency of any existing violations; and
- impede the State's progress in meeting their air quality goals.

### **MILES CITY STANDARD #5: Habitats are provided for healthy, productive, and diverse native plant and animal populations and communities. Habitats are improved or maintained for special status species (federally threatened, endangered, candidate or Montana species of special concern).**

This means that native plant communities will be maintained or improved to ensure the proper functioning of ecological processes and continued productivity and diversity of native plant lifeforms. Where native communities exist, the conversion to exotic communities after disturbance will be minimized. Management for native vegetation is a management priority.

Ecological processes including hydrologic cycle and energy flow are maintained and support healthy biotic populations. Plants are vigorous, biomass production is near potential and there is a diversity of species characteristic of and appropriate to the site. The environment contains all the necessary components to support

viable populations of a sensitive/threatened and endangered species in a given area relative to site potential. Viable populations are wildlife or plant populations that contain an adequate number of reproductive individuals distributed on the landscape to ensure the long-term existence of the species.

As indicated by:

- plants and animals are diverse, vigorous and reproducing satisfactorily, noxious weeds are absent or insignificant in the overall plant community;
- an effective weed management program is in place;
- spatial distribution of species is suitable to ensure reproductive capability and recovery; - a variety of age classes are present (at least two age classes);
- connectivity of habitat or presence of corridors prevents habitat fragmentation
- diversity of species (including plants, animals, insects and microbes) are represented; and
- plant communities in a variety of successional stages are represented across the landscape.

This will be accomplished by allowing progression of succession in conjunction with livestock grazing.

The following table lists the number of allotments assessed to date and the number of acres by category in the planning area:

**Table AC-1: Rangeland Conditions**

Rangelands meeting all Standards		Rangelands making significant progress toward meeting Standards		Rangelands not meeting Standards, but changes have been made		Rangelands not meeting Standards and no changes have been made		Rangelands not meeting Standards due to causes other than livestock grazing		No Assessment Completed	
Allotments	Acres*	Allotments	Acres*	Allotments	Acres	Allotment	Acres*	Allotments	Acres*	Allotments	Acres*
309	309,658	34	41,153	8	3,675	1	80	2	80	16	6,835
Figures listed below represent Land Health Standards for lands/allotments located within Priority Sage-Grouse habitat											
85	194,762	12	33,251	2	1,501	0	0	0	0	3	1,135

Note:

Source: 2012 year end rangeland monitoring report.

\* Due to acreage accounting differences in the PMWHR, the administrative pastures are double counted as an allotment and as part of the HMA.

### I.3 Guidelines

Guidelines for grazing management are preferred or advisable approaches to grazing management practices determined to be appropriate to ensure that standards can be met or that significant progress can be made toward meeting the standard(s).

Guidelines are provided to maintain or improve resource conditions in upland and riparian habitats available to livestock grazing. In both riparian and upland habitats, these guidelines focus on establishing proper functioning conditions. The application of these guidelines is dependent on individual management objectives. Desired future conditions in plant communities and streambank characteristics will be determined on a case-by-case basis.

#### **MILES CITY GUIDELINE #1:**

Grazing will be managed in a manner that will maintain the proper balance between soils, water, and vegetation over time. This balance varies with location and management objectives, but acceptable levels of use can be developed that are compatible with resource objectives.

#### **MILES CITY GUIDELINE #2:**

Manage grazing to maintain watershed vegetation, biodiversity, and flood plain function. Maintain riparian vegetative cover and structure to trap and hold sediments during run-off events to rebuild streambanks,

restore/recharge aquifers, and dissipate flood energy. Promote deep-rooted herbaceous vegetation to enhance streambank stability. Where potential for woody shrub species (willows, dogwood, etc.) exists, promote their growth and expansion to aid in controlling animal access to streambanks, and to provide wildlife cover.

### **MILES CITY GUIDELINE #3:**

Pastures and allotments will be identified based on their sensitivity and suitability for livestock grazing. Unsuitable or potentially unsuitable areas may be fenced into separate management areas, or managed more intensively.

### **MILES CITY GUIDELINE #4:**

Based on long-term monitoring, management strategies for livestock grazing will ensure that long-term resource capabilities can be sustained over time. Natural and management induced streambank alteration, end of season stubble heights, and utilization of herbaceous and woody vegetation are critical factors which must be evaluated in any grazing strategy. These considerations are essential to achieving long-term vegetation or stream channel objectives.

Where appropriate, acceptable levels of streambank alteration and herbaceous/woody utilization should be identified on a site-specific basis, and used as terms and conditions. Compatible seasons and duration of use, rest periods, stocking rates, structural facilities, and management activities can then be designed to ensure that standards are achieved.

### **MILES CITY GUIDELINE #5:**

Frequency of grazing and extent of defoliations will be managed to promote desired plants and plant communities, based on the rate and physiological conditions of plant growth. To meet these plant growth considerations, the following could be applied: No grazing unit should be grazed for more than half the growing season of key plant species. Periods of use throughout the growing season (early, mid, late) should be alternated from year to year. Defer each field from grazing until seeds set at least once every 3 years. The season of use should be alternated from year to year to allow for regeneration of woody and herbaceous species. Stages of plant growth, length of grazing period, target utilization levels, and frequency of grazing should be used to determine when livestock are ready to be moved to another grazing unit, instead of calendar dates. Caution should be used with early spring grazing use when soils and streambanks are wet and susceptible to compaction and physical damage that occurs with animal trampling. Likewise, late summer and fall treatments in woody shrub communities can result in excessive utilization.

### **MILES CITY GUIDELINE #6:**

Monitoring is essential to determine if management guidelines and terms and conditions are meeting standards or making significant progress towards achieving standards. Monitoring data over time shall be used to make adjustments to grazing management as needed. In monitoring standards, Bureau of Land Management will consider the impacts of all multiple uses on public rangelands.

### **MILES CITY GUIDELINE #7:**

The development of springs and seeps or other projects affecting water and associated resources shall be designed to protect the ecological functions and processes of those sites.

### **MILES CITY GUIDELINE #8:**

Locate new facilities (e.g., corrals, water developments) away from riparian-wetland areas.

### **MILES CITY GUIDELINE #9:**

When provided, supplemental salt and minerals should not be placed adjacent to watering locations or in riparian-wetland areas so not to adversely impact streambank stability, riparian vegetation, water quality, or other sensitive areas. Generally, salt and minerals should be placed in upland sites to draw livestock away from watering areas or other sensitive areas and to contribute to more uniform grazing distribution.

**MILES CITY GUIDELINE #10:**

For guidelines for noxious weed management refer to "Guidelines for Coordinated Management of Noxious Weeds in the Greater Yellowstone Area." These guidelines provide a unified effort in developing a public awareness program; a prevention program; and a common inventory, mapping, monitoring, and reporting procedure. An overall management plan and specific action plans can be developed for logical units of land called weed management areas.

**MILES CITY GUIDELINE #11:**

Grazing management practices should maintain or promote the interaction of the hydrologic cycle, nutrient cycle and energy flow that will support the appropriate types and amounts of soil organisms, plants, and animals appropriate to soil type, climate and landform.

**MILES CITY GUIDELINE #12:**

Livestock management should utilize management practices for livestock grazing that meet or exceed those best management practices approved by the State of Montana in order to maintain, restore or enhance water quality.

**MILES CITY GUIDELINE #13:**

Grazing management practices should maintain or improve habitat for federally listed threatened, endangered, and special status plants and animals.

**MILES CITY GUIDELINE #14:**

Grazing management practices should maintain or promote physical, ecological and biological functions and conditions to sustain native plant and animal communities.

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**Appendix J:**  
**Visual Resource Management Program**

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## J. Visual Resource Management Program

### J.1 Background

The Bureau of Land Management (BLM) is entrusted with the care of 264 million acres of public lands containing many outstanding scenic landscapes. By law, BLM is responsible for managing these public lands for multiple uses. But BLM is also responsible for ensuring that the scenic values of these public lands are considered before allowing uses that may have negative visual impacts. BLM accomplishes this through its Visual Resource Management (VRM) system, a system which involves inventorying scenic values and establishing management objectives for those values through the resource management planning process, and then evaluating proposed activities to determine whether they conform to the management objectives. BLM has established VRM coordinators in each state and provides training in VRM so that this system is implemented effectively and consistently throughout the Bureau. The Bureau's VRM system helps to ensure that the actions taken on the public lands today will benefit the landscape and adjacent communities in the future.

#### Responsibility

Over the past several years, the Western States have experienced rapid growth and development, and the public lands have been increasingly used for outdoor recreation and tourism. Many rural communities are reliant on tourism to sustain their economies. As a result, the management of the scenic values of public lands has become a much more important aspect of natural resource management to BLM.

BLM's responsibility to manage the scenic resources of the public lands is established by law:

- **The Federal Land Policy and Management Act of 1976 (FLPMA)** states, "...public lands will be managed in a manner which will protect the quality of the scenic (visual) values of these lands."
- **The National Environmental Policy Act of 1969 (NEPA)** requires that measures be taken to "...assure for all Americans...aesthetically pleasing surroundings...."

This responsibility is reinforced by BLM's mission statement:

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

BLM's policy is that it has a basic stewardship responsibility to identify and protect visual values on all BLM lands. This policy is described in BLM Manual Section 8400 - Visual Resource Management. BLM has reemphasized this policy in various other internal directives as well, including Information Bulletin No. 98-135 and Instruction Memorandum No. 98-164.

In order to meet its responsibility to maintain the scenic values of the public lands, BLM has developed a VRM system that addresses the following:

- Different levels of scenic values require different levels of management. For example, management of an area with high scenic value might be focused on preserving the existing character of the landscape, and management of an area with little scenic value might allow for major modifications to the landscape. Determining how an area should be managed first requires an assessment of the area's scenic values.
- Assessing scenic values and determining visual impacts can be a somewhat subjective process. Objectivity and consistency can be greatly increased by using the basic design elements of form, line, color, and texture, which have often been used to describe and evaluate landscapes, to also describe proposed projects. Projects that repeat these design elements are usually in harmony with their surroundings; those that don't create contrast. By adjusting project designs so the elements are repeated, visual impacts can be minimized.

BLM's VRM system provides a way to identify and evaluate scenic values to determine the appropriate levels of management. It also provides a way to analyze potential visual impacts and apply visual design techniques to ensure that surface-disturbing activities are in harmony with their surroundings.

Basically, BLM's VRM system consists of two stages:

- Inventory (Visual Resource Inventory)
- Analysis (Visual Resource Contrast Rating)

## J.2 Inventory

The inventory stage involves identifying the visual resources of an area and assigning them to inventory classes using BLM's visual resource inventory process. The process involves rating the visual appeal of a tract of land, measuring public concern for scenic quality, and determining whether the tract of land is visible from travel routes or observation points. The process is described in detail in BLM Handbook H-8410-1, Visual Resource Inventory. The results of the visual resource inventory become an important component of BLM's Resource Management Plan (RMP) for the area. The RMP establishes how the public lands will be used and allocated for different purposes, and it is developed through public participation and collaboration. Visual values are considered throughout the RMP process, and the area's visual resources are then assigned to management classes with established objectives:

- **Class I Objective:** To preserve the existing character of the landscape. The level of change to the characteristic landscape should be very low and must not attract attention
- **Class II Objective:** To retain the existing character of the landscape. The level of change to the characteristic landscape should be low

- **Class III Objective:** To partially retain the existing character of the landscape. The level of change to the characteristic landscape should be moderate.
- **Class IV Objective:** To provide for management activities which require major modification of the existing character of the landscape. The level of change to the characteristic landscape can be high.

### J.3 Analysis

The analysis stage involves determining whether the potential visual impacts from proposed surface-disturbing activities or developments will meet the management objectives established for the area, or whether design adjustments will be required. A visual contrast rating process is used for this analysis, which involves comparing the project features with the major features in the existing landscape using the basic design elements of form, line, color, and texture. This process is described in BLM Handbook H-8431-1, Visual Resource Contrast Rating. The analysis can then be used as a guide for resolving visual impacts. Once every attempt is made to reduce visual impacts, BLM managers can decide whether to accept or deny project proposals. Managers also have the option of attaching additional mitigation stipulations to bring the proposal into compliance

### J.4 Design Techniques

There are numerous design techniques that can be used to reduce the visual impacts from surface-disturbing projects. The techniques described here should be used in conjunction with BLM's visual resource contrast rating process wherein both the existing landscape and the proposed development or activity are analyzed for their basic elements of form, line, color, and texture (FLCT).

This discussion of design techniques is broken down into two categories:

- **Design fundamentals** are general design principles that can be used for all forms of activity or development, regardless of the resource value being addressed. Applying these three fundamentals will help solve most visual design problems:
  - ▶ Proper siting or location
  - ▶ Reducing unnecessary disturbance
  - ▶ Repeating the elements of form, line, color, and texture
- **Design strategies** are more specific activities that can be applied to address visual design problems. Not all of these strategies will be applicable to every proposed project or activity:
  - ▶ Color selection
  - ▶ Earthwork

- ▶ Vegetative manipulation
- ▶ Structures
- ▶ Reclamation/restoration
- ▶ Linear alignment design considerations

The fundamentals and strategies are all interrelated, and when used together, can help resolve visual impacts from proposed activities or developments.

The techniques presented here are only a portion of the many design techniques available to help reduce the visual impacts resulting from surface-disturbing activities or projects. Further research into planning and design references and/or consultation with professional designers and engineers will help to further reduce the visual impacts of any development.

**Appendix K:  
Biological Opinion**

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## United States Department of the Interior

### Fish and Wildlife Service

Ecological Services

Montana Field Office

585 Shepard Way, Suite 1

Helena, Montana 59601-6287

Phone: (406) 449-5225, Fax: (406) 449-5339



File: M02 BLM

June 3, 2015

#### Memorandum

To: James M. Sparks, Field Manager, Bureau of Land Management, Billings Field Office, Billings, Montana

From: *Jodi L. Bush*  
for Jodi L. Bush, Field Supervisor, U.S. Fish and Wildlife Service, Montana Field Office, Helena, Montana

Subject: Billings and Pompeys Pillar National Monument Resource Management Plan and Environmental Impact Statement Biological Assessment Concurrence

We have reviewed your May 2015 revised Biological Assessment (BA) prepared relative to "Alternative D" as presented in the Billings and Pompeys Pillar National Monument Resource Management Plan (RMP) and Environmental Impact Statement (EIS). On June 3, 2015 we received via email, the final BA and your request for U.S. Fish and Wildlife Service (Service) concurrence with the determinations of effect presented therein. This response is provided by the Service under the authority of the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531-1543), the Fish and Wildlife Coordination Act (16 U.S.C. 661 et seq.), and the Migratory Bird Treaty Act (16 U.S.C. 703-712), as amended.

The BA and RMP/EIS describe and analyze proposed future management of public lands and resources administered by the Bureau of Land Management (BLM) Billings Field Office. The planning area is located in south-central Montana and includes 434,154 surface acres of public land and 1,835,484 acres of federal mineral estate in Big Horn, Carbon, Golden Valley, Musselshell, Stillwater, Sweet Grass, Wheatland, and Yellowstone counties in Montana. The Billings Field Office also administers 4,298 acres of public land in Big Horn County, Wyoming. The RMP also addresses management for 51 acres of public land designated as Pompeys Pillar National Monument (PPNM). Collectively, the lands that BLM administers (surface and mineral estate) are considered the "decision area." The RMP/EIS provides goals, objectives, land use allocations, and management direction to maintain, improve, or enhance resource conditions and to provide for long-term benefits to the public.

Upon request from BLM, on March 23, 2015 the Service determined that the endangered black-footed ferret, threatened grizzly bear, Canada lynx (with critical habitat), and red knot, and candidate greater sage-grouse, Sprague's pipit, and whitebark pine may be present in the Billings/PPNM RMP planning area vicinity. We inadvertently omitted the endangered whooping

crane from this list, which you also included in your BA. You determined in the BA that implementation of Alternative D and proposed conservation measures as described in the RMP/EIS may affect, but is not likely to adversely affect any of the aforementioned listed endangered and threatened species. You elected not to provide determinations of effect for Canada lynx critical habitat or candidate species in the BA. The BA does, however, note that while Canada lynx critical habitat occurs in the general planning area, none occurs on BLM-administered lands (the decision area). Consequently, lynx critical habitat was not considered further in the BA.

We concur with your "may affect, not likely to adversely affect" determinations for the black-footed ferret, whooping crane, grizzly bear, and Canada lynx, and acknowledge your treatment of Canada lynx critical habitat presented in the BA. Our concurrence is based upon the action scope and location, implementation of proposed conservation measures listed and/or referenced in the BA, the fact that site-specific evaluations will be conducted for individual activities authorized under the Billings/PPNM RMP at the time they are proposed, and consultation or conference would occur with the Service for such activities that may affect listed and proposed threatened and endangered species.

This concludes informal consultation on this proposed action pursuant to regulations in 50 CFR 402.13 implementing the Endangered Species Act of 1973, as amended. This action should be re-analyzed if new information reveals effects that may affect threatened, endangered or proposed species, if the project is modified in a manner that causes an effect not considered in this consultation, or if the conservation measures stated or referenced in the May 2015 BA will not be implemented.

The Service appreciates your efforts to incorporate fish and wildlife resource concerns, including threatened and endangered species, into your resource management planning. If you have questions or comments related to this issue, please contact Jeff Berglund at (406) 449-5225 extension 206.



United States Department of the Interior

BUREAU OF LAND MANAGEMENT  
Billings Field Office  
5001 Southgate Drive  
Billings, Montana 59101-4669  
www.blm.gov/mo



In Reply Refer To:

6860 (MT010,JP)

JUNE 9, 2015

J. Parks  
6-3-15  
6/3

Memorandum

To: Field Supervisor, U.S. Fish and Wildlife Service, Montana Field Office

From: James M. Sparks, Field Manager /s/ James M. Sparks

Subject: Biological Assessment for Billings/Pompeys Pillar Resource Management Plan

We are requesting your written concurrence of our determination of effects regarding federally listed species as contained in the attached Biological Assessment (BA) for the proposed Billings/Pompeys Pillar Resource Management Plan (RMP).

Informal consultation was initiated on November 24, 2009 through an information request for Threatened and Endangered Species within the field office planning area. Due to the five-year timeframe from the original request, another species list was requested in 2015. According to the memo dated March 30, 2015 from your Field Office Supervisor, Jodi L. Bush, to State Director, Jamie Connell, the following species were considered for this BA:

Black-footed ferret (*Mustela nigripes*) - Listed Endangered, Grizzly bear (*Ursus arctos horribilis*) - Listed Threatened, Canada lynx (*Lynx canadensis*) - Listed Threatened, and Red knot (*Calidris canutus rufa*) - Listed Threatened. Whooping crane (*Grus americana*) - Listed Endangered, is still discussed due to past observations in the area, although it was not included in your memo. Please note that although Canada lynx, critical habitat occurs in the general "planning area", none occurs on BLM-administered lands or the "decision area". Refer to the description of planning and decision areas in the "Effects Analysis Methodology" on page 4.

Please refer any questions, comments, or revisions to Jay Parks, Wildlife Biologist, at 406-896-5244 or BLM, Billings Field Office, 5001 Southgate Drive, Billings, Montana 59101.

1 Attachment

1-Biological Assessment

BLM

Billings Field Office and Pompeys Pillar  
Resource Management Plan and  
Environmental Impact Statement

Biological Assessment

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*May 2015*

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## **ACRONYMS**

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ACEC	Area of Critical Environmental Concern
AML	Abandoned Mine Lands
APD	Application for Permit to Drill
APHIS	U.S. Department of Agriculture, Animal and Plant Health Inspections Service
APLIC	Avian Power Line Interaction Committee
AUM	Animal Unit Month
BA	Biological Assessment
BI	Beneficial Impact
BIFO	Billings Field Office
BLM	U.S. Department of Interior Bureau of Land Management
BMPs	Best Management Practices
BO	Biological Opinion
CFR	Code of Federal Regulation
COE	U.S. Army Corps of Engineers
CSU	Controlled Surface Use
DEIS	Draft Environmental Impact Statement
DFC	Desired Future Condition
EA	Environmental Assessment
EIS	Environmental Impact Statement
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act of 1973, as amended
FLPMA	Federal Land Policy and Management Act
FR	Federal Register
ft	Foot or feet
GHMA	Greater Sage-Grouse General Habitat Management Area
GIS	Geographic Information System
GRSG	Greater Sage-Grouse
HMP	Habitat management plans
IDT	Interdisciplinary Team
km	Kilometers
LAA	May affect, likely to adversely affect
LCAS	Lynx Conservation Assessment and Strategy
MA	May Affect
Mbf	Thousand Board feet of timber
MDEQ	Montana Department of Environmental Quality
MFWP	Montana Fish, Wildlife and Parks
mi	Miles
mm	Millimeter(s)
MOA	Memorandum of Agreement
MOU	Memorandum of Understanding
NE	No Effect
NEPA	National Environmental Policy Act of 1969
NI	No impact
NLAA (NL)	May affect, Not Likely to Adversely Affect
-b	due to beneficial effects
-d	due to discountable effects

-i	Insignificant effects
NOI	Notice of Intent
NMFS	National Marine Fisheries Service
NSO	No surface occupancy
OHV	Off-highway vehicle
PA	Planning Area
PFC	Proper Functioning Condition (Riparian Areas)
RA	Greater Sage-Grouse Restoration Area
RCA	Restoration/Conservation Area
RMP	Resource Management Plan
RMZ	Riparian Management Zone
ROD	Record of Decision
ROS	Recreation Opportunity Spectrum
ROW	Right-of-way
RUP	Recreation Use Permit
PHMA	Greater Sage-Grouse Priority Habitat Management Area
SRA	Sensitive Resource Area
SRMA	Special Recreation Management Area
T&E	Threatened or endangered species
TL	Timing Limitation
TMDL	Total Maximum Daily Load
USDA	United States Department of Agriculture
USDI	U.S. Department of Interior
USFS	U.S. Department of Agriculture, Forest Service
USFWS	U.S. Department of the Interior, Fish and Wildlife Service
VRM	Visual Resource Management
WS	Wildlife Services (USDA)
WSA	Wilderness Study Area
WUI	Wildland Urban Interface

## **K. Introduction**

### **K.1 Overview of the Project**

The Bureau of Land Management (BLM) is preparing the Billings and Pompeys Pillar National Monument Resource Management Plan (RMP) to provide management direction to prevent or address potential conflicts between resource uses and resource conservation. Decisions made as a result of the Record of Decision on the RMP will result in a revision of the Billings RMP (1984).

Two areas of analysis are discussed. They include the Planning Area, defined as all the land within the boundary of the Billings Field Office administrative unit regardless of ownership, and the Decision Area, which includes only the BLM-administered land (surface and mineral) within Carbon, Yellowstone, Stillwater, Sweet Grass, Musselshell, Wheatland, Golden Valley, and portions of Big Horn counties, Montana, as well as Pompeys Pillar National Monument. The Decision Area is approximately 427,290 acres of BLM-administered public lands and 906,084 acres of federal mineral estate in south-central Montana. The area also includes administration of 4,298 acres of public land inside the Pryor Mountain Wild Horse Range in Big Horn County, Wyoming. Effects determinations will be made only on the BLM-administered lands (surface and mineral). The Billings Field Office Planning Area boundary map is illustrated on page 11.

#### **Past Consultations/RMP Amendments**

The Billings Resource Management Plan was approved September 1984, and was amended with T & E Consultations by the following plans: June 1988, for Wilderness designation; November 1996, to include Montana/Dakotas Standards and Guidelines; August 1998, for Areas of Critical Environmental Concern (ACEC) designation; February 1994, Miles City District Oil and Gas RMP/EIS Amendment; Off-Highway Vehicle use and area designations, July 2003; Montana and Dakotas Fire/Fuels Management Plan, October 2005; Vegetation Treatment on Bureau of Land Management Lands in 17 Western States, November 2005, and BLM, Billings Field Office, Backlog Consultation, 2007.

### **K.2 Purpose of the Biological Assessment**

Under provisions of the federal Endangered Species Act of 1973, as amended (ESA) (16 U.S.C. Section 1531 et seq.), federal agencies are directed to conserve threatened and endangered species and the habitats in which these species are found. Federal agencies are also required to ensure actions they authorize, fund, or carry out are not likely to jeopardize the continued existence of endangered and threatened species or their critical habitat. The ESA requires action agencies, such as the BLM, to consult or confer with the U.S. Department of Interior Fish and Wildlife Service (USFWS) and/or National Marine Fisheries Service (NMFS) when there is discretionary federal involvement or control over the action. Formal consultation becomes necessary when the action agency requests consultation after determining the proposed action is likely to adversely affect listed species or critical habitat, or the aforementioned federal agencies do not concur with the action agency's finding (USFWS 1998).

Under the 1994 Memorandum of Understanding (MOU) and the 2000 Memorandum of Agreement (MOA) among the BLM, USFWS, USDA Forest Service (USFS), and NMFS, all four agencies

agreed to promote the conservation of candidate and proposed species and streamline the Section 7 consultation and coordination process.

This programmatic biological assessment provides documentation for the proposed action to meet federal requirements and agreements set forth among the federal agencies listed above. It addresses federally listed threatened or endangered species that have the potential to occur within the Planning Area and has been prepared under the 1973 ESA Section 7 regulations, in accordance with the 1998 procedures set forth by USFWS and NMFS, and in accordance with the 1994 and 2000 MOU and MOA, respectively. Site-specific evaluations will be conducted for activities authorized under the Billings and Pompeys Pillar National Monument RMP/EIS at the time they are proposed, and consultation or conference would occur with the Service for activities that may affect Threatened or endangered species.

### **K.3 Organization of the Document**

- A list of acronyms used is included for ease of reference.
- The Species Accounts section follows, which includes current habitat and use in the Planning Area, population distribution, and threats. Species accounts are organized into mammals, birds, fish and plants.
- The Methods section describes information used in the analysis, discloses how effects determinations were made, and defines the possible effects determinations.
- The Analysis of Management Actions and Effects section is organized by resource management program as described in the Billings and Pompeys Pillar National Monument RMP/EIS. Resource programs are discussed in the same order in the biological assessment as they are in the EIS, with the five issues (soil, water, vegetation, wildlife and special status species, and fish and special status species,) first, followed by the remaining resource programs. The Analysis of Management Actions and Effects section has a summary of the management action proposed, followed by the effects analysis (direct and indirect) and a determination for each species, with rationale. This organization results in an effects determination for each species for each resource program area. The end of the section includes with the determination for each program by species (Table 5), along with a summary of the determinations by species for the RMP as a whole (Table 6). Cumulative Effects are discussed at the end of the document.
- Based on the effects determinations, mitigations required to be included in the RMP are described. These mitigations are to be adopted and included in the RMP as part of the Record of Decision and implemented during program planning and evaluation. The mitigations identified result in reduced impacts on species or methods to ensure species effects are not greater than those stated.
- Finally, the References section provides full citations for literature and information sources used throughout the Biological Assessment.

**Table 1** below summarizes the species considered, their status, presence and habitat in the Planning Area.

**Table 1: Listed Species in the Billings and Pompeys Pillar National Monument RMP/EIS Biological Assessment**

Common	Scientific Name	Status*	Documented in Planning Area	Habitat
<b>Mammals</b>				
Black-footed ferret	<i>Mustela nigripes</i>	Endangered and Nonessential Experimental population	No	Prairie habitats with large prairie dog colonies.
Canada Lynx	<i>Lynx canadensis</i>	Threatened, Critical Habitat	Yes**	Mesic coniferous forests that have cold, snowy winters and provide a prey base of snowshoe hare
Grizzly Bear	<i>Ursus arctos horribilis</i>	Threatened	Yes	Remote forested habitats
<b>Birds</b>				
Red Knot	<i>Calidris canutus rufa</i>	Threatened	No	Wetlands and shorelines
Whooping crane	<i>Grus americana</i>	Endangered	Yes	Wetlands and Croplands

\*Status refers to federal status in accordance with the Endangered Species Act (as of February 2013).

\*\*Lynx Critical habitat is available within the planning area, although it is not present within the decision area. Refer to description of “planning area” and “decision area” on page 4.

## K.4 METHODS

Under provisions of the ESA, federal agencies are directed to conserve threatened and endangered species and the habitats in which these species are found. Federal agencies also are required to ensure actions they authorize, fund, or carry out are not likely to jeopardize the continued existence of threatened and endangered species or their critical habitat. The ESA requires action agencies, such as the BLM, to consult or confer with the USFWS and/or NMFS when there is discretionary federal involvement or control over the action. Formal consultation becomes necessary when the action agency requests consultation after determining the Proposed Action is likely to adversely affect listed species or critical habitat, or the aforementioned federal agencies do not concur with the action agency’s finding (USFWS 1998). A BA is required under Section 7(c) of the ESA, if listed species or their critical habitat may be present in the area affected by land management activities.

The Billings and Pompeys Pillar National Monument RMP/EIS was reviewed to identify actions with the potential to affect the listed species. Available occurrence and habitat data for the listed species were requested. Occurrence data was obtained from Montana Fish, Wildlife, and Parks, Montana Natural Heritage Database, Universities, research and other professional sources. Information was evaluated and potential impacts from the management actions were analyzed. Management actions were evaluated in terms of their potential to directly and indirectly affect the listed species. State, private, local, and tribal activities were also evaluated to assess their potential to cumulatively affect the listed species. Species recovery plans also were reviewed for further information on habitat, occurrences, life histories, and conservation measures.

The BA analyzes the impacts of a proposed, discretionary federal action. A federal action is defined as anything authorized, funded, or carried out by the federal agency. Direct impacts are those effects on the species or its habitat which are caused by an action, and occur at the same time and place as the action. Indirect impacts are those effects on the species or its habitat caused by an action, occurring later in time or further removed in distance than direct impacts, but which are still reasonably foreseeable. The analysis of all impacts includes the effects of interrelated and interdependent actions.

For the purposes of effects analysis under the ESA, *cumulative effects* are defined as effects on a species from future state or private activities not involving federal activities, which are reasonably certain to occur within the action area of the federal action subject to consultation. Future *federal actions* will be subject to the consultation requirements established in Section 7 of the ESA, and therefore, are *not* considered cumulative to the proposed action.

Factors considered when analyzing impacts include, among others, proximity of the action to the species or habitat of concern, geographic distribution of the action disturbance, timing of the action, nature of the action effect, action disturbance frequency, duration of the affecting action, action disturbance intensity, and action disturbance severity.

The BA process is focused primarily on *adverse impacts* to the species of concern. Even though impacts may have both a beneficial and detrimental effect on the subject species in either the long or short term, the effects determination of the assessment will be based on and controlled by the likelihood of adversely affecting the species. In other words, the impacts analysis for a BA is not an averaging process.

#### **K.4.1 Effects Analysis Methodology**

The BLM staff has reviewed potential actions associated with each program and the impacts to the individual species or their critical habitats to determine the impact to the species or their critical habitats, if those actions were to occur within suitable habitat for those species.

Collectively, the lands that BLM administers (surface and mineral estate) are considered the “decision area.” RMP decisions apply only to BLM-administered public lands and resources, with the exception being Bureau of Reclamation lands where the oil and gas is under federal jurisdiction then the oil and gas decisions made in this RMP/EIS do apply. In this document, the term “planning area” applies to all lands within the nine-county area, regardless of surface ownership (Figure 1). It is important to note that the BLM may only make decisions that affect public lands and resources, but it is responsible for collaborative planning with the public and adjacent jurisdictions so as to consider the impacts of its actions on all resources in the region.

This BA will describe in detail those potential actions within the decision area that may affect a listed species or its critical habitat. Other potential actions that have been determined to have no effect on a species or its critical habitat will not be further discussed in detail. No actions were determined to be likely to adversely affect listed species.

Programs that do not have actions located within the habitat of a listed species, or have no impact on that species, have been identified as having “No Effect” on that species or its critical habitats.

Cumulative Effects are summarized at the end of the document.

#### **K.4.1.1 Description of the Billings and Pompeys Pillar RMP/EIS Preferred Alternative**

The BLM’s Preferred Alternative is Alternative D in the Draft RMP. Alternative D is the alternative for which the BLM has requested to consult pursuant to section 7 of ESA. There are numerous sections to Alternative D; the BLM will present conservation protective measures applicable to some or all listed species found in the BIFO planning area. Additional Conservation Measures unique to each grizzly bear and Canada lynx are addressed in Appendix A.

#### **K.4.1.2 Conservation Measures Common to All Management Actions**

The following general conservation measures for all listed threatened and endangered species will be applied under all resource programs and are not repeated in this BA under each management program. Conservation measures specific to species are identified in **several appendices including Best Management Practices, Wildlife Resources, Monitoring, Mitigation Measures and Conservation Actions for Greater Sage-grouse Habitat**” of the RMP.

Tentative RMP Appendices numbers are BMP’s-Appendix B, Wildlife Resources-Appendix H, and Greater Sage Grouse Appendices are AA. The appendices will not change, although the designations may change in the Final RMP.

Resource Program “Goals and Objectives” and “Management Common to All Alternatives” are summarized on Tables 2.10 through Table 2.13, as proposed management actions under the preferred alternative in the Billings and Pompeys Pillar National Monument RMP/EIS (refer to RMP Chapter 2, Alternatives Table 2-6.1 on pages 2-112 through 2-128 for Wildlife Habitat and Special Status Species):

##### **K.4.1.2.1 OTHER CONSERVATION MEASURES SPECIFIC TO THE BILLINGS/ POMPEYS PILLAR NATIONAL MONUMENT RMP/EIS INCLUDE:**

- BLM rangeland health will be evaluated to meet the Standards for Healthy Rangelands and Guidelines for Livestock Grazing Management for Public Lands; Grazing Allotments within greater sage-grouse PPH habitat will be classified as “I” Intensive Allotment Category.
- Coordination between BLM specialists and BLM biologists during the planning and implementation phases of all projects and actions to ensure adequate exchanges of knowledge relative to T&E species.
- Develop and implement stipulations to avoid or minimize disturbance of T&E species.

- Surveys for T&E species will be conducted prior to project initiation.
- To avoid collision and electrocution of raptors and other avifauna, power-lines will continue to be constructed in accordance with the latest standards outlined in the Avian Protection Plan Guidelines (APLIC and USFWS 2005). Where wildlife conflicts exist, overhead powerlines and tall structures would follow the recommendations in the APLIC guidelines. When possible, perch, collision, and electrocution preventions would be used.
- Wetland and riparian habitats will be maintained, enhanced, or preserved to provide wildlife habitat, improve water quality, and enhance forage conditions. When planting or seeding vegetation in areas identified as threatened and endangered or special status species habitat, only native species will be selected.

The BLM goals for the management of riparian areas within the Billings Field Office decision area center on promoting healthy wetland ecosystems, supporting physical processes and natural combinations of vegetation that work together to create stable stream banks, functional floodplains, complex fish and wildlife habitat and high water quality within site potential. Management actions ensure consistency with achieving or maintaining the Standards for Rangeland Health and Guidelines for Livestock Grazing Management for Montana, North Dakota, and South Dakota (BLM 1997a) and as a minimum, all riparian areas with natural capability would be in proper functioning condition (PFC). The PFC is a method for assessing the condition of riparian wetland areas through a consistent approach, considering hydrology, vegetation, and erosion/deposition attributes and processes. The term PFC refers to how well the physical processes of the riparian area are functioning. In addition, Desired Future Conditions (DFCs) would be developed in some alternatives to help enhance riparian conditions beyond PFC. The DFCs can include, but are not limited to, riparian characteristics such as native species diversity and abundance, important in enhancing fish and wildlife habitat as well as riparian functionality.

Invasive species management would focus on restoring native and desired non-native communities of riparian areas to attain DFCs.

Special status species include federally listed, proposed, or candidate species; state protected species; and BLM sensitive species. The BLM must follow the requirements of the Endangered Species Act of 1973, as amended, and BLM policy to conserve federally listed threatened and endangered species and the habitat on which they depend. The BLM policy also states, "...ensure that actions requiring authorization or approval by the Bureau of Land Management (BLM or Bureau) are consistent with the conservation needs of special status species and do not contribute to the need to list any special status species, either under provisions of the ESA or other provisions of this policy." The Billings Field Office would manage special status species following the direction and guidance identified in BLM Manual 6840; recovery plans; biological opinions; conservation agreements, plans, and strategies; habitat conservation plans; and the recommendations from interagency recovery implementation teams. Special status and T & E species designations and lists are dynamic and subject to change based on population changes, habitat improvements and protections, and new data.

Please refer to the RMP Appendices for definitions, descriptions of laws, regulations, policies, and guidance, Best Management Practices (BMPs), Oil and Gas leasing notices, stipulations, and CSU guidelines, Wildlife Monitoring and Protection Plan, and T&E and Special Status Species lists. The appendices are intended to clarify the content of the RMP.

Manage terrestrial habitat to provide native species diversity and viability, and to sustain ecological, economic, and social values while providing for multiple uses of public lands.

Manage for no net loss and connectivity of priority habitats on BLM-administered lands. The necessary habitat would be present to maintain, enhance, or restore priority native species populations. Sagebrush, native grasslands, seasonal or crucial wildlife ranges, special status species habitat, fisheries, cottonwood galleries, and riparian/wetlands would be priorities.

Manage all BLM actions or authorized activities to sustain wildlife populations and their habitats and to avoid contributing to the listing of or jeopardizing the continued existence or recovery of special status species and their habitats.

Manage or restore habitat on BLM-administered lands within the planning area to facilitate the conservation, recovery, and maintenance of populations of native, desirable non-native, and special status species consistent with appropriate local, state, and federal management plans.

BLM-authorized activities would address habitat for migratory and non-migratory birds, non-game and game mammals, and reptiles, and amphibians.

Implement conservation actions identified in Executive Order 13186 – “Responsibilities of Federal Agencies to Protect Migratory Birds.”

Implement the North American Bird Conservation initiative to restore, enhance, and maintain habitats for migratory birds. Include USFWS Birds of Conservation Concern for Bird Conservation Regions 10 and/or 17 where appropriate through project level NEPA analysis. Emphasize maintenance and restoration of habitats that sustain special status species with minimum disturbance during the breeding season. Enhance or restore habitat composition and structure beyond PFC in riparian habitats, where and when appropriate, for migratory bird habitat.

Management techniques, including but not limited to prescribed and managed wildfire, prescriptive livestock grazing, planting, exclusion to intense disturbance, timber harvest and other mechanical methods would be used to restore, maintain or improve the desired ecological conditions of vegetation communities for the purpose of improving forage, nesting, breeding, and security habitat, hiding cover and travel corridors for a wide diversity of terrestrial and aquatic species.

Management actions would emphasize providing habitat of sufficient quantity and quality, including connectivity and wildlife movement corridors, habitat complexity, forest openings, edges, and ecotones, to enhance biological diversity and provide quality, sustainable habitat for native wildlife species.

When potential wildlife conflicts are identified, the BLM would require a current year wildlife survey of the project area from the project proponent.

All federally listed and BLM special status species and their habitats would be considered priority species and habitats.

Identify distribution, key habitat areas, and special management needs for development of management plans and conservation measures, consistent with restoration, conservation and recovery plans upon designation of threatened, endangered, and other special status species, riparian/ wetland areas, native grasslands, sagebrush steppe, coniferous and deciduous forests, and

seasonal ranges supporting life cycle requirements for wildlife (i.e., winter, breeding, parturition, etc.).

Timing restrictions would be used in special status species habitat. Surface disturbing and disruptive activities that impact special status species habitats during their seasons of use, particularly during critical life cycles would be avoided or minimized.

Oil and gas surface occupancy and use is subject to the following operating constraints:

The lease area may now or hereafter contain plants, animals, or their habitats determined to be threatened, endangered, or other special status species. The BLM may recommend modifications to exploration and development proposals to further its conservation and management objective to avoid BLM approved activity that will contribute to a need to list such a species or their habitat. The BLM may require modifications to or disapprove proposed activity that is likely to result in jeopardy to the continued existence of a proposed or listed threatened or endangered species or result in the destruction or adverse modification of a designated or proposed critical habitat. The BLM will not approve any ground-disturbing activity that may affect any such species or critical habitat until it completes its obligations under applicable requirements of the Endangered Species Act as amended, 16 U.S.C. § 1531 et seq., including completion of any required procedure for conference or consultation.

Assist in the restoration, reintroduction, augmentation, or re-establishment of threatened, endangered, and other priority or special status species populations and (or) habitats in coordination with MFWP and USFWS.

#### **K.4.2 Black-footed ferret:**

Black-footed ferret habitat is defined as prairie dog colonies within 1.5 km of each other and comprising of 1,500 acres. Surface occupancy and use for oil and gas leasing, development, and exploration and geophysical operations would be prohibited within ¼ mile of black-footed ferret habitat (No Surface Occupancy-NSO).

Oil and gas surface occupancy and use is prohibited within ¼ mile of prairie dog colonies active within the past 10 years. (No Surface Occupancy-NSO).

Management of prairie dog colonies on public lands would be subject to the Conservation Plan for Black-tailed and White-tailed Prairie Dogs in Montana. White-tailed prairie dogs would be considered a priority for management due to limited and declining populations in Montana.

#### **K.4.3 Grizzly Bear:**

Weed control using domestic sheep and/or goats in potential grizzly bear habitat would only be authorized after consultation with U.S. Fish and Wildlife Service.

#### *Roads / Travel Management:*

The BLM would manage to reduce open road densities in big game winter and calving ranges where they exceed 1.0 mile/square mile.

There would be no net increase in permanent roads built in areas where open road densities are 1 mi/mi<sup>2</sup> or less in big game winter range habitat and parturition ranges, unless not possible due to

conflicts with valid existing rights. All practicable measures would be taken to assure that important habitats with low road densities remain in that condition.

Roads would be gated during crucial seasons, closed and/ or reclaimed. Temporary roads would be reseeded with a native seed mixture.

#### **K.4.4 Effects Determinations for Threatened and Endangered Species**

Determination categories considered as part of this BA include the following:

No effect (NE) – The appropriate conclusion when the BLM determines its proposed action will not affect listed species. The principle factor for this determination is that “suitable habitat” does not exist for the species in the analysis area. In this situation, further consultation with the USFWS will be conducted on a case-by-case basis.

May affect, but is not likely to adversely affect (NLAA-b, -i, -d) – The appropriate conclusion when effects on listed species are expected to be completely beneficial (-b), or insignificant (-i), or discountable (-d). This type of effect requires informal Section 7 consultation with the USFWS and concurrence with the determination.

May affect, is likely to adversely affect (LAA) – The appropriate conclusion if any adverse effect to the listed species may occur as a direct or indirect result of the proposed action or its interrelated or interdependent actions, and the effect is not beneficial, insignificant, or discountable. In the event the overall effect of the proposed action is beneficial to the listed species, but also is likely to cause some adverse effects, then the proper effect determination for the proposed action is “likely to adversely affect” the listed species. A “likely to adversely affect” determination requires formal Section 7 consultation with the USFWS.

A summary of the *Effects Determinations* of this BA is shown in **Tables 5** and **6**.

#### **K.4.5 Coordination / Conservation Measures**

Section 7(a)(1) of ESA requires the federal agency (i.e., BLM) to use all of its authorities in furthering the purposes of the Act by implementing programs for the conservation of listed threatened and endangered species. To meet the requirements of Section 7(a)(1), the BLM needs to consider conservation programs for the management of listed threatened and endangered species separate from any consultation requirements for actions affecting other special status species. Those conservation programs that are adopted need to be incorporated into the approved RMP.

Conservation recommendations serve several purposes. They can: 1) present ways the BLM can assist species conservation in furtherance of statutory responsibilities; 2) minimize or avoid the adverse impacts of a proposed action on a special status species; and 3) identify and recommend studies aimed at improving the understanding of a species biology or ecology.

Listed threatened and endangered species management can be addressed in four primary ways:

- Through Conservation Actions identified as part of a species listing package, as Reasonable and Prudent measures recommended in the biological opinion (BO) from the USFWS in response to a BA, and through species protection measures determined through collaborative

interagency and multidiscipline efforts, i.e., Lynx Conservation Assessment and Strategy (LCAS);

- Measures may include seasonal or activity limitations, or other surface management and occupancy constraints;
- The Standards for Rangeland Health and Guidelines for Livestock Grazing Management (Land Health Standards). As stated, the “Standards apply to all resource uses on public lands.” While the Guidelines, “apply specifically to livestock grazing management practices on the BLM-administered public lands.” The development and application of these standards and guidelines are intended to achieve the following four fundamentals of rangeland health: 1) proper functioning of air and watersheds; 2) proper cycling of air, water, soil nutrients, and energy; 3) attainment of state water quality standards; and 4) sustained maintenance and management of the native fauna and flora of the area, including special status species. These fundamental goals are achieved through inventory of the natural resources, appropriate management actions aimed at these resources, monitoring and evaluation of the effectiveness of these management actions, and land management adjustments as necessary.
- Special Status Species Management, BLM Manual 6840, directs field office managers to implement special status species programs within their area of jurisdiction by: 1) conducting and maintaining current inventories for special status species on public lands; 2) providing for the conservation of special status species in the preparation and implementation of recovery plans with which BLM has concurred, interagency plans and conservation agreements; 3) ensuring that all actions comply with the ESA, its implementing regulations, and other directives associated with conserving special status species; 4) coordinating field office activities with federal, state, and local groups to ensure the most effective program for special status species conservation; 5) ensuring actions are evaluated to determine if special status species objectives are being met; 6) ensuring all actions authorized, funded, or carried out by the BLM follow the interagency consultation procedures as outlined in 50 CFR, Part 402; and 7) ensuring results of formal Section 7 consultations including terms and conditions in incidental take statements are implemented.



## K.5 Species Accounts

As per the species list sent to the BLM by USFWS for the RMP, and recent listing of the red knot, the federally listed species that must be considered in the BA include: black-footed ferret, Canada lynx, grizzly bear, whooping crane, and red knot.

### K.5.1 Black-Footed Ferret – Endangered (Nonessential Experimental Population)

#### K.5.1.1 Species Description

- **Status**

The black-footed ferret (*Mustela nigripes*) was federally listed as endangered on March 11, 1967 (32 FR 4001) under the Endangered Species Preservation Act of October 15, 1966 (80 Stat. 926; 16 United States Code [U.S.C.] 668aa(c)). Historically, the range of the black-footed ferret coincided closely with that of the prairie dog (*Cynomys* spp.) throughout the Great Plains and Rocky Mountain States of the US and two Canadian Provinces (Fitzgerald et al. 1994). The black-footed ferret was considered extinct by the middle of the last century until it was documented in South Dakota in August 1964 (Fortenbery 1972; Hillman 1968; Henderson et al. 1969; Linder et al. 1972) and again in 1981 near Meeteetse, Wyoming (Fitzgerald et al. 1994; USFWS 1988). However, the South Dakota population subsequently disappeared and the Wyoming population declined to only a few remaining individuals. Consequently, these animals were captured and provided the basis for the ongoing captive breeding program (USFWS 1988).

- **Life History**

Black-footed ferrets are primarily nocturnal, solitary carnivores that are obligate associates of prairie dogs (Fitzgerald et al. 1994). Over 90 percent of the black-footed ferret's diet is composed of prairie dogs, and ferrets use prairie dog burrows as their sole source of shelter (Fitzgerald et al. 1994). Therefore, black-footed ferrets may occur where prairie dog densities and distributions are relatively high.

Black-footed ferrets typically breed from March to May (USFWS 1988). The gestation period ranges from 41 to 45 days, with as many as 5 young born in late May and early June. The kits remain underground until late June or early July; upon emerging, they may accompany the female during nocturnal foraging. Male ferrets are not active in rearing the young and live a solitary life except during the breeding season. Ferrets are most commonly observed in late summer or early fall (Hillman and Carpenter 1980).

- **Habitat Requirements**

Black-footed ferrets are almost exclusively associated with prairie dogs and prairie dog towns (USFWS 1988). The size and density of prairie dog towns may be the most important factors comprising suitable habitats for black-footed ferrets (BLM 2008). According to the USFWS 1989 Black-footed Ferret Survey Guidelines, clearance surveys for ferrets are required within active black-tailed prairie dog colonies or complexes that exceed 80 acres in size and meet or exceed burrow densities of at least 8 burrows per acre (20 burrows per hectare) (USFWS 1989).

• **Distribution**

Historically, black-footed ferrets ranged throughout the non-mountainous portion of Montana in areas that supported prairie dogs, their primary prey. No black-footed ferrets are currently known to occur outside of reintroduced populations in Montana, South Dakota, Wyoming, Colorado, Arizona, Kansas, and Utah. However, undocumented remnant ferret populations may exist in portions of its former range (Hillman and Carpenter 1980).

• **Planning Area Distribution**

Reintroduced populations do not occur in the Planning Area; the closest populations are in the Northern Cheyenne Indian Reservation. The introduction sites are about 85 miles east of Billings or about 65 miles southeast of Pompeys Pillar. As shown in Table 2 and Table 3, prairie dog town concentrations or complexes large enough to support black-footed ferret populations are not present in the Planning Area. Additionally, black-footed ferrets are not documented in this area.

In the Planning Area, black-tailed prairie dogs occur in grassland habitats, which cover approximately 12,159,081 acres (all ownerships) or about 47 percent of the area. There are 166 known prairie dog towns in the Planning Area; 69 (41.6 percent) of which occur on public lands (Table 2). Long term trends in prairie dog abundance in the area are unknown.

**Table 2: Black-tailed Prairie Dog Acreage in the Planning Area**

Year/Source	BLM	State	Private / Other	National Wildlife Refuges	Total
2004 Survey	7,098	3,364	15,412	1,399	27,273
* Percent of 2004 Survey Data Taken from ARCGIS data	26%	12%	57%	5%	100%

\*The values listed for the BiFO (updated with 2004 surveys) were derived from ARCGIS software to intersect each prairie dog colony map with land ownership maps supplied by Montana’s Natural Resource Information System. Surveys from 1999 and 2000 were compared to the 2004 black-tailed prairie dog mapping.

White-tailed prairie dog towns located during surveys from 1975-1977 and in 2003 and 2005 are shown in Table 3. The list for each survey year is in no particular order.

**Table 3: White-tailed Prairie Dog Acreage in the Planning Area**

Colony ID	Colony* Size (acres)		
	1975-1977 (Acres)	2003 (Acres)	2005 (Acres)
1	5-10	40.5	40
2	2	13	12
3	74-84	15	23
4	20	22.5	10
5	Undocumented	18.5	18.5
6	2.5	10	14.6

Colony ID	Colony* Size (acres)		
	1975-1977 (Acres)	2003 (Acres)	2005 (Acres)
7	69-99	-	4.2
8	10-20	-	72
9	79	-	6
10	49-79	-	53
11	39.5-59	-	-
12	20-9	-	-
13	2.5	-	-
14	1-2.5	-	-
15	2.5-10	-	-
<b>Total Colonies</b>	<b>15 colonies</b>	<b>6 colonies</b>	<b>10 colonies</b>
<b>Total Acres</b>	<b>692</b>	<b>120</b>	<b>253</b>

\*\*Colony” is used interchangeably with “town” when referring to prairie dog locations and size.  
Sources: 1984 RMP and Backlog Consultation dated May 8, 2008 with the USFWS.

- **Threats**

The black-footed ferret was thought to be extirpated from virtually its entire range by the 1970s. The main causes of the species decline included habitat conversion for farming, intentional efforts to eliminate prairie dogs, and disease (USFWS 2000).

Black-footed ferret decline and virtual extirpation in the last century stemmed from impacts to prairie dog complexes included habitat conversion for farming, prairie dog eradication efforts, sylvatic plague, recreational shooting, and distemper (BLM 2005a). These same threats, in addition to urbanization, remain today (USFWS 2000).

Agricultural land use expansion included funding allocated by the U.S. Government to eliminate prairie dogs, seen as rodent pests during the twentieth century (BLM 2008). These massive prairie dog eradication efforts succeeded in eliminating prairie dogs from the vast majority of their historic range and therefore, reducing colony size and the potential to support black-footed ferrets (BLM 2008).

The sylvatic plague kills black-footed ferrets and reduces prey abundance, reducing large numbers of prairie dogs (BLM 2008). Black-footed ferrets also are susceptible to canine distemper, which can be fatal to infected individuals (BLM 2008).

## K.5.2 Canada Lynx - Listed Threatened

### K.5.2.1 Species Description

- **Status**

The Canada lynx (*Lynx canadensis*) was proposed for listing as threatened under the ESA in 1998 (*Federal Register* Volume 63, No. 130). On March 24, 2000, the final rule listing the lynx as threatened within the contiguous United States Distinct Population Segment (DPS) was issued (*Federal Register* Volume 65, No. 58). The status of lynx in Montana is as a furbearer with no harvest allowed and a protected nongame species. The BLM committed to mapping Lynx Analysis Units (LAUs), which are management areas that contain suitable lynx habitat and approximate the size of a female home range, as well as key linkage areas. BLM also coordinates with USFWS on approaches to the programmatic planning process for lynx management.

- **Life History**

The lynx is a carnivore with a primary diet of snowshoe hares (35-97%) supplemented with other small mammals, such as squirrels, porcupines, beavers, muskrats, mice, voles, and shrews (BLM 2008). Other occasional food sources are larger mammal carrion and fish.

Movement between suitable habitats is essential, but poorly understood. In the southern portion of the species' range, the complexity of metapopulation dynamics, a set of local populations that interact via dispersal of individuals moving among populations and where local extinctions and recolonizations occur, are assumed to function in lynx populations (BLM 2005b). Movement between habitat patches occurs as dispersal of subadults and in response to low hare abundance and functioning metapopulations require such occasional movements of individuals between subpopulations for species persistence (BLM 2008). Smaller scale movements occur as animals travel between hunting grounds within a home range (BLM 2008). Because of the patchiness of lynx habitats in the southern portion of the distributional range, lynx may include travel corridors within their home ranges (BLM 2005b).

Multiple natal dens are typically used for Canada lynx breeding (BLM 2008). Not much is known about lynx breeding habits; however, the season usually occurs from April or May into July (BLM 2005b).

- **Habitat Requirements**

In Montana, lynx are found in mountain and forest regions. Snow conditions and vegetation types are important habitat factors (Ruediger et al. 2000). Primary vegetation that contributes to lynx habitat is lodgepole pine, subalpine fir, and Engelmann spruce (Ruediger et al. 2000). East of the Continental Divide, the subalpine forests inhabited by lynx occur at higher elevations (5,413 to 7,874 feet) and are mostly species of fir. Secondary habitat is intermixed Englemann spruce and Douglas-fir with lodgepole pine as a major seral species (Ruediger et al. 2000). Dry forest types (e.g., ponderosa pine, climax lodgepole pine) do not provide lynx habitat (Ruediger et al. 2000). Throughout their range, shrub-steppe habitats may provide important linkage habitat between the primary habitats described above (Ruediger et al. 2000). The common component of natal den sites appears to be large woody debris, either down logs or root wads, located within older regenerating stands or in mature conifer or mixed conifer deciduous (typically spruce/fir or spruce/birch) forests (Ruediger et al. 2000). Additionally, studies show stand structure appears to be of more importance than forest cover type (Ruediger et al. 2000).

- ***Distribution***

The distribution of lynx in North America is directly correlated with the abundance of snowshoe hare (Ruediger et al. 2000). In the western US, most lynx occupy Rocky Mountain conifer forests (Ruediger et al. 2000). In Montana, lynx have been documented, historically and currently, throughout the Rocky Mountains from the Canadian border through the Yellowstone area (Ruediger et al. 2000).

- ***Planning Area Distribution***

Montana Fish, Wildlife, and Parks Trapping Records from 1977-1990, indicated 8 records during the 1980s to 1990. Four records were at the headwaters of the Main Boulder River in Park and Sweet Grass Counties; one near Black Butte (Sweet Grass County); one between Bridger and Deer Creeks in Sweet Grass County, one each in Musselshell County in the Little Snowy Mountain area and one in Yellowstone County north of Pompeys Pillar. The last 4 outlying locations from tracking records from the early 1980s could have been caused by drastic changes in prey base (decline in snowshoe hare populations) or large increases in lynx populations where younger lynx were forced by territorial competition to expand their ranges in search of new habitat or territories ( Brian Giddings, personal communication, MTFWP, 2014). There are no Lynx Analysis Units (LAUs) or critical habitat designated on BLM, Billings Field Office decision area lands, although lynx may occasionally occur in the area. Although Canada lynx critical habitat occurs in the general planning area, none occurs on BLM-administered lands or the decision area. Therefore, critical habitat will not be further analyzed in the BA. However, there is some potential secondary habitat above the 6,000 foot elevation in the Meeteetse Spires, Beartooth Front, and Pryor Mountain areas adjacent to the USFS lands. The lynx habitat area is identified on Figure 2.

- ***Threats***

Alteration of natural disturbance regimes, some forest management practices, road building, and some recreational activities may affect Canada lynx habitat suitability (BLM 2008). These activities threaten the patchiness and distribution of Canada lynx habitats that is essential for dispersal and lead to the vulnerability of the species (BLM 2008). The southern populations of Canada lynx in the United States in general are not large, and some may function as sources, whereas others function as sinks, with the necessity of dispersal potential between them (BLM 2008). If a source population is put at risk, extinction in both the source and adjacent sink populations can occur (BLM 2008).

Threats to snowshoe hare and alternate prey habitat may directly impact Canada lynx. In aspen stands and high-elevation riparian willow communities, extensive grazing by domestic livestock or wild ungulates may reduce forage and cover availability for snowshoe hares (BLM 2008). This may also be true for high elevation shrub-steppe habitat that support white-tailed jackrabbits and other alternate prey in sagebrush habitats that lynx may need and use in highly fragmented forest stands (BLM 2008).

Forest management activities may impact habitat for snowshoe hares and their prey. Retention of live and dead trees and coarse woody debris are important factors for maintenance of lynx, and habitats for lynx and their prey species (e.g., early successional habitat for snowshoe hares) (BLM 2005b). Timber harvest practices could increase edges and openings within forest stands, which may improve foraging conditions for predators and (or) competitors, such as mountain lions, coyotes, bobcats, and great-horned owls that compete with lynx for prey (BLM 2008). Wildfire suppression in the west has resulted in forests that are more homogeneous and composed of shade

tolerant species with more canopy layers compared to historic conditions resulting in current forests that are more susceptible to severe fires, insects, and disease and provide unsuitable lynx habitats (BLM 2008).

Recreation and other human activities impact lynx habitat and vulnerability. Recreational trails created by snowmobiles and even cross-country skiers create packed snow conditions that allow other predators and competitors into what would otherwise be exclusive lynx habitat (BLM 2008). Even though lynx may show some tolerance to human activities, there may be impacts during crucial seasonal periods. For example, during denning in the spring, lynx are more vulnerable and require more secure habitats and fewer disturbances than might be tolerated at other times of year (BLM 2008). Additionally, disturbance also may be exacerbated during periods when food is scarce; starvation is not uncommon (BLM 2008).

Roads into areas occupied by lynx may pose a threat to lynx from incidental harvest or poaching, increased access during winter for competing carnivores, especially coyotes, disturbance or mortality from vehicles, and loss of habitat (BLM 2005b). However, lynx are also known to follow road edges for considerable distances and have home ranges that encompass roads or sometimes use them to define the boundary (BLM 2008). The size, type, and amount of use of the road are all likely factors affecting the degree and types of impacts on lynx, as well as the increased vulnerability during denning (BLM 2008). Infrastructure associated with mineral extraction can be harmful to lynx, mostly as a consequence of new roads created to access areas for exploration and development (BLM 2005b).

### **K.5.3 Grizzly Bear -Threatened**

#### **K.5.3.1 Species Description**

- ***Status***

On July 28, 1975, the grizzly bear (*Ursus arctos horribilis*) was designated as threatened on the conterminous (lower 48) United States (40 FR 31734-31736). On March 29, 2007, the USFWS establishment of a distinct population segment (DPS) of the grizzly bear for the Greater Yellowstone Area and surrounding area and removed this DPS from the List of Threatened and Endangered Wildlife (72 FR 14866). On September 21, 2009, the Montana District Court issued an order that vacated the delisting and remanded it to the USFWS. As a result, the March 26, 2010 final rule required the correction of the Yellowstone grizzly bear population's listing status. Thus, all grizzly bears in the lower 48 States are again listed as threatened (50 CFR 17.11(h)).

- ***Life History***

Grizzly bears are opportunistic feeders and will prey or scavenge on almost any available food including ground squirrels, ungulates, carrion, and garbage (Dood et al. 2006). Roots, bulbs, tubers, fungi, and tree cambium are also utilized as important protein sources (Dood et al. 2006). High quality foods such as berries, nuts, and fish are important in some geographic areas (Dood et al. 2006).

The breeding season occurs from late May through mid-July, with the peak in mid-June (USFWS 1993). Litter sizes vary from one to four cubs with two being the average (USFWS 1993).

Typically, females breed every three years (USFWS 1993). This limited reproductive activity may be a limiting factor for the species.

During late summer and fall, grizzlies gain weight rapidly, primarily as fat, as they prepare for hibernation (Dood et al. 2006). Winter denning is triggered by reduction in food source, air temperature, and snow depth (USFWS 1993). Generally, grizzly bears den by late October to mid-November and emerge in mid-March to Late April, spending on average five to six months in the den (Dood et. al 2006).

Grizzly bears are solitary species with the exception of when caring for young or during breeding. Social interactions occur when individuals congregate at plentiful food sources, establishing a social hierarchy (USFWS 1993). However, males and females only tolerate each other during the breeding season. Family groups consist of a mother and her offspring, with siblings usually remaining together for several years (USFWS 1993).

Grizzly bear density is directly correlated to the habitat condition and food availability and abundance. Territory sizes are unknown, but home ranges can overlap (USFWS 1993). The size of a home range includes factors such as food availability, weather conditions, and interactions with other bears (USFWS 1993). Home ranges can vary from year to year or to accommodate seasonal movements.

- ***Habitat Requirements***

- ▶ In general, grizzly bear habitat requires large spatial needs for omnivorous foraging, winter denning, behavior, and security cover (Dood et al. 2006). Grizzly bears prefer remote forest habitats with low road density and minimum human disturbance. Forested habitat, closed timber, rock, prairie grassland, and aspen stands have all been documented as habitat with important elements for cover. Grizzly bears excavate their den sites at higher elevations on steep slopes where topography and wind allow for deep snow cover in places where it is unlikely to melt in warm conditions (USFWS 1993).

- ***Distribution***

Grizzly bear distribution within North America is primarily within but not limited to the areas identified as Recovery Zones including--the Yellowstone area in northwest Wyoming, eastern Idaho, and southwest Montana (9,200 square miles (sq. mi.)) at more than 580 bears; the Northern Continental Divide Ecosystem of north central Montana (9,600 sq. mi.) at more than 400 bears; the North Cascades area of north central Washington (9,500 sq. mi.) at less than 20 bears; the Selkirk Mountains area of northern Idaho, northeast Washington, and southeast British Columbia (2,200 sq. mi.) at approximately 40 to 50 bears; and the Cabinet-Yaak area of northwest Montana and northern Idaho (2,600 sq. mi.) at approximately 30 to 40 bears.

- ***Planning Area Distribution***

The planning area is not in the grizzly bear Recovery Zone, as designated by the USFWS in the 1993 Grizzly Bear Recovery Plan (USFWS 1993); however the perimeter of the grizzly bear range is adjacent to public lands along the Beartooth Mountain foothills. Grizzly bears may be present as migrants throughout the planning area. Numerous sightings have occurred since 2010 along the Beartooth Mountain front, particularly near the area south of Red Lodge to the Wyoming state line. Grizzly bear presence and depredation issues had been rare previous to 2011, however, there has been a marked increase in depredation, with subsequent bear removals and relocations from private lands, in the last two years (2011 and 2012). In 2013, in late May and early June,

livestock depredation occurred twice on private lands within the analysis area. In 2014, Wildlife Services captured two male grizzlies (220 lb. and 300lb.) on one Carbon County private ranch due to bear damage. Both bears were transferred live to Montana Fish, Wildlife, and Parks and subsequently relocated. Refer to Figure 3 and Figure 4 for maps of the “distribution or Range Extent” of grizzly bears in the Billings Field Office.

- **Threats**

Natural threats to grizzly bears are not well known. Bears do kill each other, but disease and parasites are not significant causes of mortality (USFWS 1993). Human caused mortality including direct confrontation, the attraction of bears into areas of available food sources (e.g., camps, towns, garbage dumps), livestock management conflicts, habitat degradation, and hunting provide greater threats to grizzly bear populations (USFWS 1993).

Currently, BIFO only authorizes domestic sheep grazing in one grazing allotment north of Lavina, Montana. All remaining livestock grazing permits are either cattle or horses.

## **K.5.4 Whooping crane - endangered**

### **K.5.4.1 Species Description**

The adult whooping crane (*Grus americana*), North America’s tallest bird, has a white plumage with contrasting black wingtips visible only when wings are extended. Males weigh as much as 15 pounds, have a wingspan of 87 inches and a height of 52 inches, and are larger than females. A reddish-black patch of bristly feathers are visible on the top and back of head. The neck is long, as is the bill, which is dark and pointed. Juveniles are similar to adults but largely cinnamon-brown in color. White feathers begin to appear on the neck and back at about 4 months of age. Plumage is predominately white and adult-like by the following spring.

- **Status**

Amid concerns with diminished populations and deteriorating habitat, in 1970 (CWS and USFWS 2007) the whooping crane was designated as Endangered by the USFWS. This designation still remains for the Wood Buffalo/Aransas population. The Florida non-migratory population was designated “Endangered – experimental nonessential” in 1993, as was the Wisconsin-Florida migratory population in 2001. In 1997 the Rocky Mountain population was also designated as “Endangered – experimental nonessential”; however, this designation is no longer relevant since the population no longer exists.

Great declines in population occurred in the second half to the 19<sup>th</sup> century, with the bird reported as extirpated from the United States portion of the historic breeding range by 1890 (Allen 1952, McNulty 1966). By the late 1930s, only two small breeding populations remained: a remnant non-migratory population in southwest Louisiana and a migratory population that nested in Canada and wintered in coastal Texas. Birds in the Louisiana population last nested in 1939. A hurricane the following year reduced that number from 13 to 6 individuals. The last member of this population was taken into captivity in 1950 (Travsky and Beauvais 2004).

Wild whooping cranes currently exist in 3 populations: Aransas/Wood Buffalo, Florida non-migratory, and Wisconsin-Florida migratory. An experimental population in the Rocky Mountains was recently extirpated. The only self-sustaining wild population is the Aransas/Wood Buffalo Population. These birds winter in coastal Texas and travel to Wood Buffalo National Park in the Northwest Territories, Canada. The wintering population reached a low of 15 birds in the winter of 1941 to 42 (Boyce 1985). Birds nest almost exclusively within the Wood Buffalo National Park, where inaccessibility affords a level of protection. Increased protection of the wintering grounds and widespread public education has helped increase this population to 278 as of August 2011 (<http://www.bringbackthecranes.org/technicaldatabase/recovery/wcrane-nos2011.html>).

- ***Life History***

Traveling either as individuals, pairs, family groups or small flocks, the migration from wintering grounds in east central Texas to Alberta, Canada, may take 2 to 6 weeks. Migration occurs in the daytime and the birds take regular stops for the night to feed and rest. These stopover sites may last for 1 night or up to 4 weeks (Travsky and Beauvais 2004). Autumn migration normally begins in mid-September, with most birds arriving on the Texas wintering grounds between late October and mid-November. Spring migration departure dates are normally between March 25 and April 15, with the last birds usually leaving by May 1. Refer to Figure 5, “Migration Corridor Map”.

While still on the wintering grounds, pairs engage in courtship displays and vocalizations. Breeding pairs, which are monogamous, quickly establish nesting territories once arriving on the breeding grounds. Nest building occurs shortly after territories have been established and two eggs are laid. Incubation, which both sexes participate in, lasts 33 to 35 days. Eggs hatch in late May or early June, with eggs hatching at different times. The second hatchling is often pushed out of the nest or starved. Young, which are attended by both parents, leave the nest within a day of hatching, can fly at roughly 3 ½ months and remain with adults until the following year (Baicich and Harrison 2005). Three year-old birds occasionally nest but the average age of first egg production is 4 years and older (Travsky and Beauvais 2004).

- ***Habitat Requirements***

Whooping cranes use a variety of habitats during migration (Howe 1987, 1989; Lingle 1987; Lingle et al. 1991). They have been observed feeding in a variety of croplands and roosting in marshy wetlands (Howe 1987, 1989). Whooping cranes also roost in riverine habitat, most notably the Platte River, Middle Loup River, and Niobrara River in Nebraska; the Cimarron River in Oklahoma; and the Red River in Texas. Cranes roost on submerged sandbars in wide unobstructed channels that are isolated from human disturbance (Armbruster 1990). Large palustrine wetlands are used for roosting and feeding during migration.

The principal wintering grounds (salt flats on Aransas National Wildlife Refuge and adjacent islands) consist of marshes dominated by salt grass, saltwort, smooth cordgrass, glasswort, and sea ox-eye. Inland margins of the flats are dominated by Gulf cordgrass. Whooping cranes are omnivorous probing the soil subsurface with their bills and taking foods from the soil surface or vegetation. Young chicks are fed by their parents, and gradually become more independent in their feeding until they separate from the parents preceding the next breeding season. Summer foods include large nymphal or larval forms of insects, frogs, rodents, small birds, minnows, and

berries. Foods utilized during migration are poorly documented, but include frogs, fish, plant tubers, crayfish, insects, and waste grains in harvested fields. Animal foods and the plant wolfberry predominate in the winter diet. Most foraging occurs in brackish bays, marshes, and salt flats lying between the mainland and barrier islands.

- ***Distribution***

The Aransas/Wood Buffalo Population migrates through northeastern Alberta and southwestern Saskatchewan, northeastern Montana, the western half of North Dakota, central South Dakota, Nebraska and Oklahoma, and east-central Texas, a distance of roughly 2400 miles. This corridor accounts for 95 percent of confirmed sightings.

- ***Planning Area Distribution***

According to the Montana Natural Heritage Program, there have been 4 observations of whooping cranes since 1985 within the BIFO area. These included two observations of 2 birds, one observation of 1 bird, and one observation of 10-15 birds primarily along the Yellowstone River. One observation was north of Roundup, Montana. There is no known whooping crane stop-over, roosting or nesting habitat within the Planning Area, nor is the planning area within the whooping crane's principle migration corridor.

- ***Threats***

It is thought that populations declined as a result of the destruction of wintering and breeding habitat, collisions with power-lines and fences, shooting, specimen collection, and human disturbance. Current threats are similar, and include the loss of wetlands, collisions, poaching, and poor reproductive success.

## **K.5.5 Red Knot- Threatened**

### **K.5.5.1 Species Description**

*Calidris canutus rufa* is the palest subspecies. The chin, throat, breast, flanks, and belly are characteristically brick red or salmon red, sometimes with a few scattered light feathers mixed in. The under-tail is white, often including scattered brick-red or salmon-red feathers, marked with dark, terminal chevrons (V-shaped markings) laterally. The crown (top of head) and nape (back of neck) are streaked with black and gray and/or salmon; prominent superciliary (above eye) stripe is brick red or salmon red, auricular (ear) region and lores (area between eyes and base of beak) are colored as in the crown, but with finer streaks. Back-feathers and scapulars have dark brown-black centers edged with faded salmon. Scapulars and tertials (innermost flight feathers) are unevenly colored, with broad, dark, irregular-shaped centers, widely edged in notched patterns to variable degrees, some with faded salmon and others with bright salmon-red color. The lower back and upper tail-coverts are barred black and white, with scattered rufous. Primary feathers (main flight feathers on the outer half of wing) are dark brown to black, secondaries (feathers along trailing edge of inner segment of wing) and remiges (longest feathers on wing) are gray. Younger males tend to be less brightly colored dorsally (on the back) and have greater numbers of light feathers scattered among ventral (on the belly) feathering. The underwing is duller than in other *Calidris* subspecies (Tomkovich 1992, p. 20; Harrington 2001, p. 4).

Length: 25-28 cm. (9-11") Adults in spring: Above finely mottled with grays, black and light ochre, running into stripes on crown; throat, breast and sides of head cinnamon-brown; dark gray line through eye; abdomen and undertail coverts white; uppertail coverts white, barred with black. Adults in winter: Pale ashy gray above, from crown to rump, with feathers on back narrowly edged with white; underparts white, the breast lightly streaked and speckled, and the flanks narrowly barred with gray. Adults in autumn: Underparts of some individuals show traces of the "red" of spring.

- ***Status***

On December 11, 2014, the U.S. Fish and Wildlife Service listed the Rufa red knot as threatened.

- ***Life History***

Each year red knots make one of the longest distance migrations known in the animal kingdom, traveling approximately 30,000 kilometers (km (18,641 miles (mi)) annually between wintering grounds in southern South America and breeding areas within the Canadian Arctic. Although small populations overwinter in Florida and northern Brazil, most red knots winter in southern South America along the coast of Patagonia, from approximately San Antonio Oeste, Argentina, southward to the eastern coast of Tierra del Fuego in Chile and Argentina (Harrington 2001, p. 6; Baker et al. 2004, p. 876; Morrison et al. 2001, p. 62).

- ***Habitat Requirements***

In wintering and migration habitats, red knots commonly forage on bivalves, gastropods, and crustaceans (Harrington 2001, pp. 9-11). During migration, red knots undertake long flights that may span thousands of kilometers without stopping. At some stages of migration, high proportions of entire populations may use a single migration staging site (stop along the journey where birds congregate) to prepare for long flights. Migrating red knots are principally found in marine and estuarine (partially enclosed tidal area where fresh and salt water mixes) habitats (Harrington 2001, pp. 8-9). Protection of these and other wetlands, especially larger wetlands rich with invertebrate prey, is of value to this rarely documented visitor as well as other migratory and nonmigratory species (Harrington 2001).

- ***Distribution***

The range of *C. c. rufa* during migration extends along the Atlantic and Gulf of Mexico coasts of North, Central, and South America, from the Canadian arctic to the southernmost extent of South America. With the exception of a few key wintering areas in South America and the spring migratory stopover site in Delaware Bay, little comparative information is available regarding the historical versus current distribution of the subspecies throughout its range.

- ***Planning Area Distribution***

According to Montana Bird Distribution, 7<sup>th</sup> Edition, 2012, P.D. Skaar, there is no evidence of breeding in Montana. There has been three observations in northern and western Montana from 2003-2011, 9 observations from 1991-2002 in the same general areas, and 6 observations in southern and eastern Montana prior to 1991. According to the Montana Natural Heritage Program, there have been 3 observations within the Billings Field Office (BIFO). Observations include one in Golden Valley Co. in 1995, and two in Yellowstone Co. in 1974 and 1975.

- **Threats**

Commercial harvest of spawning horseshoe crabs in the Delaware Bay, which results in reduced availability of horseshoe crab eggs, is a modification of habitat associated with the decline of the red knot. Sea level rise and shoreline erosion have reduced availability of intertidal habitat that is used for horseshoe crab spawning and red knot foraging within the principal migration stopover area of the Delaware Bay. In addition, erosion has also led to loss of sites used by red knots for roosting (Niles et al. 2007, pp. 154-155). Oil spills are a serious threat to red knot habitat. Human disturbance can have an adverse effect on foraging by shorebirds at available suitable habitats. Climate change and warming trends may benefit Arctic shorebirds in the short term by increasing both survival and productivity, whereas in the long term habitat changes, both on the breeding grounds and non-breeding areas, may put Arctic nesting shorebirds under considerable pressure, bringing some to near extinction.

## **K.6 Analysis of Management Actions and Effects Determinations**

This section is organized by resource program. A summary of the RMP management actions for the program is followed by the effects and determinations for each species considered. Detailed information on the management actions included in the RMP can be found in **Chapter 2 of the Billings and Pompeys Pillar National Monument RMP/EIS**.

### **K.6.1 Whooping Crane and Red Knot Effects Determinations**

Due to limited observations and habitat within the BIFO, **Whooping cranes** and **red knots** will only be discussed in this section and will not be analyzed further in each resource program. Both species appear to be occasional migrants through central Montana.

#### Riparian/Wetland Conservation Measures related to whooping crane and red knot habitat:

- 1) Manage riparian communities to meet Health Standards to ensure riparian areas and wetlands are in Proper Functioning Condition (PFC) and water quality meets State of Montana standards.
- 2) Surface disturbing activities would not be allowed within riparian areas and wetlands, designated 100 year flood plains and on water bodies and streams, except to benefit watershed health. Those activities that are not in conflict with the desired outcomes for this resource would be allowed.
- 3) (NSO –No Surface Occupancy) Surface occupancy and use for oil and gas exploration (including geophysical operations) would be prohibited in riparian areas and wetlands, designated 100 year flood plains, water bodies and streams.
- 4) (CSU-Controlled Surface Use) Surface occupancy and use would be controlled within 300 feet of riparian and/or wetland areas. Surface-disturbing activities would require a plan with design features that demonstrate how all actions would maintain and/or improve the functionality of riparian/wetland areas.

### **K.6.1.1 Whooping crane**

According to the Montana Natural Heritage Program, there have been four observations of whooping cranes since 1985 within the BIFO area. There is no known whooping crane stop-over, roosting or nesting habitat within the Planning Area, nor is the planning area within the whooping crane's principle migration corridor.

#### **K.6.1.1.1 Impact Analysis and Effects Determination**

The status of the whooping crane is expected to be maintained as a result of implementation of the RMP/EIS. Protective measures, BMPs, NSO stipulations, and CSU stipulations identified for programs related to whooping cranes and their habitat and the prohibition of surface-disturbing and disruptive activities within whooping crane habitat would minimize impacts to the species. Any future wind energy projects will have conservation measures to be determined through consultation with USFWS. Power-lines, communication lines, and towers with guy-lines constructed over or near wetlands will have bird flight diverters installed. Compliance with APLIC guidelines will reduce whooping crane strikes as APLIC guidelines are provided to utilities to reduce avian mortality.

Based on these conservation measures, the occasional migratory presence of whooping cranes, and their limited habitat within public lands of the planning area (an estimated 18 miles of BLM shoreline within the BIFO Yellowstone River total of 160 miles or 11 percent), the BLM has determined that implementation of the RMP/EIS Preferred Alternative *may affect, but is not likely to adversely affect*, whooping cranes due to *discountable effects (NLAA-d)*.

### **K.6.1.2 Red Knot**

There is no evidence of breeding in Montana. According to the Montana Natural Heritage Program, there have been 3 observations within the Billings Field Office (BIFO) in the past 30 years. Observations include one in Golden Valley Co. in 1995, and two in Yellowstone Co. in 1974 and 1975.

#### **K.6.1.2.1 Impact Analysis and Effects Determination**

The status of the red knot is expected to be maintained as a result of implementation of the RMP/EIS. Protective measures, BMPs, NSO stipulations, and CSU stipulations identified for programs related to red knot and habitat and the prohibition of surface-disturbing and disruptive activities within riparian/ wetland habitat would minimize impacts to the species. Power-lines, communication lines, and towers with guy-lines constructed over or near wetlands will have bird flight diverters installed.

Based on these conservation measures, the occasional migratory presence of red knots, and their limited habitat within public lands of the planning area, the BLM has determined that implementation of the RMP/EIS Preferred Alternative *may affect, but is not likely to adversely affect*, red knots due to *discountable effects (NLAA-d)*.

## K.7 Air Quality

### • Activity Description

In general air quality management ensures authorizations and management activities comply with local, state, and federal air quality regulations and requirements. The Billings and Pompeys Pillar National Monument RMP/EIS focuses on managing all BLM-authorized activities to maintain air quality within the thresholds established in the National Ambient Air Quality Standards under the Clean Air Act (amended 1977), and the Montana Air Quality Standards and the State of Montana Implementation Plan. The Billings and Pompeys Pillar National Monument RMP/EIS would minimize the impact of management actions in the planning area on air quality by complying with all applicable air quality laws, rules and regulations and managing BLM-authorized activities to meet or exceed visual standards.

The following management actions are proposed under the preferred alternative in the Billings and Pompeys Pillar National Monument RMP/EIS:

- Utilize methods and mitigations as practicable that reduce fugitive dust and help meet or exceed Federal and Montana and Wyoming State Standards where applicable.
- Coordinate smoke management with the Montana/Idaho Airshed Group and Montana Department of Environmental Quality.
- Coordinate with the Wyoming Department of Environmental Quality (DEQ) Air Quality Division, along the Montana Wyoming boundary.
- Coordinate smoke management with the Yellowstone County Air Quality Unit in Yellowstone County.
- Management of the non-attainment area(s) within the Planning Area would be the responsibility of the State of Montana.
- Land uses would not be permitted or authorized if the land uses would cause or contribute to violation of ambient air quality standards; increase frequency of existing violations, and/or impede the State progress in meeting air quality goals.

### K.7.1 Impact Analysis and Effects Determination

Measures taken by the BLM to ensure air quality standards will not have an adverse effect on any listed species. As air quality affects all habitats, the appropriate determination is “may affect, not likely to adversely affect” rather than “no effect” for listed species.

### K.7.2 Endangered and Threatened Species

Actions associated with air quality management will not directly impact threatened, endangered, or any potential habitats. Air quality management will exclude some actions and structures from designated viewsheds and may have a beneficial impact of limiting disturbance in habitats suitable for threatened or endangered species. Implementing air quality management actions *may affect, but are not likely to adversely affect*, the threatened or endangered species due to *beneficial effects (NLAA-b)*. This determination is based on the potential of these management actions to preserve or minimize disturbance to habitats suitable for threatened and endangered species.

## K.8 Climate

### • Activity Description

In general, climate management would maintain or improve the ability of BLM lands to reduce (sequester) atmospheric greenhouse gases. Under the Billings and Pompeys Pillar National Monument RMP/EIS, no activities would be authorized that would result in the Billings Field Office becoming a net greenhouse gas emitter.

The following management actions are proposed under the preferred alternative in the Billings and Pompeys Pillar National Monument RMP/EIS:

- Promote vegetative capture and storage of carbon, with consideration for resource objectives, by using Rangeland Standards and Montana Forestry/Rangeland BMP guidelines at the project planning and implementation level.
- Identify opportunities for geophysical carbon sequestration on federal lands where federal mineral ownership exists as outlined in national guidance.
- BLM authorized actions would consider reductions of GHGs.
- Priority would be placed on actions that reduce or mitigate GHG emissions by actions such as: enhanced energy efficiency, use of lower GHG-emitting technologies, or renewable energy, planning for carbon capture and sequestration, and the capture or beneficial use of fugitive methane emissions.

### K.8.1 Impact Analysis and Effects Determination

The BLM will implement appropriate management decisions to ensure climate management standards are met and in turn will not have an adverse effect on any listed species. As climate affects all habitats, the appropriate determination is “may affect, not likely to adversely affect” rather than “no effect” for listed species.

### K.8.2 Endangered or Threatened Species

Actions associated with climate management will not directly impact threatened or endangered species or any potential habitats. Climate management will exclude some actions and structures from designated areas and may have a beneficial impact of limiting disturbance in habitats suitable for threatened or endangered species. Implementing climate management actions *may affect, but are not likely to adversely affect*, the Threatened or endangered species due to *beneficial effects (NLAA)*. This determination is based on the potential of these management actions to preserve or minimize disturbance to habitats suitable for threatened and endangered species.

## K.9 Geology

See Energy and Minerals section.

## **K.10 Soil Resources**

- **Activity Description**

In general, soil management focuses on maintaining soil integrity, reclaiming disturbed soils, minimizing erosion and, in some cases, improving soil health. The Billings and Pompeys Pillar National Monument RMP/EIS would emphasize maintaining or improving soil health and productivity (e.g., chemical, physical, and biotic properties) by implementing Standards for Rangeland Health and other soil protection measures. Management actions would focus on minimizing accelerated soil erosion and compaction and maintain surface soil water infiltration based on site specific conditions. BLM-authorized activities would be managed to minimize soil mass movement (primarily from accelerated water/wind erosion) resulting from burned areas, above-ground disturbances and accelerated stream bank erosion and to prevent or minimize flood and sediment damage, as needed, to creeks, streams and standing bodies of water (lakes, ponds, reservoirs, etc.). Finally, soil management actions would be utilized to establish desirable plant communities, maintain existing desirable vegetative ground cover composition consistent with the ecological site characteristics, and sustain other ground cover including biotic soil crusts and litter to increase or maintain surface soil stability and nutrient cycling.

The following management actions are proposed under the preferred alternative in the Billings and Pompeys Pillar National Monument RMP/EIS:

- BLM-authorized surface-disturbing activities would include plans for reclamation. Site-specific reclamation actions should reflect the complexity of the project, environmental concerns and the reclamation potential of the site, giving consideration to soils susceptible to erosion and compaction when assessing projects.
- The Standards for Rangeland Health would be used to assess compaction and erosion issues.
- Respond in a timely manner to assess soil and mitigate potential soil damage after wildland or management ignited fire, in accordance with BLM Emergency Stabilization and Rehabilitation standards.
- Identify opportunities to construct water flow, sediment control and watershed stabilization projects in partnership with local, state and federal programs.
- Authorization would be allowed in areas where erosion would be effectively controlled or mitigated with a BLM approved design plan.
- Surface disturbing activities would not be allowed soils with steep slopes >35% and soils with low reclamation potential and highly erodible characteristics. A mitigation plan would be required (399,215 acres). Use Rangeland Health Standards and BMPs to assess and mitigate disturbance of soils (e.g., erosion, re-vegetation, fiber mats and other restoration measures, etc.).
- No surface occupancy on slopes >30% for oil and gas development and leasing (NSO). 47,784 acres.
- Use BMPs and Rangeland Health Standards at the project level to assess and mitigate impacts to fragile and unstable soils prone to slumping.

## **K.10.1 Impact Analysis and Effects Determination**

### **K.10.1.1 Black-footed ferret**

No black-footed ferrets are known to exist within the planning area. Additionally, soil resource activities are not likely to affect black-footed ferrets due to the site specific nature of soil management activities. Some disturbance may occur if surface disturbing activities were to occur within suitable black-footed ferret habitat. Surface disturbing activities, including reclamation activities, and human disturbance may result in short-term impacts to black-footed ferret habitat. However, the proposed soil management activities will likely result in the maintenance of soil health and improved habitat quality in the long term. Therefore, soil management activities *may affect, but are not likely to adversely affect*, the black-footed ferret due to *discountable effects (NLAA-d)*. This determination is based on the current absence of black-footed ferrets; presence of suitable habitat within the planning area; and the implementation of conservation measures for ferrets that will preclude any adverse effects to the species or its habitat.

The following is a summary of the stipulation to protect black-footed ferret habitat: Black-footed ferret habitat is defined as prairie dog colonies within 1.5 km of each other and comprising of 1,000 acres. Surface occupancy and use for oil and gas leasing, development, and exploration and geothermal operations would be prohibited within ¼ mile of black-footed ferret habitat (No Surface Occupancy -NSO).

### **K.10.2 Canada Lynx**

Refer to “Planning Area Distribution” for Canada Lynx on page 13 for a Summary of Occurrence in BIFO. There are no Lynx Analysis Units (LAUs) or critical habitat designated on BLM, Billings Field Office decision area lands, although lynx may occasionally occur in the area.

Lynx may be an occasional migrant on higher elevation public lands near the U.S. Forest Service boundary. Suitable linkage habitat exists and soil management activities may include short term impacts including human disturbance and some surface disturbance. However, the proposed soil management activities will likely result in the maintenance of soil health and improved habitat quality in the long term. Therefore, soil management activities *may affect, but are not likely to adversely affect*, the Canada lynx due to *discountable effects (NLAA-d)*. This determination is based on the current absence of lynx and the presence of occasional migratory lynx habitat within the planning area.

### **K.10.3 Grizzly Bear**

Refer to “Planning Area Distribution” for grizzly bears on page 15 for a Summary of Occurrence in BIFO.

Suitable habitat exists and soil management activities may include short term impacts including human disturbance and some surface disturbance. However, the proposed soil management activities will likely result in the maintenance of soil health and improved habitat quality in the long term. Therefore, soil management activities *may affect, but are not likely to adversely*

affect, the grizzly bear due to *discountable effects (NLAA-d)*. This determination is based on the current activity of grizzly bears; presence of limited suitable grizzly habitat within the planning area; and the implementation of conservation measures for grizzly bears that will preclude any adverse effects to the species or its habitat. Weed control using domestic sheep and/or goats in potential grizzly bear habitat would only be authorized after consultation with U.S. Fish Wildlife Services.

## K.11 Water Resources

- **Activity Description**

The BLM is responsible for managing surface lands and federal mineral estate in a manner that maintains or enhances water quality and quantity for other uses and complies with state and federal water quality standards. The BLM coordinates with state and other federal agencies to ensure compliance with required water resource management responsibilities. The Billings and Pompeys Pillar National Monument RMP/EIS would emphasize maintaining and/or improving surface water and groundwater resources, maintain compliance with applicable federal and state water quality standards, and improve water quality where practical within the scope of the BLM's authority. Management actions would include restoring and/or maintaining the chemical, physical, and biological integrity of water resources to protect designated beneficial uses and achieve water quality standards. This includes minimizing erosion and subsequent sedimentation for improved stream and watershed health, maintaining or improving morphological conditions to a stable state that can fully support beneficial uses, and protecting water quality for municipal, industrial, agricultural, recreation, and residential purposes by adopting protective measures to meet federal, tribal, state, and local water quality requirements. The BLM management activities are aimed at ensuring floodplains are properly functioning allowing for aquifer recharge, wildlife habitat, and flood water retention; and that stream channel conditions are representative of the site capacity and dimension and moderate flows to allow floodplain aquifer recharge and safeguard floodplains.

The following management actions are proposed under the preferred alternative in the Billings and Pompeys Pillar National Monument RMP/EIS:

- BLM would participate in the development, implementation, and monitoring of water quality restoration plans/TMDL plans.
- Use rangeland Health guidelines and other management strategies to meet the Standards for Rangeland Health (Standards 2, 9 & 12).
- Use BMPs and other practical management strategies to meet water quality standards set forth by the above agencies and rules/laws.
- Acquire in-stream water rights where appropriate, to ensure water availability for multiple-use management and proper functioning riparian and upland areas.
- Cooperate with Montana State DEQ and local communities to implement Source Water Protection Programs (SWPPs) and preserve source water.
- Restrict or limit BLM-authorized activities that contribute to deteriorating watershed conditions and/or excessive erosion. Use Rangeland Health Standards and Guidelines and BMPs to mitigate impacts from activities that are contributing to excessive erosion.

- Monitor route conditions and temporarily/permanently close roads, and/or apply mitigation measures where runoff contributes to accelerated decline in water quality and/or habitat, and/or reclaim route conditions.
- Avoid the discharge of oil and gas- produced water from point sources to public lands, including stream channels and uplands, as a means of disposal. Any allowed discharge would be in compliance with Montana DEQ requirements.
- Surface disturbing activities would not be allowed within riparian areas and wetlands, designated 100 year flood plains and on water bodies and streams, except to benefit watershed health and those activities that are not in conflict with the desired outcomes for this resource.
- Surface occupancy and use for oil and gas exploration (including geophysical operations) would be prohibited within 300 feet of riparian areas and wetlands, water bodies, perennial streams, and flood plains of perennial streams. (no surface occupancy stipulations - NSO stipulations)

### **K.11.1 Impact Analysis and Effects Determination**

#### **K.11.1.1 Black-footed ferret**

No black-footed ferrets are known to exist within the planning area. Additionally, water resource management activities do not generally occur within potential black-footed ferret habitat. Buffers for surface disturbing activities within riparian areas, wetlands, and 100 year floodplains could benefit prairie dog towns located in close proximity to these features. Additionally, actions that include the stabilization of watershed conditions may benefit grasslands adjacent to riparian areas. Impacts associated with surface disturbing activities within prairie dog towns may be limited to a small component of these habitats. Therefore, water management activities *may affect, but are not likely to adversely affect*, the black-footed ferret due to *discountable effects (NLAA-d)*. This determination is based on the current absence of black-footed ferrets and management activities not occurring with potential habitat or limited to a small portion of suitable habitat within the planning area.

#### **K.11.1.2 Canada Lynx**

Refer to “Planning Area Distribution” for Canada Lynx on page 13 for a Summary of Occurrence in BIFO. There are no Lynx Analysis Units (LAUs) or critical habitat designated on BLM, Billings Field Office decision area lands, although lynx may occasionally occur in the area.

Additionally, water resource management activities would occur in a small portion of suitable lynx habitat and actions that include the stabilization of watershed conditions may benefit lynx habitat. Impacts could include adverse short term affects such as disturbance caused by human presence, noise, and vehicle traffic. Long term impacts to riparian and wetland areas from oil and gas leasing are possible within suitable lynx habitat, but leases are subject to no surface occupancy (NSO) stipulations. Therefore, water management activities *may affect, but are not likely to adversely affect*, the Canada lynx due to *discountable effects (NLAA-d)*. This determination is based on the current absence of lynx and lynx habitat in the field office area.

### **K.11.1.3 Grizzly Bear**

Refer to “Planning Area Distribution” for grizzly bears on page 15 for a Summary of Occurrence in BIFO.

Additionally, water resource management activities would occur in a small portion of suitable grizzly habitat and actions that include the stabilization of watershed conditions may benefit grizzly bear habitat. Impacts could include short term affects such as disturbance caused by human presence, noise, and vehicle traffic. Long term impacts to riparian and wetland areas from oil and gas leasing are possible within suitable grizzly habitat, but leases are subject to no surface occupancy (NSO) stipulations. Therefore, water management activities *may affect, but are not likely to adversely affect*, the grizzly bear due to *discountable effects (NLAA-d)*. This determination is based on the current occurrences of grizzly bear, the minimal public lands occurring in the Beartooth foothills, and the implementation of conservation measures that will preclude any adverse effects to the species or its habitat.

## **K.12 Vegetation Communities**

- **Activity Description**

There are numerous vegetation cover types in the BiFO planning area. These broad vegetation types are an expression of the wide range of climatic and soil conditions found throughout the planning area. Vegetation cover types in the planning area consist primarily of shrubland and rangeland communities and cover approximately 320,691 acres (87 percent) of the total BLM managed surface acreage. Forest/woodlands and riparian/wetland vegetation cover types, comprise approximately 47,035 acres (11 percent) and are a biologically diverse and important resource in the planning area. Urban and agricultural cover types comprise the remaining 8,552 acres (two percent) in the planning area.

The desired outcome of management activities for vegetative communities include the restoration, maintenance or enhancement of vegetation community health, habitat, composition and diversity to provide a mix of successional stages that incorporate diverse structure and composition in the desired vegetation types. Additionally, BLM management actions strive to maintain, improve, enhance, or restore habitat to facilitate the conservation, recovery, and maintenance of populations of native and desirable nonnative plant and animal species.

- **Forests and Woodlands**

The Billings and Pompeys Pillar National Monument RMP/EIS would emphasize the restoration and/or maintenance of the health and productivity of public forests and woodlands, to provide a balance of forest and woodland resource benefits to present and future generations. Forests and woodlands management goals and objectives would consider factors such as species, density, basal area, canopy cover, age class, stand health and understory components, to restore vitality, health and diversity. The BLM management actions for forests and woodlands would promote forest vegetation recovery on forested lands after wildland fire events and use fire and fuels treatments as an integrated approach to meet forest health objectives. To return forests toward a more natural forest condition class and fire regime, the implementation of treatments that move the forest conditions toward condition class I would be utilized. Natural disturbance regimes would be maintained or mimicked so that plant communities are resilient to climate change and periodic outbreaks of insects, disease, and wildland fire.

Management of forest and woodland resources includes management of a wide range of ecological system communities within the planning area. Quaking aspen stands would be managed to promote vigor and resilience and to promote expansion within its historic range. Rocky Mountain juniper and limber pine would continue to be managed to promote vigor and resilience. Currently, Douglas fir forests are healthy and contain site appropriate species. Lodgepole pine and spruce/fir stands are represented by a diversity of age classes and structure and exhibit health and vigor. Ponderosa pine stands occupy historic range and are in stable or improving condition. Ponderosa pine stands contain multi-aged stems and occur in association with vigorous understory shrubs and grasses. Low intensity fire can be accommodated without excessive loss of trees and insect and disease occurrences are at endemic levels.

The following management actions are proposed under the preferred alternative in the Billings and Pompeys Pillar National Monument RMP/EIS:

- An inventory and health assessment of stands within the forested areas in the planning area would be completed during the life of the plan.
- Monitoring forest health indicators, including populations of insects, and apply forest management methods which promote the appropriate level of stocking and function based on the forest type.
- Managing vegetation structure, density, species composition, patch size, pattern, and distribution in a manner which reduces the occurrence of unnaturally large and severe wildland fires and forest insect outbreaks. The amount of vegetation to be treated may vary and would be based on inventory and monitoring to meet the objectives.
- Treatment of stands with characteristics indicating a substantial risk of developing epidemic levels of forest insects and/or disease as a high priority to reduce risk.
- Conducting forest and woodland health management activities using a prescription based on the best available science. At a minimum, prescriptions would require current stand descriptions and desired future conditions.
- Maintaining the health of curl leaf mountain mahogany and promote expansion within its historic range, with an emphasis on the appropriate stocking level, structure and understory.
- Managing stands of limber pine to maintain and promote stand composition, age class, vigor and understory diversity.
- Emphasis on forest structures with large trees appropriate to the forest type, snag management, and large diameter trees for cavity nesters where appropriate.
- Use of adaptive management strategies that address climate change in order to maintain or enhance forest based ecosystems.
- Wheeled and tracked vehicle operation would not be allowed on sustained slopes greater 35%.
- Emphasis would be placed on retention and acquisition of forested lands. Disposal, retention or acquisition of forested lands would consider the value of the forest type, habitat diversity and potential for carbon sequestration.
- Cutting for density management, forest health and fuels reduction would be allowed unless otherwise restricted. Large trees would be retained in numbers and species as appropriate for the forest type and successional stage, consistent with wildlife requirements and other resource values.

- ***Rangelands***

The Billings and Pompeys Pillar National Monument RMP/EIS, rangeland management actions would manage vegetative resources to maintain a diversity of ecological conditions on rangelands while providing for a variety of multiple uses that are economically feasible, and based on sound biological principles and the best available science. BLM management actions would be designed to promote recovery and restoration of sagebrush communities after wildland fire events.

The following management actions are proposed under the preferred alternative in the Billings and Pompeys Pillar National Monument RMP/EIS:

- Manage rangelands to meet health standards consistent with the Standards for Rangeland Health and Guidelines for Livestock Grazing Management and apply appropriate guidelines where not meeting the standards.
- Treatment methods, including prescribed burning and mechanical treatments, would be used to eliminate conifer encroachment and stimulate vegetative re-growth in grassland/shrubland habitats; and to reduce fuels, thin under-stories, recycle nutrients, and create small openings in forested vegetation types.
- Identify and maintain areas containing high quality native vegetation for use as seed collection sites.
- Identify priority treatment areas for conifer encroachment, including big game winter range, WUIs, current and historic sagebrush habitat, forest meadows and bighorn sheep habitat.
- To manage cheatgrass and annual bromes, use the best available vegetation treatments, including but not limited to early spring grazing, prescribed fire, interim farming practices, and herbicide use.
- A variety of treatment methods, including mechanical, chemical, biological and prescribed fire (including wildland fire), would be used if the treatment would achieve a diversity of age classes in sagebrush communities.
- Eight percent (12,000 acres) of crested wheatgrass acreage would be converted to native sagebrush/ grassland over the life of the plan. Preferred treatment areas would be areas that are not currently being used in a grazing system to provide early spring grazing and reduce grazing pressure from other areas within a grazing allotment.

- ***Riparian and Wetlands***

The Billings and Pompeys Pillar National Monument RMP/EIS, riparian and wetlands management actions would promote healthy wetland ecosystems, supporting physical processes and natural combinations of vegetation that work together to create stable streambanks, functional floodplains, complex fish and wildlife habitat and high water quality within site potential. Riparian vegetation would be managed to achieve or sustain desired future conditions (DFCs). The DFCs would be developed by an interdisciplinary team, giving consideration to restoring and/or promoting natural communities and complex riparian conditions valuable to water quality and wildlife habitat. Invasive species management would focus on restoring native and desired non-native communities to riparian areas to attain DFCs.

The following management actions are proposed under the preferred alternative in the Billings and Pompeys Pillar National Monument RMP/EIS:

- Forest treatments would comply with the Montana Streamside Management Zone law to protect riparian resources.

- Manage riparian communities on a prioritized basis, to meet Standards or Desired Future Conditions (DFCs).
- Manage riparian communities to meet Health Standards to ensure riparian areas and wetlands are in Proper Functioning Condition (PFC) and water quality meets State of Montana standards.
- Restrict or limit BLM-authorized activities in riparian areas not rated as PFC or FAR- UP. Riparian Areas not rated as PFC, would be monitored and managed to ensure movement towards PFC.
- The following priority recovery areas would be established:
- High priority areas would include riparian areas adjacent to perennial streams. Existing cottonwood galleries would be designated priority recovery areas.
- Moderate priority areas would include intermittent drainages with riparian habitat.
- Project planning and monitoring efforts would emphasize recovery of high priority areas, followed by moderate priority areas.
- High priority riparian areas would be managed towards DFCs.
- Surface disturbing activities would not be allowed within riparian areas and wetlands, designated 100 year flood plains and on water bodies and streams, except to benefit watershed health. Those activities that are not in conflict with the desired outcomes for this resource would be allowed.
- (NSO –No Surface Occupancy) Surface occupancy and use for oil and gas exploration (including geophysical operations) would be prohibited in riparian areas and wetlands, designated 100 year flood plains, water bodies and streams.
- (CSU-Controlled Surface Use) Surface occupancy and use would be controlled within 300 feet of riparian and/or wetland areas. Surface-disturbing activities would require a plan with design features that demonstrate how all actions would maintain and/or improve the functionality of riparian/wetland areas. (NSO/CSU Combined = 15,653 acres)
- (NSO- No Surface Occupancy) Surface occupancy and use for oil and gas exploration (including geophysical operations) would be prohibited within 1/2 mile of class 1 (Blue Ribbon) streams and Yellowstone Cutthroat trout populations. (8,441 acres)

- ***Invasive Species and Noxious Weeds***

The Billings and Pompeys Pillar National Monument RMP/EIS, invasive species and noxious weeds management actions would manage for healthy native plant communities by reducing, preventing expansion of, or eliminating the occurrence of undesirable invasive, nonnative species, undesirable, nonnative, or noxious weeds (predatory plant pests or disease) by implementing management actions consistent with national guidance, state and local weed management plans. The BLM management actions would use Integrated Weed Management to make progress towards a healthy plant community, while meeting multiple land use objectives. Baseline data would be maintained to evaluate effectiveness of management actions and assess progress toward meeting invasive species management goals/objectives. Buffer zones would be created to protect and/or restore fish and wildlife habitat and neighboring agricultural fields. Invasive and non-native weed species would be controlled to and prevent the introduction of new invasive species, including aquatic nuisance species, by implementing a comprehensive weed program including: coordination with key partners, prevention and early detection, education, inventory and monitoring, and using principles of Integrated Weed Management (IWM) and creating weed management areas (WMAs).

The following management actions are proposed under the preferred alternative in the Billings and Pompeys Pillar National Monument RMP/EIS:

- Reclamation/stabilization and maintenance materials used would be from weed free seed source.
- Invasive species, including aquatic invasives, would be managed in cooperation with other agencies, organizations and landowners in accordance to EO 13112 (1999).
- Biological control would be applied where appropriate and approved by APHIS. The BLM would consider adapting new or updated biological control techniques, as supported by research.
- Domestic sheep and goats used for weed control would only be authorized where mechanisms are in place to achieve effective separation from wild sheep.
- Visitor protection during herbicide treatments at developed recreation areas would include posting signs to prevent public entry. To the extent practicable, herbicide treatments would occur only during low recreation use.
- Require the use of certified weed free seed forage and feeds to prevent establishment of new weed species. Forage subject to this rule would include hay, grains, cubes, pelletized feeds, straw and mulch.
- Require the use of weed free seed and mulch for BLM-authorized activities and projects.
- Treatment priorities would be established consistent with State of Montana Noxious Weed guidance.
  - High Treatment Priority: eradication of new species; new infestations, areas of special concerns, riparian corridors or sensitive plant populations where there is a high threat to species of concern (such as Russian olive and salt cedar treatments); areas where partnership/cooperative agreements are in place; treatment and prevention in special designations and weed management areas.
  - Moderate/Low Treatment Priority: areas that contain existing large infestations with a focus on boundaries of infestations, travel routes, trails, trailheads, and access points leading to areas of concern, control existing large infestations and suppression of existing large infestations when eradication/control or containment is likely not to be successful.
- Remove invasive species from cottonwood galleries and take actions to maintain the appropriate stand composition, structure and understory diversity to promote the expansion of galleries.
- Aerial application of non-aquatic label herbicides would not be allowed within 500 feet of wetlands, riparian areas, and aquatic habitats. Specific buffer strip widths indicated on pesticide labels or by state regulations must be followed. This also applies to cropland and ornamentals. Exceptions would be applied when managing riparian noxious/invasive species and following aquatic approved herbicide labels.
- Land base application methods would not be allowed within 25 feet (by vehicle) or 10 feet (by hand) of fish-bearing water bodies during periods when fish are in life stages most sensitive to the herbicide(s) used. Exceptions would be applied when managing riparian noxious/invasive species and following aquatic approved herbicide labels.
- Vehicle and hand application of herbicides would not be allowed within 25 feet (by vehicle) or 10 feet (by hand) of wetlands, riparian areas, aquatic habitats, dwellings and cropland. Exceptions would be applied when managing riparian noxious/invasive species and following aquatic approved herbicide labels.

- Mix herbicides with non-aquatic label at a minimum of 500 feet away from riparian areas, water sources, floodplains, and known special status plant species populations.
- Aerial application of herbicides would not be allowed within ½ mile of special status plant species. Vehicle and hand application of herbicides near special status plant species would be allowed only when the treatment would benefit special status plant species (to be determined during site-specific analysis).
- Native plant species common to the site's natural plant community would be used to restore disturbed ground. Introduced species would be considered based on site-specific analysis where difficult site stabilization or wildlife concerns prevail.

- ***Special Status Plants***

The Billings and Pompeys Pillar National Monument RMP/EIS, special status plant management actions would conserve and recover special status plant species and the ecosystems on which they depend to prevent the need to list any of these species as threatened or endangered. The BLM management actions would be aimed at protecting or enhancing areas of ecological importance for special status plant species; managing for no net loss of habitat for any special status plant species; conserving and recovering special status plant species by determining and implementing strategies, restoration opportunities, use restrictions, and management actions; and managing specific environmental hazards, risks, and impacts in a manner compatible with special status plant species health.

The following management actions are proposed under the preferred alternative in the Billings and Pompeys Pillar National Monument RMP/EIS:

- BLM-authorized activities should maintain or improve habitat for federally listed threatened, endangered, and special status plants.
- Conduct inventory and monitoring to determine extent and trend of special status plant populations.
- Habitats of special status plants would be managed to meet or exceed the Montana Standard for Rangeland Health (Standard 5).
- Increase public awareness of special status plants through outreach, tours, and brochures.
- Consider the high public value of special status plants and their habitat in land exchanges, purchases or disposals in which public ownership of such habitat would be affected.
- Evaluate all BLM-authorized activities for potential effects on special status plants. Conduct on-site inventory if potential special status plant habitat is present.
- On-site examination would be required prior to oil and gas leasing, exploration and/or development surface disturbing activities (CSU).
- Mineral material sales would be allowed on a case-by-case basis by permit only. Mitigation may be required as appropriate.
- No supplement or salt placement within ¼ mile of known special status plant sites, unless livestock is otherwise excluded (fence or barrier).

## **K.12.1 Impact Analysis and Effects Determination**

### **K.12.1.1 Black-footed Ferret**

No black-footed ferrets are known to exist within the planning area. Vegetation treatments within rangelands and to manage invasive species and noxious weeds that include the use of biological controls (insects and livestock grazing), chemical controls, mechanical control (including cutting and thinning with hand tools and machinery), and prescribed fire are not expected to adversely impact potential black-footed ferret habitats. Where used, the long-term goal of these programs would be to improve habitat quality. Implementing vegetative management actions *may affect, but are not likely to adversely affect*, the black-footed ferret due to *beneficial effects (NLAA-b)*. This determination is based on the potential for improvements to prairie dog and potential ferret habitats if vegetative treatments are used and existing conservation measures.

### **K.12.1.2 Canada Lynx**

Refer to “Planning Area Distribution” for Canada Lynx on page 13 for a Summary of Occurrence in BIFO. There are no Lynx Analysis Units (LAUs) or critical habitat designated on BLM, Billings Field Office decision area lands, although lynx may occasionally occur in the area.

Implementing actions associated with vegetation management programs would include habitat disturbance or loss. Habitat manipulations would include temporary, localized surface disturbance. However, improvements to vegetation would have long-term beneficial impacts on Canada lynx habitat. Implementing vegetation management actions *may affect, but are not likely to adversely affect*, the lynx due to *beneficial effects (NLAA-b)*. This determination is based on the potential for improvements to potential lynx habitats if vegetative treatments are used and existing conservation measures are applied. In the long term, vegetation management actions will benefit the lynx by improving habitats for prey species.

### **K.12.1.3 Grizzly Bear**

Refer to “Planning Area Distribution” for grizzly bears on page 15 for a Summary of Occurrence in BIFO.

Implementing actions associated with vegetation management programs would include habitat disturbance or loss. Habitat manipulations would include temporary, localized surface disturbance. Vegetation treatments that may occur in suitable grizzly bear habitat would be expected to improve habitat in the long term. Implementing vegetation management actions *may affect, but are not likely to adversely affect*, the grizzly bear due to *beneficial effects (NLAA-b)*. This determination is based on the potential for improvements to grizzly bear habitats if vegetative treatments are used and existing conservation measures in place to protect the species. In the long term, vegetation management actions will benefit the grizzly by improving suitable habitats.

## **K.13 Wildlife Habitat and Special Status Species (Wildlife)**

- **Activity Description**

Wildlife species in the planning area include big game animals, raptors, upland game birds, and other species. These populations are managed by the U.S. Fish and Wildlife Service (USFWS) and Montana Fish, Wildlife and Parks (MTFWP). The BLM works cooperatively with these agencies to manage wildlife habitats on public lands. Therefore, the BLM is directly responsible for managing fish and wildlife habitat on public lands and is indirectly responsible for the health and well-being of fish and wildlife populations supported by habitats on public lands.

The Billings and Pompeys Pillar National Monument RMP/EIS would emphasize managing terrestrial habitat to provide native species diversity and viability, and sustain their ecological, economic, and social values while providing for multiple uses of public lands. Wildlife program actions would manage for no net loss and connectivity of priority habitats on BLM-administered lands. The necessary habitat would be present to maintain, enhance, or restore priority native species populations. Sagebrush, native grasslands, seasonal or crucial wildlife ranges, special status species habitat, fisheries, cottonwood galleries, and riparian/wetlands would be priorities. All BLM actions or authorized activities would be managed to sustain wildlife populations and their habitats and to avoid contributing to the listing of or jeopardizing the continued existence or recovery of special status species and their habitats.

The BLM-administered lands within the planning area would be managed or restored to facilitate the conservation, recovery, and maintenance of populations of native, desirable non-native, and The BLM actions would support MFWP in the attainment of big game herd unit objectives and well-distributed, healthy populations of wildlife species consistent with the MTFWP's Strategic Habitat Plan, Montana's Comprehensive Fish and Wildlife Conservation Strategy, and strategic population plans, and to achieve the stated purpose of designated State of Montana Wildlife Management Areas.

Other wildlife management actions include minimizing fragmentation of wildlife habitat; managing environmental risks such as, parasites, diseases, insect outbreaks, catastrophic fires, contamination, pesticides, rodenticides, herbicides, climate, and other hazards; providing for the long-term conservation, enhancement, and restoration of the sagebrush steppe/mixed-grass prairie complex in a manner that supports sustainable sage grouse populations and a healthy diversity and abundance of wildlife species; and coordinating with other agencies to prevent or control diseases, pests and species that threaten the health of humans, wildlife, livestock, and vegetation.

The following management actions are proposed under the preferred alternative in the Billings and Pompeys Pillar National Monument RMP/EIS:

- The BLM-authorized activities would address habitat for migratory and non-migratory birds, non-game and game mammals, and reptiles and amphibians.
- Implement conservation actions identified in the Executive Order Executive Order 13186 – “Responsibilities of Federal Agencies to Protect Migratory Birds”. Implement the North American Bird Conservation initiative to restore, enhance, and maintain habitats for migratory birds. Include USFWS Birds of Conservation Concern for Bird Conservation Regions 10 and/or 17 where appropriate through project level NEPA analysis. Emphasize maintenance and restoration of habitats that sustain sensitive species with minimum

- disturbance during the breeding season. Enhance or restore habitat composition and structure beyond PFC in riparian habitats, where and when appropriate, for migratory bird habitat.
- Retaining important blocks of hiding, security, and thermal cover for big game would be considered during project planning. The BLM would emphasize habitat improvements in areas where there is limited or fragmented security habitat through vegetation treatments and route limitations (including seasonal closures).
  - Assist in the restoration, reintroduction, augmentation, or re-establishment of priority species and other populations and (or) habitats in coordination with MFWP.
  - Fences identified as barriers to wildlife movement on BLM-administered lands would be modified to accommodate wildlife passage, unless the fences were built specifically to keep native ungulates out of an area. Fence indicators or markers would be added to the top wire of new fences near sage-grouse concentration areas or where mortality has occurred.
  - Conditions of Approval (COAs) would be applied to all Applications for Permit (APDs) to Drill for all species of concern.
  - Utilize appropriate offsite compensatory mitigation to reduce impacts to wildlife habitat. This would be necessary if (1) all onsite mitigation has been accomplished and adverse effects have not been mitigated; or (2) if onsite mitigation is not feasible. Off-site mitigation would be applied as close to the affected area as possible and for the same or similar impacted species or habitats.
  - Manage siting of facilities to minimize impacts on wildlife habitat function and quality, to minimize impacts on vegetation resources for all uses, and to minimize wildlife mortality during the life of the facility.
  - Management actions are subjected to Waivers, Exceptions and Modifications (WEMs) and are available for use on any surface disturbing or disruptive activity (Refer to Appendix D, page D-5 for WEM definitions).
  - Overhead powerlines, where authorized, would follow the recommendations in Avian Protection on Powerlines, State of the Art in 2006 (APLIC). Power poles and other tall structures would be designed to prevent raptors from perching on the poles and reflectors attached.
  - Functional wildlife escape ramps would be installed on all water tanks on BLM-administered public lands.
  - Management techniques, including but not limited to prescribed and managed wildland fire, prescriptive livestock grazing, planting, exclusion to intense disturbance, timber harvest and other mechanical methods would be used to restore, maintain or improve the desired ecological conditions of vegetation communities for the purpose of improving forage, nesting, breeding, and security habitat, hiding cover and travel corridors for a wide diversity of terrestrial and aquatic species.
  - Management actions would emphasize providing habitat of sufficient quantity and quality, including connectivity and wildlife movement corridors, habitat complexity, forest openings, edges, and ecotones, to enhance biological diversity and provide quality, sustainable habitat for native wildlife species.
  - When potential wildlife conflicts are identified, the BLM could require a current year wildlife survey of the project area from the project proponent.
  - Caves and abandoned mines would be inventoried for bat habitation. The BLM would determine the need for closures or seasonal closures for activities affecting caves and

abandoned mines. Hibernacula and maternity cave closure dates would be determined when the inventory is completed.

- Bat gates or other suitable measures would be used to protect bat habitat. Public health and safety could take precedence over protection of bat habitat if hazardous mine openings cannot be remediated.
- Clearing of vegetation, would not be allowed within 250 feet of the entrance of caves and abandoned mines with populations of bats except for public safety. Vegetation would be removed for installing bat gates, noxious weed control, or when it becomes an obstruction to bat movement.
- Areas that would be targeted for conversion from crested wheatgrass to native sagebrush/grasslands would be areas that have high wildlife habitat value, particularly for sage grouse, big game, and other sagebrush obligate species, and are currently monocultures with little vegetation diversity.
- Predator control would be permitted subject to the stipulations outlined in the annual Animal Damage Control (ADC) Memorandum of Understanding between BLM and USDA-Animal Plant Health Inspection Service. Predator control in non-USDA ADC areas would be subject to the same stipulations as applied to those counties where predators are managed by USDA-APHIS.
- Raptor timing restrictions would be dependent on the species according to BLM Tech. Note TN-316, Nesting Habitats and Surveying Techniques for Common Western Raptors, Mayo W. Call, 5/78. Nesting phenology can vary from year to year based on elevation, climate, and nesting attempt. The BLM could seasonally limit/close rock climbing activities in areas with active raptor nests and would educate the public about the importance of avoiding such locations.
- Where environmental analysis and monitoring demonstrate a continued need for mitigation or insufficient mitigation measures are present for impacts to wildlife, stipulations would be applied to the operation and maintenance of production facilities or other projects.
- BLM would not authorize above-ground power-lines, unless burying the power-line is technologically unfeasible, then power-lines would be authorized in a manner that ensures habitat is maintained (e.g. line location) (CSU).
- Oil and gas leasing, development and exploration would be allowed with NSO in designated State Wildlife Management Areas, Fishing Access Sites, and State Parks (NSO).
- Surface disturbance and disruptive activities would be prohibited from April 1 to June 15 within established big game parturition habitat would be prohibited from December 1 to March 31 within big game winter range with a CAPS Score of 2 as designated by MFWP.
- Within big game winter range with a CAPS Score of 1, a Lease Notice would be issued requiring the proponent to conduct big game inventories in the project area prior to conducting any operations. If big game concentrations are found, the operator would be required to submit a plan of development to maintain the habitat, avoid habitat loss, and minimize disturbance. The mitigation plan would be approved by the authorized officer.
- Surface disturbance and disruptive activities would be prohibited within ½ mile of raptor nest sites that have been active in the past two years and from March 1 to June 15 in sharp-tailed grouse nesting habitat within two miles of a lek.
- Activity in bighorn sheep habitat would be allowed if the activity does not conflict with the desired outcomes for this resource and would require mitigation.

- Oil and gas leasing and development and geophysical exploration would be prohibited with NSO in designated WMAs. Oil and gas leasing and development and geophysical exploration in big game parturition areas would be allowed with the exception that the operator may submit a plan of development to maintain the habitat, avoid habitat loss and minimize disturbance. Oil and gas leasing and development (including geophysical exploration) and geothermal operations would be prohibited from December 1 to March 31 within big game winter range with a CAPS Score of 2 as designated by MFWP. Within big game winter range with a CAPS Score of 1, a Lease Notice would be issued requiring the proponent to conduct big game inventories in the project area prior to conducting any operations. If big game concentrations are found, the operator would be required to submit a plan of development to maintain the habitat, avoid habitat loss, and minimize disturbance. The mitigation plan would be approved by the authorized officer.
- Oil and gas leasing and development and geophysical exploration would be prohibited within designated bighorn sheep range (approximately 15,621 acres), within ¼ mile of sharp-tailed grouse leks (approximately 1,964 acres), from March 1 to June 15 in sharp-tailed grouse nesting habitat within 2 mile of a lek (approximately 67,101 acres), and from March 1 to August 1 within ½ mile of raptor nests that have been active within the past two (approximately 25,967 acres).
- Manage road densities at 1 mile/square mile or less compared to 0.5 mile/square mile and within big game winter range designated with a MFWP CAPS Score of 2.
- ¼ mile buffer would be maintained around unoccupied nests for 5 years.
- Oil and gas leasing, development and exploration and geothermal activities would be prohibited within ¼ mile of prairie dog colonies and control measures would be permitted in areas impacting public lands.
- No surface disturbing and oil and gas activities would be implemented from April 1 through July 31 in mountain plover habitat within ¼ mile of a nest.
- A timing restriction of March 1 and July 1 would be implemented for peregrine falcon nests, unless the activity does not conflict with the desired outcomes for this resource.
- A timing restriction of February 1 to August 15 would be implemented for bald eagle nest sites with a ½ mile around active nests.
- A 1/8 mile buffer around lek sites for continuous noise restrictions and a ¼ mile buffer around lek sites for temporary noise would be implemented.
- All power-lines within 3 miles of a lek and winter occurrence points and in sage-grouse winter concentration areas would be buried unless the power-lines could be sited or designed in a manner that maintains suitable habitat, reducing adverse impacts from avian predators perching on power-lines.
- Vegetation treatments would be conducted in areas of medium to high sage grouse populations to convert crested wheatgrass to native sagebrush/grassland habitat over the life of the plan.

## **K.13.1 Impact Analysis and Effects Determination**

### **K.13.1.1 Black-footed Ferret**

No black-footed ferrets are known to exist within the planning area. Wildlife habitat management may influence potential habitats for black-footed ferrets. Protection of greater sage-grouse breeding areas and big game crucial winter range could benefit ferret prey by protecting associated prairie dog habitats. Limiting access to specific areas for OHVs, horseback riding, and pedestrians; prohibiting surface development; and imposing road closures would benefit by protecting prairie dog habitats and reducing human access, which could in turn reduce recreational shooting. Implementing wildlife management actions *may affect, but are not likely to adversely affect*, the black-footed ferret due to *beneficial effects (NLAA-b)*. This determination is based on the potential for improvements to prairie dog and potential ferret habitats.

### **K.13.1.2 Canada Lynx**

Refer to “Planning Area Distribution” for Canada Lynx on page 13 for a Summary of Occurrence in BIFO. There are no Lynx Analysis Units (LAUs) or critical habitat designated on BLM, Billings Field Office decision area lands, although lynx may occasionally occur in the area.

Actions associated with wildlife habitat management have potential impacts that depend on several factors, including the number of people involved with each habitat enhancement effort, the time of year, duration of field activities, use of heavy machinery versus hand tools, and type of Canada lynx habitat affected. Canada lynx have a reasonable tolerance for human presence and, as a consequence, may not alter how they use the landscape. Precautionary measures for endangered species should provide additional protection. The implementation of these actions will likely have positive effects by maintaining or improving existing habitat conditions, especially riparian areas, which will benefit lynx and their prey. In some cases, however, lynx will likely avoid areas where activities are taking place due to the temporary disturbance created by these activities. Implementing of wildlife habitat management actions *may affect, but are not likely to adversely affect*, the lynx due to *insignificant effects (NLAA-i)*. This determination is based on the low probability that lynx will be disturbed by specific management actions, the low potential for these actions to alter lynx behavior, and the fact that many of these actions may actually improve lynx habitat.

### **K.13.1.3 Grizzly Bear**

Refer to “Planning Area Distribution” for grizzly bears on page 15 for a Summary of Occurrence in BIFO.

Wildlife management actions that may occur in suitable grizzly bear habitat would include habitat disturbance or loss. Habitat manipulations would include temporary, localized surface disturbance. However, wildlife habitat improvements would have long-term beneficial impacts on grizzly bear habitat. Implementing appropriate wildlife management actions *may affect, but*

are not likely to adversely affect, the grizzly bear due to beneficial effects (NLAA-b). This determination is based on the potential for improvements to grizzly bear habitats if wildlife habitat management actions are used and existing conservation measures are in place to protect the species.

## **K.14 Fisheries Habitat and Special Status Species (Fish)**

- **Activity Description**

In general, fisheries habitat management includes managing aquatic habitat to provide native and desirable non-native species diversity and viability, and sustain ecological, economic, and social values while providing for multiple uses of public lands. This includes managing fisheries habitat to support Montana Fish, Wildlife and Park's Strategic Habitat Plan and the Montana Comprehensive Fish and Wildlife Conservation Strategy. Management activities would emphasize restoration and/or maintenance of riparian structure, composition, and processes, including physical integrity of riparian ecosystems, amount and distribution of woody debris to sustain physical and biological complexity, adequate summer and winter thermal regulation, water quality and hydrologic processes, distribution and diversity of riparian vegetative communities and source habitats for riparian dependent species.

The Billings and Pompeys Pillar National Monument RMP/EIS would emphasize using cooperative efforts to minimize negative impacts to, or enhance aquatic ecosystems on adjacent private lands, while coordinating with other agencies to prevent or control diseases, pests and species that threaten the health of humans, wildlife, livestock, and vegetation.

Lastly, the Billings and Pompeys Pillar National Monument RMP/EIS is designed to manage or restore habitat on BLM-administered lands within the planning area to facilitate the conservation, recovery and maintenance of populations of native and special status species (BLM sensitive species, Candidate species, USFWS listed, proposed, or petitioned species) consistent with appropriate local, state, and federal management plans. Yellowstone Cutthroat Trout bearing waters and associated riparian habitat would be managed to protect all ecological values necessary to maintain or enhance YCT populations (using guidelines outlined in the Conservation Strategy for Yellowstone Cutthroat Trout in the States of Idaho, Montana, Utah, Nevada, and Wyoming).

The following management actions are proposed under the preferred alternative in the Billings and Pompeys Pillar National Monument RMP/EIS:

- Manage riparian areas and wetlands supporting fisheries toward PFC, as required through Standards and Guidelines.
- Roads would be located, designed and maintained, to the extent practical, to reduce sedimentation, identify and remove unnatural barriers, eliminate fish passage barriers (when desired), and restore or maintain riparian vegetation.
- Manage siting of facilities to minimize impacts on fish habitat function and quality, to minimize impacts on vegetation resources for all uses, and to minimize fish mortality during the life of the facility.
- If natural barriers cannot be used, in-channel barriers (including selective barriers) would be constructed downstream of the native fish populations at risk from invasion.

- Management activities would consider the guidelines listed in the Inland Native Fish Strategy as they relate to timber, road, grazing, recreation, minerals, fisheries, riparian, watershed, and fish and wildlife management, to enhance and maintain habitat.
- Impacts beyond the riparian zone would be considered as part of YCT habitat management. Project-level activities would mitigate impacts on water quality, in-stream habitat, channel morphology, and riparian areas to benefit YCT populations.
- Habitat-improvement techniques would be used where appropriate to provide missing habitat components or improve existing habitats.
- The BLM will continue to partner with MTFWP in the establishment of fishing access sites.
- Land and water management decisions likely to affect YCT populations would include both pre- and post-project evaluation and monitoring to ensure that the habitat elements for YCT are protected.
- Use restoration to enhance YCT habitat and riparian function where habitat conditions are determined to be degraded.
- Opportunistically enhance or restore habitat for and populations of YCT.
- Establish high priority YCT habitat zones and increase monitoring on YCT bearing streams to ensure no significant degradation to water quality and fish habitat.
- Develop and maintain a prairie fish and fish habitat inventory and identify potential or suitable habitat.
- Surface disturbing activities would not be allowed within riparian areas and wetlands, designated 100 year flood plains and on water bodies and streams, except to benefit watershed health, except those activities that are not in conflict with the desired outcomes for this resource would be allowed.
- Oil and gas leasing, exploration and/or development would be closed within riparian areas and wetlands, designated 100 year flood plains and on water bodies and streams, except to benefit watershed health (NSO) (6,002 acres)
- Oil and gas leasing, exploration and/or development would be closed within ½ mile of Class I (Blue Ribbon) streams, WSR- eligible segments and YCT habitat (NSO).
- Oil and gas leasing, exploration and/or development would not be allowed within ½ mile of streams with High Restoration Potential for native fish species (NSO).
- New spring developments would be authorized and fenced if the development would maintain the integrity and functionality of the associated riparian area/wetland.
- Habitat conditions would be monitored on fish-bearing streams (approx. 7 miles) with existing or potential threats, where grazing or human-caused impacts are likely.
- Livestock grazing would be excluded from YCT- bearing or other T&E or candidate species streams/riparian habitat.
- Fencing around the riparian zone, or at least 50' from the water's edge or using drift fence to exclude livestock from the riparian zone.
- Development of existing or potential reservoirs would be considered to promote recreational fisheries and riparian/aquatic habitat enhancement.

## **K.14.1 Impact Analysis and Effects Determination**

### **K.14.1.1 Black-footed Ferret**

No black-footed ferrets are known to exist within the planning area. Fisheries management actions within black-footed ferret habitat (i.e., prairie dog colonies) are not expected to adversely impact potential black-footed ferret habitats. Where used, the long-term goal of these programs would be to improve habitat quality, which may in turn improve black-footed ferret habitat. Therefore, implementing fisheries management actions *may affect, but are not likely to adversely affect*, the black-footed ferret due to *beneficial effects (NLAA-b)*. This determination is based on the potential for improvements to prairie dog and potential ferret habitats if fisheries management actions are used in conjunction with existing conservation measures.

### **K.14.1.2 Canada Lynx**

Refer to “Planning Area Distribution” for Canada Lynx on page 13 for a Summary of Occurrence in BIFO. There are no Lynx Analysis Units (LAUs) or critical habitat designated on BLM, Billings Field Office decision area lands, although lynx may occasionally occur in the area.

Implementing actions associated with fisheries management programs would include habitat disturbance or loss. Habitat manipulations would include temporary, localized surface disturbance. However, improvements to fish habitats would have long-term beneficial impacts on Canada lynx habitat. In addition, management actions that protect YCT habitat through restrictions on road placement and maintenance as well as facility siting, would also protect habitat used by Canada lynx. Therefore, implementing fisheries management actions *may affect, but are not likely to adversely affect*, the Canada lynx due to *beneficial effects (NLAA-b)*. This determination is based on the potential for improvements to potential Canada lynx habitat as a result of fisheries habitat management in conjunction with existing conservation measures.

### **K.14.1.3 Grizzly Bear**

Refer to “Planning Area Distribution” for grizzly bears on page 15 for a Summary of Occurrence in BIFO.

Implementing actions associated with fisheries management programs would include habitat disturbance or loss. Habitat manipulations would include temporary, localized surface disturbance. However, improvements to fish habitats would have long-term beneficial impacts on grizzly bear habitat. In addition, management actions that protect YCT habitat through restrictions on road placement and maintenance as well as facility siting, would also protect habitat used by grizzly bears. Therefore, implementing fisheries management actions *may affect, but are not likely to adversely affect*, the grizzly bear due to *beneficial effects (NLAA-b)*. This determination is based on the potential for improvements to potential grizzly bear habitat as a result of fisheries habitat management in conjunction with existing conservation measures.

## **K.15 Wild Horses and Burros**

- **Activity Description**

In general, wild horse and burro management includes maintaining, protecting, and controlling a healthy wild horse herd inside the herd management area within the appropriate management level to ensure a thriving natural ecological balance while preserving multiple use relationships with other uses and resources and making progress towards standards for rangeland health. The Billings and Pompeys Pillar National Monument RMP/EIS would emphasize maintaining a wild horse herd that exhibits a diverse age structure, genetic diversity and any characteristics unique to the Pryor horses, while managing wild horse habitat within a balanced program which considers all values without impairment to the productivity of the land.

The following management actions are proposed under the preferred alternative in the Billings and Pompeys Pillar National Monument RMP/EIS:

- Initially, the wild horse population would be managed within a population range of 90 to 120 wild horses.
- Unless otherwise specified, implementation level planning through a Herd Management Area Plan (HMAP) or other activity level plans would identify and set objectives for, but not limited to, the following: herd composition, animal characteristics, genetics and habitat development needs; soil, vegetation and watershed characteristics; and establishment and adjustment to appropriate management level (AML).
- Appropriate management levels would be adjusted as needed to ensure a thriving natural ecological balance through monitoring and data collection including but not limited to: forage utilization, trend, ecological condition, precipitation data, rangeland health assessments, population inventory, climate or habitat changes and range availability.
- Herd Management Area Establishment
  - Manage wild horses on approximately 27,094 acres of BLM-administered lands (39,994 acres all ownerships).
  - Designate the closed portions of the Herd Area known as the administrative pastures to be included in the Herd Management Area.
  - Due to private property conflicts, the “buffer” area would remain closed.
- Herd Characteristics
  - Within an HMAP, herd structure would be managed for all representations in the herd, not allowing specific colors or bloodlines to dominate from management manipulation.
- Appropriate Management Levels
  - AML determination would be made within the context of having the maximum amount of wild horses the range can sustain while preventing deterioration.
- Wild Horse Habitat
  - Maximize the amount of acres available for vegetation treatments and/or water developments that potentially increase forage availability for wild horses that is compliant with other multiple-use decisions and restrictions.

## **K.15.1 Impact Analysis and Effects Determination**

### **K.15.1.1 Black-footed Ferret**

No black-footed ferrets are known to exist within the planning area. Wild horse and burro management actions are not expected to adversely impact potential black-footed ferret habitats. Where used, the long-term goal of these programs would be to improve habitat quality. Adjusting AMLs to ensure a natural ecological balance would maintain sufficient forage levels so that competition among wild horses and burros, livestock, and prairie dogs can be reduced and habitat quality would be improved for the black-footed ferret. Implementing wild horse and burro management actions *may affect, but are not likely to adversely affect*, the black-footed ferret due to *beneficial effects (NLAA-b)*. This determination is based on the potential for improvements to prairie dog and potential ferret habitats if wild horse and burro management actions are used in conjunction with existing conservation measures.

### **K.15.1.2 Canada Lynx**

Refer to “Planning Area Distribution” for Canada Lynx on page 13 for a Summary of Occurrence in BIFO. There are no Lynx Analysis Units (LAUs) or critical habitat designated on BLM, Billings Field Office decision area lands, although lynx may occasionally occur in the area.

Wild horse and burro management actions that may occur in suitable Canada lynx habitat would be expected to improve habitat in the long term. Adjusting AMLs to ensure a natural ecological balance would maintain sufficient forage levels so that competition among wild horses and burros, livestock, and wildlife species would be reduced and habitat quality would be improved for the Canada lynx. Implementing wild horse and burro management actions *may affect, but are not likely to adversely affect*, the lynx due to *beneficial effects (NLAA-b)*. This determination is based on the potential for improvements to potential Canada lynx habitat if wild horse and burro management actions are used in conjunction with existing conservation measures. In the long term, wild horse and burro management actions will benefit the Canada lynx by improving habitats for prey species.

### **K.15.1.3 Grizzly Bear**

Refer to “Planning Area Distribution” for grizzly bears on page 15 for a Summary of Occurrence in BIFO.

Wild horse and burro management actions that may occur in suitable grizzly bear habitat would be expected to improve habitat in the long term. Adjusting AMLs to ensure a natural ecological balance would maintain sufficient forage levels so that competition among wild horses and burros, livestock, and wildlife species would be reduced and habitat quality would be improved for the grizzly bear. Implementing wild horse and burro management actions *may affect, but are not likely to adversely affect*, the grizzly bear due to *beneficial effects (NLAA-b)*. This determination is based on the potential for improvements to potential grizzly bear habitat if wild horse and burro management actions are used in conjunction with existing conservation

measures. In the long term, wild horse and burro management actions will benefit the grizzly bear by improving habitats for prey species.

## **K.16 Fire Ecology and Management**

### **• Activity Description**

In general, fire ecology and management would focus on managing wildland fire and fuels for the protection of public health, safety, property, and resource values while managing hazardous fuels in areas of urban and industrial interface to reduce potential loss due to catastrophic fire. The Billings and Pompeys Pillar National Monument RMP/EIS would emphasize maintaining a desired mix of seral stages within vegetation communities, including desert shrublands, forest and woodlands, grasslands, mountain shrublands, sagebrush (all sub-species), riparian/wetlands and aspen. In addition, the Billings and Pompeys Pillar National Monument RMP/EIS would manage vegetation communities through cooperative efforts by restoring natural fire regimes and frequency to the landscape, where appropriate and maintaining partnerships with the public and interagency cooperators to strengthen coordination of all fire management activities and encourage the creation of fire-safe communities. Lastly, fire ecology and management would utilize an integrated management technique unless otherwise restricted (defined as prescribed fire, mechanical, chemical, or biological, followed by desired reseeding) to reduce fuels to protect high priority areas or resource values.

The following management actions are proposed under the preferred alternative in the Billings and Pompeys Pillar National Monument RMP/EIS:

- National fire suppression guidelines and the current Fire Management Plan would be utilized to guide fire suppression techniques on public lands.
- In the course of fire suppression, a resource advisor would be consulted or assigned to wildland fires that involve or threaten public lands.
- The use of fire suppression chemicals would be limited around areas with rock art and standing structures and other areas with significant cultural resources (including ACECs).
- Use of wildland fire suppression chemicals within 300 feet of waterways would be prohibited.
- Fuels treatments would be designed to protect or improve resource values.
- Emergency stabilization and rehabilitation of burned areas would be conducted according to current policy to protect and sustain ecosystems, public health and safety.
- Response to wildfires will be based on ecological, social, economic and legal consequences of the wildfire.
- Fire management strategies and tactics would be determined by (but not limited to) the following:
  - Firefighter and public safety
  - Resource values at risk
  - Proximity to private land
  - Firefighting resource availability
- Heavy equipment would not be used to construct fire lines in crucial winter range, habitat of listed, proposed, candidate or sensitive species, riparian/wetlands or in areas of cultural

resource sensitivity or other designated areas (e.g., ACECs, WSAs). Exceptions would be permitted for protection of human life, property or other resource values.

- Cultural Resource Specialists or Resource Advisors would be consulted for locations of identified areas before use of or anticipated use of heavy equipment.
- If heavy equipment is used, rehabilitation work on lines would begin immediately after containment.
- Wildland fires (natural ignitions) that occur within or adjacent to an area identified for vegetation or fuels treatment would be managed to meet the desired management objectives.
- Wildland fire management (natural ignitions) for resource benefit would be considered for the following areas:
  - East Pryor ACEC (11,122 acres)
  - Grove Creek ACEC (8,251 acres)
  - Meeteetse Spires ACEC (1,523 acres)
  - Pryor Foothills RNA ACEC (2,606 acres)
  - Weatherman Draw ACEC (12,277 acres)
  - Big Horn Tack-on WSA (2,689 acres)
  - Burnt Timber Canyon WSA (3,516 acres)
  - Pryor Mountain WSA 15,590 (acres)
  - Twin Coulee WSA (6,836 acres)
  - Total 70,926 acres
- Prescribed fire would be allowed in Greater Sage-Grouse RAs if the activity would benefit sagebrush communities (ex: achieve a diversity of age class).

## **K.16.1 Impact Analysis and Effects Determination**

### **K.16.1.1 Black-footed Ferret**

No black-footed ferrets are known to exist within the planning area. Wildland fires are not expected to directly affect the black-footed ferret because such fires typically do not occur in prairie dog towns where vegetation and fuels to support a fire are limited. Heavy machinery associated with fire suppression and fire prevention could potentially destroy habitats and burrows; however, because wildland fires in prairie dog towns are rare events, this type of impact is unlikely to occur. Implementing wildland fire management actions *may affect, but are not likely to adversely affect*, the black-footed ferret due to *insignificant effects (NLAA-i)*. This determination is based on the current absence of ferrets in the planning area and the unlikely event of fire or fire suppression activities in prairie dog towns.

### **K.16.1.2 Canada Lynx**

Refer to “Planning Area Distribution” for Canada Lynx on page 13 for a Summary of Occurrence in BIFO. There are no Lynx Analysis Units (LAUs) or critical habitat designated on BLM, Billings Field Office decision area lands, although lynx may occasionally occur in the area.

Fire management actions, particularly actions associated with wildfire suppression and prescribed fire, whether planned or unplanned, have the potential to occur in habitats occupied by Canada lynx. Road construction associated with fire suppression can lead to increased access into higher altitude sites by generalist predators, such as coyotes, wolves, and bobcats. These species can be predators of and competitors with lynx. In addition, fire can result in removal of excess dead and dying trees, reducing hiding cover for prey species, potential thermal cover in the winter months, and lynx denning and rearing habitat. However, in the long term, fire would increase denning habitat by increasing horizontal cover with log and limb fall. Additional understory growth after a fire would generally improve habitat conditions for a variety of fish and wildlife species, including the Canada lynx's main prey item, snowshoe hares.

Implementing wildlife fire management actions *may affect, but are not likely to adversely affect*, the Canada lynx due to *insignificant effects (NLAA-i)*. This determination is based on the implementation of conservation measures for Canada lynx that will preclude any adverse effects to the species or its habitat; and the potential for improvements to Canada lynx habitats if wildland fire management actions are used in conjunction with existing conservation measures.

### **K.16.1.3 Grizzly Bear**

Refer to "Planning Area Distribution" for grizzly bears on page 15 for a Summary of Occurrence in BIFO.

Fire management actions, particularly actions associated with wildfire suppression and prescribed fire, whether planned or unplanned, have the potential to occur in habitats occupied by the grizzly bear. Fire can result in removal of excess dead and dying trees, reducing hiding cover for prey species, potential thermal cover in the winter months, and grizzly bear denning and rearing habitat. However, in the long term, fire would increase denning habitat by increasing horizontal cover with log and limb fall. Additional understory growth after a fire would generally improve habitat conditions for a variety of fish, wildlife, and plant species. This in turn would cause an increase in food sources for the grizzly bear. Implementing wildland fire management actions *may affect, but are not likely to adversely affect*, the grizzly bear due to *insignificant effects (NLAA-i)*. This determination is based on the potential for improvements to grizzly bear habitats if wildland fire management actions are used in conjunction with existing conservation measures in place to protect the species. In the long term, wildland fire management actions will benefit the grizzly by improving suitable habitats.

## **K.17 Cultural/Heritage Resources**

- **Activity Description**

In general, cultural/heritage resources are managed to identify, preserve, and protect significant cultural resources and ensure that they are available for appropriate uses by present and future generations (FLPMA, Section 103 (c), 201(a) and (c); National Historic Preservation Act, Section 110(a); Archaeological Resources Protection Act, Section 14(a)). The Billings and Pompeys Pillar National Monument RMP/EIS seeks to reduce imminent threats and resolve potential conflicts from natural or human-caused deterioration, or potential conflicts with other resource uses (FLPMA Section 203(c), NHPA 106, 110(a) (2)), by ensuring that all

authorizations for land use and resource use would comply with the NHPA Section 106. Cultural resources on BLM-administered land would be protected and maintained in stable condition. Appropriate management actions would be determined after evaluation and allocation of cultural resource use categories through cultural resource project plans. The Billings and Pompeys Pillar National Monument RMP/EIS would focus on maintaining viewsheds of important cultural resources whose settings contribute significantly to their scientific, public, traditional or conservation values and provide research opportunities that would contribute to our understanding of the ways humans have used and influenced the landscape. It would also focus on managing historic trails to realize their educational, recreational, and scientific values and enhance public understanding of, and appreciation for, cultural resources through educational outreach and heritage tourism opportunities.

The following management actions are proposed under the preferred alternative in the Billings and Pompeys Pillar National Monument RMP/EIS:

- Evaluate cultural resources according to National Register criteria (36 CFR Part 60.4) and assign cultural resources to appropriate use categories as the basis for management decisions.
- All sites determined eligible to the National Register of Historic Places would be allocated and managed for Scientific, Public, Traditional, Experimental, and/or Conservation for Future Use. However, if another use becomes evident or proposed after use allocation has occurred, the use allocation may be changed without a plan amendment.
- All sites determined not eligible to the National Register of Historic Places and not containing antiquities or archaeological resources would be allocated and managed as Discharged from Management Use.
- Cremains scattering would not be permitted on prehistoric or historic archaeological sites, buildings, or structures, Native American burials, sacred sites, or traditional cultural use areas.
- Implement protection measures to stop, limit, or repair damage to sites. A variety of protection measures described in BLM Manual 8140 may be used to protect the integrity of sites at risk, such as signs, fencing or barriers, trash removal, target shooting closures, erosion control, backfilling, repairing, shoring up, or stabilizing structures, restricting uses and access, and closures.
- Design and maintain facilities to preserve the visual integrity of cultural resources, settings, and cultural landscapes consistent with VRM objectives established in the RMP.
- Where feasible, acquire properties adjacent to public lands through donation, exchange, or purchase that contain significant cultural resources including, but not limited to, those properties eligible for inclusion on the NRHP.
- Nominate eligible sites, districts, landscapes and traditional cultural properties for inclusion on the National Register of Historic Places.
- Encourage public/volunteer involvement in the management of cultural resources through participation of established site steward programs and other programs.
- Specific plans would be developed for each site type unless included in other integrated activity plans. Such plans would include protective measures, Native American consultation, and regulatory compliance. These plans would also include but not be limited to developing a site monitoring system; identifying sites in need of stabilization, restoration, and protective measures (e.g. fences, surveillance equipment.); developing research designs for selected areas/sites; designating sites/areas for interpretative development; identifying areas for

cultural inventory where federal undertaking are expected to occur; and developing specific mitigation measures. The plan would designate sites, districts, and landmarks that would be nominated for inclusion in the National Register of Historic Places.

- Conduct inventory according to professional standards commensurate with the land-use activity, environmental conditions, and the potential for cultural resources.
- Pro-actively reduce hazardous fuels or mitigate the potential hazard around archaeological and cultural sites that are susceptible to destruction by fire.
- Reduce or eliminate imminent threats from natural or human caused deterioration or conflict with other resource uses.
- Identify priority geographic areas for Section 110 cultural inventories based on a probability for unrecorded significant resources and/or resource need.
- Ensure that all authorizations for land and resource use would comply with Section 106 of the National Historic Preservation Act, consistent with and subject to the objectives established in the RMP for the proactive use of cultural properties in the public interest.
- Provide for legitimate field research by qualified scientists and institutions.
- Allow for reconstruction, stabilization, maintenance, and interpretation of selected sites for public enjoyment and education.
- Should National Register eligible cultural resources be found during an inventory, impacts to them would be mitigated, generally through avoidance. Should it be determined the cultural resources cannot be avoided; consultation with the State Historic Preservation Officer would be initiated. A program on mitigation would be developed via consultation between the Billings Field Office, the SHPO, and the Advisory Council on Historic Preservation.
- Conduct regular monitoring of at-risk cultural sites to protect sites from conflicts with other resources uses and to document natural and human caused deterioration.
- Establish and implement protective measures for sites, structures, objects, and traditional use areas that are important to Native American tribes with historical and cultural connections to the land, in order to maintain the viewshed, intrinsic values, and the auditory, visual, and aesthetic settings of the resources. Protection measures for undisturbed cultural resources and their natural setting would be developed in compliance with regulatory mandates and Native American consultation.
- Conduct consultation process to identify both the resource management concerns and the strategies for addressing them through an interactive dialogue with Native American tribes with affinity to the project area.
- Consult with affiliated Native American tribes for the protection of areas and items of traditional life-ways and religious significance that includes, but is not limited to burials, rock art, traditional use areas, religious active areas, and sacred sites.
- Limit surface disturbing activities within selected Native American traditional cultural and religious sites for continued use by tribes. Traditional cultural sites would be identified in consultation with affiliated Native American tribes.
- Protect burial sites, associated burial goods, and sacred items in accordance with the Native American Graves Protection and Repatriation Act and the Archaeological Resources Protection Act.
- A lease notice (consistent with the Montana guidance for cultural resource protection related to oil and gas) would continue to be issued to ensure that leased lands are examined to determine if cultural resources are present and to specify mitigation measures.

- NSO for oil and gas leasing, development and/or exploration on the following sites, districts, or areas:
  - Steamboat Butte (803 acres)
  - Bruder-Janich Site (579 acres)
  - Paul Duke Site (40 acres)
  - Demi-John Flat NR District (1,925 acres)
  - Bighorn Mouth North Cliffs Rock Art Site (160 acres)
  - Gyp Springs Site (320 acres)
  - Hoskins Basin Archaeological District (2,611 acres) total acres 6,538
- Oil and gas leasing, exploration and development would be allowed within ¼ mile of the following historic trails with stipulations (CSU):
  - Bridger Cut-Off Trail, Meeteetse Trail (Total acres =5,746 acres)
- Parameter – Cultural Resource Use Allocation – Rock Art Sites
  - Allocate and manage all National Register eligible sites for Conservation, Scientific, Traditional, and /or Public Use.
  - Interpretative sites would be developed as appropriate.
- Parameter – Cultural Resource Use Allocation – Rockshelter/Cave Sites
  - Allocate and manage all National Register eligible sites for Conservation, Scientific, Traditional, and /or Public Use. Interpretative sites would be developed as appropriate.
  - Parameter – Cultural Resource Use Allocation – Aboriginal Occupation Sites and Structures (prehistoric & protohistoric)
  - Allocate and manage all National Register eligible sites to Scientific Public, Traditional, and/or Conservation Use.
  - Interpretative sites would be developed as appropriate.
- Parameter – Cultural Resource Use Allocation – Open Sites
  - Allocate and manage all National Register eligible sites to Conservation Use.
- Parameter – Cultural Resource Use Allocation – Buffalo Jumps/ Buffalo Kill/Processing Areas
  - Allocate and manage all National Register eligible sites to Conservation, Scientific, and/or Public Use. Interpretative sites would be developed as appropriate.
- Parameter – Cultural Resource Use Allocation – Aboriginal trails
  - Allocate and manage all National Register eligible sites to Conservation, Traditional, and/or Public Use.
  - Interpretative sites would be developed as appropriate.
- Parameter – Cultural Resource Use Allocation – Historic Industrial/Development (mines, oil/gas, etc.)
  - Allocate and manage all National Register eligible sites to Conservation and/or Scientific Use.
- Parameter – Cultural Resource Use Allocation – Historic Features
  - Allocate and manage all National Register eligible sites to Conservation and/or Scientific Use.
- Parameter – Cultural Resource Use Allocation – Historic Roads/Trails
  - Allocate and manage all National Register eligible resources for Scientific, Conservation, and/or Public Use.

- Interpretative sites would be developed as appropriate.
- Parameter – Cultural Resource Use Allocation – Historic Structures and Homesteads
  - Allocate and manage all National Register eligible sites to Scientific, Conservation, and/or Public Use.
  - Interpretative sites would be developed as appropriate.
- Parameter – Cultural Resource Use Allocation – Toolstone Sources.
  - Allocate and manage all National Register eligible toolstone sources to Conservation, Traditional, and/or Scientific Use.
- Parameter – Cultural Resource Use Allocation – Vision Quest Sites/Sacred Sites/TCPs/Ethnohistoric Sites.
  - Allocate and manage all National Register eligible sites to Conservation and/or Traditional Use.

## **K.17.1 Impact Analysis and Effects Determination**

### **K.17.1.1 Threatened or endangered species**

Actions associated with cultural/heritage resources management will not directly impact Threatened or endangered species or any potential habitats. Cultural/heritage resources management will exclude some actions and structures from designated areas and may have a beneficial impact of limiting disturbance in habitats suitable for Threatened or Endangered species. Implementing cultural/heritage resources management actions *may affect, but are not likely to adversely affect*, the Threatened or endangered species due to *beneficial effects (NLAA-b)*. This determination is based on the potential of these management actions to preserve or minimize disturbance to habitats suitable for threatened and endangered species.

## **K.18 Paleontological Resources**

### **• Activity Description**

In general, paleontological resources identifies, manages, and monitors at-risk paleontological resources (scientific values); and preserving and protecting vertebrate fossils through best science methods; and promoting public and scientific use of invertebrate and paleo-botanical fossils. The Billings and Pompeys Pillar National Monument RMP/EIS focuses on managing fossil locales with high scientific value in a stable condition, while allowing appropriate scientific and public use and locating, evaluating, and managing paleontological resources and protecting them where appropriate. In addition, the Billings and Pompeys Pillar National Monument RMP/EIS emphasizes facilitating suitable scientific, educational, and recreational uses of fossils and ensuring that significant fossils are not inadvertently damaged, destroyed, or removed from public ownership as a result of surface disturbance or land tenure adjustments.

The following management actions are proposed under the preferred alternative in the Billings and Pompeys Pillar National Monument RMP/EIS:

- The Potential Fossil Yield Classification (PFYC) system would be used to assess possible resource impacts and mitigation needs for Federal actions involving surface disturbance, land tenure adjustments, and land-use planning.
- Recreational collectors may collect and retain reasonable amounts of common invertebrate and plant fossils for personal, non-commercial use. Surface disturbance must be negligible and mechanized tools may not be used.
- Vertebrate fossils may be collected only under a permit issued to qualified individuals. Vertebrate fossils include bones, teeth, eggs, and other body parts of animals with backbones, such as dinosaurs, fish, turtles, and mammals. Vertebrate fossils also include trace fossils such as footprints, burrows, gastroliths, and coprolites.
- Fossils collected under a permit remain the property of the federal government and must be placed in a suitable repository which would be identified at the time of permit issuance.
- Lands identified for disposal or exchange would be evaluated to determine whether such actions would remove significant fossils from federal ownership.
- In areas where surface disturbance, either initiated by BLM or other land users, may threaten significant fossils, the BLM would follow its policy (see Manual and Handbook 8270-1) to assess any threat and mitigate damage. The BLM Washington Office IM-2008-009, Potential Fossil Yield Classification (PFYC) System for Paleontological Resources on Public Lands, dated October 15, 2007, revised the classification system of Handbook 82790-1.
- The BLM would work with local communities, interest groups, individuals, and other agencies to enhance the public's understanding and enjoyment of paleontological resources.
- Where scientifically significant fossils are threatened by natural hazards or unauthorized collection, the BLM would work with permittees and other partners to salvage specimens and reduce future threats to resources at risk.
- Conduct regular monitoring to protect areas where unauthorized use may occur.
- Reports of theft or damage to fossil resources would be responded to by appropriate BLM personnel.
- For all surface disturbing activities occurring within PFYC Class 3 or higher units, a stipulation would be included on the permitting document. Assessment, inventory, and/or mitigation would be required based on PFYC class.
- Written and web-based information would be developed, maintained, and provided about fossils and to promote visitor education
- Paleontological Resource Use permits would be issued for scientific study.
- BLM would support investigations in lesser known areas and in areas where surface disturbance is occurring or anticipated.
- Collection of common invertebrate and plant fossils would be allowed for personal, non-commercial use.
- Areas with vertebrate fossils would be closed to common invertebrate and plant fossil hobby collecting unless collection activity is authorized by the BLM.

## K.18.1 Impact Analysis and Effects Determination

### K.18.1.1 Threatened or endangered species

Actions associated with paleontological resources management will not directly impact Threatened or endangered species or any potential habitats. Paleontological resources management will exclude some actions and structures from designated areas and may have a beneficial impact of limiting disturbance in habitats suitable for Threatened or endangered species. Implementing paleontological resources management actions *may affect, but are not likely to adversely affect*, the Threatened or endangered species due to *beneficial effects (NLAA-b.)* This determination is based on the potential of these management actions to preserve or minimize disturbance to habitats suitable for threatened and endangered species.

## K.19 Visual Resources

### • Activity Description

In general, visual resource management would emphasize managing public lands for their scenic values while providing for the overall multiple-use and quality of experience to visitors of public lands. The Billings and Pompeys Pillar National Monument RMP/EIS would establish visual management objectives to minimize adverse impacts to the visual resources on the landscape, as well as maintain the overall integrity of VRM classes, while allowing for modifications to landscapes in those classes, consistent with the established management objectives.

The following management actions are proposed under the preferred alternative in the Billings and Pompeys Pillar National Monument RMP/EIS:

- Manage visual resources according to established guidelines for VRM classes.
- Use the visual resource contrast rating system during project level planning to determine whether or not proposed activities would meet VRM objectives. Identify mitigation measures to reduce visual contrasts.
- Manage WSAs under VRM Class I objectives to maintain an undeveloped landscape and preserve their natural values.
- Prepare rehabilitation plans to address landscape modifications on a case-by-case basis.
- Manage BLM public lands according to the following VRM class designations:
  - VRM Class I 28,861 acres
  - VRM Class II 13,648 acres
  - VRM Class III 391,179 acres
  - VRM Class IV 0 acres
  - VRM Class I & II Total 42,509 acres
- Surface disturbing activities and construction of semi-permanent and permanent facilities in VRM Class II – IV areas would require special design including location, painting, and camouflage to blend with the natural surroundings and meet the visual quality objectives for each respective class (CSU).

## K.19.1 Impact Analysis and Effects Determination

### K.19.1.1 Threatened or Endangered Species

Actions associated with VRM will not directly impact Threatened or endangered species or any potential habitats. VRM will exclude some actions and structures from designated viewsheds and may have a beneficial impact of limiting disturbance in habitats suitable for Threatened or endangered species. Implementing VRM actions *may affect, but are not likely to adversely affect*, the Threatened or endangered species due to *beneficial effects (NLAA-b)*. These determinations are based on the potential of these management actions to preserve or minimize disturbance to habitats suitable for Threatened or endangered species.

## K.20 Lands With Wilderness Characteristics

### • Activity Description

In general, lands with wilderness characteristic would be managed to protect, preserve and maintain wilderness characteristics in areas identified as non-WSA lands with wilderness characteristics. Areas managed for wilderness characteristics would be managed to maintain: a high degree of naturalness (where lands and resources are affected primarily by the forces of nature and where the imprint of human activity is substantially unnoticeable); outstanding opportunities for solitude (when the sights, sounds, and evidence of other people are rare or infrequent and where visitors can be isolated, alone or secluded from others), and outstanding opportunities for primitive and unconfined recreation: Where the use of the area would be through non-motorized, non-mechanical means, and where no or minimal developed recreation facilities are encountered. Lastly, areas managed for wilderness characteristics would be ecologically sustainable and resilient to natural and human caused disturbances.

The following management actions are proposed under the preferred alternative in the Billings and Pompeys Pillar National Monument RMP/EIS:

- Lands with Wilderness Characteristics would be managed according to the following management:
  - VRM Class II
  - Closed to motorized OHV use
  - Closed to oil and gas leasing, exploration and development (NL)
  - Closed to solid mineral leasing
  - Closed to disposal of mineral materials
  - Closed and recommend for withdrawal from mineral entry
  - Exclusion area for ROWs
  - Closed to permitted commercial and personal use wood cutting and seed collection
  - Vegetation and fuel treatments using prescribed fire would be allowed
  - Surface disturbing and disruptive activities would be allowed if the activity does not impair the resource values and/or wilderness characteristics.

- Manage 3,833 acres outside of the Bighorn Tack-on and Pryor Mountain WSAs as wilderness (this includes an additional 3,160 acres contiguous to the north - excludes Penn's Cabin, an existing communications site and cherry-stemmed road to the site).

## **K.20.1 Impact Analysis and Effects Determination**

### **K.20.1.1 Threatened or Endangered**

Actions associated with the management of lands with wilderness characteristics will not directly impact threatened or endangered species or any potential habitats. Managing lands with wilderness characteristics would also provide protection to wildlife and special status species through restrictions on surface disturbances and minerals developments as well as OHV use. This would have a beneficial impact of limiting disturbance in habitats suitable for Threatened or Endangered. Implementing management actions associated with lands with wilderness characteristics *may affect, but are not likely to adversely affect*, the threatened or endangered species due to *beneficial effects (NLAA-b.)* These determinations are based on the potential of these management actions to preserve or minimize disturbance to habitats suitable for threatened or endangered species.

## **K.21 Cave and Karst Resources**

### **• Activity Description**

In general, cave and karst resources management activities would manage significant cave resources as mandated by the Federal Cave Resources Protection Act of 1988 to protect unique, nonrenewable and fragile biological, geological, hydrological, cultural, paleontological, scientific and recreational values for present and future users. The Billings and Pompeys Pillar National Monument RMP/EIS would emphasize providing opportunities for scientific research, educational study, and recreational experiences which are compatible and consistent with protection of all biologic and non-biologic resources associated with caves and karst landforms.

The following management actions are proposed under the preferred alternative in the Billings and Pompeys Pillar National Monument RMP/EIS:

- Manage for non-impairment of natural cave features and conditions.
- Geo-caching would not be allowed in caves or at cave entrances.
- Manage recreational use of caves under a cave management plan and address: protecting and maintaining cave resources, including wildlife species and habitat in and around caves, by interpreting, restricting, and/or prohibiting nonconforming uses; enhancing user experiences and opportunities by managing use at levels compatible with resource carrying capacity and protection.
- Mystery Cave is located near the Big Horn Tack-On WSA and would be managed consistent with non-impairment criteria and recommended for withdrawal from mineral entry and NL for oil and gas leasing, exploration and/or development.
- Mystery Cave would be managed as a significant cave. A cave management plan would be developed for Mystery Cave.

- Surface disturbing or disruptive activities within ¼ mile of cave entrances may be allowed if the activity benefits the desired outcome of this resource.
- Cave and karst areas would be inventoried prior to oil and gas leasing, exploration and/or development. An approved mitigation plan would be required to avoid impacts to cave resources (CSU) (20,440 acres).
- Inventory of cave and karst areas would be required prior to surface-disturbing activities. Cave and karst resources would be open to mineral development with an approved mitigation plan that protects resource values.
- Cave and karst areas would be managed as ROW avoidance areas.

## **K.21.1 Impact Analysis and Effects Determination**

### **K.21.1.1 Black-footed Ferret**

No black-footed ferrets are known to exist within the planning area. Management of cave and karst resources would not adversely affect the black-footed ferret. Protection buffers or avoidance areas may be set up to protect cave or karst resources, which in turn may protect prairie dog and potential black-footed ferret habitat. Therefore, implementing cave and karst management actions *may affect, but are not likely to adversely affect*, the black-footed ferret due to *beneficial effects (NLAA-b)*. This determination is based on the potential for protection of prairie dog and black-footed ferret habitats if avoidance areas are implemented around cave and karst resources.

### **K.21.1.2 Canada Lynx**

Refer to “Planning Area Distribution” for Canada Lynx on page 13 for a Summary of Occurrence in BIFO. There are no Lynx Analysis Units (LAUs) or critical habitat designated on BLM, Billings Field Office decision area lands, although lynx may occasionally occur in the area.

Management of cave and karst resources would not adversely impact the Canada lynx. Protection buffers or avoidance areas may be set up to protect cave or karst resources, which in turn may protect Canada lynx habitat. Implementing cave and karst management actions *may affect, but are not likely to adversely affect*, the Canada lynx due to *beneficial effects (NLAA-b)*. This determination is based on the potential for protection of lynx habitat if avoidance areas are implemented around cave and karst resources along with existing conservation measures.

### **K.21.1.3 Grizzly Bear**

Refer to “Planning Area Distribution” for grizzly bears on page 15 for a Summary of Occurrence in BIFO.

Management of cave and karst resources would not adversely impact the grizzly bear. Protection buffers or avoidance areas may be set up to protect cave or karst resources, which in turn may protect grizzly bear habitat. Implementing cave and karst management actions *may affect, but are not likely to adversely affect*, the grizzly bear due to *beneficial effects (NLAA-b)*. This

determination is based on the potential for protection of grizzly bear habitat if avoidance areas are implemented around cave and karst resources along with existing conservation measures.

## **K.22 Energy and Mineral Resources – Oil and Gas**

### **• Activity Description**

In general, oil and gas management activities would provide opportunities for exploration and development of fluid mineral resources on available public lands. The Billings and Pompeys Pillar National Monument RMP/EIS would emphasize providing opportunities for exploring, leasing, and developing conventional oil and gas, coal bed natural gas, and geothermal resources while applying the appropriate lease stipulations and conditions of approval to mitigate environmental impacts from development. These opportunities for geophysical (e.g. seismic) exploration for oil and gas would be subject to appropriate mitigating measures.

The following management actions are proposed under the preferred alternative in the Billings and Pompeys Pillar National Monument RMP/EIS:

- Federal oil and gas leasing authority for public lands is found in the Mineral Leasing Act of 1920, as amended; and for acquired lands in the Acquired Lands Leasing Act of 1947, as amended. Leasing of federal oil and gas is affected by other acts such as the National Environmental Policy Act of 1969, the National Historic Preservation Act of 1966, FLPMA (1976), the Wilderness Act of 1964, the Endangered Species Act of 1973, as amended, and the Federal Onshore Oil and Gas Leasing Reform Act of 1987. Regulations and other guidance governing federal oil and gas leasing and lease operations are contained in 43 CFR Group 3100, Onshore Operating Orders, Notices to Lessees, and BLM handbooks manuals and instruction memorandums. Regulations governing geophysical exploration are found at 43 CFR 3150.
- All public lands available for oil and gas leasing would be offered first by competitive bid at an oral auction.
- Appropriate stipulations would be applied at the time of leasing.
- Areas where oil and gas development would coexist with other resource uses would be open to leasing under standard lease terms or with added stipulations. Stipulations are a part of the lease only when environmental and planning records show the need for them. Three types of stipulations describe how lease rights are modified: no surface occupancy, timing limitation (seasonal restriction), and controlled surface use. (For descriptions, see Leasing Process in the Oil and Gas section of Appendix D – Fluid Minerals) Stipulations may be changed by application of waivers, exceptions, or modifications. The decision whether to grant waivers, exceptions, or modifications generally occurs during the Application for Permit to Drill approval process. If the authorized officer determines the change to be substantial, the preferred alternative would be subject to a 30-day public review period. Waivers are a permanent exemption from a lease stipulation. This occurs when the resource does not require the protection of stipulation. Exceptions are granted on a case-by-case basis. Each time the lessee applies for an exception, the resource objective of the stipulation must be met. Modifications are fundamental changes to the provisions of a lease stipulation either temporarily or for the term of the lease.

- An oil and gas lease grants the lessee the right to explore for, extract, remove, and dispose of oil and gas deposits that may be found on the leased lands. The lessee may exercise the rights conveyed by the lease, subject to lease terms and any lease stipulations (modifications of the lease), and permit approval requirements.
- The terms of existing oil and gas leases cannot be changed by the decisions in this document. When the lease expires, the area would be managed for oil and gas according to the decisions reached in this document.
- For federal oil and gas where the surface is managed by another federal agency, the BLM would consult with that agency before issuing leases. In areas where oil and gas development may conflict with other resources, the areas may be closed to leasing in accordance with decisions made from this document. Regulations at part 43 CFR 3100.0-3(d); the Secretary's general authority to prevent the waste and dissipation of public property; and the Attorney General's Opinion of April 2, 1941 (Vol. 40 Op. Atty. Gen 41) allow the BLM to lease lands that are otherwise unavailable for leasing if oil and gas is being drained from such lands. If the unavailable lands were under the jurisdiction of another agency, leasing of such lands would only occur following consultation, and consent if necessary, from the surface managing agency.
- On Bureau of Reclamation or Corps of Engineers lands, in addition to the resource specific stipulations under each alternative (e.g., wildlife, recreation); stipulations that are recommended by the Bureau of Reclamation or Corps of Engineers would be used (see Oil and Gas section in Appendix C – Fluid Minerals).
- Unavailable lands for this RMP (Table 2-4) would be leased only if a state or fee well is proposed or completed within the same spacing unit, or if the lands are within a producing unit. These lands would be leased with a no surface occupancy and no subsurface occupancy stipulation with no waiver, modification or exception provisions. There would only be a paper transaction with no physical impacts on the unavailable lands. There would be no exploration or development (drilling or production) within the unavailable lands. After issuance of a lease, the lease would be committed to a communitization agreement and the United States would then receive revenue in proportion to its acreage interest as it bears to the entire acreage interest committed to the agreements.
- Additional information can be provided to the lessee in the form of a lease notice. This notice does not place restrictions on lease operation, but does provide information about applicable laws and regulations, and the requirements for additional information to be supplied by the lessee.
- After lease issuance, the lessee may conduct lease operations with an approved permit. Proposed drilling and associated activities must be approved before beginning operations. The operator must file an Application for Permit to Drill or Sundry Notice that must be approved according to (1) lease stipulations, (2) Onshore Oil and Gas Order, and (3) regulations and laws. (See Permitting in the Oil and Gas section of Appendix D – Fluid Minerals).
- Follow interim management policy and guidance for mineral leasing in WSAs as appropriate. All WSAs would be closed to new oil and gas leases.
- Oil and gas geophysical activity which is administered by the BLM is governed by regulations found at 43 CFR Subparts 3150, 3151 and 3154. Additional guidance is found in BLM Manual Section 3150 and Handbook 3150. For additional information on geophysical

operations and the BLM's procedures and regulations see the Geophysical Operations portion of the oil and gas section of the Appendix D – Fluid Minerals.

- The BLM would review Notices of Intent to Conduct Geophysical Exploration in the planning area and develop appropriate mitigation measures so as not to create undue and unnecessary degradation. A site-specific environmental analysis would be prepared for each NOI filed.
- Lands in the planning area would be available for geothermal leasing, unless located within wilderness or WSAs or in instances where it is determined that issuing the lease would cause unnecessary or undue degradation to public lands or resources. Other areas that would be made unavailable are listed in the Record of Decision and RMP Amendments for Geothermal Leasing in the Western United States (December, 2008) which is incorporated in this RMP. A site-specific environmental analysis would be prepared as needed should interest be expressed in exploring for or developing geothermal resources in the planning area. This analysis would address the application of stipulations and develop any additional mitigating measures over and above the lease stipulations required.
- Stipulations developed in this document for oil and gas leases would be applied to any geothermal lease issued if appropriate. If geothermal exploration and production activity is sufficiently different from oil and gas, the stipulations developed would be modified.
- Oil and Gas
  - Manage 6,158 acres as open to leasing, subject to standard lease terms.
  - Manage 336,753 acres as open to leasing subject to moderate constraints (CSU/TL stipulations).
  - Manage 263,185 acres as open to leasing subject to major constraints (NSO).
  - Manage 65,891 acres as closed to leasing in the following areas (NL):
    - Non-Discretionary (28,682 acres):
      - Pompeys Pillar NM-51 acres, Big Horn Tack-on WSA-2,689 acres, Burnt Timber Canyon WSA-3,516 acres, Pryor Mountain WSA-15,590 , Twin Coulee-6,836 acres
    - Discretionary (37,209 acres):
      - East Pryor ACEC -11,122 acres, Four Dances ACEC-784 acres, Meeteetse Spires ACEC -965 acres, Weatherman Draw ACEC-4,986 acres, PMWHR-24,595 acres, Lands with Wilderness Characteristics-1,709 acres
- Geophysical Exploration
  - Geophysical exploration would not be allowed in the following areas:
    - Pompeys Pillar ACEC 432 acres, East Pryor Mountain ACEC 11,122 acres, Four Dances ACEC 784 acres, Meeteetse Spires ACEC 965 acres, Petroglyph Canyon ACEC 240 acres, Pryor Foothills RNA ACEC 2,606 acres, Stark Site ACEC 799 acres, Weatherman Draw ACEC 12,277 acres
    - Within ½ mile of bald eagle nest sites which have been active within the past 7 years and within bald eagle nesting habitat in riparian areas.
    - Within ½ mile of ferruginous hawk nest sites which have been active within the past 2 years.
    - Within 1 mile of peregrine falcon nesting sites (distance may be reduced if natural barriers reduces line of site).
    - Within ½ mile of raptor nests (peregrine, ferruginous and bald eagles noted above) from March 1 to August 1 which have been active in the last 2 years (distance may be reduced).

- Bighorn Sheep Habitat.

## **K.22.1 Impact Analysis and Effects Determination**

### **K.22.1.1 Black-footed Ferret**

No black-footed ferrets are known to exist within the planning area. However, if prairie dogs and black-footed ferrets were present in an oil and gas development area, they may be displaced, or their habitats degraded by the extraction of these resources. It is conceivable that any black-footed ferrets present could be run over by vehicles, though being nocturnal by nature decreases the chances of this event. A slight increase in avian predation is possible in developed areas where structures provide raptor perches near prairie dog colonies. Oil and gas development may result in the reduction of potential future reintroduction sites due to habitat loss and alteration and changes in prey abundance, thus compromising successful recovery of the black-footed ferret. Implementing management actions associated with oil and gas development *may affect, but are not likely to adversely affect*, the black-footed ferret due to *discountable effects (NLAA-d)*. This determination is based on the current absence of black-footed ferrets in the planning area, the USFWS' prairie dog colony pre-clearance requirements, overall project review, and existing conservation measures.

### **K.22.1.2 Canada Lynx**

Refer to “Planning Area Distribution” for Canada Lynx on page 13 for a Summary of Occurrence in BIFO. There are no Lynx Analysis Units (LAUs) or critical habitat designated on BLM, Billings Field Office decision area lands, although lynx may occasionally occur in the area.

Human activity associated with oil and gas development can adversely impact Canada lynx behavior by causing them to avoid or abandon these development areas. Construction of roads, pads, and other facilities associated with development or access by OHVs during exploration may alter or destroy existing terrestrial habitats that may be suitable for Canada lynx foraging or as travel linkages between suitable habitats. Increased vehicle traffic associated with mineral and geology exploration, development, and operation may lead to increases in vehicle collisions with Canada lynx and increased intrusion by competing predators, such as bobcats, coyotes, and wolves. Additional impacts are a consequence of increased human access into habitat and fragmentation, loss of snowshoe hare and red squirrel habitats, associated noise and human activity, associated hazards (such as chemical toxins), and temporal and spatial project considerations. However, by implementing Canada lynx conservation measures oil and gas management action *may affect, but are not likely to adversely affect*, the Canada lynx due to *insignificant effects (NLAA-i)*. This determination is based on the conservation measures in place that will preclude, minimize, or remove adverse effects to the Canada lynx and its habitat.

### **K.22.1.3 Grizzly Bear**

Refer to “Planning Area Distribution” for grizzly bears on page 15 for a Summary of Occurrence in BIFO.

Human activity associated with oil and gas development can adversely impact grizzly bear behavior by causing them to avoid or abandon these development areas. Construction of roads, pads, and other facilities associated with development or access by OHVs during exploration may alter or destroy existing terrestrial habitats that may be suitable for grizzly bear foraging or as travel linkages between suitable habitats. Increased vehicle traffic associated with mineral and geology exploration, development, and operation may lead to increases in vehicle collisions with grizzly bear and increased intrusion by competing predators, such as bobcats, coyotes, and wolves. Additional impacts are a consequence of increased human access into habitat and fragmentation, loss of prey/forage habitats, associated noise and human activity, associated hazards (such as chemical toxins), and temporal and spatial project considerations. However, by implementing grizzly bear conservation measures oil and gas management action *may affect, but are not likely to adversely affect*, the grizzly bear due to *insignificant effects (NLAA-i)*. This determination is based on the conservation measures in place that will preclude, minimize, or remove adverse effects to the grizzly bear and its habitat.

## K.23 Energy and Mineral Resources – Solid Leasable Minerals

### • Activity Description

In general, solid leasable mineral management would make federal solid mineral resources available for exploration and acquisition consistent with other resource goals. The Billings and Pompeys Pillar National Monument RMP/EIS would identify the public lands open to solid minerals leasing in accordance with existing laws and regulations (43 CFR 3400 and 3500).

The following management actions are proposed under the preferred alternative in the Billings and Pompeys Pillar National Monument RMP/EIS:

- The BLM would consider proposals for developing leasable minerals (coal, phosphate, sodium, potash, sulfur, oil shale, native asphalt, and solid and semi-solid bituminous rock) under the administration of the federal government on a case by case basis. Site specific environmental analysis would be required to lease these minerals.
- The BLM would allow exploration and development of solid minerals as authorized under the 1920 and 1947 Mineral Leasing Acts.
- Prospecting permits would be available for all land not closed to mineral leasing in conformance with 43 CFR 3500.
- The following areas would be closed to solid mineral leasing and development (200,539 acres):
  - Big Horn Tack-On WSA (2,689 acres), Burnt Timber Canyon WSA (3,516 acres), Pryor Mountain WSA (15,590 acres), Twin Coulee WSA (6,836 acres). If Twin Coulee WSA is released from further consideration, the area may be open for solid mineral leasing and development. Lands with Wilderness Characteristics ( 3,833 acres), Bridger Fossil Area ACEC (577 acres), East Pryor ACEC (11,122 acres), Four Dances ACEC (784 acres), Grove Creek ACEC (8,251 acres), Meeteetse Spires ACEC (965 acres), Petroglyph Canyon ACEC (240 acres), Pompeys Pillar NM and ACEC (432 acres), Pryor Foothills RNA/ACEC (2,606 acres), Weatherman Draw ACEC (4,986 acres).

- Greater Sage-Grouse RPAs (60,165 acres). Leasable mineral development using surface methods would not be allowed. In situ mining may be allowed.
- Remainder of Planning Area: Process lease by application (LBAs) for new coal leases by applying the coal screening process to the application. The coal screening process results would determine which lands may be available for further consideration for coal leasing and development. Appropriate NEPA analysis would be required prior to leasing. If any of the existing RMP (BLM 1984) coal-screening management decisions are current and relevant to the application area, they would be applied.

## **K.23.1 Impact Analysis and Effects Determination**

### **K.23.1.1 Black-footed Ferret**

No black-footed ferrets are known to exist within the planning area. However, if prairie dogs and black-footed ferrets were present in a solid leasable minerals development area, they may be displaced, or their habitats degraded by the extraction of these resources. It is conceivable that any black-footed ferrets present could be run over by vehicles, though being nocturnal by nature decreases the chances of this event. A slight increase in avian predation is possible in developed areas where structures provide raptor perches near prairie dog colonies. Solid leasable minerals development may result in the reduction of potential future reintroduction sites due to habitat loss and alteration and changes in prey abundance, thus compromising successful recovery of the black-footed ferret. Implementing management actions associated with solid leasable minerals development *may affect, but are not likely to adversely affect*, the black-footed ferret due to *discountable effects (NLAA-d)*. This determination is based on the current absence of black-footed ferrets in the planning area, the USFWS' prairie dog colony pre-clearance requirements, overall project review, and existing conservation measures.

### **K.23.1.2 Canada Lynx**

Refer to "Planning Area Distribution" for Canada Lynx on page 13 for a Summary of Occurrence in BIFO. There are no Lynx Analysis Units (LAUs) or critical habitat designated on BLM, Billings Field Office decision area lands, although lynx may occasionally occur in the area.

Human activity associated with solid leasable minerals development can adversely impact Canada lynx behavior by causing them to avoid or abandon these development areas. Construction of roads and other facilities associated with development or access by OHVs during exploration may alter or destroy existing terrestrial habitats that may be suitable for Canada lynx foraging or as travel linkages between suitable habitats. Increased vehicle traffic associated with mineral and geology exploration, development, and operation may lead to increases in vehicle collisions with Canada lynx and increased intrusion by competing predators, such as bobcats, coyotes, and wolves. Additional impacts are a consequence of increased human access into habitat and fragmentation, loss of snowshoe hare and red squirrel habitats, associated noise and human activity, associated hazards (such as chemical toxins), and temporal and spatial project considerations. However, by implementing Canada lynx conservation measures solid leasable minerals management actions *may affect, but are not likely to adversely affect*, the Canada lynx due to *insignificant effects (NLAA-i)*. This determination is based on the conservation measures

in place that will preclude, minimize, or remove adverse effects to the Canada lynx and its habitat.

### **K.23.1.3 Grizzly Bear**

Refer to “Planning Area Distribution” for grizzly bears on page 15 for a Summary of Occurrence in BIFO.

Human activity associated with solid leasable minerals development can adversely impact grizzly bear behavior by causing them to avoid or abandon these development areas. Construction of roads and other facilities associated with development or access by OHVs during exploration may alter or destroy existing terrestrial habitats that may be suitable for grizzly bear foraging or as travel linkages between suitable habitats. Increased vehicle traffic associated with mineral and geology exploration, development, and operation may lead to increases in vehicle collisions with grizzly bears and increased intrusion by competing predators, such as bobcats, coyotes, and wolves. Additional impacts are a consequence of increased human access into habitat and fragmentation, loss of prey/forage habitats, associated noise and human activity, associated hazards (such as chemical toxins), and temporal and spatial project considerations. However, by implementing grizzly bear conservation measures solid leasable minerals management actions *may affect, but are not likely to adversely affect, the grizzly bear due to insignificant effects (NLAA-i)*. This determination is based on the conservation measures in place that will preclude, minimize, or remove adverse effects to the grizzly bear and its habitat.

## **K.24 Energy and Mineral Resources – Salable Minerals**

### **• Activity Description**

In general, salable minerals management would provide land-use opportunities contributing to economic benefits and meet local infrastructure needs while protecting or minimizing adverse impacts to other resources and resource uses. The Billings and Pompeys Pillar National Monument RMP/EIS would emphasize identifying the public lands open to minerals materials disposal in accordance with existing laws and regulations (43 CFR 3600).

The following management actions are proposed under the preferred alternative in the Billings and Pompeys Pillar National Monument RMP/EIS:

- BLM would dispose of saleable minerals on unpatented mining claims only for a public purpose when no reasonable alternative exists. Saleable mineral sites would have an approved mining and reclamation plan and an environmental analysis prior to being opened. Mineral material would be sold at a fair market value to the public, but would be free to state, county, or other local governments when used for public projects. Mineral material sales would be processed on a case-by-case basis.
- Valid, existing mineral rights, within the planning area would not be changed by any decision in this document. None of the alternatives give BLM the discretion to prohibit mineral exploration or development on valid leases or mining claims.
- The BLM would continue to provide for the exploration and development of mineral materials unless withdrawn.

- New mineral material sites would be evaluated on a case-by-case basis. With the exception of lands withdrawn from all mineral entry, the planning area would be available for establishment of future sites, pending site-specific analysis. Terms and conditions to protect public land and resource values would be applied on a case-by-case basis.
- The following areas are closed to mineral material disposals:
  - Four Dances ACEC (784 acres), Petroglyph Canyon ACEC (240 acres), Pompeys Pillar NM and ACEC (432 acres), Pryor Foothills RNA/ACEC (2,606 acres), Stark Site ACEC (799 acres), Weatherman Draw ACEC (12,277 acres), Lands with Wilderness Characteristics (3,833 acres), Big Horn Tack-On WSA (2,689 acres), Burnt Timber Canyon WSA (3,516 acres), Pryor Mountain WSA (15,590 acres), Twin Coulee WSA (6,836 acres). If Twin Coulee WSA is released from further consideration, the area may be open to mineral material disposals. Shepherd Ah-Nei Recreation Area, Acton Recreation Area, Asparagus Point.
- Greater Sage-Grouse PHMAs (77,947 acres). Closed to new salable minerals; existing permits would be renewed with no increase in the permitted boundary.

## **K.24.1 Impact Analysis and Effects Determination**

### **K.24.1.1 Black-footed Ferret**

Salable mineral mining actions, surface disturbance, and developing roads and ancillary facilities could occur in occupied prairie dog habitats. However, no black-footed ferrets are presently known to exist within the planning area. Mining actions could result in habitat loss and alteration. New road development could result in increased human access and, thereby, create a potential increase in recreational shooting and the probability of distemper being transferred from domestic dogs. An increase in avian predation on prairie dogs and black-footed ferrets could occur due to the use of extraction and ancillary facilities as perches by raptors. However, these impacts are anticipated to be minimal due to the stipulations and conservation measures that limit surface disturbing activities. Implementing salable mineral management actions *may affect, but are not likely to adversely affect*, the black-footed ferret due to *discountable effects (NLAA-d)*. This determination is based on the unlikely event for new or existing BLM-approved salable mineral development actions to impact black-footed ferrets directly by mortality from collisions with vehicles or mortality by distemper and the stipulations and conservation measures associated with surface-disturbing activities.

### **K.24.1.2 Canada Lynx**

Refer to “Planning Area Distribution” for Canada Lynx on page 13 for a Summary of Occurrence in BIFO. There are no Lynx Analysis Units (LAUs) or critical habitat designated on BLM, Billings Field Office decision area lands, although lynx may occasionally occur in the area.

Human activity associated with mineral development can adversely impact Canada lynx behavior by causing them to avoid or abandon habitats. Construction of roads and other facilities may alter or destroy existing suitable Canada lynx foraging habitats or travel linkages between

suitable habitats. Increased vehicle traffic associated with salable mineral development and operation may lead to increases in vehicle collisions with Canada lynx and increased intrusion by competing predators, such as bobcats, coyotes, and wolves. Additional impacts may result from increased human access into habitats and fragmentation, loss of snowshoe hare and red squirrel habitat, associated noise and human activity, associated hazards (such as chemical toxins), and temporal and spatial project considerations. Implementing salable mineral management actions *may affect, but are not likely to adversely affect*, the Canada lynx due to *insignificant effects (NLAA-i)*. This determination is based on the conservation measures in place that will preclude, minimize or remove adverse effects to the Canada lynx or its habitat.

### **K.24.1.3 Grizzly Bear**

Refer to “Planning Area Distribution” for grizzly bears on page 15 for a Summary of Occurrence in BIFO.

Human activity associated with mineral development can adversely impact grizzly bear behavior by causing them to avoid or abandon habitats. Construction of roads and other facilities may alter or destroy existing suitable grizzly bear foraging habitats or travel linkages between suitable habitats. Increased vehicle traffic associated with salable mineral development and operation may lead to increases in vehicle collisions with grizzly bear and increased intrusion by competing predators, such as bobcats, coyotes, and wolves. Additional impacts may result from increased human access into habitats and fragmentation, loss of prey and foraging habitat, associated noise and human activity, associated hazards (such as chemical toxins), and temporal and spatial project considerations. Implementing salable mineral management actions *may affect, but are not likely to adversely affect*, the grizzly bear due to *insignificant effects (NLAA-i)*. This determination is based on the conservation measures in place that will preclude, minimize or remove adverse effects to the grizzly bear or its habitat.

## **K.25 Energy and Mineral Resources – Locatable Minerals**

### **• Activity Description**

In general, locatable minerals management would encourage and facilitate development of locatable minerals in the manner to prevent unnecessary or undue degradation. Provide land use opportunities contributing to economic benefits while protecting or minimizing adverse impacts to other resources. The Billings and Pompeys Pillar National Monument RMP/EIS would emphasize identifying public lands open to locatable mineral entry in accordance with existing laws and regulations (43 CFR 3700 and 3800).

The following management actions are proposed under the preferred alternative in the Billings and Pompeys Pillar National Monument RMP/EIS:

- Standard management practices in the public land administration of locatable minerals would continue across all alternatives. The BLM would coordinate with MT DEQ during the review, approval, inspection and reclamation of mining operations. At a minimum, conduct an annual compliance inspection on each active notice. Requirements of all state and federal laws would be met in the management of mining operations.

- In cases involving valid mining claims, exploration would occur under all alternatives. Administration of locatable minerals on public lands would continue as required by law and regulation (43 CFR 3809) by taking the following steps:
  - Review and process notices to ensure the proposed action does not create unnecessary or undue degradation of the environment.
  - Review and process plans of operation to ensure the proposed action does not create unnecessary or undue degradation of the environment.
  - Conduct at a minimum, annual compliance inspections on each active notice and plan of operation.
  - Allow casual use where work is done by hand and no explosives are used. Refer inquiries to appropriate agencies for further guidance on other permit requirements.
- Terms and conditions would be applied to mining activities (within the constraints of the mining law) to meet land health standards for uplands, riparian and wetlands, water quality, air quality, and native plant and animal species. Note: All withdrawal actions (including mineral withdrawals) are processed in the lands and realty program.
- The following areas would be closed and recommended for withdrawal from mineral entry (**54,761 acres**):
  - Britton Springs Administrative Site ,Crooked Creek Natural Area (WY) , Bridger Fossil Area ACEC ,  
5) East Pryor ACEC , Four Dances ACEC, Meeteetse Spires ACEC, Petroglyph Canyon , Pompeys Pillar NM and ACEC, Pryor Mountain RNA/ACEC, Stark Site ACEC, Weatherman Draw, Big Horn Tack-On WSA, Burnt Timber Canyon WSA, Pryor Mountain WSA, Twin Coulee WSA, and Lands with Wilderness Characteristics.

## **K.25.1 Impact Analysis and Effects Determination**

### **K.25.1.1 Black-footed Ferret**

Locatable mineral mining actions, surface disturbance, and developing roads and ancillary facilities could occur in occupied prairie dog habitats. However, no black-footed ferrets are presently known to exist within the planning area. Mining actions could result in habitat loss and alteration. New road development could result in increased human access and, thereby, create a potential increase in recreational shooting and the probability of distemper being transferred from domestic dogs. An increase in avian predation on prairie dogs and black-footed ferrets could occur due to the use of extraction and ancillary facilities as perches by raptors. However, these impacts are anticipated to be minimal due to the stipulations and conservation measures that limit surface disturbing activities. Implementing locatable mineral management actions *may affect, but are not likely to adversely affect*, the black-footed ferret due to *discountable effects (NLAA-d)*. This determination is based on the unlikely event for new or existing BLM-approved locatable mineral development actions to impact black-footed ferrets directly by mortality from collisions with vehicles or mortality by distemper and the stipulations and conservation measures associated with surface-disturbing activities.

### **K.25.1.2 Canada Lynx**

Refer to “Planning Area Distribution” for Canada Lynx on page 13 for a Summary of Occurrence in BIFO. There are no Lynx Analysis Units (LAUs) or critical habitat designated on BLM, Billings Field Office decision area lands, although lynx may occasionally occur in the area.

Human activity associated with locatable mineral development can adversely impact Canada lynx behavior by causing them to avoid or abandon habitats. Construction of roads and other facilities may alter or destroy existing suitable Canada lynx foraging habitats or travel linkages between suitable habitats. Increased vehicle traffic associated with locatable mineral development and operation may lead to increases in vehicle collisions with Canada lynx and increased intrusion by competing predators, such as bobcats, coyotes, and wolves. Additional impacts may result from increased human access into habitats and fragmentation, loss of snowshoe hare and red squirrel habitat, associated noise and human activity, associated hazards (such as chemical toxins), and temporal and spatial project considerations. Implementing locatable mineral management actions *may affect, but are not likely to adversely affect*, the Canada lynx due to *insignificant effects (NLAA-i)*. This determination is based on the conservation measures in place that will preclude, minimize or remove adverse effects to the Canada lynx or its habitat.

### **K.25.1.3 Grizzly Bear**

Refer to “Planning Area Distribution” for grizzly bears on page 15 for a Summary of Occurrence in BIFO.

Human activity associated with locatable mineral development can adversely impact grizzly bear behavior by causing them to avoid or abandon habitats. Construction of roads and other facilities may alter or destroy existing suitable grizzly bear foraging habitats or travel linkages between suitable habitats. Increased vehicle traffic associated with locatable mineral development and operation may lead to increases in vehicle collisions with grizzly bear and increased intrusion by competing predators, such as bobcats, coyotes, and wolves. Additional impacts may result from increased human access into habitats and fragmentation, loss of prey and foraging habitat, associated noise and human activity, associated hazards (such as chemical toxins), and temporal and spatial project considerations. Implementing locatable mineral management actions *may affect, but are not likely to adversely affect*, the grizzly bear due to *insignificant effects (NLAA-i)*. This determination is based on the conservation measures in place that will preclude, minimize or remove adverse effects to the grizzly bear or its habitat.

## **K.26 Livestock Grazing**

- **Activity Description**

In general, livestock grazing management would provide opportunities for livestock grazing as a part of multiple-use that improves and/or maintains rangeland health standards. The Billings and Pompeys Pillar National Monument RMP/EIS would emphasize maintaining existing desirable

(allotment categorization) rangeland conditions or improve rangeland health utilizing best grazing management practices while monitoring and evaluating rangeland health to determine appropriate management actions. In addition, the Billings and Pompeys Pillar National Monument RMP/EIS would identify strategies for implementation of vegetation improvements that maintain the number of AUMs available for livestock grazing to support and sustain local communities. Lastly, the Billings and Pompeys Pillar National Monument RMP/EIS would integrate livestock use and associated management practices with other multiple-use needs and objectives to maintain, protect, and improve rangeland health.

The following management actions are proposed under the preferred alternative in the Billings and Pompeys Pillar National Monument RMP/EIS:

- Monitor and evaluate grazing allotments to maintain or improve rangeland productivity.
- AUM levels would be sustained on an allotment-by-allotment basis for livestock grazing, providing Montana Standards for Healthy Rangelands are being met.
- Maintain current allotment categories (M, I and C – refer to glossary). Throughout the life of the plan, re-categorize allotments based on assessments and evaluations.
- Adjust permit terms and conditions (e.g., increased/decreased permitted use, season of use, and kind and class of livestock) when grazing permits are renewed, transferred, or as otherwise deemed necessary by site-specific evaluation of monitoring data and environmental analysis.
- Use livestock grazing to enhance ecosystem health, wildlife habitat, or mitigate resource issues (e.g., noxious/invasive weed control and hazardous fuel reduction) where supported by site-specific environmental analysis.
- During periods of drought, adjust livestock numbers based on estimates of the available forage.
- Exclude livestock grazing from small areas (such as springs) within allotments that cannot meet Rangeland Health Standards with livestock grazing.
- Site-specific management actions that protect riparian areas would be addressed at the project level.
- Grazing treatments and systems would be adaptive to new research, science and methodologies.
- Range improvements would be designed to meet rangeland health standards and not necessarily forage demand.
- Newly acquired lands would be evaluated for livestock grazing during the acquisition process, and subject to 43CFR 4110.1-1.
- Areas open to Grazing, AUM Allocation and Monitoring
  - The planning area would be open to livestock grazing.
  - PMWHR would be closed to livestock grazing (excluding the Bad Pass Trail allotment (149 acres)).
  - The following areas would only be open to livestock grazing, on a temporary basis, for the treatment of noxious weeds, or as a prescription to meet site specific vegetation or other resource management goals:
    - Pompeys Pillar ACEC ( 432 acres)
    - Bundy Island (78 acres)
    - Sundance Lodge ( 387 acres)
    - Four Dance Lodge ( 784 acres)

- Asparagus Point ( 158 acres)
- Meeteetse Spires (558 acre acquisition area)
- Maintain current available AUMs (up to 54,873). Adjustments to permitted use would be authorized, based on allotment specific standards and conformance reviews.
- Consider adjusting (increase or decrease) suspended AUMs, based on monitoring data and range conditions.
- Priority Allotments for monitoring and evaluation would be allotments which:
  - Are not meeting standards for rangeland health
  - Contain special status species habitat (including sage grouse PHMAs / RAs)
  - Contain impaired streams
  - Contain non-functional or functioning at risk downward trend riparian areas.
  - Contain invasive plant species.
  - Allotments that have established and implemented management plans during the life of the plan.
- Assess PFC on all fish bearing streams on a 3 year rotation, with the exception of areas that are free of existing or potential threats (approx. 30 miles). (ex: Piney and Crooked Creek are the current exceptions).
- If standards are not being met, and grazing is a causal factor, management actions would be taken to make progress toward meeting the standard before the next grazing season.
- No supplement or salt placement within ¼ mile of known special status plant sites, unless livestock is otherwise excluded (fence or barrier).
- Permit and Lease Renewal and Relinquishments
  - Grazing permits/leases would be transferred or renewed for C and M category grazing allotments where the new grazing authorization:
    - (1)Contains the same mandatory terms and conditions (kind of livestock, the active use previously authorized is not exceeded, and grazing does not occur more than 14 days earlier or later than as specified on the previous permit/lease).
    - (2)Have evaluation reports documenting that they are meeting land health standards. A screening criteria checklist (Appendix PDQ) would be reviewed prior to renewal. If the answer to each of the questions is “NO”, the renewal is within scope and NEPA compliance can be achieved by preparing a Documentation of NEPA Adequacy (DNA) form which references this RMP/EIS. If the answer to any question is “YES”, the proposed action represents an exception, and site-specific analysis would be prepared.
  - Category I allotments would not meet the criteria for this type of action.
  - Relinquished AUMs would be transferred or managed as reserve allotments.
  - Areas with active surface disturbance would be available to livestock grazing.
  - The AUMs for these areas would be suspended during surface disturbance activities until at such time grazing would continue in a manner which supports the standards for rangeland health.
  - No change in livestock conversions from cattle to domestic sheep or goats would be allowed in allotments within occupied wild sheep habitat.
  - New sheep and goat allotments or conversions from cattle to sheep or goats would be permitted a minimum of 14.3 miles from known bighorn sheep habitat. This distance would be greater if deemed necessary through site specific analysis.

- Domestic sheep and goat grazing operators would be required to promptly notify the BiFO if interaction between wild sheep and domestic sheep/goats occur.

## **K.26.1 Impact Analysis and Effects Determination**

### **K.26.1.1 Black-footed Ferret**

No black-footed ferrets are known to exist within the planning area. If an undiscovered population of black-footed ferrets is found on an allotment, the use of vehicles or OHVs for livestock management could result in a collision with a black-footed ferret; however, the nocturnal nature of black-footed ferrets will likely preclude such an event. Dogs used in livestock operations could carry distemper and potentially transmit the disease to an unknown black-footed ferret population. Fences used in livestock grazing could provide additional perches for raptors, which could prey on prairie dogs and black-footed ferrets. Livestock grazing generally is compatible with prairie dog habitats and can provide a positive effect if managed correctly. Grazing reduces vegetation height, thereby improving habitat for prairie dogs. Implementing livestock grazing management actions *may affect, but are not likely to adversely affect*, the black-footed ferret due to *insignificant effects (NLAA-i)*. This determination is based on the current absence of the black-footed ferret in the planning area, the unlikely event of a black-footed ferret colliding with a vehicle or becoming infected by canine distemper from a dog, the small number of prairie dogs that will be consumed by perching raptors, the potential benefit of livestock grazing in prairie dog habitats, and the incorporation of existing conservation measures.

### **K.26.1.2 Canada Lynx**

Refer to “Planning Area Distribution” for Canada Lynx on page 13 for a Summary of Occurrence in BIFO. There are no Lynx Analysis Units (LAUs) or critical habitat designated on BLM, Billings Field Office decision area lands, although lynx may occasionally occur in the area.

Domestic livestock grazing in riparian areas can alter the structure and composition of aspen and riparian shrubs that snowshoe hares—the primary prey of the Canada lynx—depend on. Cattle and sheep grazing in excess of the designated amount of forage may create competition for forage and reduction in escape cover for snowshoe hares and other small mammals. Grazing in shrubsteppe communities within the elevational range of Canada lynx also may have impacts on lynx prey species. Predator control activities conducted by permittees on the range they graze, such as shooting, trapping, and poisoning to control coyotes, mountain lion, bear, and bobcat, may lead to incidental Canada lynx mortality, especially in the higher-elevation allotments. Improper grazing also may lead to other adverse environmental effects, including increased soil erosion, degradation of stream bank conditions, and the introduction of invasive/noxious weeds. Modifications in grazing to improve riparian habitats, including a reduction in grazing, fencing of riparian areas, weed control, and other improvements in riparian ecological function, may benefit the Canada lynx. Implementation of livestock grazing management actions *may affect, but are not likely to adversely affect*, the Canada lynx due to *insignificant effects (NLAA-i)*. This determination is based on the small likelihood of improper grazing within the suitable Canada lynx habitat in this planning area, the low percentage of public land in lynx habitat, and the

conservation measures in place that will preclude adverse effects to the Canada lynx or its habitats.

### **K.26.1.3 Grizzly Bear**

Refer to “Planning Area Distribution” for grizzly bears on page 15 for a Summary of Occurrence in BIFO. Also, additional conservation measures for the protection of grizzly bears from livestock grazing influences are included in Appendix A.

Domestic livestock grazing in riparian areas can alter the structure and composition of vegetation communities that grizzly bears depend on. Cattle and sheep grazing in excess of the designated amount of forage may create competition for forage and reduction in escape cover for small mammals. Grazing in shrub-steppe communities within the elevational range of grizzly bears also may have impacts on forage and prey species. Predator control activities conducted by permittees on the range they graze, such as shooting, trapping, and poisoning to control coyotes, mountain lion, bear, and bobcat, may lead to incidental grizzly bear mortality, especially in the higher-elevation allotments. Improper grazing also may lead to other adverse environmental effects, including increased soil erosion, degradation of stream bank conditions, and the introduction of invasive/noxious weeds. Modifications in grazing to improve riparian habitats, including a reduction in grazing, fencing of riparian areas, weed control, and other improvements in riparian ecological function, may benefit the grizzly bear. Implementation of livestock grazing management actions *may affect, but are not likely to adversely affect*, the grizzly bear due to *insignificant effects (NLAA-i)*. This determination is based on the small likelihood of improper grazing within the suitable grizzly bear habitat in this planning area, and the conservation measures in place that will preclude adverse effects to the grizzly bear or its habitats.

## **K.27 Recreation/Visitor Services**

- **Activity Description**

In general, recreation/visitor services management would manage recreation resources on BLM public lands to provide a diverse array of benefits to the public, including economic, environmental, personal, and social benefits. The Billings and Pompeys Pillar National Monument RMP/EIS would emphasize developing and maintaining cooperative relationships with national, state, and local recreation providers, tourism entities, and local recreational groups. In addition, it would develop and maintain appropriate recreational facilities, balancing public demand, protection of public land resources, and fiscal responsibility, while emphasizing and supporting collaborative public outreach, awareness events, and programs that promote public service and stewardship. Lastly, the Billings and Pompeys Pillar National Monument RMP/EIS would encourage sustainable travel and tourism development with local communities and provide community-based conservation support for visitor services. Emphasis would be placed on providing interpretive and informational signs and materials for public lands visitors, maintaining facilities to a high standard consistent with the recreational setting, and limiting

development of additional facilities to those areas where public recreational use of surrounding public lands requires them.

The following management actions are proposed under the preferred alternative in the Billings and Pompeys Pillar National Monument RMP/EIS:

- Identify portions of the planning area not delineated as an SRMA as Extensive Recreation Management Area (ERMA). ERMAs would be provided custodial management to protect resources and visitor health and safety, and minimize user conflicts. Activity-level, interdisciplinary plans would be developed when and where necessary to address emerging issues affecting public lands users or resources.
- Conduct periodic accessibility, safety, and condition assessments in accordance with Bureau policy at developed recreation sites. Prioritize available funds to resolve deferred and corrective maintenance needs.
- Allow non-commercial dispersed camping subject to length of stay limitations, without a permit on BLM-administered lands in the planning area, except where prohibited.
- Mineral exploration activities would be coordinated for timing to minimize conflicts during peak use periods (e.g., weekends, holidays, summer use season, etc.).
- Cooperate with FWP, private landowners and other partners to improve hunter access and the availability of public lands for hunting in accordance with EO13443.
- Use off-site interpretation, education and outreach as a means to protect public resources.
- NSO for oil and gas leasing, exploration and development within agency-designated fishing access sites.
- Special Recreation Management Areas
  - The following areas would be managed as SRMAs (9 SRMAs - 117,832 acres):
    - Sundance Lodge Recreation Area (387 acres), Four Dances Natural Area ACEC (784 acres), Shepherd Ah-Nei Recreation Area (4,680 acres), Acton Recreation Area (3,697 acres), Yellowstone River Corridor (1/2 mile corridor from centerline) (13,281 acres), Asparagus Point (158 acres), South Hills TPA (1,357 acres), Pryor Mountain TPA (81,227 acres), Horsethief TPA (12,261 acres).
  - Surface disturbing activities related to facility development and maintenance would be subject to mitigation guidelines.
  - Oil and gas leasing, exploration and development would be allowed with an NSO stipulation in the following SRMAs:
    - Sundance Lodge Recreation Area , Four Dances Natural Area ACEC , Shepherd Ah-Nei Recreation Area, Acton Recreation Area, Yellowstone River Corridor: ½ mile corridor .
  - Oil and gas leasing, exploration and development allowed with a CSU:
    - Asparagus Point (158 acres), Pryor Mountain TPA (81,227 acres), Horsethief TPA (12,261 acres), South Hills TPA (1,357 acres).
- Special Recreation Permits
  - Establish a Mill Creek/Bundy Road Outfitter Permit Area (OPA) to meet public demand for guided hunting opportunities through an activity level plan. The plan would develop criteria and monitoring prescriptions to determine the allowable number of permitted guides and client participants (34,239 acres).
  - An Outfitter Permit Area (OPA) would be established in the PMWHR in order to protect the wild horses and fragile resources within the range.

- Visitor use days for both commercial and non-commercial permits would be analyzed and identified through site-specific analysis and would also consider other commercial permitted uses.
- Issue special recreation permits outside of Outfitter Permit Areas, as appropriate, in an equitable manner for specific recreational uses of public lands and related waters as a means to minimize user conflicts, control visitor use, protect recreation resources, and provide for private and commercial recreation use. “Activity level planning will be developed through an environmental review process with public involvement. This management approach will identify the necessary indicators to monitor all permit conditions of approval that include the standards and stipulations necessary to change operations in the future.”

## **K.27.1 Impact Analysis and Effects Determination**

### **K.27.1.1 Black-footed Ferret**

No black-footed ferrets are known to exist within the planning area. Recreational sites, trails, and actions do not typically occur in or near prairie dog complexes. The BLM’s philosophy is that prairie dog shooting should not be encouraged and no SRPs will be issued for organized prairie dog shooting events (BLM 2006). Unorganized recreational shooting of prairie dogs is not a BLM discretionary action. Implementing recreation/visitor services management actions *may affect, but are not likely to adversely affect*, the black-footed ferret due to *discountable effects (NLAA-d)*. This determination is based on the current absence of the black-footed ferret in the planning area, the unlikely choice of prairie dog towns for recreation/visitor services development, and the conservation measures in place to protect the species.

### **K.27.1.2 Canada Lynx**

Refer to “Planning Area Distribution” for Canada Lynx on page 13 for a Summary of Occurrence in BIFO. There are no Lynx Analysis Units (LAUs) or critical habitat designated on BLM, Billings Field Office decision area lands, although lynx may occasionally occur in the area.

Actions associated with recreation/visitor services management have the potential to impact Canada lynx behavior and habitats. Activities that create compacted snow conditions, such as snowshoeing and cross-country skiing, reduce the special advantage that lynx have to move through deep snow with their large paws. This allows for the intrusion of less-specialized predators, such as bobcats, wolves, and coyotes, into areas that would otherwise be the exclusive domain of the Canada lynx. These other predators compete for prey and can prey on Canada lynx. An increase in human activity associated with management actions or use may cause Canada lynx to avoid or abandon otherwise suitable habitats. Recreational use is often concentrated in riparian areas. Impacts to these habitats may reduce or eliminate foraging habitats for snowshoe hares. Implementing recreation/visitor services management actions *may affect, but are not likely to adversely affect*, the Canada lynx due to *insignificant effects (NLAA-i)*. This determination is based on the conservation measures in place that will preclude adverse effects to Canada lynx or their habitat.

### **K.27.1.3 Grizzly Bear**

Refer to “Planning Area Distribution” for grizzly bears on page 15 for a Summary of Occurrence in BIFO.

Actions associated with recreation/visitor services management have the potential to impact grizzly bear behavior and habitats. An increase in human activity associated with management actions or use may cause grizzly bears to avoid or abandon otherwise suitable habitats. However, in some cases, grizzly bears may become habituated to humans and highly dangerous human-bear conflicts could result. Recreation/visitor services management actions would be designed to limit human-bear interactions while emphasizing safety and responsible recreation in grizzly bear habitat. Implementing recreation/visitor services management actions *may affect, but are not likely to adversely affect*, the grizzly bear due to *insignificant effects (NLAA-i)*. This determination is based on the conservation measures) in place that will preclude adverse effects to grizzly bear or their habitat.

## **K.28 Trails and Travel Management**

### **• Activity Description**

In general, trails and travel management activities are designed to manage access to balance public use, protect public land resources, promote safety for all public land users, and minimize conflicts among OHV users and other uses of public lands. In addition, these management activities promote the management the use of OHVs in partnership with other land-managing agencies, local governments, communities, and interest groups through a balanced approach, so as to protect public lands by minimizing impacts and resources while providing opportunities for the safe use and enjoyment of OHVs. The Billings and Pompeys Pillar National Monument RMP/EIS emphasizes integrating concepts of habitat connectivity into OHV planning to minimize habitat fragmentation and the use of a systematic process that considers the unique resource issues and social environments within each individual TPA. Lastly, the Billings and Pompeys Pillar National Monument RMP/EIS promotes cooperation to develop public outreach programs to promote trail etiquette, environmental ethics and a responsible-use stewardship ethic (e.g., Tread Lightly, Leave No Trace, etc.).

The following management actions are proposed under the preferred alternative in the Billings and Pompeys Pillar National Monument RMP/EIS:

- Motorized and mechanized modes of travel on BLM-administered land (outside of established TPAs) would be limited to existing roads and trails. Measureable limits of change that would occur to the resource as a result of these travel modes would include indicators based on Land Health Standards, accelerated soil erosion and/or other resource concerns and potential for natural rehabilitation. Site specific travel planning would be initiated if those limits are exceeded.
- Modifications to a transportation network (routes, re-routes or closures) in the planning area where travel is limited to existing roads and trails may be made through activity-level planning.

- BLM would continue to coordinate with MFWP in the Block Management program, or other access agreements with other landowners, as appropriate. Designated motorized routes would conform with seasonal travel limitations, based on annual block management agreements, as determined by the authorized officer on a case-by-case basis.
- Administrative access would limit motorized use to BLM-authorized use only. The BLM employees, permittees, contractors, personnel from other agencies and other motorized access needs authorized by the authorized officer, would be allowed for resource management, maintenance, inventory, monitoring, or compliance purposes. Public use on administrative access routes would be limited to non-motorized access.
- Motorized wheeled cross-country travel to conduct BLM-authorized activities would require authorization.
- Upon project completion, roads used for commercial or administrative access on BLM-administered lands would be reclaimed, unless the route provides specific benefits for public access, minimizes impacts to the resource and would be considered on a case-by-case basis.
- The BLM may close or restore unauthorized, user created roads and trails to prevent resource damage.
- Motorized off-road travel would be allowed for any military, fire, search and rescue, or law enforcement vehicle for emergency operations.
- Special recreation permits for motorized events, competitive events or organized group activities would be considered and addressed through site-specific analysis.
- Non-motorized recreational trails would be considered during the development of SRMA management plans (refer to Recreation/Visitor Services section).
- Motorized off-road big game retrieval would be authorized for individuals with a disabled hunter access permit (issued by FWP). Stipulations or limitations would be included in the authorization.
- BLM would manage to reduce open road densities in big game winter and calving ranges where they exceed 1.0 Mile per square mile.
- Snowmobile use in the planning area would be allowed, except where restricted, and would subject to the following restrictions: avoid locations where wind or topographic conditions may have reduced snow depth and create situations where damage to vegetation or soils would occur, or where vegetation is taller than the protective snow cover. Ecologically sensitive areas would be closed to snowmobiling if resource damage caused or exacerbated by snowmobile activity is found to be occurring in these areas.
- Where off-highway vehicles are causing or would cause considerable adverse effects upon soil, vegetation, wildlife, wildlife habitat, cultural resources, historical resources, Threatened or endangered species, wilderness suitability or other authorized uses, or other resources, the affected areas would be immediately closed to the type(s) of vehicle causing the adverse effect until the adverse effects are eliminated and measures implemented to prevent recurrence.
- Dispersed Camping
  - Motorized wheeled cross-country travel to a campsite would be limited to a maximum of 100 feet from the centerline of an open route.
  - Ecologically sensitive areas or other areas restricted to motorized use would be closed to dispersed camping if resource damage is found to be occurring in these areas.
- Game Retrieval

- Motorized off-road big game retrieval would not be allowed for the general public.
- Travel Management Areas (TPAs)
  - Establish 11 Travel Management Areas (TPAs) to minimize impacts and provide a spectrum of motorized and non-motorized recreational opportunities.
  - Motorized and mechanized travel in TPAs would be limited to designated roads and trails, except in designated open areas (ex: South Hills OHV Area).
  - An implementation and monitoring plan would be initiated for the TPAs within 3-5 years of the ROD. The plan would include signing, mapping, information and education, and monitoring of impacts associated with continued use on designated open routes, etc. Implementation plan would also identified criteria for route variances specific to each TPA.
  - Upon project completion, roads used for commercial or administrative access on BLM-administered lands would be reclaimed, unless the route provides specific benefits for public access, minimizes impacts to the resource and would be considered on a case-by-case basis.
  - The BLM may close or restore unauthorized, user created roads and trails to prevent resource damage.
  - Variances to travel plan or route designations may be issued based on essential agency administrative actions, data variances due to route inventory, boundary adjustments, etc., as determined by the authorized officer.
  - Travel management planning is not intended to provide evidence bearing on or addressing the validity of any R.S. 2477 assertions. R.S. 2477 rights are adjudicated through a separate administrative process. The travel planning process analyzed resources, resource uses and associated access to public lands and waters. At such time as a decision is made on any R.S. 2477 assertions, the BLM would adjust its travel routes accordingly (refer to Appendix O – Travel Management).
  - The following route designations were used in each TPA (note: not every route designation code may appear in each TPA). Travel Management Areas -**Route designation definitions –refer to RMP Glossary, pages 44 and 45.**
    - Open to All Vehicles –
    - Open with Additional Management
    - Open with Restrictions – Seasonal
    - Open with Restrictions – Conditional
    - Open to Technical 4WD by permit only
    - Open to Motorcycles Only
    - Open to Vehicles 50” or less
  - Administrative Use Only: Administrative access routes designated in TPAs would limit motorized use to BLM-authorized use only. The BLM employees, permittees, contractors, personnel from other agencies and other motorized access needs authorized by the authorized officer, would be allowed for resource management, maintenance, inventory, monitoring, or compliance purposes. Public use on administrative access routes would be limited to non-motorized access.
    - Closed to All Vehicles
    - Non-motorized use only
- Gage Dome/Colony Road TPA (35,894 acres) – 96 miles of routes

- Management objectives: reduce road density to minimize impacts to sage grouse habitat and other resource values. Manage the TPA to provide recreational opportunities and access while protecting sage grouse habitat.
- The following routes would be designated in the Gage Dome/Colony Road TPA:
  - Open (additional mgmt): 67 miles
  - Admin Use Only: 29 miles
- Horsethief TPA (12,261 acres) –38 miles of routes
  - Management objectives: provide a range of recreational and access opportunities while minimizing impacts to cultural and heritage values and other resources. This TPA was expanded to include Stark Site ACEC.
  - The following routes would be designated in the Horsethief TPA:
    - Open: 8.4 miles
    - Open (additional mgmt): 14 miles
    - Admin Use Only: 14 miles
    - Closed: 0.1 mile
  - A rock crawl area would not be designated. Special recreation permits for motorized events or organized group activities would be considered on a case-by-case basis.
- Acton TPA (3,697 acres) – 8.6 miles
  - Management Objectives: provide a range of recreational and access opportunities while minimizing impacts to cultural properties and other resource values.
  - The following routes would be designated in the Acton TPA:
    - Open (seas/cond restriction) 6.8 miles
    - Admin Use Only: 1 mile
    - Closed: 0.8 mile
- Shepherd Ah-Nei TPA (4,680 acres)
  - This TPA is delineated into three sub-regions, based on landscape patterns, use and resource considerations.
  - Management objectives: minimize user conflicts and impacts to resources while providing opportunities for both motorized and non-motorized activities through three distinct management zones.
  - The following routes would be designated in the Shepherd Ah-Nei TPA:
    - Open (conditional and vehicle (less than 50” wide) restrictions apply): 53 miles
    - Shepherd Ah-Nei Area II: Administrative Use only : 11 miles
    - Shepherd Ah-Nei Area III: Limited to motorized use (by permit only).
- Mill Creek/Bundy TPA (34,239 acres) – 141 miles
  - Management objectives: improve access and provide a range of recreational opportunities. Protect cultural and resource habitat values within the Castle Butte ACEC boundaries. Emphasis would be placed on minimizing impacts to cultural properties and other resource values while providing access for the public, permittees, non-federal landowners, and administrative needs.
  - The following routes would be designated in the Mill Creek/Bundy TPA:
    - Open: 8 miles
    - Open (additional mgmt): 61 miles
    - Admin Use Only: 67 miles
    - Closed: 5 miles

- South Hills TPA (1,357 acres)
  - Management objectives: minimize user conflicts and impacts to resources while providing opportunities for both motorized and non-motorized activities.
  - The following routes would be designated in the South Hills TPA:
    - Open to cross country travel - Motorcycles only.
    - 982 acres Motorcycle Use only.
    - 375 acres Buffer area - Closed to Motorized Use (adjacent to residential area).
- Tin Can Hill TPA(643 acres)-3 miles of routes
  - Manage to provide a range of recreational and access (public and administrative) opportunities. Minimize impacts to cultural properties and other resource values and minimize conflicting uses.
  - The following routes would be designated in the Tin Can Hill TPA:
    - Open (seasonal restrictions): 1.5 miles
    - Admin Use Only: 0.5 miles
    - Closed: 1 mile
- Cottonwood/Weatherman Draw TPA (76,294 acres) – 309 miles of routes assessed
  - This area would be delineated into three sub-regions to address varying resource issues, access and recreational opportunities.
  - Sub-Region I - Weatherman Draw/Castle Coulee. Management objectives: protect cultural values and resources within the ACEC. Minimize impacts to cultural values, fragile and erosive soils and other resources within the sub-region.
  - Sub-Region II - Hollenbeck. Management objectives: provide recreational opportunities with emphasis on minimizing impacts to sage-grouse habitat, fragile and erosive soils, and other resource values.
  - Sub-Region III - Silver Tip. Management objectives: provide for motorized recreational opportunities with emphasis on minimizing impacts to fragile and erosive soils, and other resource values.
  - The following routes would be designated in the Cottonwood/Weatherman TPA:
    - Open: 103 miles
    - Open (to motorcycles only): 3 miles
    - Open (vehicles 50” or less): 10 miles
    - Open (additional management): 104 mi
    - Admin Use Only: 75 miles
    - Closed: 14 miles
- Warren TPA (12,170 acres)- 34 miles of routes
  - Manage to provide recreational opportunities with emphasis on protecting key sage grouse habitat while minimizing impacts to other resources values. Maintain current level of access.
  - The following routes would be designated in the Warren TPA:
    - Open: 1 mile
    - Open (additional mgmt): 9 miles
    - Admin Use Only: 23 miles
- Pryor Mountains TPA (81,227 acres) – 225 miles of routes

- Protect wilderness values, cultural/heritage/paleontological resources, visual characteristics, sensitive plants, fragile and erosive soils, wild horses, and wild horse habitat.
- The following routes would be designated in the Pryor Mountains TPA:
  - Open: 39 miles
  - Open (vehicles 50” or less): 2.5 miles
  - Open (additional mgmt): 88 miles
  - Open (seasonal restrictions): 0.5 miles
  - Admin Use Only: 60 miles
  - Closed: 35 miles
- Grove Creek TPA (19,823 acres) – 73 miles of routes
  - Minimize impacts to geologic and visual resources, sensitive plants, and cultural and wildlife values while providing casual, non-commercial public recreational access.
  - The following routes would be designated in the Grove Creek TPA:
    - Open: 12 miles
    - Open (additional mgmt): 25 miles
    - Admin Use Only: 32 miles
    - Closed: 4 miles
  - Routes may provide non-commercial access to private property; however, even though route has been designated as part of the official BLM travel management network, such designation does not constitute or afford the rights of a legally or officially recognized easement or ROW.

## **K.28.1 Impact Analysis and Effects Determination**

### **K.28.1.1 Black-footed Ferret**

No black-footed ferrets are known to exist within the planning area. Closing roads would benefit black-footed ferrets by reducing access and associated disturbance, such as recreational shooting. Any new access roads, easements, or land exchanges through prairie dog colonies could provide additional human access. However, given the BLM-committed conservation measures prairie dog colonies would be avoided, thereby avoiding impacts to the black-footed ferret or potential recovery sites. Implementing travel management actions *may affect, but are not likely to adversely affect*, the black-footed ferret due to *discountable effects (NLAA-d)*. This determination is based on no black-footed ferrets existing within the planning area and the avoidance of prairie dog colonies as specified in the conservation measures.

### **K.28.1.2 Canada Lynx**

Refer to “Planning Area Distribution” for Canada Lynx on page 13 for a Summary of Occurrence in BIFO. There are no Lynx Analysis Units (LAUs) or critical habitat designated on BLM, Billings Field Office decision area lands, although lynx may occasionally occur in the area.

Additional roads can be a source of fragmentation of Canada lynx habitat resulting in reduced opportunity for dispersement and mobility and in increased mortality to Canada lynx from

collisions with vehicles. Any improved access may open new areas to human activity that may cause Canada lynx to avoid or abandon otherwise occupied habitats. The degree of these impacts is correlated with traffic volume and speed, as well as road width. The construction of roads within established ROW decreases adverse effects. Implementing transportation management actions *may affect, but are not likely to adversely affect*, the Canada lynx due to *insignificant effects (NLAA-i)*. This determination is based on the unlikely event that actions associated with transportation would result in impacts to Canada lynx occupied habitat and the localized nature of the actions.

### **K.28.1.3 Grizzly Bear**

Refer to “Planning Area Distribution” for grizzly bears on page 15 for a Summary of Occurrence in BIFO.

Additional roads can be a source of fragmentation of grizzly bear habitat resulting in loss of security habitat, possible reduced dispersment and mobility and increased mortality to grizzly bears from collisions with vehicles. Any improved access may open new areas to human activity that may cause grizzly bears to avoid or abandon otherwise occupied habitats. The degree of these impacts is correlated with traffic volume and speed, as well as road width. The construction of roads within established ROW decreases adverse effects. Implementing transportation management actions *may affect, but are not likely to adversely affect*, the grizzly bear due to *insignificant effects (NLAA-i)*. This determination is based on the unlikely event that actions associated with transportation would result in impacts to grizzly bear occupied habitat and the localized nature of the actions.

## **K.29 Forest and Wood Products**

### **• Activity Description**

In general, forest and wood products management promote the management of forestry resources to provide a sustained flow of local economic benefits and protect non-market economic values, consistent with other resource objectives. The Billings and Pompeys Pillar National Monument RMP/EIS emphasizes providing forest products while maintaining a balance between public demand and the health and productivity of native and desired vegetation communities. Forest product sales include over-the-counter sales of firewood, Christmas trees or other products for personal use, small amounts of materials removed as a result of other authorizations such as rights-of-way, road use agreements, grazing leases or other land uses. Lastly, the Billings and Pompeys Pillar National Monument RMP/EIS is designed to provide management guidance on forest and woodland products (including, but not limited to, saw logs, pulp, post/poles, fuel wood, biomass and green biomass) on a sustainable basis.

The following management actions are proposed under the preferred alternative in the Billings and Pompeys Pillar National Monument RMP/EIS:

- Commercial harvest of forest products would normally be associated with vegetative restoration (including forest health) and fuels treatments and would be designed to meet

objectives for forest management, wildlife habitat management, fire hazard reduction, hazard tree removal, special status species management, visuals, recreation, and travel management.

- Provide forest products as practical, where forests have been damaged by wildland fire.
- Biomass and small diameter materials associated with forest/fuels treatments would be made available for use.
- Forest products would be managed according to sustainability limits and where consistent with other resource management objectives.
- Removal of dead or down trees would be allowed for firewood gathering for personal use, unless otherwise restricted (ACECs, riparian areas, etc.). Cutting of live trees for firewood gathering for personal use or commercial purposes would be authorized, on a case by case basis after review and compliance with NEPA. Personal, casual use allowed except where prohibited.
- Accommodate the demand for forest products (PSQ) (125 mbf/year; (1,000 mbf short term (8 years); 3,125 mbf long term (25 years)). (33 acres / year)
- PSQ values may be adjusted, based on monitoring evaluations, due to unforeseen events such as wildland fires, current inventories, disease or climate conditions.
- Restrict permits for other forest products (including commercial harvest of mushrooms), when other forest product use would conflict with other resource values.
- Other forest products include, but are not limited to: Christmas trees, juniper, wildings and mushrooms.
- New roads would be built where multiple entries would be necessary to meet objectives.
- New road construction would be kept to a minimum. Some new roads would be left open to the public if travel plan objectives for the area are met.
- Temporary road construction would be kept to a minimum and decommissioned and reclamation initiated within 1 year of project completion.
- When salvage is proposed in dead and dying forests, contiguous acres of undisturbed standing and down woody material would be retained, consistent with current scientific research to support wildlife species and forest health.

## **K.29.1 Impact Analysis and Effects Determination**

### **K.29.1.1 Black-footed Ferret**

No black-footed ferrets are known to exist within the planning area. Actions associated with forest and wood products generally occur on forested lands. Black-footed ferrets and prairie dogs occur on lower-elevation short-grass prairie and semi-desert shrublands and, therefore, will not be disturbed by actions associated with forest and wood products management. Implementing forest and wood products actions management action has *no effect (NE)* on the black-footed ferret. This determination is based on the absence of the species in forested areas.

### **K.29.1.2 Canada Lynx**

Refer to “Planning Area Distribution” for Canada Lynx on page 13 for a Summary of Occurrence in BIFO. There are no Lynx Analysis Units (LAUs) or critical habitat designated on

BLM, Billings Field Office decision area lands, although lynx may occasionally occur in the area.

Forest and wood products management actions occur in all forest types, including the aspen and coniferous habitats used by Canada lynx. Forest management can reduce habitat quality and quantity for Canada lynx and their prey, and may reduce large woody debris, which may eliminate potential denning sites, reduce kitten survival, and reduce availability of snowshoe hares and red squirrels. Pre-commercial thinning has a direct adverse effect on snowshoe hare habitats, at least in the short-term. Clear-cutting, logging operations, road and landing construction, shearing, helicopter logging, and disease-treatment sprayings all have the potential to disturb Canada lynx by eliminating Canada lynx and snowshoe hare habitats and cover, or by causing heavy disturbance in habitats used by Canada lynx and their prey. Conservation measures in place include the assessment of habitats in suitable and unsuitable conditions and ensuing limitations on percentage of disturbance allowable to habitats, as well as restrictions on pre-commercial thinning, salvage, harvest prescriptions in aspen stands, improvement harvests, and the protection of linkages and connectivity. These measures will provide protection for Canada lynx and their habitats. Implementing forest and wood products management actions *may affect, but are not likely to adversely affect*, the Canada lynx due to *insignificant effects (NLAA-i)*.

Also, additional conservation measures for the protection of Canada lynx from Forestry and Wood Practices are included in Appendix A.

### **K.29.1.3 Grizzly Bear**

Refer to “Planning Area Distribution” for grizzly bears on page 15 for a Summary of Occurrence in BIFO.

Forest and wood products management actions occur in all forest types, including the aspen and coniferous habitats used by grizzly bears. Forest management can reduce habitat quality and quantity for grizzly bears and their prey and forage by manipulating vegetation characteristics. Clear-cutting, logging operations, road and landing construction, shearing, helicopter logging, and disease-treatment sprayings all have the potential to disturb grizzly bears by eliminating foraging habitats and cover, or by causing heavy disturbance in habitats used by grizzly bears. Conservation measures in place include the assessment of habitats in suitable and unsuitable conditions and ensuing limitations on percentage of disturbance allowable to habitats, as well as restrictions on pre-commercial thinning, salvage, harvest prescriptions in aspen stands, improvement harvests, and the protection of habitat linkages and connectivity. These measures will provide protection for grizzly bears and their habitats. Implementing forest and wood products management actions *may affect, but are not likely to adversely affect*, the grizzly bear due to *insignificant effects (NLAA-i)*.

## **K.30 Lands and Realty – Land Tenure Adjustment and Access**

### **• Activity Description**

In general, lands and realty management actions promote the management of acquisitions, disposals, withdrawals, and use of public lands to meet the access needs of internal and external customers and to preserve important resource values. The Billings and Pompeys Pillar National Monument RMP/EIS emphasizes maintaining the availability of public lands to meet the habitation, cultivation, trade, mineral development, recreation, and manufacturing needs of external customers and the general public. In addition, it also emphasizes acquiring or retaining access to public lands to improve management efficiency, to facilitate multiple uses and public enjoyment of BLM public lands in coordination with private landownership, local, state or federal entities.

The following management actions are proposed under the preferred alternative in the Billings and Pompeys Pillar National Monument RMP/EIS:

- Newly acquired lands would be managed for the highest potential purpose and greatest public benefit for which they are acquired and would be managed similar to adjacent and/or surrounding lands.
- Lands or interest in lands would be acquired by purchase, exchange, revocation of another agency's withdrawals, administrative transfer from another agency, cooperative agreement, or donation, where they complement existing resource values. All land or mineral ownership adjustments would be based on a willing buyer, willing seller basis and would be managed as similar lands are under the approved RMP.
- Evaluate the proposed disposal tracts using the land tenure criteria (refer to Appendix X).
- Parcels of land administered by BLM and discovered through land status updates and corrections would be managed as similar lands are under the approved RMP.
- Lands acquired within administratively designated special management areas, such as ACECs and SRMAs, which have unique or fragile resources, would be managed the same as the special management area.
- Acquisition of patented mining claims would be addressed on a case-by-case basis. Patented claims so acquired would be withdrawn from mineral entry.
- Use all methods available to acquire access: easements from land or land exchange with willing parties would be the preferred methods of access acquisition.
- Where BLM administrative access is held through a permanent easement, commercial use would require a ROW.
- Retain existing access to BLM-administered lands in conveyance documents.
- Upon project completion, roads used for commercial access on public lands would be reclaimed, unless, based on site-specific analysis, the route provides specific benefits for public access and does not contribute to resource conflicts.
- Pursue reciprocal rights for public access when granting a BLM right-of-way, as appropriate.
- ACECs, WSAs, Lands with Wilderness Characteristics, archeological sites/historic districts, and lands acquired through Land Water Conservation Funds would be managed as Category I – Retention.
- Land ownership adjustments would be considered through site-specific analysis, based on retention, acquisition and disposal criteria (Appendix X).
- Establish three (3) adjustment categories based on BLM land tenure adjustment classes:

- Category 1 – Retention: Lands managed in Category I – Retention would include all ACECs, WSAs, Lands with Wilderness Characteristics, National Register-eligible archeological sites/historic districts, and lands acquired through LWCF. Category I lands would not be transferred from BLM management by any method for the life of the plan.
  - Category 2 - Retention/Limited Land Ownership Adjustment: Public lands within Category II would be considered for limited land ownership adjustments; however lands in Category II would not be available for sale under section 203 of FLPMA. Some public lands in Category II may contain resource values protected by law or policy. If actions cannot be taken to adequately mitigate impacts from disposal of those lands, those parcels would be retained.
  - Category 3 – Disposal (land ownership adjustments, including sales): These lands generally have low or unknown resource values or are isolated or fragmented from other public land ownerships making them difficult to manage. Public land parcels in this category are relatively smaller in size (typically 160 acres or less). A listing of the legal descriptions of these disposal parcels can be found by alternative in Appendix J. These parcels have been found to potentially meet the sale criteria of section 203(a)(1) of FLPMA and would be made available for sale, however, exchange would have priority over disposal by FLPMA sale.
- Maintain the 1984 list of public lands identified for disposal – those lands still fall under the BLM’s sale authority of the Federal Land Transaction Facilitation Act (FLTFA) of 2000).
  - Manage 80,060 acres in Category I – Retention
  - Manage 353,796 acres in Category II - Retention/Limited Land Ownership Adjustment (no land disposals through sale).
  - Manage 302 acres in Category III – Disposal (land ownership adjustments, including sale).
  - Consider applications for R&PP leases/patents and airport grants only in Category II and Category III (354,098 acres).
  - BLM public lands would be available for state grants, agricultural entries, or Indian allotments only in Category III (302 acres).

## **K.30.1 Impact Analysis and Effects Determination**

### **K.30.1.1 Black-footed Ferret**

No black-footed ferrets are known to exist within the planning area. Lands and realty management may adversely impact black-footed ferret habitats if such actions occur near suitable prairie dog towns. Although possible, the BLM rarely conveys properties with high resource value, such as those with known threatened, endangered, or sensitive species. Conversely, land acquisitions and protective withdrawals may provide benefits to black-footed ferrets by acquiring additional land around prairie dog complexes that could contribute to reintroduction sites for black-footed ferrets. Implementing actions associated with lands and realty *may affect, but are not likely to adversely affect*, the black-footed ferret due to *discountable effects (NLAA-d)*. This determination is based on the low potential for land disposal of suitable prairie dog habitats, the existing safeguards in the conservation strategies for protection and avoidance of prairie dog towns, and the low potential for other land and realty management actions to disturb or remove black-footed ferret habitats.

### **K.30.1.2 Canada Lynx**

Refer to “Planning Area Distribution” for Canada Lynx on page 13 for a Summary of Occurrence in BIFO. There are no Lynx Analysis Units (LAUs) or critical habitat designated on BLM, Billings Field Office decision area lands, although lynx may occasionally occur in the area.

Current BLM land holdings would be evaluated prior to disposal, including suitability and use by Canada lynx. Lands identified as important travel corridors would not likely be available for disposal. Lands not under BLM jurisdiction that are suitable or occupied Canada lynx habitats may be targeted for acquisition and subsequent management by BLM, which would provide benefits to Canada lynx that may not be afforded under nonfederal ownership. Disposal or transfer of public lands may affect the Canada lynx’s ability to utilize suitable habitats and travel corridors linking desirable habitats. The acquisition of access easements and issuance of ROWs and leases for utility corridors may affect the Canada lynx if the associated construction is within the vicinity of travel corridors. This may cause short-term behavioral avoidance of these areas by the Canada lynx due to the presence of human activity. The establishment of withdrawals, acquisition of conservation easements, and road closures/rehabilitation would close areas to certain activities that could have a beneficial effect on Canada lynx. Implementation of lands and realty management actions *may affect, but are not likely to adversely affect*, the Canada lynx due to *insignificant effects (NLAA-i)*.

### **K.30.1.3 Grizzly Bear**

Refer to “Planning Area Distribution” for grizzly bears on page 15 for a Summary of Occurrence in BIFO.

Current BLM land holdings would be evaluated prior to disposal, including suitability and use by grizzly bear. Lands identified as important travel corridors would not likely be available for disposal. Lands not under BLM jurisdiction that are suitable or occupied grizzly bear habitats may be targeted for acquisition and subsequent management by BLM, which would provide benefits to grizzly bears that may not be afforded under nonfederal ownership. Disposal or transfer of public lands may affect the grizzly bear’s ability to utilize suitable habitats and travel corridors linking desirable habitats. The acquisition of access easements and issuance of ROWs and leases for utility corridors may affect the grizzly bear if the associated construction is within the vicinity of travel corridors. This may cause short-term behavioral avoidance of these areas by the grizzly bear due to the presence of human activity. The establishment of withdrawals, acquisition of conservation easements, and road closures/rehabilitation would close areas to certain activities that could have a beneficial effect on grizzly bears. Implementation of land resource management actions *may affect, but are not likely to adversely affect*, the grizzly bear due to *insignificant effects (NLAA-i)*.

## K.31 Lands and Realty – Rights-Of-Way, Leases, and Permits

### • **Activity Description**

In general, lands and reality management promotes the management of public lands to meet transportation and rights-of-way (ROW) needs while protecting resources. The Billings and Pompeys Pillar National Monument RMP/EIS emphasizes addressing the needs of industry, utilities, the public, or government entities for land use authorizations while minimizing impacts to other resource values and maintain and/or acquire access across state/private lands to public lands for recreational opportunities and management of public land resources.

The following management actions are proposed under the preferred alternative in the Billings and Pompeys Pillar National Monument RMP/EIS:

- Analyze requests for land use authorizations and apply mitigation measures (Appendix X) as appropriate.
- Land use authorizations would not be issued for uses that involve the disposal or storage of materials which would contaminate the land (hazardous waste disposal sites, landfills, rifle ranges, etc.).
- New ROW facilities would be located within or adjacent to existing rights-of-way to the extent practical.
- New communication site users would be encouraged to locate within existing communication site buildings or within boundaries defined by communication site plans.
- Reclamation of sites would be required where documented resource damage has occurred from unauthorized use.
- ROW exclusion or avoidance areas would be subject to valid existing rights.
- Terms and conditions for ROWs, corridors and development areas would incorporate best management practices.
- A lease notice for oil and gas would be provided so that operations can be planned to avoid the areas where interference with authorized surface uses may occur.
- Issues in connection with RS2477 roads would be subject to the current guidance
- The following four ROW areas are designated for communication sites: Wall Creek, north of Pompeys Pillar, Bridger, and Tin Can Hill. Applicants are encouraged to utilize existing communication site facilities to minimize disturbance.
- Carbon geo-sequestration would be allowed in the planning area in accordance with the goals and objectives for resources in the RMP. The BLM would comply with policy for issuing ROWs for the purpose of carbon geo-sequestration.
- Corridors
  - A multi-modal (pipeline and electrical transmission) corridor (identified as Segment 79-216) would continue to be a designated corridor and is 5.2 miles in length, 3,500 feet in width, located in Carbon County.
  - Silver Tip Road in Carbon County would be designated as a ROW corridor (½ mile from the center line of Silver Tip Road).
  - Applicants would be encouraged, but not required, to use designated corridors; ROW requests would be considered on a case by case basis.
- ROW Exclusion Areas
  - ROW Exclusion Areas – ACECs

- Bridger Fossil Area ACEC (577 acres), Meeteetse Spires ACEC (2,173 acres), Petroglyph Canyon (240 acres), Pompeys Pillar ACEC – Zone A and B (83 acres), except those necessary to service the site facilities, Portion of Weatherman Draw ACEC (4,986 acres: original ACEC and acquisition).
- ROW Exclusion Areas – WSAs and Lands with Wilderness Characteristics
  - Big Horn Tack-On WSA (2,689 acres) , Burnt Timber Canyon WSA (3,516 acres), Pryor Mountain WSA (15,590 acres), Twin Coulee WSA (6,836 acres). In addition, if not designated by Congress as Wilderness, the WSAs would continue to be managed as ROW exclusions areas. Lands with Wilderness Characteristics (1,709 acres).
- ROW Exclusion Areas – Cave and Karst Areas
  - Cave and karst areas would be managed as ROW avoidance areas.
- ROW Exclusion Areas – Greater Sage-Grouse Habitat Areas
  - Greater Sage-Grouse PPAs would be ROW avoidance areas (77,947 acres).
  - Utilities and similar facilities would be located adjacent to other facilities where practical and only when habitat functionality can be maintained.
- ROW Avoidance Areas
  - ROW Avoidance Areas – ACECs
    - Castle Butte ACEC (184 acres), East Pryor ACEC (11,122 acres), Four Dances ACEC (784 acres), Grove Creek ACEC (8,251 acres), Pompeys Pillar ACEC (Zone C - 349 acres and restricts ROW to a 500’ wide path paralleling the southern boundary of the public lands along Highway 312) , Pryor Foothills RNA/ACEC (2,606 acres), Stark Site ACEC (799 acres), Weatherman Draw (7,291 acres – expansion area)
  - ROW Avoidance Areas – Cave/Karst
    - Cave and karst areas would be managed as a ROW avoidance areas
  - ROW Avoidance Areas – National Historic Trails
    - L&C NHT and NP NHT would be avoidance areas
  - ROW Avoidance Areas – Greater Sage-Grouse Habitat Areas
    - ROWs may be allowed in Greater Sage-Grouse PPAs (214,038 acres) and RPAs (68,564 acres) if habitat functionality would be maintained.
  - ROW Avoidance Areas – Other Areas
    - Asparagus Point, Steamboat Butte, Red Dome, Red Valley, Portion of Acton, Portion of Shepherd Ah-Nei, Bad Canyon, East and Red Pryor Mountains, Hoskins Basin Archeological District, Demi-John Flat Archeological District, Beartooth Mountain Front (2 mile strip bordering the eastern boundary of the Custer National Forest)
    - Avoidance areas would be considered in the future, based on resource protection concerns or resource values.

### **K.31.1 Impact Analysis and Effects Determination**

#### **K.31.1.1 Black-footed Ferret**

Impacts would be the same as discussed under black-footed ferret in Lands and Realty – Land Tenure Adjustment and Access.

### **K.31.1.2 Canada Lynx**

Impacts would be the same as discussed under Canada lynx in Lands and Realty – Land Tenure Adjustment and Access.

### **K.31.1.3 Grizzly Bear**

Impacts would be the same as discussed under grizzly bear in Lands and Realty – Land Tenure Adjustment and Access.

## **K.32 Lands and Realty - Withdrawals**

### **• Activity Description**

In general, the withdrawals portions of Lands and Realty protects significant resources or significant government investments. The Billings and Pompeys Pillar National Monument RMP/EIS uses withdrawal actions with the least restrictive measures and minimum size necessary to accomplish the required purposes of the withdrawal.

The following management actions are proposed under the preferred alternative in the Billings and Pompeys Pillar National Monument RMP/EIS:

- Withdrawals no longer needed, in whole or in part, for the purpose for which they were withdrawn would be revoked or modified.
- Consider other agency requests for withdrawal relinquishments, extensions or modifications on a case-by-case basis with consideration given to determining if the lands would be suitable for return to BLM public domain.
- All Classification and Multiple Use classifications in the planning area have been terminated.
- The following areas would be closed and recommended for withdrawal from mineral entry (54,761 acres):
  - Britton Springs Administrative Site (20 acres), Crooked Creek Natural Area (WY) (160 acres), Bridger Fossil Area ACEC (577 acres), East Pryor ACEC (11,122 acres), Four Dances ACEC (784 acres), Meeteetse Spires ACEC (965 acres), Petroglyph Canyon (240 acres), Pompeys Pillar NM and ACEC (432 acres), Pryor Mountain RNA/ACEC (2,606 acres), Stark Site ACEC (799 acres), Weatherman Draw (4,386 acres), Big Horn Tack-On WSA (2,689 acres), Burnt Timber Canyon WSA (3,516 acres), Pryor Mountain WSA (15,590 acres), Twin Coulee WSA (6,836 acres), Lands with Wilderness Characteristics (3,833 acres).

## **K.32.1 Impact Analysis and Effects Determination**

### **K.32.1.1 Black-footed Ferret**

Impacts would be the same as discussed under black-footed ferret in Lands and Realty – Land Tenure Adjustment and Access.

### **K.32.1.2 Canada Lynx**

Impacts would be the same as discussed under Canada lynx in Lands and Realty – Land Tenure Adjustment and Access.

### **K.32.1.3 Grizzly Bear**

Impacts would be the same as discussed under grizzly bear in Lands and Realty – Land Tenure Adjustment and Access.

## **K.33 Transportation Facilities and Access**

### **• Activity Description**

In general, transportation facilities and access focuses on managing roads, primitive roads and trails for public access or administrative needs, while maintaining or protecting resource values, in coordination with other federal agencies, state and local governments and private landowners. The Billings and Pompeys Pillar National Monument RMP/EIS ensures BLM facilities are maintained to meet public health and safety requirements.

The following management actions are proposed under the preferred alternative in the Billings and Pompeys Pillar National Monument RMP/EIS:

- Roads included in the transportation system would be assigned maintenance levels, as needed. Roads would be managed in accordance with objectives identified in the travel management areas (TPAs), assigned maintenance levels and in consideration of resources issues and available funding.
- Roads and trails would be inspected on an established schedule in accordance with the Bureau's Condition Assessment guidance.
- BLM authorized recreation sites, administrative sites, buildings and bridges would be maintained within Bureau standards to reduce deferred maintenance costs; meet public health and safety requirements; provide universal accessibility as appropriate and to enhance visitor experiences. These activities would be coordinated with other federal, state and local government agencies, private landowners and the general public as needed.
- New roads and trails determined to be necessary for permanent or long-term use as part of BLM's transportation system would be constructed subject to NEPA and approved engineering standards. Consideration would be given to use demands, location, safety and resource constraints when determining the level of road necessary, in accordance with BLM Manual 9113.
- Lands available or suitable for transportation facilities within the planning area would be identified. Road repair, road rehabilitation, road construction and maintenance standards appropriate to specific areas would be identified as well as any limitations.
- If an existing road, primitive road or trail is substantially contributing to resource impacts, the road would be considered for re-design, re-routing, closure, or decommissioning to minimize the adverse impacts.

- Provide adequate administrative and other facilities to accommodate management needs, based on management analysis, to maintain, replace, construct, lease; including asset disposal.

### **K.33.1 Impact Analysis and Effects Determination**

#### **K.33.1.1 Black-footed Ferret**

No black-footed ferrets are known to exist within the planning area. Potential impacts associated with transportation facilities and access would include long-term adverse impacts such as habitat loss and fragmentation. Habitat loss is caused by road construction and road use. Areas with many access roads and surface disturbances could disturb prairie dog colonies that may provide habitat for black-footed ferrets. Increasing the number of transportation routes could also increase public access to areas that previously had been relatively inaccessible to vehicles during the winter and spring and therefore potentially increase opportunities for recreational shooting of prairie dogs. However, the goals of transportation facilities and access management would be to limit disturbance to sensitive habitat types. Implementing transportation facilities and access management actions *may affect, but are not likely to adversely affect*, the black-footed ferret due to *beneficial effects (NLAA-b)*. This determination is based on the potential for improvements to prairie dog and potential ferret habitats if transportation facilities and access management actions are used in conjunction with existing conservation measures.

#### **K.33.1.2 Canada Lynx**

Refer to “Planning Area Distribution” for Canada Lynx on page 13 for a Summary of Occurrence in BIFO. There are no Lynx Analysis Units (LAUs) or critical habitat designated on BLM, Billings Field Office decision area lands, although lynx may occasionally occur in the area.

Impacts to Canada lynx as a result of implementing actions associated with transportation facilities and access would include long-term adverse impacts such as habitat loss and fragmentation. Habitat loss is caused by road construction and road use. Areas with many access roads and surface disturbances could disrupt travel corridors that link suitable habitats. Travel routes could be altered or eliminated, changing some traditional Canada lynx use patterns on a regional level. Increasing the number of transportation routes could also increase public access to areas that previously had been relatively inaccessible to vehicles during the winter and spring. Seclusion areas for Canada lynx would become smaller and more dispersed in these areas, which could lead to a decrease in populations as a result of habitat loss. However, the goals of transportation facilities and access management would be to limit disturbance to sensitive habitat types. Implementing transportation facilities and access management actions *may affect, but are not likely to adversely affect*, the Canada lynx due to *beneficial effects (NLAA-b)*. This determination is based on the potential for improvements to potential Canada lynx habitats if transportation facilities and access management actions are used in conjunction with existing conservation measures.

### K.33.1.3 Grizzly Bear

Refer to “Planning Area Distribution” for grizzly bears on page 15 for a Summary of Occurrence in BIFO.

Impacts to grizzly bears as a result of implementing actions associated with transportation facilities and access would include long-term adverse impacts such as habitat loss and fragmentation. Habitat loss is caused by road construction and road use. Areas with many access roads and surface disturbances could disrupt travel corridors that link suitable habitats. Travel routes could be altered or eliminated, changing some traditional grizzly bear use patterns on a regional level. Increasing the number of transportation routes could also increase public access to areas that previously had been relatively inaccessible to vehicles during the winter and spring. Seclusion areas for grizzly bears would become smaller and more dispersed in these areas, which could lead to a decrease in populations as a result of habitat loss. However, the goals of transportation facilities and access management would be to limit disturbance to sensitive habitat types. Implementing transportation facilities and access management actions *may affect, but are not likely to adversely affect*, the grizzly bear due to *beneficial effects (NLAA-b)*. This determination is based on the potential for improvements to potential grizzly bear habitats if transportation facilities and access management actions are used in conjunction with existing conservation measures.

## K.34 Renewable Energy

- **Activity Description**

In general, renewable energy management provides opportunities for the development of renewable energy resources from sources such as wind, biomass, and solar, while minimizing adverse impacts to other resource values. The Billings and Pompeys Pillar National Monument RMP/EIS makes lands available for renewable energy development, consistent with goals and objectives of other resources, while cooperating with project proponents to promote and enhance scientific knowledge of renewable energy resources in the planning area.

The following management actions are proposed under the preferred alternative in the Billings and Pompeys Pillar National Monument RMP/EIS:

- Areas of Critical Environmental Concern
  - The following would be closed to renewable energy exploration and facility development:
    - Bridger Fossil Area ACEC, Castle Butte ACEC, East Pryor ACEC, Four Dances ACEC, Grove Creek ACEC, Meeteetse Spires ACEC, Petroglyph Canyon ACEC, Pompeys Pillar ACEC and NM, Pryor Foothills RNA ACEC, Stark Site ACEC, Weatherman Draw ACEC
- Wilderness Study Areas (WSAs) and Lands with Wilderness Characteristics
  - WSAs would be closed to renewable energy exploration and facility development:
    - Big Horn Tack-On WSA (2,689 acres) , Burnt Timber Canyon WSA (3,516 acres), Pryor Mountain WSA (15,590 acres), Twin Coulee WSA (6,836 acres)
    - If not designated by Congress as Wilderness, the WSAs would be closed to wind energy development.

- Lands with Wilderness Characteristics (1,709 acres)
- Cultural Sites
  - The following would be closed to renewable energy exploration and facility development:
    - Steamboat Butte (800 acres) , Bruder-Janich Site (320 acres) , Paul Duke Site (40 acres) , Demi-John Flat NR District (200 acres) , Bighorn Mouth North Cliffs Rock Art Site (212 acres) , Hoskins Basin Archaeological District (2,611 acres)
- Greater Sage-grouse Habitat Areas
  - Greater Sage-Grouse PPAs (77,947 acres) would be closed to commercial renewable energy exploration and facility development.

### **K.34.1 Impact Analysis and Effects Determination**

#### **K.34.1.1 Black-footed Ferret**

No black-footed ferrets are known to exist within the planning area. Wind farm development results in habitat loss, degradation, fragmentation, and species displacement from associated aboveground and linear features (e.g., turbines, powerlines, substations, and roads). These developments could also include injury and death to prairie dogs and potentially black-footed ferrets as a result of vehicle collisions during construction and maintenance of facilities. However, the long-term goal of these programs would be to improve/maintain habitat quality and the BLM would be required by the USFWS to take precautionary measures to avoid impacts to black-footed ferrets (e.g., pre-clearance surveys). Therefore, implementing renewable energy management actions *may affect, but are not likely to adversely affect*, the black-footed ferret due to *insignificant effects (NLAA-i)*. This determination is based on maintaining prairie dog and potential ferret habitats if renewable energy management actions are using in conjunction with existing conservation measures.

#### **K.34.1.2 Canada Lynx**

Refer to “Planning Area Distribution” for Canada Lynx on page 13 for a Summary of Occurrence in BIFO. There are no Lynx Analysis Units (LAUs) or critical habitat designated on BLM, Billings Field Office decision area lands, although lynx may occasionally occur in the area.

Wind farm development results in habitat loss, degradation, fragmentation, and wildlife displacement from associated aboveground and linear features (e.g., turbines, powerlines, substations, and roads). These developments could also displace Canada lynx from otherwise suitable habitats. Increased development and human presence would act to increase stress levels of Canada lynx during sensitive time periods. Implementing renewable energy management actions *may affect, but are not likely to adversely affect*, the Canada lynx due to *insignificant effects (NLAA-i)*. This determination is based on maintaining potential lynx habitats if renewable energy management actions are used in conjunction with existing conservation measures.

### **K.34.1.3 Grizzly Bear**

Refer to “Planning Area Distribution” for grizzly bears on page 15 for a Summary of Occurrence in BIFO.

Wind farm development results in habitat loss, degradation, fragmentation, and wildlife displacement from associated aboveground and linear features (e.g., turbines, powerlines, substations, and roads). These developments could also displace grizzly bears from otherwise suitable habitats. Increased development and human presence would act to increase stress levels of grizzly bears during sensitive time periods. Implementing renewable energy management actions *may affect, but are not likely to adversely affect*, the grizzly bear due to *insignificant effects (NLAA-i)*. This determination is based on maintaining potential grizzly bear habitats if renewable energy management actions are used in conjunction with existing conservation measures.

## **K.35 Special Designations (Including National Monuments, ACECs, WSAs, Wild and Scenic Rivers, National Historic Trails, and Wild Horse Ranges)**

- **Activity Description**

- ***Pompeys Pillar National Monument (NM) and ACEC***

Pompeys Pillar would be managed to protect the historical, cultural and biological values, including its outstanding viewsheds and unique resources, while providing opportunities for interpretation, education and enjoyment of the area for present and future generations.

The following management actions are proposed under the preferred alternative in the Billings and Pompeys Pillar National Monument RMP/EIS:

- Manage Pompeys Pillar NM (51) acres to protect the historical and cultural objects for which it was nominated a National Monument.
- All federal lands and interest in lands within the boundaries of the PPNM (51 acres) are withdrawn from all forms of entry, location, selection, sale or leasing or other disposition under the public land laws, subject to valid existing rights. Consider acquiring minerals from willing sellers for the monument and ACEC.
- Promote partnerships and coordination efforts with other agencies and organizations to enhance the overall management of Pompeys Pillar.
- Zone A (25 acres). Objective: Provide visitor access to Clark’s signature and other historic inscriptions/rock art, and enhance the visitors’ experience through providing landscapes that appear similar to the natural setting Clark viewed in 1806.
- Zone B (58 acres). Objective: Provide a setting where most facilities would be placed. Facilities would be designed to enhance visitor experiences and services.
- Zone C (349 acres). Objective: Improve and/or maintain wildlife habitat, enhance recreational opportunities, visitor services, and wildlife viewing. Priority may be given to visitor service needs, including facility development, if needed.
- Exclusion area - Zone A and B (83 acres), except those necessary to serve the site facilities.

- Avoidance (1) Area - Zone C (349 acres), and restricts ROW to a 500' wide path paralleling the southern boundary of the public lands along Highway 312).
- Land disposals are not allowed.
- Limited OHV use to designated roads and trails (2). Administrative use or other authorized use allowed on a case-by-case basis.
- Limit BLM road maintenance to 4 roads.
- NHL (6 acres) managed as VRM Class II. Remainder of ACEC managed as VRM Class III.
- Plant collecting not allowed in the Zone A and Zone B. Limited in Zone C (3).
- Monument (51 acres) closed to oil and gas leasing, subject to valid existing rights. NSO for the remainder of the ACEC.
- Monument (51 acres): close and continue to recommend withdrawal for locatable minerals, subject to valid existing rights. Remainder of ACEC (381 acres): close and recommend withdrawal from mineral entry, subject to valid existing rights.
- Monument (51 acres) and ACEC (381 acres): close and recommend withdrawal from mineral entry for solid leasable minerals, subject to valid existing rights.
- Monument (51 acres): Mineral materials sales and permit not allowed. Remainder of ACEC (381 acres): Not allowed.
- Closed to commercial renewable energy facilities and development.
- Geophysical exploration not allowed.
- For fire suppression activities, water use only within monument (51 acres). No heavy equipment in riparian area. Appropriate fire management (full protection strategies and management tactics) in remainder of ACEC.
- Fuels management and prescribed fire may be allowed in the entire ACEC.
- Fuelwood cutting/wood product sales not allowed.
- Livestock grazing may be allowed on a temporary basis, for the treatment of noxious weeds, or as a prescription to meet site specific vegetation or other resource management goals.
- Range improvements and noxious/invasive weed treatments allowed.
- Animal trapping/traplines allowed in Zone C by authorization only. Allowed for administrative purposes in the entire ACEC.
- Hunting would be allowed in Zone C only. Management restrictions would be implemented in the future to ensure public safety.
- Target shooting not allowed.
- Non-commercial collection of common invertebrate and plant fossils not allowed.
- Cremains scattering not permitted.
- Special recreation permits allowed.
- Transportation management allowed to meet road condition standards.
- Other management activities and/or uses would be considered in subsequent site-specific analysis, and would consider the values for which the ACEC is designated (5).

- ***Bridger Fossil Area ACEC***

Bridger Fossil Area ACEC would be managed to protect paleontological values. The following management actions are proposed under the preferred alternative in the Billings and Pompeys Pillar National Monument RMP/EIS:

- Land use authorization, including ROWs would have exclusion areas.
- No land tenure disposals.

- OHVs limited to designated roads and trails (refer to Warren TPA).
- BLM road maintenance would be limited (4).
- Visual resources would be managed as class III.
- Plant collecting would be allowed.
- Oil and gas leasing would include NSOs with no Waivers, Exceptions, or Modifications.
- Locatable and solid leasable minerals are closed.
- Mineral materials sales and permit are allowed.
- Geophysical exploration for oil and gas allowed (5) if no damage to paleontological resources. If monitoring indicates fossil damage, this activity would not be allowed.
- Use of explosives for geophysical exploration for oil and gas not allowed.
- Fire suppression would allow for appropriate fire management, no heavy equipment use. Fire management would emphasize fuels be removed where there would be threat of loss of resource (8).
- Fuelwood cutting/wood product sales not allowed.
- Livestock grazing, range improvements, noxious/invasive weed management allowed if no conflicts with ACEC values (5).
- Animal trapping/traplines allowed.
- Target shooting allowed if monitored to ensure no conflicts with resource values.
- Non-commercial collection of common invertebrate and plant fossils allowed (5) by BLM authorization only.
- Cremains scattering, special recreation permits, and other permitted activities allowed.
- Transportation would not allow new permanent road or trail development for motorized vehicles.
- Other management activities and/or uses would be considered in subsequent site-specific analysis, and would consider the values for which the ACEC is designated (5).

- **Castle Butte ACEC**

Castle Butte ACEC would be managed to protect unique cultural values. The following management actions are proposed under the preferred alternative in the Billings and Pompeys Pillar National Monument RMP/EIS:

- Land use authorizations would have avoidance areas.
- No land tenure disposals.
- Off-highway vehicle use would be limited to designated routes (refer to Mill Creek TPA).
- BLM road maintenance would be limited (4).
- Visual resource management would be managed as Class III.
- Plant collecting would be allowed.
- There are no federal minerals in this ACEC.
- Closed to renewable energy development.
- Geophysical exploration for oil and gas not allowed.
- Use of explosives for geophysical exploration for oil and gas not allowed.
- Fire suppression would emphasize appropriate fire management; no heavy equipment use; no retardant or foam use on Castle Butte, allowed in remaining ACEC.
- Fuels management would remove fuels where there would be the threat of a loss of resource (8).
- Fuelwood cutting/wood product sales not allowed.

- Livestock grazing available in ACEC.
- Range improvements allowed if no conflicts with ACEC values (5).
- Noxious/Invasive weed treatments allowed.
- Animal trapping/traplines not allowed.
- Target shooting not allowed.
- Non-commercial collection of common plant fossils allowed.
- Cremains scattering not allowed.
- Special Recreation Permits not allowed.
- Other permitted activities allowed.
- Transportation would not allow for any new road or trail development.
- Other management activities and/or uses would be considered in subsequent site-specific analysis, and would consider the values for which the ACEC is designated (5).

- ***East Pryor ACEC***

East Pryor ACEC would be managed to protect wildlife habitat, historical/cultural resources, sensitive plant species, and paleontological values. The following management actions are proposed under the preferred alternative in the Billings and Pompeys Pillar National Monument RMP/EIS:

- Land use authorizations would have avoidance areas.
- No land tenure disposals.
- Off-highway vehicle use would be limited to designated routes (refer to Pryor TPA).
- BLM road maintenance would be limited (4).
- Visual resource management would be managed as Class II.
- Plant collecting allowed.
- Closed to oil and gas leasing and development (NL) (11,122 acres).
- Locatable minerals: Close and recommend withdrawal from mineral entry, subject to valid existing rights.
- Solid leasable minerals: Closed, subject to valid existing rights.
- Mineral materials sales and permits allowed.
- Closed to renewable energy.
- Geophysical exploration for oil and gas not allowed.
- Use of explosives for geophysical exploration for oil and gas not allowed.
- Wildland fire management (natural ignitions) would be designed for resource benefit.
- Appropriate fire management in response to human-ignited fires.
- Fuels management allowed.
- Casual collection of dead and down allowed for personal use only while recreating.
- Livestock grazing closed within PMWHR boundary, except Bad Pass Trail Allotment (149 acres). Available outside PMWHR (7).
- Wild Horses managed only within the PMWHR
- Range improvements allowed.
- Noxious/Invasive weed treatments allowed.
- Animal trapping/trap lines allowed.
- Target shooting not allowed on 8S 28E. Allowed in remainder of ACEC
- Non-commercial collection of common invertebrate and plant fossils allowed.

- Cremains scattering not permitted.
- Special Recreation Permits allowed.
- Other permitted activities allowed.
- Transportation management would result in a no net increase in road density.
- Other management activities and/or uses would be considered in subsequent site-specific analysis, and would consider the values for which the ACEC is designated (5).

- ***Four Dances Natural Area ACEC***

Four Dances Natural Area ACEC would be managed to protect significant historic, cultural and scenic values, peregrine falcon nesting habitat, and managed for the natural hazards of the cliffs. The following management actions are proposed under the preferred alternative in the Billings and Pompeys Pillar National Monument RMP/EIS:

- Land use authorization would have avoidance areas. Uses and practices would be consistent with the Deed of Conservation Easement.
- No land tenure disposals.
- Closed to motorized and mechanized (bicycle, etc.) public use.
- BLM road maintenance would be limited.
- Visual resource management would be managed as Class III.
- Plant collecting allowed.
- Closed to oil and gas leasing, exploration and development.
- Locatable minerals: Closed and continue withdrawal from mineral entry.
- Solid leasable minerals: Closed and continue withdrawal from mineral entry.
- Mineral materials sales and permits not allowed.
- Closed to renewable energy development.
- Geophysical exploration for oil and gas not allowed.
- Use of explosives for geophysical exploration for oil and gas not allowed.
- Appropriate fire management would include use of natural barriers and hand constructed fire lines. Use of heavy equipment and retardant would be avoided unless approved by the authorized officer. No heavy equipment use near vision quest site, no retardant use within 100 feet of Will James cabin or rock art.
- Fuels management allowed.
- Wood product sales and commercial timber harvest would not be allowed. Timber management for the safety and enhancement of other values would be allowed in the woody draws, on the islands, and along the Yellowstone River bottom.
- Buffalo grazing not permitted. Livestock grazing would be allowed.
- Range improvements allowed if no conflicts with ACEC objectives.
- Noxious/Invasive weed treatments allowed.
- Animal trapping/trap lines not allowed.
- No discharging of firearms. Archery hunting may be allowed, if deemed necessary by FWP (authorization from BLM required).
- Cremains scattering not allowed.
- Authorizations would be required or timing and locations would be specified for events, such as cross country races. Some limitations on use by the general public may be required to facilitate Native American religious activities. These would be limited to specific time periods and specific portions of the property.

- Other permitted activities allowed.
- Transportation management would be designed to not increase the road network density.
- Recreation would be limited to day use area only. Closed to horseback riding (with the exception of authorized Native American religious ceremonies), hang gliding, rock climbing, paint ball, and discharging of fire arms. Pets must be leashed within parking area.
- Special management and priority would be given to protecting falcon eyries by restricting human activity along the rims that might adversely affect the nesting birds. Non-ACEC values may be adjusted as necessary.
- Other management activities and/or uses would be considered in subsequent site-specific analysis, and would consider the values for which the ACEC is designated.

- ***Grove Creek ACEC***

Grove Creek ACEC would be managed to protect significant archaeological and traditional cultural values and special status plants. The following management actions are proposed under the preferred alternative in the Billings and Pompeys Pillar National Monument RMP/EIS:

- Land use authorizations would have avoidance areas.
- No land tenure disposals.
- Off-highway vehicle use would be limited to designated routes (refer to Grove Creek TPA).
- BLM road maintenance would be limited.
- Visual resource management would be managed as Class III.
- Plant collecting allowed.
- No surface occupancy for Oil & Gas leasing . Conditions of Approval for existing leases.
- Open for locatable minerals development.
- Solid leasable minerals: Closed and recommend withdrawing from mineral entry.
- Mineral materials sales and permits allowed.
- Closed for renewable energy development.
- Geophysical exploration for oil and gas allowed.
- Use of explosives for geophysical exploration for oil and gas not allowed.
- Wildland fire management (natural ignitions) would be designed for resource benefit. Appropriate fire management in response to human-ignited fires. No heavy equipment use within ACEC.
- Fuels management allowed.
- Fuelwood cutting and wood product sales allowed if no conflicts with ACEC values.
- Livestock grazing available.
- Range improvements allowed if no conflicts with ACEC values (5)
- Noxious/Invasive weed treatments allowed.
- Animal trapping/traplines allowed.
- Target shooting allowed.
- Cremains scattering allowed.
- Special Recreation Permits allowed.
- Other permitted activities allowed.
- Transportation management would not allow for increase in road network density.
- Other management activities and/or uses would be considered in subsequent site-specific analysis, and would consider the values for which the ACEC is designated.

- ***Meeteetse Spires ACEC***

Meeteetse Spires ACEC would be managed to protect and enhance unique vegetation (rare plants) and conserve scenic values. The following management actions are proposed under the preferred alternative in the Billings and Pompeys Pillar National Monument RMP/EIS:

- Land use authorization would be managed with exclusion areas.
- No land tenure disposals.
- Off-highway vehicles would be limited to designated routes (refer to Grove Creek TPA).
- BLM road maintenance would not be allowed.
- Visual resource management would be managed as Class II.
- Plant collecting allowed for scientific use or range/forestry studies. No collection of sensitive species without a permit.
- Oil & Gas leasing: Closed (NL) (965 acres – original ACEC). Manage remainder of ACEC for no surface occupancy (no federal minerals).
- Locatable minerals: Closed and recommended for withdrawal (965 acres – original ACEC). Remainder of ACEC would be open.
- Open for solid leasable minerals.
- Mineral materials sales and permits allowed.
- Closed for renewable energy development.
- Geophysical exploration not allowed.
- Use of explosives for geophysical exploration for oil and gas not allowed.
- Wildland fire management (natural ignitions) would be designed for resource benefit. Appropriate fire management in response to human-ignited fires. No heavy equipment use within ACEC.
- Fuels management allowed.
- Fuelwood cutting not allowed.
- Wood product sales allowed if no conflicts with ACEC values.
- Livestock grazing permitted, except for sheep on 965 acres (original ACEC). The 558 acre acquisition is not suitable for livestock grazing.
- Range improvements allowed if no conflicts with ACEC values.
- Noxious/Invasive weed treatments allowed.
- Animal trapping/traplines allowed.
- Target shooting not allowed.
- Cremains scattering not permitted.
- Special Recreation Permits allowed.
- Other permitted activities allowed.
- Transportation management would not allow for increase in road network density.
- Other management activities and/or uses would be considered in subsequent site-specific analysis, and would consider the values for which the ACEC is designated.

- ***Petroglyph Canyon ACEC***

Petroglyph Canyon ACEC would be managed to protect unique cultural values. The following management actions are proposed under the preferred alternative in the Billings and Pompeys Pillar National Monument RMP/EIS:

- Land use authorization would be managed with exclusion areas.

- No land tenure disposals.
- Off-highway vehicle use would be limited to designated routes only (refer to Pryor TPA).
- BLM road maintenance would be limited.
- Visual resource management would be managed as Class II.
- Plant collecting allowed.
- No surface occupancy for Oil & Gas leasing (no WEMs).
- Locatable minerals: Closed and continue to withdraw from mineral entry
- Solid leasable minerals: Closed.
- Mineral materials sales and permits not allowed.
- Closed for renewable energy development.
- Geophysical exploration for oil and gas not allowed.
- Use of explosives for geophysical exploration for oil and gas not allowed.
- No heavy equipment use, no retardant or foam use for fire suppression activities.
- Fuels management allowed.
- Fuelwood cutting/wood product sales not allowed.
- Livestock grazing available.
- Range improvements allowed if no conflicts with ACEC values.
- Noxious/Invasive weed treatments allowed.
- Animal trapping/traplines not allowed.
- Target shooting not allowed.
- Cremains scattering not allowed.
- Special Recreation Permits allowed.
- Other permitted activities allowed.
- Transportation management would not allow for increase in road network density.
- Other management activities and/or uses would be considered in subsequent site-specific analysis, and would consider the values for which the ACEC is designated.

• ***Pryor Foothills Research Natural Area (RNA) ACEC***

Pryor Foothills RNA ACEC would be managed to protect unique vegetation (a large concentration of Bureau sensitive plant species and rare plant communities) and to protect significant historic and cultural values in the Gyp Springs area. The following management actions are proposed under the preferred alternative in the Billings and Pompeys Pillar National Monument RMP/EIS:

- Land use authorizations would have avoidance areas, subject to valid existing rights.
- No land tenure disposals.
- Off-highway vehicles would be limited to designated routes (refer to Pryors TPA).
- BLM road maintenance would be limited.
- Visual resource management would be managed as Class III.
- Plant collecting allowed for scientific use or range/forestry studies. No collection of sensitive species without a permit.
- Oil & Gas leasing: NSO ¼ mile buffer on known plant sites (2,606 acres). Inventory must be conducted prior to surface disturbing activities (CSU).
- Locatable minerals: Closed and recommend withdrawing from mineral entry, subject to valid existing rights.

- Solid leasable minerals: Closed, subject to valid existing rights.
- Mineral materials sales and permits not allowed.
- Closed for renewable energy development.
- Geophysical exploration not allowed.
- Wildland fire management (natural ignitions) would be designed for resource benefit. Appropriate fire management in response to human-ignited fires. No heavy equipment use within ACEC.
- Fuels management allowed.
- Fuelwood cutting/wood product sales allowed periodically to protect resource values.
- Livestock grazing available.
- No range improvements would be allowed that would result in a net increase in livestock use in the ACEC.
- Noxious/Invasive weed treatments allowed to protect rare plant values.
- Animal trapping/traplines allowed.
- Target shooting allowed.
- Cremains scattering not permitted.
- Special Recreation Permits allowed.
- Other permitted activities allowed.
- Transportation management would not allow for increase in road network density.
- Other management activities and/or uses would be considered in subsequent site-specific analysis, and would consider the values for which the ACEC is designated.

***Stark Site ACEC***

Stark Site ACEC would be managed to protect unique cultural values. The following management actions are proposed under the preferred alternative in the Billings and Pompeys Pillar National Monument RMP/EIS:

- Land use authorizations would have avoidance areas.
- No land tenure disposals.
- Motorized travel limited to designated routes (refer to Horsethief TPA).
- The BLM road maintenance would be limited.
- Visual resource management would be managed as Class III.
- Plant collecting allowed.
- No surface occupancy for Oil & Gas leasing.
- Locatable minerals: Closed and recommend withdrawing from mineral entry
- Solid leasable minerals: Closed.
- Mineral materials sales and permits not allowed.
- Closed for renewable energy development.
- Geophysical exploration for oil and gas not allowed.
- Use of explosives for geophysical exploration for oil and gas not allowed.
- Fire suppression would implement appropriate fire management. No heavy equipment use, no retardant or foam use.
- Fuels management allowed.
- Fuelwood cutting/wood product sales not allowed.
- Livestock grazing available.

- Range improvements allowed if no conflicts with ACEC values.
- Noxious/Invasive weed treatments allowed.
- Animal trapping/traplines allowed.
- Target shooting not allowed.
- Cremains scattering not allowed.
- Special Recreation Permits allowed.
- Other permitted activities allowed.
- Transportation management would not allow for increase in road network density.
- Other management activities and/or uses would be considered in subsequent site-specific analysis, and would consider the values for which the ACEC is designated.

- ***Weatherman Draw ACEC***

Weatherman Draw ACEC would be managed to protect unique cultural values. The following management actions are proposed under the preferred alternative in the Billings and Pompeys Pillar National Monument RMP/EIS:

- Land use authorizations would have exclusion areas, subject to valid existing rights.
- No land tenure disposals.
- Off-highway vehicle use would be limited to designated routes (refer to Weatherman Draw TPA).
- The BLM road maintenance would be limited.
- Visual resource management would be managed as Class II: 4,986 acres (original and acquisition) and Class III: 7,291 acres (expansion).
- Plant collecting allowed.
- Oil & Gas leasing: Closed (NL) (4,986 acres original and acquisition) and NSO (7,291 acres - expansion).
- Locatable minerals: Close and recommend for withdrawal from mineral entry (4,386 acres) and Open (7,291 acres – expansion).
- Solid leasable minerals: Closed from mineral entry (4,986 acres) and Open with NSO (7,291 acres – expansion)
- Mineral materials sales and permits not allowed.
- Closed for renewable energy development.
- Geophysical exploration for oil and gas not allowed.
- Wildland fire management (natural ignitions) would be designed for resource benefit. Appropriate fire management in response to human-ignited fires. No heavy equipment, no retardant or foam use
- Fuels management would remove fuels where there would be threat or loss of resource.
- Fuelwood cutting/wood product sales not allowed: (4,986 acres). Allowed by permit only (7,291 acres).
- Livestock grazing available.
- Range improvements allowed if no conflicts with ACEC values.
- Noxious/Invasive weed treatments allowed.
- Animal trapping/traplines not allowed: (4,986 acres). Allowed: (7,291 acres).
- Target shooting not allowed.
- Cremains scattering not permitted.
- Special Recreation Permits allowed.

- Other permitted activities allowed.
- Transportation management would not allow for increase in road network density.
- Other management activities and/or uses would be considered in subsequent site-specific analysis, and would consider the values for which the ACEC is designated.
- **Wilderness Study Areas (WSAs)**  
Manage Wilderness Study Areas (WSAs) in a manner that does not impair their suitability for designation as wilderness in accordance with FLPMA Section 603 and the *Interim Management Policy for Lands Under Wilderness Review*. The following management actions are proposed under the preferred alternative in the Billings and Pompeys Pillar National Monument RMP/EIS:
  - Wilderness Study Areas would be managed according to the Interim Management Policy (IMP) (BLM)-H-8550-1). The BLM is statutorily (FLPMA Section 603) required to manage these areas to protect their suitability for congressional designation to the National Wilderness Preservation System unless and until Congress either designates an area as wilderness or releases it from further consideration.
  - Surface disturbing and disruptive activities may be allowed if the activity does not impair the resource values and/or wilderness characteristics.
  - Vegetation and fuels treatments, including prescribed fire, would be allowed.
  - Allow for habitat manipulations in WSAs on a case-by-case basis using methods which protect areas from weed infestations resulting from human influence.
  - WSA lands would be closed to permitted commercial and personal use wood cutting, seed and plant collection.
  - WSAs would be managed as VRM Class I.
  - WSAs would be managed closed to motorized use. Is this for wheeled use or all motorized? i.e. aircraft. Aircraft may not land in a WSA, nor may air deliveries be made.
  - WSAs would be closed to oil and gas leasing and development, subject to valid existing rights.
  - Mineral material sales would not be allowed in WSAs
  - WSAs would be managed as a ROW exclusion area.
  - Manage the following WSAs for non-impairment of wilderness values:
    - Big Horn Tack-On WSA (2,689 acres), Burnt Timber Canyon WSA (3,516 acres), Pryor Mountain WSA (15,590 acres), Twin Coulee WSA (6,836 acres)
  - The area within the current boundaries of all WSAs is closed to motorized use.
  - If Congress acts on designation, and Big Horn Tack-On, Burnt Timber Canyon and Pryor Mountain WSAs are not selected as wilderness, the land area within these current WSA boundaries would be managed as an ACEC.
  - If Congress acts on the designation and Twin Coulee WSA is released from further consideration, the area would be managed a VRM Class II.
  - The WSAs would be closed and recommended for withdrawal from mineral entry except if Congress acts on designation, and Big Horn Tack-On, Burnt Timber Canyon and Pryor Mountain WSAs are not selected as wilderness, the land area within these current WSA boundaries would continue to be closed and recommended for withdrawal from mineral entry.
  - If Congress acts on the designation and Twin Coulee WSA is released from further consideration, the area would be open for mineral entry and leasing.

- Wildland fire management (natural ignitions) for resource benefit. Appropriate fire management in response to human-ignited fires.

- ***Wild and Scenic Rivers***

Manage to protect the outstandingly remarkable values, tentative classifications and the free-flowing nature of eligible/suitable river segments. The following management actions are proposed under the preferred alternative in the Billings and Pompeys Pillar National Monument RMP/EIS:

- Management would be conducted in a manner to protect and enhance the outstandingly remarkable values for each suitable river segment.
- The following segments would be recommended as suitable for inclusion in the National Wild and Scenic River System:
  - Crooked Creek (above fish barrier) – 1.59 miles; tentative management class would be Wild.
  - Crooked Creek (below fish barrier) – 1.56 miles; tentative management class would be Scenic.
- NSO for oil and gas leasing, exploration and development within ½ mile of WSR- eligible and suitable segments (NSO).

- ***National Historic Trails***

In general, management protects National Historic Trails for long-term heritage and educational values and to enhance the public experience. The Billings and Pompeys Pillar National Monument RMP/EIS is designed to enhance public experiences through interpretation and support of heritage tourism and maintain compatible recreational use with historic trail values. The following management actions are proposed under the preferred alternative in the Billings and Pompeys Pillar National Monument RMP/EIS:

- The setting for the Lewis and Clark and Nez Perce NHTs segments would be maintained where setting is an aspect of integrity by utilizing viewshed management tools.
- Manage NHTs as VRM Class III. Minimize changes that would result in degradation of resource values or opportunities for sharing the experience of the original users of the NHTs.
- An inventory and evaluation would be maintained for the trail segments and include this data in a trails management plan.
- Surface disturbing activities would be subject to mitigation guidelines.
- No surface occupancy for oil and gas development and exploration within ½ mile of the L&C and NP NHTs (NSO) (12,395 acres).

- ***Pryor Mountain Wild Horse Range***

In general, the Pryor Mountain herd management area would continue to be designated as the Pryor Mountain Wild Horse Range and would be managed principally, but not necessarily exclusively, for the benefit of wild horses. Management activities for other resources and programs within the PMWHR would be designed in a manner to minimize impacts without limiting the ability to protect wild horses and their habitat. Pryor Mountain Wild Horse Range would be managed to enhance wild horse protection, wild horse habitat, and for public health and safety.

The following management actions are proposed under the preferred alternative in the Billings and Pompeys Pillar National Monument RMP/EIS:

- Wild horse protection - public feeding: Only allowed for management purposes

- Wild horse protection – harassment: Interrupting their behavior or disruption of their daily activities, outside of management activities, such as moving animals to take photos or filming, feeding or touching or attempting to do these things would not be allowed.
- Wild Horse Protection - seasonal road closures: Motorized routes within the PMWHR would be designated according to the Pryor TPA. Burnt Timber Road from the East Pryor Mine (the abandoned uranium mine) to the USFS boundary and Sykes Ridge Road from the horse trap to USFS boundary would be closed to wheeled vehicles and motorized vehicles to protect wild horse foaling and their habitat (April 15 to June 15) providing consistency with the USFS seasonal closures.
- Wild Horse Protection - fencing exclusion: Fences for study, range improvements, riparian protection or rehabilitation would be allowed through site-specific analysis.
- Wild Horse Protection - wild horse health: Domestic horse use would be limited to day use only.
- Recreational domestic horse use would require a free-use permit to ensure animals have health certifications to protect wild horses from disease transmission.
- Wild Horse Habitat Enhancement: Maximize the amount of acres for vegetation treatment and water developments that would increase forage availability for wild horses, to maximize and/or increase wild horse numbers within other multiple uses and restrictions.
- Target shooting not allowed on T8S R28E Memorial day weekend through Labor day weekend.
- Speed limits for mechanized and motorized vehicles not to exceed 15 miles per hour within T8S R28E
- Livestock grazing Bad Pass Trail would be managed as a livestock grazing allotment for trailing use only (158 acres). The remainder of the PMWHR would be closed to livestock grazing.
- Special Recreation Permits SRPs for wild horse viewing would initially be limited to existing SRPs. Additional (new) wild horse centered SRPs would be permitted only when determined not to result in congestion, wild horse displacement or cause an adverse experience for members of the public viewing wild horses outside of an SRP experience through monitoring of existing SRPs and visitation.
- Land use authorization would be managed for avoidance.
- Land tenures would be managed with no disposals.
- OHV use limited to designated routes (refer to Pryor TPA).
- Limited BLM road maintenance would be allowed.
- Plant collecting would be allowed.
- Closed to oil and gas leasing and development (NL) (11,122 acres).
- Locatable minerals: Close and recommend withdrawal from mineral entry, subject to valid existing rights.
- Solid leasable minerals: Closed, subject to valid existing rights.
- Mineral materials sales and permits allowed.
- Renewable energy closed.
- Geophysical exploration for oil and gas not allowed.
- Use of explosives for geophysical exploration for oil and gas not allowed.
- Wildland fire management (natural ignitions) would focus on benefit to the resources.
- Implement appropriate fire management in response to human-ignited fires.

- Fuels management, range improvements, noxious/invasive weed management, animal trapping/traplines, and non-commercial collection of common invertebrate and plant fossils allowed.
- Casual collection of dead and down allowed for personal use only while recreating.
- Routes for commercial or other BLM authorized activities may be considered on a case-by-case basis if the route meets public access needs.
- Other management activities and/or uses would be considered in subsequent site-specific analysis, and would consider the values for which the PMWHR is designated (5).

## **K.35.1 Impact Analysis and Effects Determination**

### **K.35.1.1 Black-footed Ferret**

No black-footed ferrets are known to exist within the planning area. Management actions for special designations would also provide protection for prairie dog colonies and black-footed ferrets through restrictions on surface disturbances and minerals developments as well as OHV use. However, the presence of important values in these areas may also result in increased human presence, resulting in short-term displacement of prairie dogs and ferrets, depending on the amount and timing of such activity. Implementing management actions for special designations *may affect, but are not likely to adversely affect*, the black-footed ferret due to *insignificant effects (NLAA-i)*. This determination is based on maintaining and protecting prairie dog and potential ferret habitats if management actions for special designations are used in conjunction with existing conservation measures.

### **K.35.1.2 Canada Lynx**

Refer to “Planning Area Distribution” for Canada Lynx on page 13 for a Summary of Occurrence in BIFO. There are no Lynx Analysis Units (LAUs) or critical habitat designated on BLM, Billings Field Office decision area lands, although lynx may occasionally occur in the area. All Canada lynx critical habitat is on adjacent U.S. Forest Service lands.

Management actions for special designations would also provide protection of Canada lynx habitat through restrictions on surface disturbances and minerals developments as well as OHV use. However, the presence of important values in these areas may also result in increased human presence, resulting in short-term displacement of Canada lynx, depending on the amount and timing of such activity. Implementing management actions for special designations *may affect, but are not likely to adversely affect*, the Canada lynx due to *insignificant effects (NLAA-i)*. This determination is based on maintaining and protecting Canada lynx habitats if management actions for special designations are used in conjunction with existing conservation measures.

### **K.35.1.3 Grizzly Bear**

Refer to “Planning Area Distribution” for grizzly bears on page 15 for a Summary of Occurrence in BIFO.

Management actions for special designations would also provide protection of grizzly bear habitat through restrictions on surface disturbances and minerals developments as well as OHV use. However, the presence of important values in these areas may also result in increased human presence, resulting in short-term displacement of grizzly bears, depending on the amount and timing of such activity. Implementing management actions for special designations *may affect, but are not likely to adversely affect, the grizzly bear due to insignificant effects (NLAA-i)*. This determination is based on maintaining and protecting grizzly bear habitats if management actions for special designations are used in conjunction with existing conservation measures.

### K.36 CUMULATIVE EFFECTS

For the purposes of effects analysis under the ESA, *cumulative effects* are defined as effects on a species from future state, tribal, local, or private activities which are reasonably certain to occur in the planning area. Future *federal actions* will be subject to the consultation requirements established in Section 7 of the ESA, and therefore, are *not* considered cumulative to the proposed action.

The BLM is the majority landowner in the southern portion (Carbon County) and northeastern portion (Musselshell County) of BIFO, but is a minority landowner in the western and southeastern portions. The BLM does control the majority of land and public access in the southern and northeastern areas of the field office while it only controls limited lands and access in the western and southeast portion. The BLM has little management opportunity and influence in the scattered land ownership (minority landowner) areas of the field office. These areas are subject to greater cumulative effects from activities on other ownerships.

In areas where BLM is a minority landowner, the cumulative impacts of BLM actions that would be taken under these alternatives are minor in proportion to potential impacts from actions on state, tribal, and private lands. The wildlife habitat values of the public land parcels are important as undeveloped areas, usable by certain wildlife species that are located mostly on the BLM parcels.

The exact cumulative effect on T&E species is not known because of the lack of specific information on future state, local, or private actions. Since most impacts to T & E Species are human-related or the result of human activities (e.g., livestock management, mineral development,), and the human pressures in the field office area may be expected to change over the foreseeable future, the scope and scale of the impacts are not known. Human factors include access, roads, trails, noise, disturbance, subdivision development, recreational use, increased noxious weed spread, and other resource uses that contribute to habitat fragmentation and reduced habitat quality.

Potential projects that could be developed on non-Federal ownership areas, include the Mud Springs Wind Farm, an increase in hydraulic fracturing operations, and bentonite mine expansions. The Mud Springs Wind Farm proposal is proposed for development entirely on private lands about 12 miles southeast of Bridger, MT. It is proposed to be constructed on 18,000 acres with 120 turbines that are 454 feet tall at the blade tips. In 2014, an unsuccessful private land hydraulic fracking well was drilled west of Belfry, MT. These projects could increase if oil prices are profitable. Two bentonite companies have proposed mine expansions

between Bridger, MT and the Wyoming state boundary. Mine expansions may occur on either private or public lands.

The cumulative effects of actions under these BLM programs and their activities may have local impacts to populations. A determination of “May Affect, Likely to Adversely Affect” for any listed species, or for any impact including cumulative impacts, would require formal consultation with USFWS. This would result in a request for consultation with the Service to ensure that appropriate analysis is conducted to minimize impacts to a species.

### K.37 Summary of Effects Determinations

Table 4 summarizes the effects of determinations by resource program from the above discussion. Table 5 summarizes the effects determination for each species considered from the RMP as a whole, based on the resource program effects discussed above.

**Table 4: Determination of Effects of Resource Programs for Listed Species**

Resource Program	Black-footed Ferret	Canada Lynx	Grizzly Bear	Whooping Crane	Red Knot
Air Quality	NLAA-b	NLAA-b	NLAA-b	NLAA-d	NLAA-d
Climate	NLAA-b	NLAA-b	NLAA-b	NLAA-d	NLAA-d
Geology	NLAA-d	NLAA-i	NLAA-i	NLAA-d	NLAA-d
Soil Resources	NLAA-d	NLAA-d	NLAA-d	NLAA-d	NLAA-d
Water Resources	NLAA-d	NLAA-d	NLAA-d	NLAA-d	NLAA-d
Vegetative Communities	NLAA-b	NLAA-b	NLAA-b	NLAA-d	NLAA-d
Wildlife including Special Status Species	NLAA-b	NLAA-i	NLAA-b	NLAA-d	NLAA-d
Fisheries including Special Status Species	NLAA-b	NLAA-b	NLAA-b	NLAA-d	NLAA-d
Wild Horse and Burro	NLAA-b	NLAA-b	NLAA-b	NLAA-d	NLAA-d
Wildland Fire Ecology and Management	NLAA-i	NLAA-i	NLAA-i	NLAA-d	NLAA-d
Cultural/Heritage Resources	NLAA-b	NLAA-b	NLAA-b	NLAA-d	NLAA-d
Paleontological Resources	NLAA-b	NLAA-b	NLAA-b	NLAA-d	NLAA-d

Resource Program	Black-footed Ferret	Canada Lynx	Grizzly Bear	Whooping Crane	Red Knot
Visual Resources	NLAA-b	NLAA-b	NLAA-b	NLAA-d	NLAA-d
Lands with Wilderness Characteristics	NLAA-b	NLAA-b	NLAA-b	NLAA-d	NLAA-d
Energy and Minerals	NLAA-d	NLAA-i	NLAA-i	NLAA-d	NLAA-d
Livestock Grazing	NLAA-i	NLAA-i	NLAA-i	NLAA-d	NLAA-d
Recreation/Visitor Services	NLAA-d	NLAA-i	NLAA-i	NLAA-d	NLAA-d
Travel Management	NLAA-d	NLAA-i	NLAA-i	NLAA-d	NLAA-d
Forest and Wood Products	NE	NLAA-i	NLAA-i	NLAA-d	NLAA-d
Lands and Realty	NLAA-d	NLAA-i	NLAA-i	NLAA-d	NLAA-d
Transportation Facilities and Access	NLAA-b	NLAA-b	NLAA-b	NLAA-d	NLAA-d
Renewable Energy	NLAA-i	NLAA-i	NLAA-i	NLAA-d	NLAA-d
Special Designations	NLAA-i	NLAA-i	NLAA-i	NLAA-d	NLAA-d

Threatened and Endangered Species: NLAA-b, -i, -d = may effect, but is not likely to adversely affect discountable (-d), insignificant (-i), completely beneficial (-b), NE = No Effect

**Table 5: Overall Determination of Effects for Listed Species**

Species	Scientific Name	Determination
Black-footed Ferret	<i>Mustela nigripes</i>	NLAA
Canada Lynx	<i>Lynx canadensis</i>	NLAA
Grizzly Bear	<i>Ursus arctos horribilis</i>	NLAA
Whooping Crane	<i>Grus americana</i>	NLAA
Red Knot	<i>Calidris canutus rufa</i>	NLAA

NLAA = may effect, but is not likely to adversely affect.

NLLV = may impact individuals, but not likely to adversely impact population viability

### K.38 Literature Cited

- Armbruster, M.J. 1990. Characterization of Habitat Used by Whooping Cranes during Migration. Biological Report 90(4):1-16.
- Baicich, P.J., and C.J. Harrison. 2005. Nests, Eggs, and Nestlings of North American Birds. Princeton University Press. Princeton, New Jersey, USA.
- Baker, A.J., P.M. González, T. Piersma, L.J. Niles, I. de Lima Serrano do Nascimento, P.W. Atkinson, N.A.
- Boyce, M.S. and R.S. Miller. 1985. Ten year periodicity in whooping crane census. Auk 102:658-660.
- Bureau of Land Management (BLM). 2008. Final Biological Assessment for the Kemmerer Field Office Proposed Resource Management Plan. Kemmerer Field Office. September 2008.
- \_\_\_\_\_. 2005a. Final Statewide Programmatic Biological Assessment: Black-footed Ferret (*Mustela nigripes*). Submitted to the U.S. Department of the Interior, Bureau of Land Management. Wyoming State Office. Cheyenne, Wyoming. August.
- \_\_\_\_\_. 2005b. Final Statewide Programmatic Canada Lynx (*Lynx canadensis*) Biological Assessment. U.S. Department of the Interior, Bureau of Land Management. Wyoming State Office, Cheyenne, Wyoming. July 20.
- \_\_\_\_\_. 2013. Biological Assessment for the Beartooth Front Grazing Permit Renewal, USDI, Bureau of Land Management, Billings Field Office, Billings, Montana. McKenzie, E., Sept. 9.
- Clark, C.D.T. Minton, M.K. Peck, and G. Aarts. 2004. Rapid population decline in red knots: fitness consequences of decreased refueling rates and late arrival in Delaware Bay. Proceedings of the Royal Society of London B271: 875-882.
- Dood, A. R., Atkinson, S. J. and V. J. Boccadori (2006) Grizzly Bear Management Plan for Western Montana: Final Programmatic Environmental Impact Statement 2006-2016. Montana Department of Fish, Wildlife and Parks, Helena, Montana. 163 pp.
- Federal Register. 1967. Endangered Species - 1967. Federal Register 32(48):4001.
- Fitzgerald, J. P., C. A. Meaney, and D. M. Armstrong. 1994. Mammals of Colorado. Denver Museum of Natural History and University Press of Colorado. 467 pp.
- Fortenbery, D. K. 1972. Characteristics of the Black-Footed Ferret. US Department of the Interior, US Fish and Wildlife Service, Bureau of Sport Fisheries and Resource Publication 109. 8 pp.
- Harrington, B.A. 2001. Red knot (*Calidris canutus*). In: A. Poole and F. Gill, editors. The birds of North America, No. 563. Cornell Laboratory of Ornithology and The Academy of Natural Sciences, Philadelphia, Pennsylvania. Pp. 1-32.

- Henderson, F. R., P. F. Springer, and R. Adrian. 1969. The Black-Footed Ferret in South Dakota. South Dakota Department of Game, Fish, and Parks. Technical Bulletin No. 4:137.
- Hillman, C. N. 1968. Life History and Ecology of the Black-Footed Ferret. M.S. Thesis. South Dakota State University, Brookings, South Dakota. 28 pp.
- Hillman, C. N. and J. W. Carpenter. 1980. Breeding Biology and Behavior of Captive Black-Footed Ferrets. *International Zoo Yearbook* 23:186-191.
- Howe, M.A. 1987. Habitat Use by Migrating Whooping Cranes in the Aransas-Wood Buffalo Corridor. Pages 303-311 *in* Proceedings of the 1985 Crane Workshop (J.C. Lewis and J.W. Ziewitz, eds.). Platte River Whooping Crane Habitat Maintenance Trust and USFWS. Grand Island, Nebraska.
- Howe, M.A. 1989. Migration of Radio-marked Whooping Cranes from the Aransas-Wood Buffalo Population: Patterns of Habitat Use, Behavior, and Survival. USFWS Technical Report 21.
- Jones, S. L. 2010. Sprague's Pipit (*Anthus spragueii*) conservation plan. U.S. Department of Interior, Fish and Wildlife Service, Washington, D.C.
- Linder, R. L., R. B. Dahlgren, and C. N. Hillman. 1972. Black-Footed Ferret Prairie Dog Interrelationships. Reprint from Symposium on Rare and Endangered Wildlife of the Southwestern United States. Albuquerque, New Mexico. New Mexico Department of Game and Fish, Santa Fe. 37 pp.
- Lingle, G.R. 1987. Status of Whooping Crane Migration Habitat within the Great Plains of North America. Pages 331-340 *in* Proceedings of the 1985 Crane Workshop (J.C. Lewis and J. Zewitz, eds.). Platte River Whooping Crane Habitat Maintenance Trust. and USFWS. Grand Island, Nebraska.
- Lingle, G.R., G.A. Wingfield, and J.W. Ziewitz. 1991. The Migration Ecology of Whooping Cranes in Nebraska, U.S.A. Pages 395-401 *in* Proceedings of the 1987 International Crane Workshop (J. Harris, eds.). International Crane Foundation, Baraboo, Wisconsin.
- Montana Bird Distribution Committee. 2012. P.D.Skaar's Montana Bird Distribution, 7<sup>th</sup> Edition, Montana Audubon, Helena, Montana. 208 pp.
- Morrison, R.I.G., R.E. Gill, Jr., B.A. Harrington, S. Skagen, G.W. Page, C.L. Gratto-Trevor, and S.M. Haig. 2001. Estimates of shorebird populations in North America. Occasional Paper No. 104. Canadian Wildlife Service, Ottawa, Ontario. 64 pp.
- Niles, L.J., H.P. Sitters, A.D. Dey, P.W. Atkinson, A.J. Baker, K.A. Bennett, K.E. Clark, N.A. Clark, C. Espoz, P.M. Gonzalez, B.A. Harrington, D.E. Hernandez, K.S. Kalasz, R. Matus, C.D.T. Minton, R.I.G. Morrison, M.K. Peck, and I.L. Serrano. 2007. Status of the red knot (*Calidris canutus rufa*) in the Western Hemisphere. Report to the U.S. Fish and Wildlife Service. New Jersey Department of Environmental Protection, Division of Fish and Wildlife, Endangered and Nongame Species Program, Trenton, New Jersey. 236 pp. + Appendix.

Ruedinger, B. et al. 2000. Canada Lynx Conservation Assessment and Strategy. USDA Forest Service, USDI Fish and Wildlife Service, USDA Bureau of Land Management.

Tomkovich, P.S. 1992. An analysis of the geographic variability in knots, *Calidris canutus*, based on museum skins. Wader Study Group Bulletin 64 (Suppl): 17-23.

Travsky, A and G.P. Beauvais. 2004. Species assessment for the whooping crane (*Grus Americana*) in Wyoming.

Online: <http://www.uwyo.edu/wyndd/files/docs/reports/speciesassessments/whoopingcrane-oct2004.pdf>

U.S. Fish and Wildlife Service (USFWS):

\_\_\_\_\_. 2011. U.S. Fish and Wildlife Service. Red Knot. U.S. Fish and Wildlife Service, Species Assessment and Listing Priority Assignment Form, Region 5, Oct. 2011.

\_\_\_\_\_. 2000. Black-footed ferret; *Mustela nigripes*. U.S. Fish and Wildlife Service. [Online] <http://www.fws.gov>.

\_\_\_\_\_. 1998. Endangered Species Consultation Handbook. Procedures for Conducting Consultation and Conference Activities Under Section 7 of the Endangered Species Act. U.S. Fish and Wildlife Service and National Marine Fisheries Service. March 1998.

\_\_\_\_\_. 1993. U.S. Fish and Wildlife Service. 1993. Grizzly Bear Recovery Plan. Missoula, Montana. 181 pp.

\_\_\_\_\_. 1989. Black-footed Ferret Survey Guidelines for Compliance with the Endangered Species Act. Denver, Colorado, and Albuquerque, New Mexico. April 1989. 10 pp.

\_\_\_\_\_. 1988. Black-Footed Ferret Recovery Plan. U.S. Fish and Wildlife Service, Denver, Colorado. 154 pp.

## K.39 Appendix A

### ADDITIONAL CONSERVATION RECOMMENDATIONS for T&E Species:

#### Billings and Pompeys Pillar National Monument Resource Management Plan (RMP) Biological Assessment Conservation Measures and Mitigation

##### Grizzly Bear:

###### *Activities in Potential Grizzly Habitat:*

Conservation measures for actions in potential grizzly habitat will include the following Terms and Conditions that will be followed. Potential grizzly bear habitat in the field office is primarily the scattered public land tracts in the foothills of the Beartooth Mountains from Red Lodge west to Sweet Grass –Park county line. These terms and conditions were developed to help reduce the potential of grizzly bear/livestock/human issues. The terms and conditions would be as follows:

- Grazing Permits would state that depredation loss from grizzly bears is possible.
- Grazing Permittees must notify the BLM, MTFWP, or Wildlife Services, as soon as is practical, of any grizzly bear depredation on livestock or conflicts between grizzly bears and livestock, even if the conflict does not result in the loss of livestock. (We expect that this early notification to the state of Montana and the Service and the resulting course of action would likely reduce the chance of livestock depredation and the possible removal of the grizzly bear).
- To avoid potential conflicts, all livestock carcasses, or parts of carcasses, should be either packed, dragged, or otherwise transported to a location a minimum of 1/2 mile from any inhabited dwelling, sleeping area or tent, road, trail or recreation site and be moved at least 100 yards from live water.
- All human and prepared livestock and pet food, garbage, and other odorous substances should be stored, handled and disposed of in such a manner as to make it unavailable to bears. Uneaten horse feed should not be left on the ground after feeding livestock.
- Burying food, garbage, refuse, or grease is prohibited.
- Any livestock carcass found on BLM land will be properly treated or disposed of, so as to eliminate any potential attractant for bears. The BLM will include guidance to permittees to contact FWP if they need carcass disposal assistance.

The BLM will monitor grizzly bear/livestock conflicts occurring on grazing allotments and will look for other opportunities to reduce/minimize the potential for conflicts.

###### *Projects and Other Development Actions:*

Project features would be designed to reduce potential human-grizzly bear conflicts in the project area such as: temporary roads would be closed to public motorized access and reclaimed upon completion of project.

Field work would be restricted to one disturbance or work location between April 1 to June 30 to reduce conflicts with grizzly bears emerging from dens.

Sight distances would be implemented to provide security cover for grizzly bears along primary or permanent access roads.

### **Canada Lynx:**

#### Forestry /Timber/ Fuels Management:

Design features of timber treatments will include stipulations to provide habitat for lynx prey species. Treatments would improve foraging habitat by allowing understory shrub development with removal of some of the timber canopy.

Treatments would focus on small patch cuts, or larger cuts with selected leave trees or groups of trees. In addition, a minimum of 10% of any specific treatment unit would be left in “islands” to provide wildlife habitat in the forms of hiding, bedding, and thermal cover. Standing, large snags would also be targeted for retention to provide wildlife habitat.

#### SNAG MANAGEMENT Guidelines:

##### All Treatment Units:

- Snags and recruitment snags are to provide for nesting, roosting, and foraging habitat for small mammals and birds such as bats, woodpeckers, owls, songbirds, etc. Clumping (versus even spacing) of snags is preferable if desired snag species and larger dbh (diameter at breast height) snags are available for the snag retention clump.
- In forested areas, maintain greater than or equal to 40 snags/recruitment trees per 5-acre average; retain the largest size class available pretreatment in all stages of development. These should consist of at least 30 snags per 5 acres and 10 recruitment snags (green trees) per 5 acres.

##### Guidelines for snags include:

1. Retain all soft snags (class 3, 4, and 5) that are not a safety hazard to meet the above targets.
2. Retain hard snags (when they are present) in the largest size class available (pre-treatment) to meet the above targets.
3. Tree species selected for snag and recruitment tree retention shall be determined with coordination between the Wildlife Biologist, Silviculturist, and others as necessary to ensure proper species composition and snag habitat is maintained for cavity dependent species.
4. If above existing snag levels are not available, provide for green recruitment snag trees sufficient to bring snag/recruitment snag levels up to the above mentioned target levels in a well distributed manner of both clumps and individual trees, of largest available trees. Trees with defects (e.g. “wolfy” appearance, dead tops, forked tops, cankers, heart-rot, knarls, diseases, broken tops and large limbs) would be selected when possible as follows:
  - a. Target basal areas (BA) for each unit and will not include "wildlife reserve", "recruitment trees", or dead trees (snags) in their calculation.
  - b. Paint or affix a “wildlife tree sign” on all leave snags and recruitment trees at dbh level and a butt mark at the base of each with timber marking paint. Record the number and size class of all snags and recruitment trees painted/marked within the treatment area and maintain records in the project file.
  - c. Create new snags by burn plan design, or other means, as necessary to achieve target numbers of snags.

- d. Protect snags from fuelwood cutting, mechanical treatment, and prescribed fire treatment.

LOGS/ COURSE WOODY DEBRIS (CWD) Guidelines:

All Treatment Units: In forested areas, maintain at least 200 linear feet average per acre of 12-inch DBH or greater at the large end and at least 10 feet in length (or the largest size class available). Retain logs/CWD in all stages of development. Guidelines for logs/CWD include:

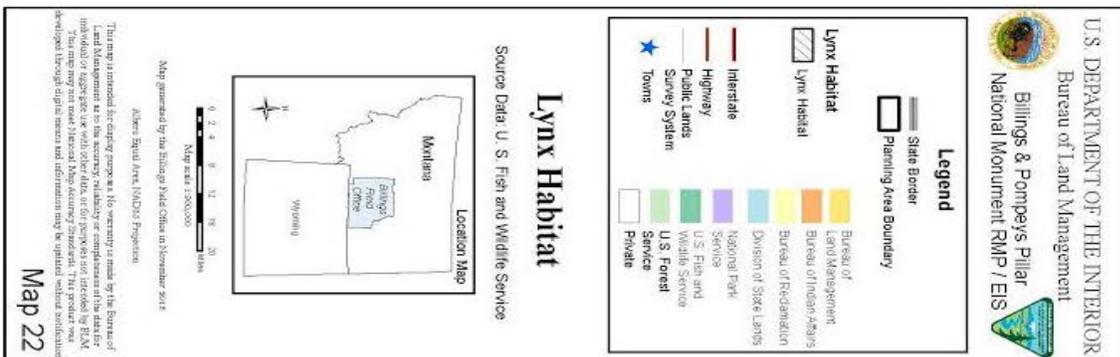
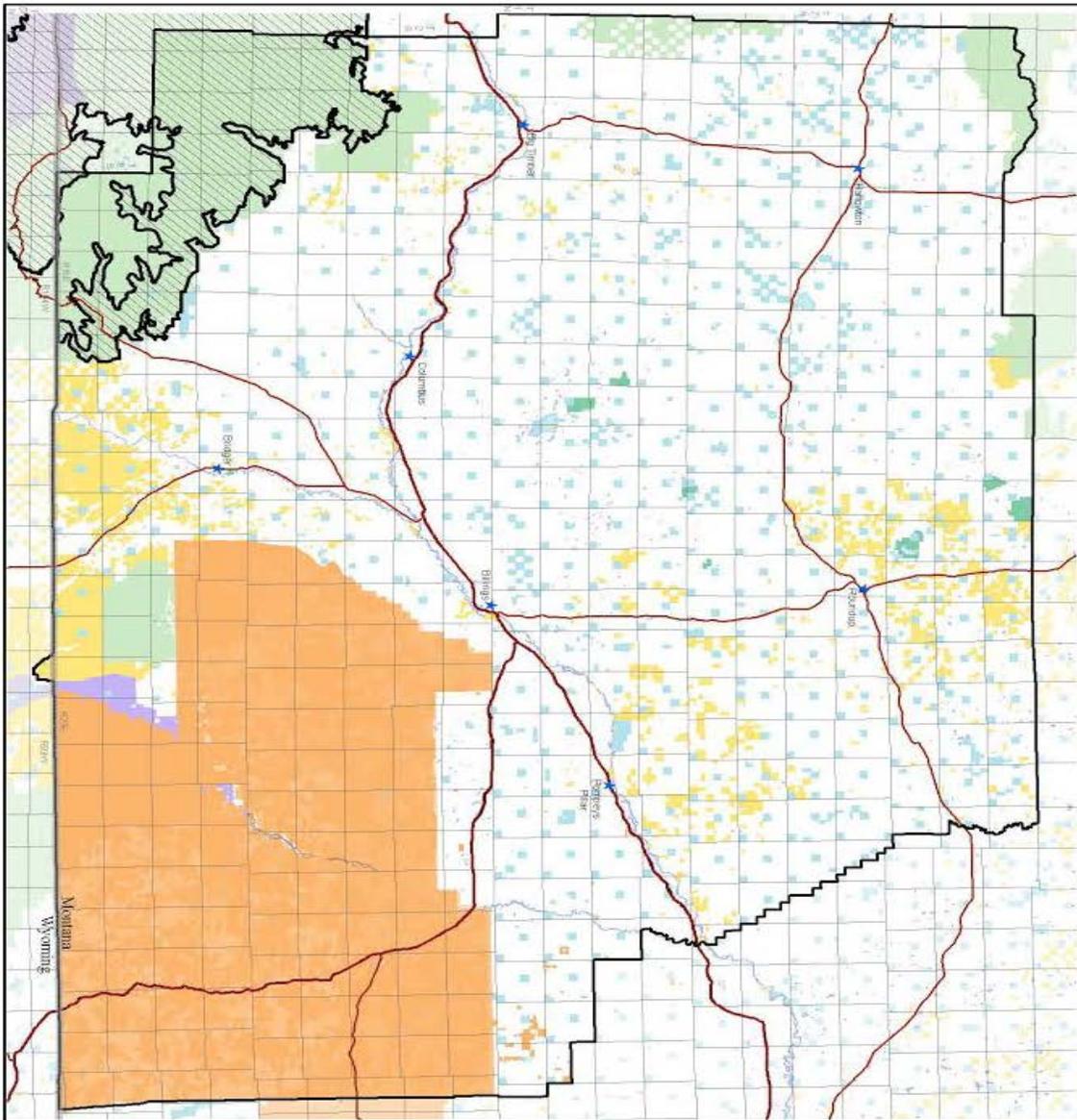
If above existing logs/CWD levels are not available, leave logs/CWD necessary to bring them up to the above mentioned target levels in a well distributed manner of largest available size classes. Orient the logs perpendicular to the slope.

1. Protect existing down logs /CWD from fuelwood cutting.  
6)

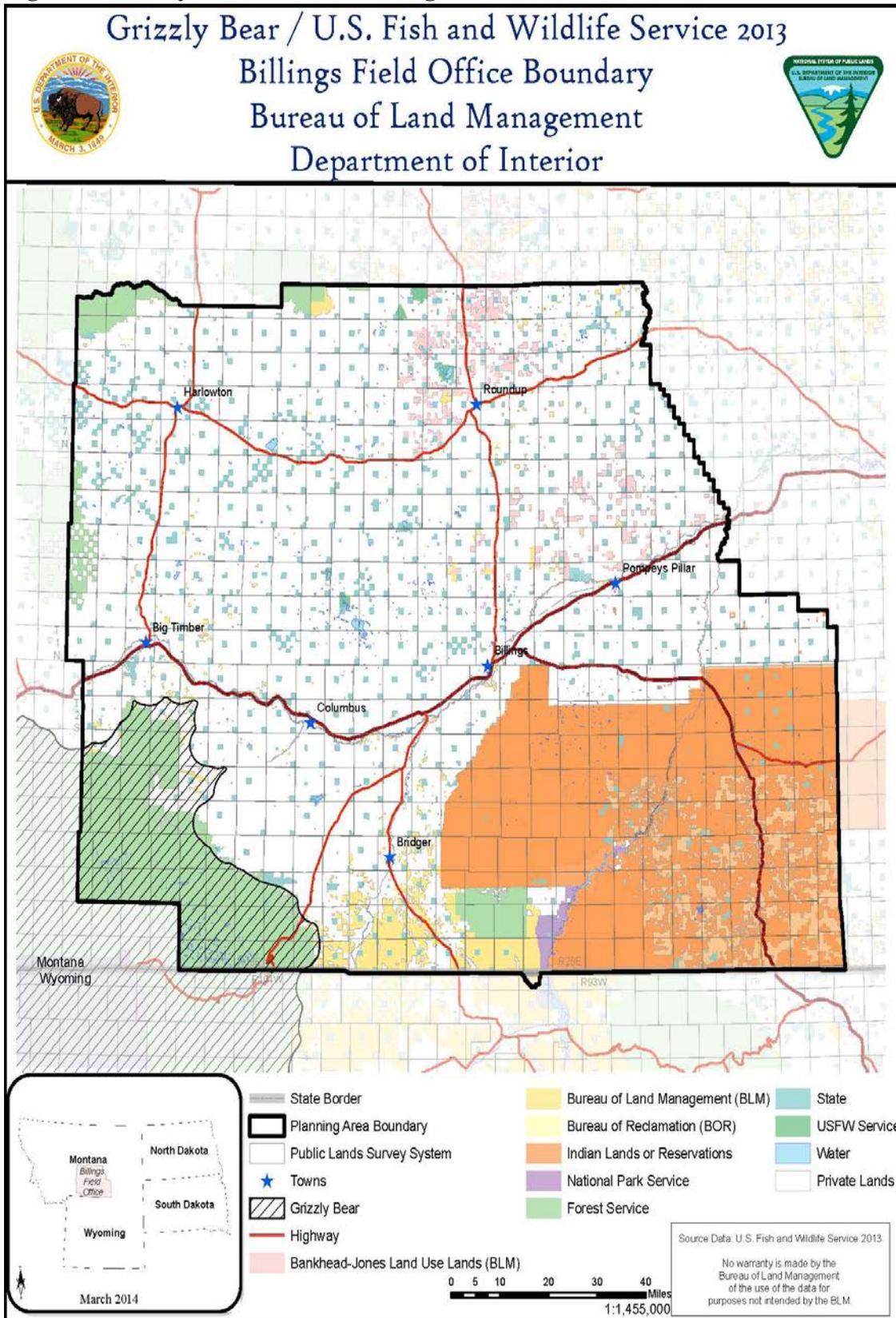
Note: These guidelines may require amendment based on the timber stand characteristics. For example, if insufficient snags are not available in the existing stand, the snag number per unit area requirement may need to be reduced.

**Figure 2: Lynx Critical Habitat on USFS lands within Planning Area\***

\*Lynx Critical habitat is available within the planning area, although it is not present within the decision area. Refer to description of “planning area” and “decision area” on page 4.



**Figure 3: Grizzly Bear Habitat – Billings Field Office**



**Figure 4: Yellowstone Grizzly Bear DPS Boundary and Suitable Habitat**

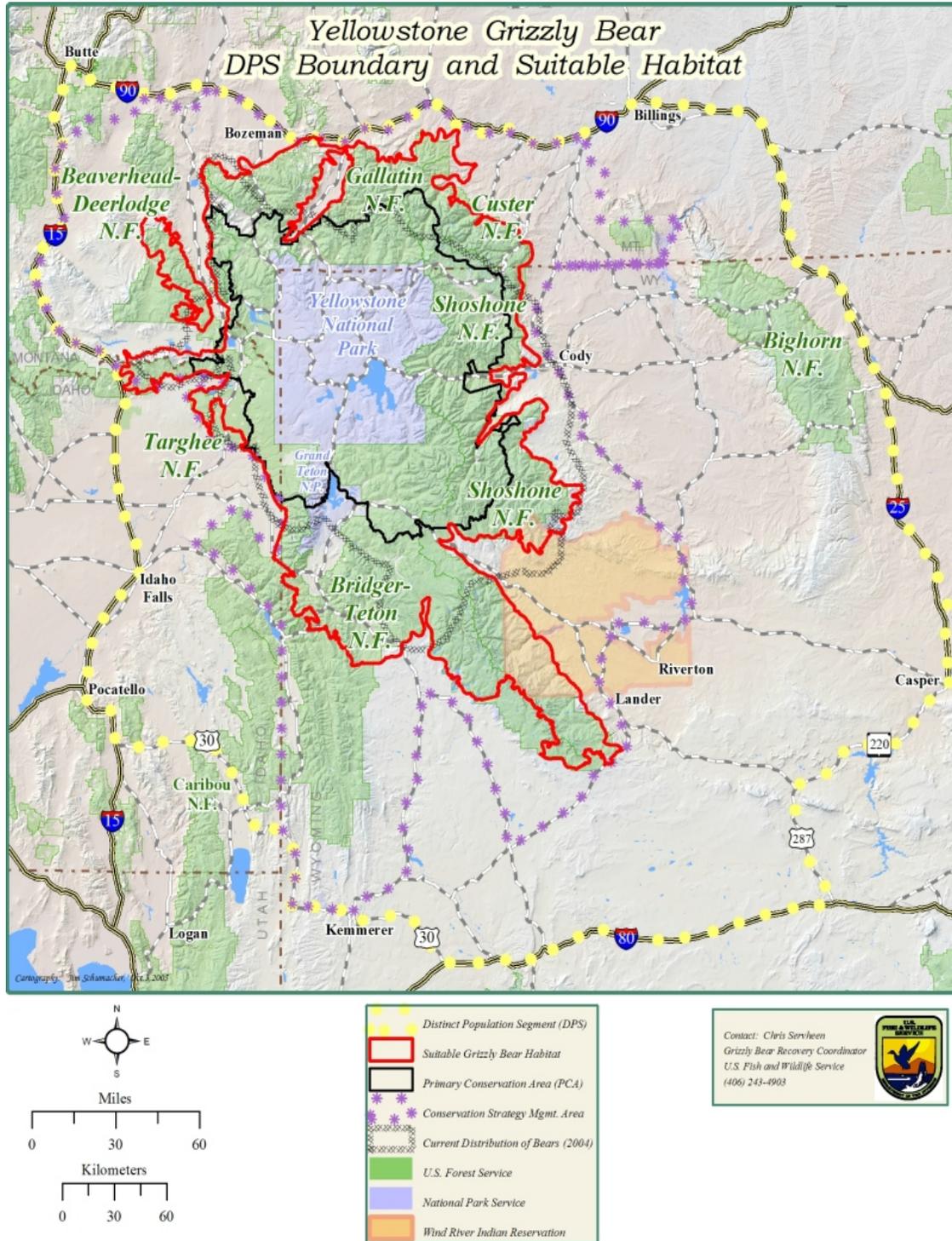
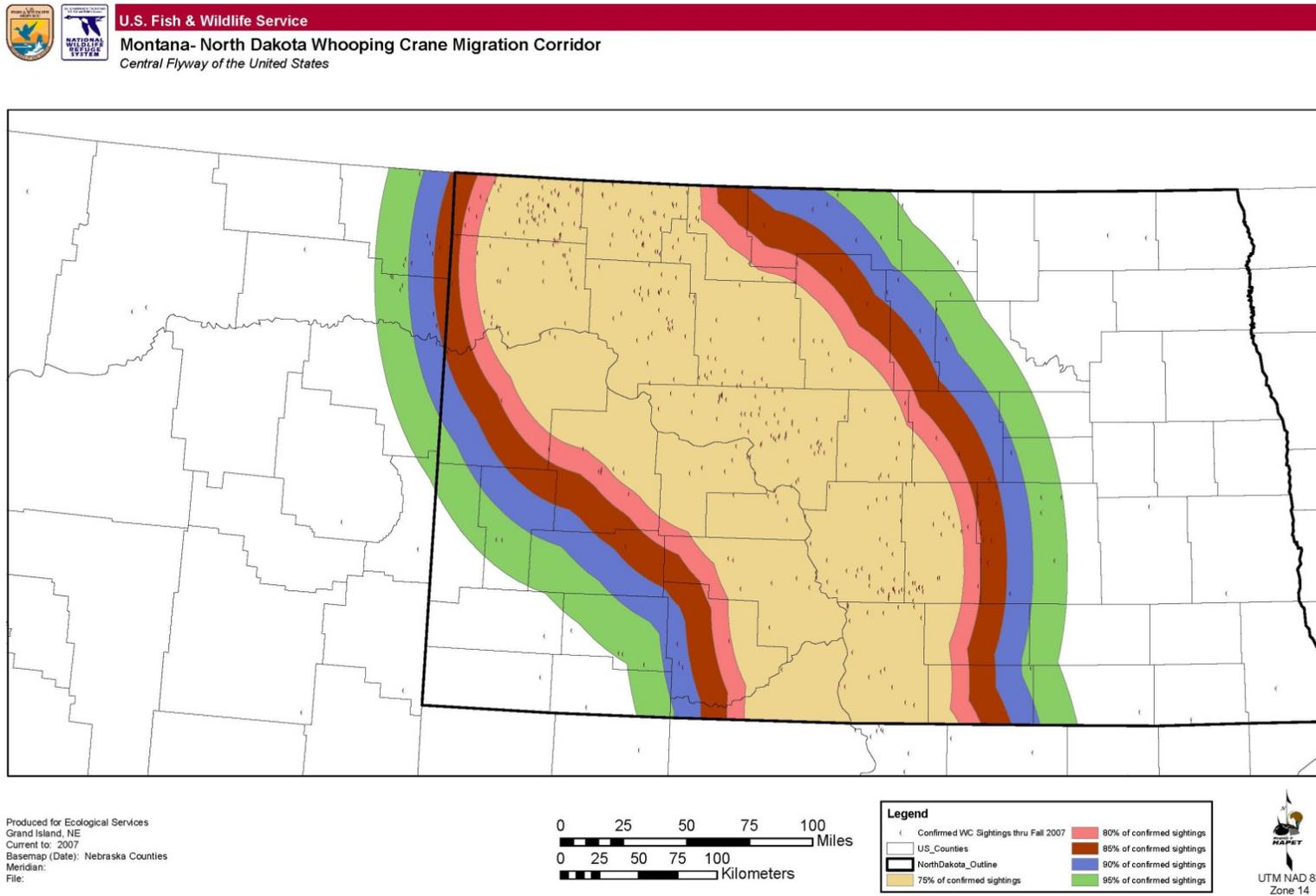


Figure 5: Whooping Crane Migration Corridor



## Appendix L: Cultural Resources

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## **L. Cultural Resources**

### **L.1 Introduction**

Management of cultural resources is directed primarily, but not exclusively, by two laws: the National Historic Preservation Act of 1966, as amended, and the Archaeological Resources Protection Act of 1979. The National Historic Preservation Act requires management and enhancement of significant historic properties and the Archaeological Resources Protection Act requires protection of archaeological resources (sites and objects of 100 years or more in age). The Federal Land Policy and Management Act directs the Bureau of Land Management to manage public lands on the basis of multiple uses and to “protect the quality of historical resources and archaeological values.” This act provides for the periodic inventory of public lands and resources. See Appendix A for full citations of all the laws, regulations and policies guiding cultural and heritage resources.

### **L.2 Goal**

Identify, preserve, and protect significant cultural resources and ensure that they are available for appropriate uses by present and future generations (Federal Land Policy and Management Act, Section 103(c), 201(a), and (c); National Historic Preservation Act, Section 110(a); Archaeological Resources Protection Act, Section 14 (a)).

Seek to reduce imminent threats and resolve potential conflicts from natural or human-caused deterioration, or potential conflict with other resource uses (Federal Land Policy and Management Act, Section 103(c), National Historic Preservation Act, Section 106, 110(a)(2)) by ensuring that all authorizations for land use and resource use would comply with the National Historic Preservation Act (NHPA), Section 106.

Maintain viewsheds of important cultural resources whose settings contribute significantly to their scientific, public, traditional, or conservation values.

Provide research opportunities that would contribute to our understanding of the ways humans have used and influenced the landscape.

Manage historic trails to realize their educational, recreational, and scientific values.

Enhance public understanding of, and appreciation for, cultural resources through educational outreach and heritage tourism opportunities.

### **L.3 Objective**

Cultural Resources on BLM-administered land would be protected and maintained in stable condition. Appropriate management actions would be determined after evaluation and allocation of cultural resource use categories through cultural resource project plans.

## L.4 Management Direction

The BLM would prioritize inventories to identify sites eligible to the National Register.

The BLM would allocate all cultural resources in the Billings Field Office, whether already recorded or projected to occur on the basis of existing data synthesis (including cultural landscapes), or not projected to occur but later identified through inventory, to the following uses according to their nature and relative preservation value. *These use allocations pertain to cultural resources, not to areas of land.* Each resource would be assigned to a primary use category, but that assignment would not preclude management from other use categories. All sites determined eligible to the National Register of Historic Places would be allocated to and managed for Scientific, Public, Traditional, and/or Conservation for Future Use.

- The six types of use allocations are: Scientific Use, Conservation for Future Use, Traditional Use, Public Use, Experimental Use, and Discharged from Management. See the Cultural category in the glossary for definitions; also see Table F-1 for desired outcomes.
- The focus would be on four of the six cultural resource use allocations: Scientific Use, Public Use, Traditional Use, and Conservation for Future Use. These allocations currently generate the majority of issues within the Billings Field Office and therefore are of high importance.
- The remaining two cultural resource use allocations – Experimental Use and Discharged from Management – would not be emphasized for the following reasons. Experimental Use: Because there are few activities in the Billings Field Office where the destructive nature of impacts on archaeological sites are uncertain or unknown, this allocation would not be emphasized. Discharged from Management: Cultural resource use allocation may occur, especially under Alternative C, but this cultural resource use allocation would not be emphasized because conducting a program driven by this goal would defeat the long-term preservation of these resources.

The BLM would allocate and manage all sites determined not eligible to the National Register of Historic Places and not containing archaeological resources as Discharged from Management Use. All sites determined eligible to the National Register of Historic Places would be allocated and managed to Scientific, Public, and/or Conservation for Future Use. However, if another use becomes evident or proposed after use allocation has occurred, the use allocation may be changed through plan maintenance.

The following thirteen classes of site types found in the Billings Field Office have specific management needs based on each site type. Priorities for inventory, and appropriate management actions have been identified for each site type based on perceived threats and risks.

**Table L-1 Cultural Use Allocations and Desired Outcomes**

Use Allocation <sup>1</sup>	Desired Outcomes
Scientific Use	Preserved until research potential is realized
Conservation for Future Use	Preserved until conditions for use are met
Traditional Use	Long-term preservation
Public Use	Long-term preservation, on-site interpretation
Experimental Use	Protected until used
Discharged from Management	No use after recordation; not preserved
<sup>1</sup> The majority of the cultural properties in a given geographic area will fall into categories (a) and (f). The less common properties in categories (b) – (e) are likely to be associated with particular settings that can be delineated geographically in the planning process. As the plan is developed, properties in categories b-d will require the most attention to balance their proactive uses with other land and resource uses.	

### **L.4.1 Parameter – Cultural Resource Use Allocation: Rock Art Sites**

Aboriginal rock art of the planning area includes petroglyphs (incised or pecked images) and pictographs (painted images). Within the planning area, rock art is found on rock outcrops, cliffs or rockshelters, but is also found on erratic boulders that range in size from a half meter to several meters in diameter. The rock art sites within the planning area include, but are not limited to sites within Weatherman Draw ACEC, Petroglyph Canyon ACEC, Castle Butte ACEC, Paul Duke Site, Steamboat Butte, and Pompeys Pillar National Monument.

#### **L.4.1.1 Management Direction**

##### **L.4.1.1.1 Management:**

- Any rock art site with evidence of public use would be considered for allocation to Public Use.
- Any rock art site with no evidence of public use would be allocated to Conservation Use and/or Scientific Use and would be considered for Public Use as appropriate.
- All rock art sites eligible to the National Register of Historic Places under Criterion c would be preserved in place and would not be discharged from management.
- Best and most accurate technologies available would be used to photograph and gather locational information at all rock art panels (for example, digital photographs and GPS readings with position error no greater than 20 feet).
- Detailed measured drawings and sub-meter global positioning system locations would be taken of all panels.
- Scientific use would be allowed subject to management plans which minimize physical damage to rock art.

- Condition monitoring of rock art sites would be conducted on at-risk/threatened rock art sites annually.
- Livestock and human contact with rock art panels would be limited through physical barriers (fences or natural barriers such as plantings or boulder placement).
- Emergency stabilization would be allowed if natural or cultural threats are causing loss of integrity to rock art.
- Fire potential would be evaluated and fuels removed where there is threat of loss.
- Use of site stewards for monitoring would be encouraged.
- Informational signs on rock site etiquette and the Archaeological Resources Protection Act of 1979 would be posted at all rock art sites, as appropriate.

#### **L.4.1.1.2 Scientific Use:**

- Surface collection of artifacts on non-rock art portions of sites may be permitted under the Archaeological Resources Protection Act of 1979 if there is threat of loss or destruction.
- Excavation would be allowed subject to management plan with appropriate research design.

#### **L.4.1.1.3 Public Use:**

- Site-specific recreation management plans/interpretative plans would be developed for all Public Use rock art sites before implementing Cultural Resource Project Plan actions.
- At least one interpretative trail/footpath or kiosk would be considered at each rock art site allocated to Public Use.
- Visitor registers would be installed at all Public Use sites.

#### **L.4.1.1.4 Priorities for Inventory:**

- Potential threats identified in Cultural Resource Project Plans
- Those areas containing rock art identified for prescribed or wildland fire use
- Existing designated sites

All National Register eligible rock art sites would be allocated and managed for Scientific, Conservation, Traditional, and/or Public Use, and development of interpretative sites would be implemented as appropriate.

## **L.4.2 Parameter – Cultural Resource Use Allocations: Rockshelter and Cave Sites**

There are numerous rockshelter/cave sites located in the planning area. The large number of rockshelters and caves is likely a factor of the topography of central Montana which contains numerous mountain ranges and outcrops. The rockshelter and cave sites include, but are not limited to Last Canyon Cave.

### **L.4.2.1 Management Direction**

#### **L.4.2.1.1 Management:**

- Fire potential would be evaluated and fuels would be removed where there is threat of loss. Preserve in place and allow emergency stabilization if natural or cultural threats are causing loss of integrity to sites.
- Appropriate signs with information on site etiquette and the Archaeological Resources Protection Act of 1979 would be posted where evidence of ongoing Public Use exists.
- Conduct a Class II inventory of areas identified as high potential for aboriginal site occurrence on a priority basis as identified in Cultural Resource Project Plans.
- Use of site stewards for monitoring would be encouraged.

#### **L.4.2.1.2 Scientific Use:**

- BLM would evaluate loss of scientific data due to vandalism by estimating the cost of restoration and repair. Partnerships with scientific researchers to assist in evaluating loss of scientific data on vandalized sites would be encouraged.
- Partnerships for excavation/scientific research would be developed to assist the BLM to understand the paleo-environmental record.

#### **L.4.2.1.3 Conservation for Future Use:**

- Cost of restoration and repair would be evaluated as soon as vandalism is detected.
- Gates would be installed on caves where there vandalism has occurred or there is threat of resource loss.

#### **L.4.2.1.4 Public Use:**

- Visitor registers would be installed and informational brochures would be created based on priorities established in Cultural Resource Project plans.
- Specific recreation management plan/interpretative plan would be developed for all rockshelter cave sites developed for Public Use.

#### **L.4.2.1.5 Priorities for Inventory:**

- Potential threats identified in Cultural Resource Project Plans

- Those areas containing rockshelters identified for prescribed or wildland fire use
- Existing designated sites

All National Register eligible sites would be allocated and managed for Scientific, Conservation, Traditional, and Public Use. Development of interpretative sites would be implemented as appropriate.

### **L.4.3 Parameter - Cultural Resource Use Allocations: Aboriginal Occupation Sites and Structures (prehistoric and protohistoric)**

Tipi rings, stone circles, and ring sites: This is a relatively common site type in the study area and includes circles of stone interpreted as having been used to hold down tipi lodge covers. Conical and cribbed log structures are often stand alone structures with few associated artifacts. Tipi ring sites include, but are not limited to Demi-John Flat National Historic District and the Bandit Site (48BH0460). Conical and cribbed log structures include, but are not limited to the structures found within Hoskins Basin Archaeological District.

#### **L.4.3.1 Management Direction**

##### **L.4.3.1.1 Management:**

- Fire potential would be evaluated and fuels would be removed where there is threat of loss.
- Appropriate signs with information on site etiquette and the Archaeological Resources Protection Act of 1979 would be posted where evidence of public use exists.
- Cultural Resource Project Plans would be developed that further define this class of sites and clarify acceptable management actions.
- Excavation would be allowed subject to management plan with appropriate research design (which conserves samples for future use).
- All sites initially allocated to Conservation, Scientific, Traditional, or Public Use would be subject to site-specific activity plans that preserve portions of the sites for future use.
- Use of site stewards for monitoring would be encouraged.

##### **L.4.3.1.2 Scientific Use:**

- National Register nominations would be completed for all sites allocated to Scientific Use on a priority basis as identified in Cultural Resource Project Plans.
- Excavation would be allowed subject to management plan with appropriate research design.
- Partnerships for excavation/scientific research would be encouraged.

#### **L.4.3.1.3 Public Use:**

- Continue to produce materials and programs on “Leave What You Find” principles and environmental ethics.

#### **L.4.3.1.4 Priorities for Inventory:**

- Potential threats identified in Cultural Resource Project Plans
- Existing designated sites

Development of interpretative sites would be implemented as appropriate.

### **L.4.4 Parameter – Cultural Resource Use Allocation: Lithic Scatters/Workshops**

The term lithic scatter is very broadly applied to a range of sites containing stone cultural material. These may be sites representing the remains of limited chipped stone tool manufacture or repair, generally viewed as having ephemeral use and low information value, or sites with greater variety of artifacts, features, and attributes, as well as unknown depositional characteristics. The term lithic scatter appears as a catch-all for site with a variety of data potential. Site components described as workshops generally seem subjectively classified on the basis of lithic debitage content observed on the surface.

#### **L.4.4.1 Management Direction**

##### **L.4.4.1.1 Management:**

- Fire potential would be evaluated and fuels would be removed where there is threat of loss.
- Appropriate signs with information on site etiquette and the Archaeological Resources Protection act of 1979 would be posted where evidence of public use exists.
- Cultural Resource Project Plans would be developed that further define this class of sites and clarify acceptable management actions.
- Excavation would be allowed subject to management plan with appropriate research design (which conserves samples for the future).
- All sites initially allocated to Conservation, Scientific, Experimental, or Discharged from Management Use would be subject to site-specific activity plans that preserve portions of the sites for future use.
- Continue to produce material and give programs on “leave what you find” principles and environmental ethics.
- Use of site stewards for monitoring would be encouraged.

#### **L.4.4.1.2 Scientific Use:**

- National Register nominations would be completed for all eligible sites allocated to Scientific Use on a priority basis as identified in Cultural Resource Project Plans.

#### **L.4.4.1.3 Priorities for Inventory:**

- Potential threats identified in Cultural Resource Project Plans
- Existing designated sites

### **L.4.5 Parameter - Cultural Resource Use Allocation: Communal Kill Sites**

These sites are also called ambush game drives, buffalo jumps, bison pounds or traps, or other kill sites including processing areas. They are primarily defined by the occurrence of high numbers of animal bone, generally in a bone bed, and a high density of hunting and butchering tools in the artifact assemblages. These sites include, but are not limited to the sites found in the Stark Site ACEC.

#### **L.4.5.1 Management Direction**

##### **L.4.5.1.1 Management:**

- Fire potential would be evaluated and fuels would be removed where there is threat of loss.
- Appropriate signs with information on site etiquette and the Archaeological Resources Protection act of 1979 would be posted where evidence of public use exists.
- Cultural Resource Project Plans would be developed that further define this class of sites and clarify acceptable management actions.
- Excavation would be allowed subject to management plan with appropriate research design (which conserves samples for the future).
- All sites initially allocated to Conservation, Scientific, or Experimental would be subject to site-specific activity plans that preserve portions of the sites for future use.
- Use of site stewards for monitoring would be encouraged.

##### **L.4.5.1.2 Scientific Use:**

- National Register nominations would be completed for all eligible sites allocated to Scientific Use on a priority basis as identified in Cultural Resource Project Plans.

##### **L.4.5.1.3 Public Use:**

- Continue to produce materials and give programs on “leave what you find” principles and environmental ethics.

#### **L.4.5.1.4 Priorities for Inventory:**

- Potential threats identified in Cultural Resource Project Plans
- Existing designated sites

#### **L.4.6 Parameter – Cultural Resource Use Allocation: Aboriginal Trails**

Documentation of actual use of a trail or trail system during prehistory is difficult and evidence used to support such use is often circumstantial. Documented use during the historic period is often used to argue use during the prehistoric period. Some researchers suggest that some linear arrangements of cairns may mark trail systems. Others suggest linear clusters or concentrations of archaeological sites along prominent landforms (e.g. high ridges or ridge systems, river valleys, drainage divides) may indicate prehistoric trail use. These sites include, but are not limited to Meeteetse Trail, travois trails in Demi-John Flat National Register District, Bad Pass Trail, and the Nez Perce NHT.

#### **L.4.6.1 Management Direction**

##### **L.4.6.1.1 Management:**

- An intensive archaeological inventory of the corridor of each site would be done to establish baseline information on a priority basis as identified in Cultural Resources Project Plans.
- An historic context report for each resource would be written on a priority basis as identified in Cultural Resource Project Plans.
- Use of site stewards for monitoring would be encouraged.

##### **L.4.6.1.2 Scientific Use:**

- Trail related sites would be inventoried and condition recorded on a priority basis as identified in Cultural Resources Project Plans.
- Excavation would be allowed subject to management plan with appropriate research design (which conserves samples for future use).

##### **L.4.6.1.3 Conservation for Future Use:**

- Informational signs would be posted at all major intersections along existing Public Use sites.
- Excavation would be allowed subject to management plan with appropriate research design (which conserves samples for future use).
- Trail related sites would be inventoried and condition recorded.

#### **L.4.6.1.4 Public Use:**

- Informational signs would be posted at all major intersections along Public Use sites, as appropriate.
- Activity level cultural resource project plans would be prepared for public use sites that would identify interpretive needs including signs, interpretive kiosks, etc.
- National Register nominations would be completed for all Public Use sites on a priority basis as identified in Cultural Resource Project Plans.

#### **L.4.6.1.5 Priorities for Inventory:**

- Potential threats identified in Cultural Resource Project Plans
- Existing designated National Scenic and Historic Trails
- Routes under national study

The BLM would manage the cultural historic landscape (setting) around National Historic Trails according to the National Historic Preservation Act. Designated national historic trails would be managed according to the National Scenic and Historic Trail Act (16 USC sections 1241-1251) and the BLM's National Scenic and Historic Trails Strategy and Work Plan (2006).

The BLM would allocate and manage all National Register eligible historic trails for Scientific, Conservation, Traditional, and Public Use.

National Historic Trails would be allocated to Public Use and should have Cultural Resource Project Plans prepared to better balance Public, Scientific, and Conservation Use. Interpretative sites would be established at Public Use sites as appropriate.

### **L.4.7 Parameter – Cultural Resource Use Allocations: Lithic Procurement Sites/Quarries (bedrock and surface)**

Bedrock quarries are defined by the existence of bedrock exposures at the site and surface quarries are defined by areas where lithic material occurs as “free rock” in cobble, nodular, or pebble form. Much of the study area is located on the glaciated plains where lithic materials are dominated by quartzite derived from glacial cobbles that are ubiquitous in glacial deposits. These sites include, but are not limited to the numerous quarries found in the Pryor Mountains.

#### **L.4.7.1 Management Direction**

##### **L.4.7.1.1 Management:**

- Fire potential would be evaluated and fuels would be removed where there is threat of loss.
- Appropriate signs with information on site etiquette and the Archaeological Resources Protection Act of 1979 would be posted where evidence of public use exists.

- Cultural Resource Project Plans would be developed that include addressing mineral collection of non-artifacts from quarry/source locations.
- Use of site stewards for monitoring would be encouraged.

#### **L.4.7.1.2 Scientific Use:**

- National Register nominations would be completed for all sites allocated to Scientific Use on a priority basis as identified in Cultural Resource Project Plans.

#### **L.4.7.1.3 Public Use:**

- Information would be made available that would enable the public to distinguish between artifacts and mineral specimens would be developed and produced.
- Continue to produce materials and give programs on “leave what you find” principles and environmental ethics.

#### **L.4.7.1.4 Priorities for Inventory:**

- Potential threats identified in Cultural Resource Project Plans
- Existing designated sites

### **L.4.8 Parameter – Cultural Resource Use Allocations: Vision Quest Sites, Sacred Sites, Traditional Use Areas, Traditional Cultural Properties, Ethnohistoric Sites**

Vision quest sites are considered linked to ceremonial and religious activities. Archaeologists generally distinguish vision quest sites as u-shaped or oval stone features forming low enclosures. Vision quest sites are often found on prominent parts of the landscape such as mountains, bluffs, hills, cliffs, rock outcrops, and buttes. Vision quest sites include, but are not limited to vision quest sites in the Pryor Mountains and at Four Dances ACEC.

#### **L.4.8.1 Management Direction**

##### **L.4.8.1.1 Management:**

- When identified, locations and boundaries of vision quest sites, ethnohistoric sites, sacred sites, traditional use areas, and Traditional Cultural Properties would be described with Global Positioning Systems.
- When identified, ethnohistoric sites, sacred sites, traditional use areas, and Traditional Cultural Properties would be recorded.
- Fire potential would be evaluated and fuels removed where there is threat of loss.
- National Register nominations would be completed on a priority basis as identified in Cultural Resource Project Plans.

- Pending approval of Cultural Resource Project Plans, all sites would be allocated to Conservation Use.
- Use of site stewards for monitoring would be encouraged.

#### **L.4.8.1.2 Priorities for Inventory:**

- Potential threats identified in Cultural Resource Project Plans
- Existing designated sites

All National Register eligible ethnohistoric sites would be allocated and managed primarily for Conservation Use unless subject to Cultural Resource Project Plans.

All Traditional Cultural Properties identified would be allocated and managed primarily for Traditional Use.

All vision quest sites identified would be allocated and managed primarily for Traditional and Conservation Use.

All sacred sites or traditional use areas identified would be allocated and managed for Conservation Use.

#### **L.4.9 Parameter – Cultural Resource Use Allocation: Historic Features**

Historic features include, but are not limited to historic irrigation systems (canals, ditches, laterals, pumping station/houses, headgates, etc.), stock ponds and reservoirs, often includes CCC constructed features,

#### **L.4.9.1 Management Direction**

##### **L.4.9.1.1 Management:**

- Fire potential would be evaluated and fuels would be removed where there is threat of loss.
- Appropriate signs with information on site etiquette and the Archaeological Resources Protection Act of 1979 would be posted where evidence of public use exists.
- Historic context reports would be written on a priority basis as identified in Cultural Resource Project Plans.
- Historic structure reports would be written on a priority basis as identified in Cultural Resource Project Plans.
- Level I documentation (measured drawings, plans, elevations, photos, and narratives) on all standing structures would be completed on a priority basis as identified in Cultural Resource Project Plans.

- Photo documentation of historic features and landscapes would be obtained.
- Use of site stewards for monitoring would be encouraged.

#### **L.4.9.1.2 Scientific Use:**

- Excavation would be allowed subject to management plan with appropriate research design (which conserves samples for future use.)

#### **L.4.9.1.3 Conservation Use:**

- Conservation of the setting would be emphasized.
- Stabilization and/or rehabilitation of standing structures would be done on a priority basis as identified in Cultural Resource Project Plans.
- Discharged from Management:
- Subsequent to scientific use, when preservation in place is impractical, sites may be discharged.

#### **L.4.9.1.4 Public Use:**

- National Register nominations would be completed for all Public Use sites on a priority basis as identified in Cultural Resource Project Plans.
- Standing structures would be considered for adaptive uses.

#### **L.4.9.1.5 Priorities for Inventory:**

- Potential threats identified in Cultural Resource Project Plans
- Existing designated sites

All of the National Register eligible sites would be allocated and managed for Scientific Use and/or Public Use. Sites may be Discharged from Management when not eligible for the National Register of Historic Places.

### **L.4.10 Parameter – Cultural Resource Use Allocation: Historic Roads and Trails**

Historic roads and trails in the planning area include, but are not limited to the Bridger Cut-Off Trail, Fort Ellis to Fort Keogh (Road to Tongue River) Military Trail, Bozeman Trail, Meeteetse Trail, and the Lewis and Clark National Historic Trail.

#### **L.4.10.1 Management Direction**

##### **L.4.10.1.1 Management:**

- An intensive archaeological inventory of the corridor of each site would be done to establish baseline information on a priority basis as identified in Cultural Resources Project Plans.

- An historic context report for each resource would be written on a priority basis as identified in Cultural Resource Project Plans.
- Use of site stewards for monitoring would be encouraged.

#### **L.4.10.1.2 Scientific Use:**

- Road/trail related sites would be inventoried and condition recorded on a priority basis as identified in Cultural Resources Project Plans.
- Excavation would be allowed subject to management plan with appropriate research design (which conserves samples for future use).

#### **L.4.10.1.3 Conservation for Future Use:**

- Informational signs would be posted at all major intersections along existing Public Use sites.
- Excavation would be allowed subject to management plan with appropriate research design (which conserves samples for future use).
- Road/trail related sites would be inventoried and condition recorded.

#### **L.4.10.1.4 Public Use:**

- Informational signs would be posted at all major intersections along Public Use sites, as appropriate.
- Activity level cultural resource project plans would be prepared for public use sites that would identify interpretive needs including signs, interpretive kiosks, driving guides, etc.
- National Register nominations would be completed for all Public Use sites on a priority basis as identified in Cultural Resource Project Plans.

#### **L.4.10.1.5 Priorities for Inventory:**

- Potential threats identified in Cultural Resource Project Plans
- Existing designated National Scenic and Historic Trails
- Routes under national study

The BLM would manage the cultural historic landscape (setting) around National Historic Trails according to the National Historic Preservation Act. Designated national historic trails would be managed according to the National Scenic and Historic Trail Act (16 USC sections 1241-1251) and the BLM's National Scenic and Historic Trails Strategy and Work Plan (2006).

The BLM would allocate and manage all National Register eligible historic roads and trails for Scientific, Conservation, and Public Use.

National Historic Trails would be allocated to Public Use and should have Cultural Resource Project Plans prepared to better balance Public, Scientific, and Conservation Use. Interpretative sites would be established at Public Use sites as appropriate.

#### **L.4.11 Parameter – Cultural Resource Use Allocations: Historic Structures and/or Homesteads**

Historic homesteads/farmsteads are the most common historic sites in the planning area and the best represented historic time period is 1900-1909.

##### **L.4.11.1 Management Direction**

###### **L.4.11.1.1 Management:**

- Historic context reports would be written on a priority basis as identified in Cultural Resources Project Plans.
- Historic structure reports would be written on a priority basis as identified in Cultural Resources Project Plans.
- Level I documentation (measured drawings, plans, elevations, photos, and narratives) on all standing structures would be completed on a priority basis as identified in Cultural Resources Project Plans
- Photo documentation of historic features and landscapes would be obtained.
- Fire potential would be evaluated and fuels would be removed where there is threat of loss.
- An intensive archaeological inventory of the resources (structure or homestead) would be completed for baseline information based on priorities identified in Cultural Resources Project Plans.
- Standing structures would be stabilized or rehabilitated on a priority basis as identified in Cultural Resources Project Plans.
- Use of site stewards for monitoring would be encouraged.

###### **L.4.11.1.2 Scientific Use:**

- Signs with information on site etiquette and the Archaeological Resources Protection Act of 1979 would be posted as appropriate.
- Surface collection of artifacts may be permitted under the Archaeological Resources Protection Act of 1979 if there is threat of loss or destruction.
- Data recovery would be permitted in those instances where future protection is not feasible.

- Excavation would be allowed subject to management with appropriate research design (which conserves samples for future use).

#### **L.4.11.1.3 Conservation for Future Use:**

- Excavation would be allowed subject to management plan with appropriate research design (which conserves samples for future use).
- Signs with information on site etiquette and the Archaeological Resources Protection Act of 1979 would be posted as appropriate.
- Stabilization and/or rehabilitation of standing structures would be done on a priority basis as identified in Cultural Resource Project Plans.

#### **L.4.11.1.4 Public Use:**

- At least one kiosk with interpretation panel would be placed for each resource, as appropriate.
  - National Register nominations would be completed for all Public Use sites based on priorities developed in Cultural Resource Project Plans.
  - Preservation and reuse of historic buildings would be considered as appropriate.

#### **L.4.11.1.5 Priorities for Inventory:**

- Potential threats identified in Cultural Resource Project Plans
- Those areas containing historic structures or homesteads identified for prescribed or wildland fire use
- Existing designated sites

All National Register eligible sites with evidence of unauthorized excavation would be allocated and managed for Conservation Use and/or Scientific Use in order to perform data recovery in those instances where future protection is not feasible. The remaining National Register eligible sites would be allocated and managed for Scientific and/or Public Use.

The BLM would allocate and manage all of the National Register eligible sites with standing structures for Conservation and/or Public Use.

Interpretative sites would be developed as appropriate.

#### **L.4.12 Parameter – Cultural Resource Use Allocations: Historic Industrial/Development (mines, oil and gas, etc.) Structures and Landscapes**

Historic industrial/development sites include, but are not limited to the historic coal mines in Weatherman Draw, the historic oil and gas development in Elk Basin, and the historic mining/prospecting in the Pryor Mountains

#### **L.4.12.1 Management Direction**

##### **L.4.12.1.1 Management:**

- Fire potential would be evaluated and fuels would be removed where there is threat of loss.
- Appropriate signs with information on site etiquette and the Archaeological Resources Protection Act of 1979 would be posted where evidence of public use exists.
- Historic context reports would be written on a priority basis as identified in Cultural Resource Project Plans.
- Historic structure reports would be written on a priority basis as identified in Cultural Resource Project Plans.
- Level I documentation (measured drawings, plans, elevations, photos, and narratives) on all standing structures would be completed on a priority basis as identified in Cultural Resource Project Plans.
- Photo documentation of historic features and landscapes would be obtained.
- Use of site stewards for monitoring would be encouraged.

##### **L.4.12.1.2 Scientific Use:**

- Excavation would be allowed subject to management plan with appropriate research design (which conserves samples for future use.)

##### **L.4.12.1.3 Conservation Use:**

- Conservation of the setting would be emphasized.
- Stabilization and/or rehabilitation of standing structures would be done on a priority basis as identified in Cultural Resource Project Plans.

##### **L.4.12.1.4 Discharged from Management:**

- Subsequent to scientific use, when preservation in place is impractical, sites may be discharged.

##### **L.4.12.1.5 Public Use:**

- National Register nominations would be completed for all Public Use sites on a priority basis as identified in Cultural Resource Project Plans.
- Standing structures would be considered for adaptive uses.

##### **L.4.12.1.6 Priorities for Inventory:**

- Potential threats identified in Cultural Resource Project Plans
- Existing designated sites

All of the National Register eligible sites would be allocated and managed for Scientific Use and/or Public Use. Sites may be Discharged from Management when not eligible for the National Register of Historic Places.

#### **L.4.13 Parameter - Cultural Resource Use Allocations: "Other" Sites**

"Other" is defined as those sites not falling into any of the above 12 site types.

##### **L.4.13.1 Management Direction**

###### **L.4.13.1.1 Management:**

- Fire potential would be evaluated and fuels would be removed where there is threat of loss.
- Appropriate signs with information on site etiquette and the Archaeological Resources Protection Act of 1979 would be posted where evidence of public use exists.
- Use of site stewards for monitoring would be encouraged.

###### **L.4.13.1.2 Priorities for Inventory:**

- Potential threats identified in Cultural Resource Project Plans
- Existing designated sites

All National Register eligible sites would be allocated and managed for Scientific and/or Conservation Use with Public Use being monitored. Scientific Use would be permitted if it does not destroy features.

**Table L-2 Cultural Resource Use Categories, National Register Eligibility and Preservation/National Register Nomination Criteria**

Cultural Resource Use Category	National Register Eligibility	Preservation / National Register Nomination	Site Types Generally Included
Scientific Use	Usually eligible (under Criterion d)	Long-term preservation not critical; medium National Register nomination priority	<b>Prehistoric:</b> sites with high artifact count and diversity, high complexity, and larger size <b>Historic:</b> sites with archaeological and historic values, and generally poor structural integrity
Conservation for Future Use	Always eligible (generally eligible under Criteria d, a, or c and possibly b for historic sites)	Long-term preservation is required; highest nomination priority	<b>Prehistoric:</b> sites inherently complex, or rare, or fragile, and exhibit exceptional scientific values (e.g. wickiups, deeply stratified deposits, or large quarries) <b>Historic:</b> sites inherently complex, or rare, or fragile, generally significant standing structures (stabilization and preservation required)
Traditional Use	May be eligible (generally under Criteria a and d, possibly b and c as well)	Long-term preservation is desirable; nomination priority is determined in consultation with the appropriate cultural group(s)	Sites and locations determined in consultation with appropriate cultural group(s) <b>Prehistoric</b> may include: burial locations, vision quest locations, pictographs and petroglyphs, certain tipi ring sites <b>Historic/Modern:</b> plant gathering locations, areas considered sacred for religious purposes, tradition use areas, etc.
Public Use	Usually eligible (generally Criteria a, b, and c, possibly d as well)	Long-term preservation is desirable; high nomination priority	<b>Prehistoric:</b> high interpretative potential and can insure protection <b>Historic:</b> high interpretative potential and can insure stabilization and protection and/or adaptive reuse
Experimental Use	May be eligible (generally under Criterion d if at all)	Long-term preservation is not anticipated; low nomination priority	<b>Prehistoric:</b> lithic scatters of limited artifact density and complexity <b>Historic:</b> trash scatters, collapsed structures with no integrity or context
Discharged from Management	Not eligible	Long-term preservation and management are not considerations; nomination is inappropriate	<b>Prehistoric:</b> isolated finds, surface lithic scatters <50 items <b>Historic:</b> isolated prospect pits, trash scatters <50 items, sites < 50 years old

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**Appendix M:**  
**Recreational Setting Characteristics**

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## **M. Recreational Setting Characteristics**

### **Primitive Classification:**

- Physical:
  - ▶ More than ½ mile from either mechanized or motorized routes.
  - ▶ Undisturbed natural landscape.
  - ▶ No structures. Foot/horse and water trails only.
- Social:
  - ▶ Fewer than 3 encounters/day at camp sites and fewer than 6 encounters/day on travel routes.
  - ▶ Fewer than or equal to 3 people per group.
  - ▶ No alteration of the natural terrain. Footprints only observed. Sounds of people rare.
- Operational:
  - ▶ Foot, horse, and non-motorized float boat travel.
  - ▶ No maps or brochures available on-site. Staff is rarely present to provide on-site assistance.
  - ▶ No on-site posting/signing of visitor regulations, interpretive information or ethics. Few use restrictions

### **Back Country Classification**

- Physical:
  - ▶ Within ½ mile of four-wheel drive vehicle, ATV and motorcycles routes.
  - ▶ Character of the natural landscape retained. A few modifications contrast with character of the landscape (e.g. fences, primitive roads).
  - ▶ Maintained and marked trails, simple trailhead developments and basic toilets.
- Social:
  - ▶ 3-6 encounters/day off travel routes (e.g., campsites) and 7-15 encounters/day on travel routes
  - ▶ 4-6 people per group.
  - ▶ Areas of alteration uncommon. Little surface vegetation wear observed. Sounds of people infrequent.

- Operational:
  - ▶ Mountain bikes and perhaps other mechanized use, but all is non-motorized.
  - ▶ Basic maps, staff infrequently present (e.g. seasonally, high use periods) to provide on-site assistance.
  - ▶ Basic user regulations at key access points. Minimum use restrictions.

## **Middle Country Classification:**

- Physical:
  - ▶ Within ½ mile of four-wheel drive vehicle, ATV and motorcycles routes.
  - ▶ Character of the natural landscape retained. A few modifications contrast with character of the landscape (e.g. fences, primitive roads).
  - ▶ Maintained and marked trails, simple trailhead developments and basic toilets.
- Social:
  - ▶ 7-14 encounters/day off travel routes (e.g., staging areas) and 15-29 encounters/ day on travel routes
  - ▶ 7-12 people per group.
  - ▶ Small areas of alteration. Surface vegetation showing wear with some bare soils. Sounds of people occasionally heard.
- Operational
  - ▶ Four-wheel drives, all-terrain vehicles, dirt bikes, or snowmobiles in addition to non-motorized, mechanized use.
  - ▶ Area brochures and maps, staff is occasionally (e.g. most weekends) present to provide on-site assistance.
  - ▶ Some regulatory and ethics signing. Moderate use restrictions. (e.g. camping, human waste).

## **Front Country Classification**

- Physical:
  - ▶ Within ½ mile of low-clearance or passenger vehicle routes (includes unpaved County roads and private land routes).
  - ▶ Character of the natural landscape partially modified but none overpower natural landscape (e.g. roads, structures, utilities).
  - ▶ Rustic facilities such as campsites, restrooms, trailheads, and interpretive displays.

- Social:
  - ▶ 15-29 encounters/day off travel routes (e.g., campgrounds) and 30 or more encounters/day on travel routes.
  - ▶ 13-25 people per group.
  - ▶ Small areas of alteration prevalent. Surface vegetation gone with compacted soils observed. Sounds of people regularly heard
- Operational:
  - ▶ Two-wheel drive vehicles predominant, but also four wheel drives and non-motorized, mechanized use.
  - ▶ Information materials describe recreation areas & activities, staff periodically present (e.g. weekdays & weekends).
  - ▶ Rules, regulations and ethics clearly posted. Use restrictions, limitations and/or closures.

## **Rural Classification**

- Physical:
  - ▶ Within ½ mile of paved/primary roads and highways.
  - ▶ Character of the natural landscape considerably modified (agriculture, residential or industrial).
  - ▶ Modern facilities such as campgrounds, group shelters, boat launches, and occasional exhibits.
- Social:
  - ▶ People seem to be generally everywhere.
  - ▶ 26-50 people per group.
  - ▶ A few large areas of alteration. Surface vegetation absent with hardened soils. Sounds of people frequently heard.
- Operational:
  - ▶ Ordinary highway auto and truck traffic is characteristic.
  - ▶ Information described to the left, plus experience and benefit descriptions, staff regularly present (e.g. almost daily).
  - ▶ Regulations strict and ethics prominent. Use may be limited by permit, reservation, etc.

## **Urban Classification**

- Physical:
  - ▶ Within ½ mile of streets and roads within municipalities and along highways.
  - ▶ Urbanized developments dominate landscape.
  - ▶ Elaborate full-service facilities such as laundry, restaurants, and groceries.

- Social:
  - ▶ Busy place with other people constantly in view.
  - ▶ Greater than 50 people per group.
  - ▶ Large areas of alteration prevalent. Some recreation. Constantly hear people.
  
- Operational:
  - ▶ Wide variety of street vehicles and highway traffic is ever-present.
  - ▶ Information described to the left, plus regularly scheduled on-site outdoor demonstrations and clinics.
  - ▶ Enforcement in addition to rules to reduce conflicts, hazards, and resource damage.